



ENGLISH FOR CIVIL ENGINEERING

Dr. Hengki, S.S., M.Pd
Ratna, S.Pd., M.Pd

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Dr. Hengki, S.S., M.Pd

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UNIVERSITAS ISLAM KALIMANTAN
MUHAMMAD ARSYAD AL-BANJARY BANJARMASIN

FOREWORD

Praise be to Allah Subhana wa Ta'ala, Lord of the Universe, for His grace and mercy in allowing this book, English for Civil Engineering, to be published. The author hopes that this book will be useful for civil engineering students in improving their English proficiency as well as a reference for English teachers and lecturers who teach English in the civil engineering department. Many thanks and heartfelt appreciation to everyone who contributed to the publication of this book. This book should be useful and inspiring for educators in schools and colleges.

Banjarmasin, 2022

Author,

Dr. Hengki, S.S., M.Pd

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Penulis:

Dr. Hengki, S.S., M.Pd

Ratna. S.Pd., M.Pd

Editor:

Antoni Pardede, S.Si., M.Si., Ph.D

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Aris Setia Noor, S.E., M.Si

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dari Penerbit. Isi diluar tanggung jawab penerbit.

TABLE OF CONTENTS

| | Page |
|--|-----------|
| COVER | i |
| FOREWORD | ii |
| TABLE OF CONTENTS | iv |
| | |
| UNIT I | |
| A. Teaching for General Purposes | 1 |
| B. Teaching for a Specific Purpose | 1 |
| Reading Comprehension | |
| What is the Difference between Civil Engineering and Architecture | 2 |
| - Reading Comprehension | 2 |
| - Questions based on the reading text | 3 |
| - Identifikasi kata dan frase | 4 |
| - Puzzels | 4 |
| - Rearrange the Sentences | 5 |
| | |
| UNIT II | |
| THE USE OF EXCAVATOR IN CONSTRUCTION | 8 |
| - Reading Comprehension | 8 |
| - Words/Phrase identification | 9 |
| - Questions based on the reading text | 9 |
| - Understanding the structure of TO BE | 10 |
| - Write (true) or justifying the wrong | 15 |
| - Identify the subject and predicate | 16 |
| - Rearrange the Sentences | 18 |
| - Puzzle | 19 |
| | |
| UNIT III | |
| ROCK EXCAVATION | 21 |
| - Reading Comprehension | 21 |
| - Words/Phrase identification | 23 |
| - Questions based on the text | 24 |
| - Write (true) or justifying the wrong | 25 |
| - Rearrange the Sentences | 25 |
| - Puzzle | 27 |
| | |
| UNIT IV | |
| THE USE OF GRADER IN CONSTRUCTION | 29 |
| - Reading Comprehension | 29 |

| | |
|---|-----------|
| - Words/Pharase identification | 29 |
| - Questions based on the reading text | 30 |
| - Write (true) or justifying the wrong | 31 |
| - Perfect the sentences | 31 |
| - Rearrange the Sentences | 32 |
| - Puzzels | 33 |
| UNIT V | |
| USE OF BACKHOE IN CONSTRUCTION | 35 |
| - Reading Comprehension | 35 |
| - Words/Pharase identification | 36 |
| - Questions based on the reading text | 37 |
| - Write (true) or justifying the wrong | 37 |
| - Personal Pronouns | 38 |
| - Reflexive pronounce | 38 |
| - Making Perfect the sentences | 41 |
| - Identify the subjects | 42 |
| - Simple Predicate and Objects | 42 |
| - Rearrange the Sentences | 43 |
| - Puzzels | 44 |
| UNIT VI | |
| USE OF CRANE IN CONSTRUCTION, ADVANTAGE AND DISADVANTAGE | 46 |
| - Reading Comprehension | 47 |
| - Words/ Phrases identification | 48 |
| - Questions based on the reading text | 48 |
| - TO DO (DO, DOES & DID) | 50 |
| - Write (true) or justifying the wrong | 52 |
| - Making perfect the sentences | 53 |
| - Rearrange the Sentences into introgative sentences | 54 |
| - Puzzle | 54 |
| UNIT VII | |
| INTAN TRISAKTI | 56 |
| - Reading Comprehension | 56 |
| - Words/ Phrases identification | 57 |
| - Questions based on the reading text | 58 |
| - Rearrange the Sentences | 59 |
| - Write (true) or justifying the wrong | 61 |
| - Puzzle | 62 |
| UNIT VIII | |
| USE OF CONCRETE MIXTURE (CEMENT MIXTURE) IN CONSTRUCTION | 63 |
| - Reading Comprehension | 64 |
| - Words/ Phrases identification | 65 |
| - Questions based on the reading text | 66 |

| | |
|--|------------|
| - Perfect the sentences | 67 |
| - TO HAVE (Have, Has, Had) | 68 |
| - Write (true) or justifying the wrong | 73 |
| - Rearrange the Sentences | 74 |
| - Puzzles | 75 |
| UNIT IX | |
| USE OF PAVER IN CONSTRUCTION | 77 |
| - Reading Comprehension | 77 |
| - Words/ Phrases identification | 78 |
| - Questions based on the reading text | 79 |
| - Make perfect the sentences | 80 |
| - Write (true) or justifying the wrong | 81 |
| - Identify each prepositional, adjective, adverb , and participle phrase in each sentence | 82 |
| - Rearrange the Sentences | 85 |
| - Puzzles | 87 |
| UNIT X | |
| A PLANE TABLE | 88 |
| - Reading Comprehension | 88 |
| - Words/ Phrases identification | 89 |
| - Questions based on the reading text | 90 |
| - Write (true) or justifying the wrong | 91 |
| - Rearrange the Sentences | 92 |
| - Puzzles | 93 |
| UNIT XI | |
| AUTOMATIC LEVEL | 94 |
| - Reading Comprehension | 94 |
| - Words/ Phrases identification | 95 |
| - Questions based on the reading text | 96 |
| - Write (true) or justifying the wrong | 97 |
| - Important Identification | 98 |
| <i>Infinitive phrase</i> | |
| <i>Appositive Phrases</i> | |
| <i>Adjective clauses</i> | |
| <i>Noun clauses</i> | |
| <i>Adverb clauses</i> | |
| - Rearrange the Sentences | 104 |
| - Puzzles | 106 |
| UNIT XII | |
| THEODOLITE | 107 |
| - Reading Comprehension | 108 |
| - Words/ Phrases identification | 109 |
| - Questions based on the reading text | 110 |
| - MODAL AUXILIARY without BE | 112 |

| | |
|---|------------|
| - MODAL AUXILIARY with BE | 113 |
| - Write (true) or justifying the wrong | 122 |
| - Puzzles of certain word identification in each sentence | 123 |
| - Rearrange the Sentences | 127 |
| UNIT XIII | |
| INVESTIGATING CIVIL ENGINEERING | 128 |
| - Reading Comprehension | 128 |
| - Questions based on the reading text | 129 |
| - Words/ Phrases identification | 130 |
| - Puzzles Identify the Correct Irregular Verbs | 131 |
| - Write (true) or justifying the wrong | 131 |
| UNIT XIV | |
| TOWER CRANE | 133 |
| - Reading Comprehension | 133 |
| - Words/ Phrases identification | 135 |
| - Questions based on the reading text | 136 |
| - Write (true) or justifying the wrong | 137 |
| - Identify the Correct Irregular Verbs | 137 |
| UNIT XV | |
| EIFFEL TOWER | 139 |
| - Reading Comprehension | 139 |
| - Words/ Phrases identification | 140 |
| - Questions based on the reading text | 142 |
| Write (true) or justifying the wrong and provide an Indonesian translation for each sentence. | 143 |
| UNIT XVI | |
| BAKUT ISLAND | 144 |
| - Reading Comprehension | 144 |
| - Questions based on the reading text | 145 |
| - Correct from of the irregular verb identification | 146 |
| UNIT XVII | |
| MONAS TOWER | 148 |
| - Reading Comprehension | 148 |
| - Identifying the following words/ Frases | 151 |
| - Questions based on the reading text | 152 |
| - Identify the infinitive in each sentence. | 153 |
| - The key to creating questions in English | 154 |
| - Question Tag | 156 |
| UNIT XVIII | |
| TOWER Of KHALIFA | 159 |
| - Reading Comprehension | 159 |
| - Recognize the following phrases and words and memorize them | 162 |

| | |
|--|------------|
| - Based on the reading text, answer the following questions | 164 |
| - Write (true) or justifying the wrong | 165 |
| UNIT XIX | |
| MASJID AGUNG AL-KAROMAH | 166 |
| - Reading Comprehension | 166 |
| - Based on the reading text, answer the following questions | 167 |
| - True and False Sentence | 168 |
| - Wordfinding puzzles | 169 |
| UNIT XX | |
| BENTENG ORANGE NASSAU | 170 |
| - Reading Comprehension | 170 |
| - Recognize the following phrases and words | 171 |
| - Based on the reading text, answer the following questions | 172 |
| - True and False Sentence | 173 |
| - Wordfinding puzzles | 174 |
| UNIT XXI | |
| KEMBANG ISLAND | 175 |
| - Reading Comprehension | 175 |
| - Based on the reading text, answer the following questions | 177 |
| - True and False Sentence | 177 |
| - Wordfinding puzzles | 178 |
| UNIT XXII | |
| FLOATING MARKET MUARA KUIN IN BANJARMASIN | 180 |
| - Reading Comprehension | 180 |
| - Based on the reading text, answer the following questions | 181 |
| - True and False Sentence | 182 |
| - Wordfinding puzzles | 182 |
| UNIT XXIII | |
| THE DIAMOND AND JEWELRY MARKET OF MARTAPURA | 184 |
| - Reading Comprehension | 184 |
| - Based on the reading text, answer the following questions | 185 |
| - Recognize the following phrases and words | 186 |
| - Wordfinding puzzles | 187 |
| - Write (true) or justifying the wrong and provide an Indonesian translation for each sentence | 189 |
| - Rearrange the Sentences | 189 |
| UNIT XXIV | |
| GARDEN RAYA BANUA | 191 |
| - Reading Comprehension | 191 |
| - Based on the reading text, answer the following questions | 192 |
| - Wordfinding puzzles | 193 |

| | |
|---|------------|
| UNIT XXV | |
| SYEIKH MUHAMMAD ARSYAD AL BANJARI | 194 |
| - Reading Comprehension | 194 |
| - Recognize the following phrases and words | 195 |
| - Based on the reading text, answer the following questions | 196 |
| - Wordfinding puzzles | 197 |
| - Write (true) or justifying the wrong and provide an Indonesian translation for each sentence. | 198 |
| UNIT XXVI | |
| CIVIL ENGINEERING | 199 |
| - Reading Comprehension | 199 |
| - Recognize the following phrases and words | 204 |
| - Based on the reading text, answer the following questions | 205 |
| - Identify the Participle and Gerund in each sentence | 206 |
| UNIT XXVII | |
| BOLTED CONNECTIONS | 207 |
| - Reading Comprehension | 207 |
| - Recognize the following phrases and words | 209 |
| - Based on the reading text, answer the following questions | 211 |
| - Write (true)/justifying the wrong and provide an Indonesian translation For each sentence. | 211 |
| - Rearrange the Sentences | 212 |
| UNIT XXVIII | |
| STEEL PRODUCTION | 215 |
| - Reading Comprehension | 215 |
| - Recognize the following phrases and words | 217 |
| - Based on the reading text, answer the following questions | 218 |
| - Rearrange the Sentences | 218 |
| - Write (true)/justifying the wrong word on right side | 220 |
| UNIT XXIX | |
| ALUMINIUM PRODUCTION | 222 |
| - Reading Comprehension | 222 |
| - Recognize the following phrases and words | 223 |
| - Based on the reading text, answer the following questions | 225 |
| - Underline the subject and predicate for each sentence. | 225 |
| UNIT XXX | |
| KAMPUNG PELANGI | 226 |
| - Reading Comprehension | 226 |
| - Recognize the following phrases and words | 227 |
| - Based on the reading text, answer the following questions | 228 |
| - Write (true)/justifying the wrong | 229 |
| - Write full sentences. Use a correct auxiliary | 229 |
| BIBLIOGRAPHIES | 230 |



UNIT I

A. Teaching for General Purposes

After completing this course, students will be able to master reading techniques and sentence structure that can help with reading skills in English for academic needs in the field of Civil Engineering through skimming, scanning, guessing meaning, text organization, and information transfer.

B. Teaching for a Specific Purpose

After completing this course, students will be able to use appropriate references in the text as well as important words in the reading text in accordance with the Civil Engineering major. Students who complete this course are able to guess the meaning of words based on context, word types, and other punctuation marks. After completing this course, students will be able to classify word groups such as adjectives, nouns, adverbs of place and time, pure verbs, and progressive verbs. Students who complete this course are able to use correct sentence structures, particularly those that use TO BE form. After completing this course, students will be able to correctly rearrange random sentences.

1. Reading Comprehension

What is the Difference between Civil Engineering and Architecture?

POSTED BY ADAM HOFFMAN ON SEPTEMBER 21, 2016



Civil and architectural engineering principles and practices are typically required for construction projects in the construction industry. It is a significant discipline that is concerned with the manufacturing process of structures such as buildings, airports, churches, and residences, to name a few. Both professions perform critical functions necessary for the successful completion of any construction project, and they rely on one another to accomplish the assigned tasks.

These two professions are extremely similar in many ways. However, civil engineering and architectural design are distinct fields of study. Indeed, they each play a unique role on the battlefield, which differentiates them from one another. Structural planning and design are a collaborative effort between the departments of civil engineering and architecture. While architecture is concerned with the spatial functionality and aesthetics of a building project, civil engineering is more concerned with the art, feel, and functionality of a design. Civil engineering is also concerned with the structural elements of a design, ensuring that it can withstand normal and extreme conditions.

While civil engineers contribute to the design process, architects are responsible for structural design, a role that architects have traditionally held.

Initially, the architect will conceptualize and design the overall shape, color, and layout of the development project. Following that, a licensed civil engineering professional will analyze the design and make recommendations to improve the construction process' efficiency and effectiveness.

Civil engineers will be responsible for identifying appropriate materials, recommending modifications and changes, and evaluating structural integrity as they work to bring the architect's vision to life. In a nutshell, architecture is concerned with the design and

development of works, whereas civil engineering is concerned with the safety and reliability of those designs. While civil engineer and architect jobs occasionally overlap, a positive working relationship between the two professions results in more effective and successful construction projects over time. Godfrey-Hoffman & Hodge, a Connecticut-based civil engineering firm, has chosen to collaborate with architects in order to ensure superior quality results and proper design implementation for all clients. They understand that collaboration and teamwork are critical components of any construction project's success. Architects are concerned with designing the space and aesthetics of a construction project, as well as the artistic appearance, feel, and functionality of the completed product. Civil engineering focuses on structural design elements that ensure structures can withstand both normal and extreme weather and environmental conditions.

<https://ghhl.com/blog/civil-engineering-bid-303244-what-is-the-difference-between-civil-engineering-and-architecture>

Activity I

Answer Questions based on the reading text!

- 1. What is the fundamental distinction between civil and architectural engineering?**
- 2. What level of knowledge and comprehension is required in the construction industry for construction projects?**
- 3. What is the difference between structural design and planning design?**
- 4. Are civil engineers and architects held to the same standards of responsibility?**
- 5. Who is tasked with conceptualizing and designing the development project's overall shape, color scheme, and layout?**
- 6. How does an architect prioritize his or her work?**
- 7. How important is collaboration between civil and architectural engineers?**
- 8. And, more importantly, with whom do they need to collaborate?**

Activity II

Identifikasi kata dan frase di bawah ini

| | |
|---|---|
| <ol style="list-style-type: none"> 1. Civil and architectural engineering 2. principles and practices 3. typically required 4. construction projects 5. discipline 6. manufacturing process 7. residences 8. critical functions 9. necessary 10. the successful completion 11. construction project 12. a unique role 13. differentiates 14. aesthetics 15. building project, 16. the architect 17. conceptualize 18. recommendations 19. to improve | <ol style="list-style-type: none"> 1. Teknik sipil dan arsitektur 2. prinsip dan praktik 3. biasanya diperlukan 4. proyek konstruksi 5. disiplin 6. proses manufaktur 7. tempat tinggal 8. fungsi kritis 9. diperlukan 10. penyelesaian yang berhasil 11. proyek konstruksi 12. peran yang unik 13. membedakan 14. estetika 15. proyek bangunan, 16. arsitek 17. konsep 18. rekomendasi 19. untuk meningkatkan |
|---|---|

Activity III

Temukan 10 kosakata pada kotak di bawah ini yang berhubungan dengan teks bacaan (Civil and architectural engineering) kemudian terjemahkan dalam bahasa Indonesia!

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| R | E | S | U | L | T | S | O | M | E |
| E | O | N | Q | U | A | L | I | T | Y |
| R | S | P | E | A | K | I | S | I | A |
| E | N | S | U | R | E | F | O | S | M |
| A | S | S | U | P | E | R | I | O | R |
| D | N | D | O | V | E | R | L | A | P |
| I | E | V | A | L | U | A | T | E | O |
| N | N | T | E | G | R | I | T | T | R |

Activity IV

Tuliskan T (TRUE) jika kata yang digaris bawahi pada kalimat di bawah ini benar dan perbaikalah kata tersebut pada kolom yang tersedia di sebelah kanan jika kata tersebut salah!

| | | |
|-----|--|----------------------|
| 1. | Civil and architectural engineering principles and practices <u>was</u> typically required for construction projects in the construction industry | <input type="text"/> |
| 2. | Are these two professions extremely similar in many ways? | <input type="text"/> |
| 3. | Was structural planning and design a collaborative effort between the departments of civil engineering and architecture? | <input type="text"/> |
| 4. | The arms <u>is</u> controlled by the operator sitting in a small cab connected to the pedestal. | <input type="text"/> |
| 5. | <u>Are</u> architecture concerned with the spatial functionality and aesthetics of a building project? | <input type="text"/> |
| 6. | Is a civil engineering more concerned with the art? | <input type="text"/> |
| 7. | A civil engineering is also concerned with the structural elements of a design. | <input type="text"/> |
| 8. | Where <u>is</u> your closed friends right now? | <input type="text"/> |
| 9. | <u>Is</u> the high building near from your house? | <input type="text"/> |
| 10. | Is the building designed by the civil engineering students from UNISKA? | <input type="text"/> |

Activity V

Atur ulang kalimat di bawah ini kedalam susunan yang benar hingga menghasilkan terjemahan Bahasa Indonesia yang telah tersedia pada kolom sebelah keanan!

| | |
|--|---|
| 1. Civil and architectural engineering principles and practices are commonly required in construction. | 1. Prinsip dan praktik teknik sipil dan arsitektur umumnya diperlukan dalam konstruksi. |
|--|---|

| | |
|---|---|
| <p>2. Important discipline dealing with building, airports, churches, and residences manufacturing process.</p> <p>3. A successful construction project requires both professions to work together.</p> <p>4. Several similarities exist between these two jobs.</p> <p>5. fields of study Engineering and architecture are two distinct.</p> <p>6. It was their distinct roles on the battlefield that distinguished them.</p> <p>7. The departments of civil engineering and architecture work together to plan and design structural systems.</p> <p>8. Civil engineering is more concerned with the art, feel, and functionality of a design than architecture.</p> <p>9. An important aspect of civil engineering is the design's structural integrity.</p> <p>10. However, while civil engineers contribute to the design process, architects are traditionally responsible for the structural design.</p> <p>11. Initially, the architect will plan the building's overall shape, color, and layout.</p> | <p>2. Disiplin penting yang berhubungan dengan proses pembuatan gedung, bandara, gereja, dan tempat tinggal.</p> <p>3. Sebuah proyek konstruksi yang sukses membutuhkan kedua profesi untuk bekerja sama.</p> <p>4. Beberapa kesamaan ada di antara kedua pekerjaan ini.</p> <p>5. Teknik dan arsitektur adalah dua bidang studi yang berbeda.</p> <p>6. Itu adalah peran mereka yang berbeda di medan perang yang membedakan mereka.</p> <p>7. Departemen teknik sipil dan arsitektur bekerja sama untuk merencanakan dan merancang sistem struktural.</p> <p>8. Teknik sipil lebih mementingkan seni, rasa, dan fungsionalitas desain daripada arsitektur.</p> <p>9. Aspek penting dari teknik sipil adalah integritas struktural desain.</p> <p>10. Namun, sementara insinyur sipil berkontribusi pada proses desain, arsitek secara tradisional bertanggung jawab atas desain struktural.</p> |
|---|---|

| | |
|--|--|
| 12. Unlicensed civil engineers will then review the design and make recommendations to improve construction efficiency. | 11. Awalnya, arsitek akan merencanakan keseluruhan bentuk, warna, dan tata letak bangunan. 12. Insinyur sipil tanpa izin kemudian akan meninjau desain dan membuat rekomendasi untuk meningkatkan efisiensi konstruksi. |
|--|--|

UNIT II

1. Reading Comprehension

THE USE OF EXCAVATOR IN CONSTRUCTION



Excavators are construction vehicles that are used for digging and transporting large objects. An excavator is made up of two basic parts: a drive base and a sturdy boom arm with a digging tool.

The arm is controlled by the operator from a small base-mounted cab. The excavator generates hydraulic forces that are used to control the mechanical arms of the machine via the hydraulic system. It is also propelled by a chain wheel. Excavators are commonly used in both large and small-scale construction. They are used in small residential projects for cutting and backfilling, road construction, armor and rock placement in marine structures, and excavation on larger sites. transporting construction materials, cleaning up construction debris, and so on. Excavators are classified according to their application, manufacturer, and intended use. Excavators are used in construction. Excavators are the most common machines used in the construction industry. Excavators are multi-purpose machines that can be used for a variety of tasks such as trenching, digging pits, and foundation construction. Excavators are probably the most widely used machines in the construction industry. Excavators can be used for a variety of tasks, including: digging trenches, pits, foundations

- Disassembly
- Material handling
- General/landscape assessment
- Brush cutting with hydraulic attachment
- Forestry work
- Pipe lifting and placement
- Mining, in particular, but not only open pit mining
- River dredging

Activity 1

1. Identifikasi kata dan frase di bawah ini

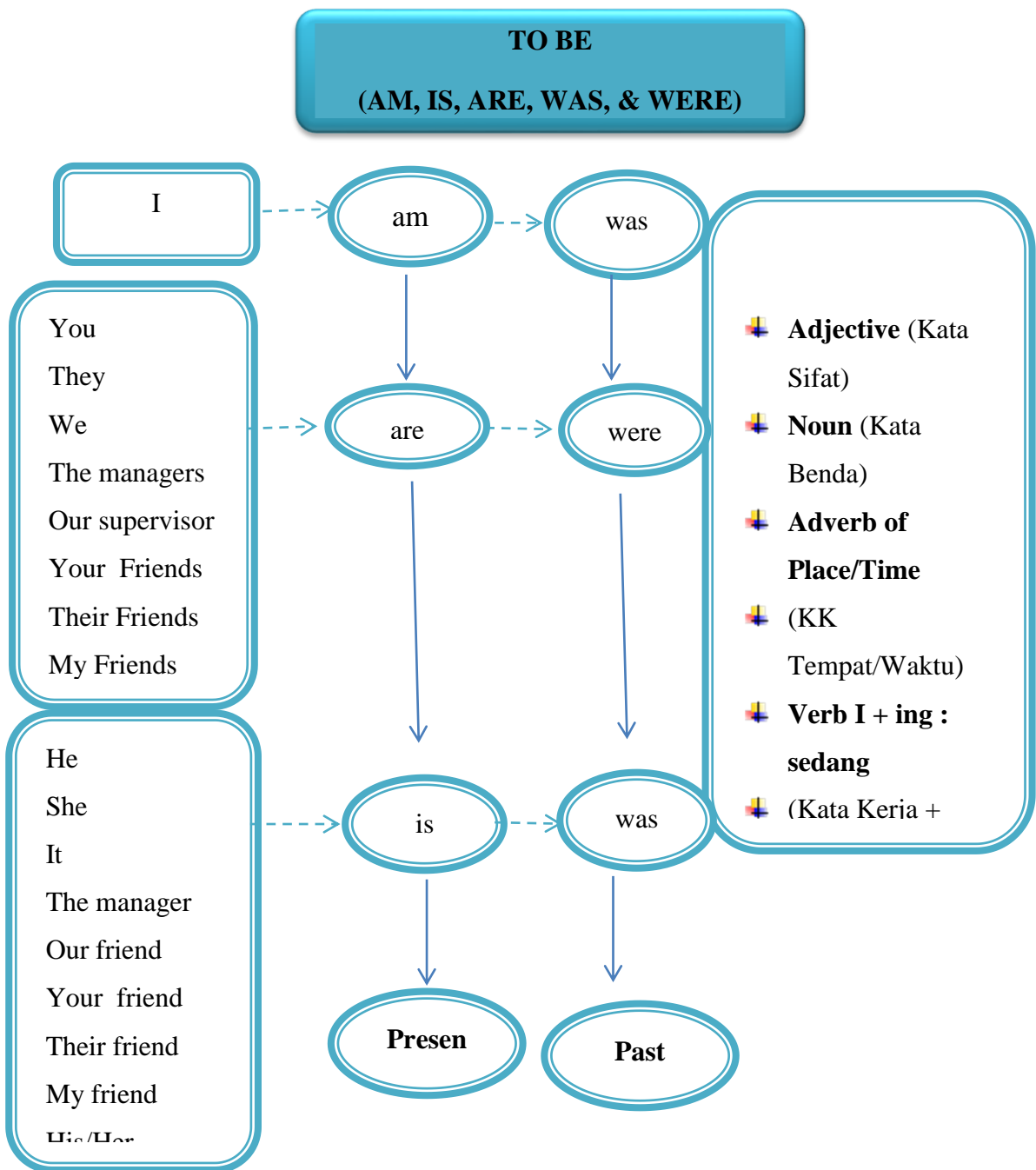
| | |
|---------------------------------------|--|
| 1. an excavator | ➤ Eskavator |
| 2. a construction vehicle | ➤ kendaraan konstruksi |
| 3. used to excavate | ➤ digunakan untuk menggali |
| 4. move large objects | ➤ pindahkan benda besar |
| 5. basically made up | ➤ pada dasarnya dibuat |
| 6. a driving base | ➤ basis penggerak |
| 7. associated | ➤ terkait |
| 8. a powerful boom arm | ➤ lengan boom yang kuat |
| 9. designed for excavating | ➤ dirancang untuk penggalian |
| 10. connected to the base | ➤ terhubung ke pangkalan |
| 11. controls the arm | ➤ mengontrol lengan |
| 12. a hydraulic system | ➤ sistem hidrolik |
| 13. to generate a Hydraulic force | ➤ untuk menghasilkan gaya hidrolik |
| 14. the mechanical arm of the machine | ➤ lengan mekanis mesin |
| 15. a chain wheel system | ➤ sistem roda rantai |
| 16. its movement | ➤ gerakannya |
| 17. small scale constructions | ➤ konstruksi skala kecil |
| 18. small housing projects | ➤ proyek perumahan kecil |
| 19. road construction | ➤ pembangunan jalan raya |
| 20. marine structures | ➤ struktur laut |
| 21. large rocks | ➤ batu besar |
| 22. in larger sites to excavate | ➤ di situs yang lebih besar untuk digali |
| 23. move construction material | ➤ memindahkan bahan konstruksi |
| 24. remove construction waste | ➤ membuang limbah konstruksi |
| 25. types of excavators | ➤ jenis eskavator |
| 26. classified on use | ➤ diklasifikasikan saat digunakan |

Activity II

2. Answer the Questions based on the reading text!

1. What types of vehicles are used to dig and transport large objects?
2. What are the two most important parts of an excavator?
3. What is the advantage of the excavator's hydraulic force?
4. Do excavators only come into play in large-scale construction projects?
5. On what types of terrain are excavators most commonly used?

II. Understanding the Structure of



Pada unit ini dijelaskan bahwa TO BE bentuk sekarang yaitu: **am**, **is** dan **are** dan TO BE bentuk lampau yaitu: **was** dan **were** hanya bisa diikuti oleh lima kelompok kata di bawah ini, yaitu:

1. **Adjective** (kata sifat), contoh: *safe* (aman), *crack* (retak), *strong* (kuat), *collapse* (runtuh), *solid* (kokoh).

2. **Noun** (kata benda) contoh: *a labor* (seorang buruh), *a contractor* (seorang kontraktor), *a foreman* (seorang mandor), *a supervisor* (seorang pengawas), *an expert* (seorang tenaga ahli), etc.
3. **Adverb of place/time** (kata keterangan tempat/waktu) contoh: *on the main road* (di jalan utama), *on the bridge* (di atas jembatan), *inside the building* (di dalam sebuah gedung), *in the morning* (di pagi hari), *at eleven o'clock* (pada pukul 11), etc.
4. **K.K. I + Ing** (kata kerja bentuk I + **ing**) contoh: *making* (sedang membuat), *constructing* (sedang membangun), *controlling* (sedang mengawasi), *identifying* (sedang mengidentifikasi), *adding* (sedang menambahkan), etc..
5. **K.K. III** (kata kerja bentuk III) yang berarti **di.../ter...** contoh: *made* (dibuat/terbuat), *constructed* (dibangun), *controlled* (diawasi), *identified* (teridentifikasi/diidentifikasi), *kept* (dijaga), etc.

BERIKUT URAIANNYA:

1. Adjective (Kata Sifat)

Kata sifat adalah kata yang memberi penjelasan pada kata benda.

Adjective cocok dengan TO BE bentuk sekarang (**am, are, is**) dan lampau (**was** dan **were**.) Adjective yang bertemu dengan TO BE umumnya TO BE tidak diterjemahkan.

Contoh kalimat:

1. This building is safe. (Bangunan ini aman)
2. The construction is very solid. (Konstruksi ini sangat kokoh)
3. Many contractions in some places are collapse. (Banyak konstruksi di beberapa tempat runtuh)
4. Two days ago, we were on the Barito bridge. (Dua hari yang lalu kami berada di jembatan Barito)
5. Our house wall is crack. (Dinding rumah kami retak)

>> *Catatan:*

*Untuk kalimat menyangkal tambahkan **not** di belakang TO BE dan untuk kalimat bertanya pindahkan TO BE di depan subjek atau kata ganti orang.*

Contoh Kalimat:

1. **Is** this building safe? (Apakah bangunan ini aman?)
2. This building is **not** safe. (Bangunan ini tidak aman.)

2. Noun (Kata Benda)

Cocok dengan TO BE bentuk sekarang dan bentuk lampau. Noun yang bertemu dengan TO BE biasanya tidak diterjemahkan dan terkadang diterjemahkan ‘**adalah**’

Contoh kalimat:

1. He is a supervisor. (Dia adalah seorang pengawas)
2. They are bricklayers. (Mereka tukang batu)
3. My father was an expert in a construction company five years ago. (Ayah saya seorang tenaga ahli di perusahaan konstruksi 5 tahun yang lalu).
4. Three years ago, my elder sister was a student of civil engineering at Islamic University of Kalimantan Muhammad Arsyad Al Banjari Banjarmasin, and now she is a contractor. (Tiga tahun yang lalu kakak perempuan saya adalah seorang mahasiswa di Universitas Islam Kalimantan Muhammad Arsyad Al Banjari Banjarmasin, dan sekarang dia seorang kontraktor.)
5. We are foremen. (Kami adalah mandor)

>> Catatan:

*Untuk kalimat negative (kalimat menyangkal) tambahkan **not** di belakang TO BE dan untuk kalimat interrogative (kalimat tanya) pindahkan TO BE di depan subjek.*

Contoh Kalimat:

1. They are **not** bricklayers (Mereka bukan tukang batu)
2. **Are** they bricklayers (Apakah mereka tukang batu?)

3. Adverb of Place/Time (Kata Keterangan Tempat/Waktu)

Adverb adalah kata yang menjelaskan kata kerja, kata sifat, kata keterangan yang lain dan juga kadang menjelaskan suatu kalimat. Pada bahasan ini hendaknya dipahami bahwa kata keterangan tempat dan waktu bisa dipertemukan dengan **TO BE**.

Kata **keterangan** yang bertemu dengan TO BE biasanya diterjemahkan ‘ada’ atau ‘berada’.

Perhatikan contoh di bawah ini!

1. Is our manager **in his room** now? (Apakah manajer kita berada di ruangnya sekarang?)
2. All of supervisors are **inside the building**. (Semua pengawas berada di dalam ruangan)
3. The carpenter was **on the roof** of Mr. Amin Roy’s home yesterday afternoon. (Tukang kayu itu di atas atap rumah bapak Amin Roy kemarin sore.)
4. We are **on Rumpiang bridge** now. (Kami berada di jembatan Rumpiang sekarang)
5. It is **half past two**. (Pukul 2 lewat tiga puluh menit)

4. Verb + ing = (Sedang)

Cocok dengan TO BE sekarang yaitu: **am, are, is** dan **TO BE** lampau yaitu: **was** and **were**. Verb I + ing (kata kerja bentuk I + ing) ini diterjemahkan sedang/semantara mengekspresikan aktivitas yang sedang terjadi sekarang atau pada suatu kurun waktu tertentu.

Contoh Kalimat:

1. They are **constructing** a hospital. (Mereka sedang membangun sebuah rumah sakit)
2. The **foreman** was controlling the labors when I came. (Mandor itu sedang mengawasi para buruh ketika saya datang)
3. We are **identifying** the problem of this project. (Kami sedang mengidentifikasi masalah pada proyek ini)
4. The labors are **adding** some materials to make this building solid (Para buruh menambahkan beberapa bahan untuk membuat bangunan ini kokoh)

>> *Catatan:*

Untuk kalimat **menyangkal** tambahkan **NOT** di belakang **TO BE** dan untuk kalimat **bertanya** pindahkan **TO BE** di depan subyek (kata ganti orang).

Contoh kalimat negative (kalimat menyangkal)

1. They are **not** (aren't) **constructing** a hospital. (Mereka tidak sedang membangun sebuah rumah sakit)
2. The foreman was **not** (wasn't) **controlling** the labors when I came. (Mandor itu tidak sedang mengawasi para buruh ketika saya datang)
3. We are **not** (aren't) **identifying** the problem of this project. (Kami sedang mengidentifikasi masalah pada proyek ini)
4. The labors are **not** (aren't) **adding** some materials to make this building solid (Para buruh tidak menambahkan beberapa bahan untuk membuat bangunan ini kokoh).

Contoh Kalimat *interrogative* (kalimat bertanya)

1. **Are** they **contstructing** a hospital. (Apah mereka sedang membangun sebuah rumah sakit?)
2. **Was** the **foreman** was controlling the labors when I came. (Apakah mandor itu sedang mengawasi para buruh ketika saya datang?)
3. **Are** you **identifying** the problem of this project. (Apa kalian sedang mengidentifikasi masalah pada proyek ini?)
4. **Are** the labors **adding** some materials to make this building solid (Apakah para buruh menambahkan beberapa bahan untuk membuat bangunan ini kokoh?)

5. V e r b III = di/ter (Kata Kerja III =di/ter)

Cocok dengan TO BE present dan past. Verb III ini manakala berhadapan dengan TO BE cara menerjemahkannya diawali dengan **di...../ter.....** pada Verb III tersebut.

Contoh Kalimat:

1. This hospital was **built** by the government in 1980. (Rumah sakit ini dibangun oleh pemerintah pada tahun 1980)
2. The problems are **identified** by all supervisors. (Masalah tersebut diidentifikasi oleh semua pengawas)
3. My company is **kept** by fifteen securities. (Perusahaan saya dijaga oleh 15 keamanan)

Contoh Kalimat *Negative* (Kalimat Menyangkal)

1. This hospital **was not (wasn't)** built by the government in 1980. (Rumah sakit ini tidak dibangun oleh pemerintah pada tahun 1980)
2. The problems **are not (aren't)** identified by all supervisors. (Masalah tersebut tidak diidentifikasi oleh semua pengawas)
3. My company **is not (isn't)** kept by fifteen securities. (Perusahaan saya tidak dijaga oleh 15 keamanan).

Contoh Kalimat *Interrogative* (Kalimat Bertanya)

1. **Was** this hospital built by the government in 1980? (Apakah rumah sakit ini dibangun oleh pemerintah pada tahun 1980?)
2. **Are** the problems identified by all supervisor?. (Apakah masalah tersebut diidentifikasi oleh semua pengawas?)
3. **Are** your company kept by fifteen securities? (Apakah perusahaan anda dijaga oleh 15 keamanan?).

Activity III

Tuliskan T (TRUE) jika kata yang digaris bawah pada kalimat di bawah ini benar dan perbaikalah kata tersebut pada kolom yang tersedia di sebelah kanan jika kata tersebut salah!

| | | |
|----|---|----------------------|
| 1. | An excavator <u>are</u> a construction vehicle used to dig or move large objects. | <input type="text"/> |
| 2. | The excavators <u>were</u> basically consisted of 2 parts. | <input type="text"/> |
| 3. | The drive platform <u>was</u> associated with powerful boom arms with attachments designed for digging. | <input type="text"/> |
| 4. | The arms <u>is</u> controlled by the operator sitting in a small cab connected to the pedestal. | <input type="text"/> |

| | | |
|-----|--|----------------------|
| 5. | The hydraulic system were used by the excavator to generate hydraulic forces to control the mechanical arms of the machine. | <input type="text"/> |
| 6. | The small scale construction is used for small housing projects to do cut and fill. | <input type="text"/> |
| 7. | It are used in marine structures for attaching masks and boulders, | <input type="text"/> |
| 8. | There was several types of excavators classified according to their use, brand and purpose. | <input type="text"/> |
| 9. | Excavators was perhaps the most commonly used machines in the construction industry. | <input type="text"/> |
| 10. | There were many uses for excavators | <input type="text"/> |

Activity IV

Berdasar pada teori bahwasanya setiap kalimat harus memiliki predikat (biasanya disebut kata kerja), memiliki subjek dari kata kerja tersebut, dan berisi pemikiran yang lengkap (Thurman, 2012).

Subjek dan Predikat

Garis bawahi subjek dan predikat pada setiap kalimat-kalimat di bawah ini!

1. Liza and Cooper will watch television for an hour.
2. This journal, written in the 1800s, has been handed down to me.
3. A strong feeling of contentment filled Ben's heart after the race.
4. Lynn knew she had made the right purchase.
5. That she had called the wrong person suddenly occurred to Rita.
6. Twenty-two years sounded like a long time.
7. Jason's elaborate plans for the future need revising.
8. Allison, accompanied by Mitchell, is driving home.
9. Once considered a rising star, Cory has seen his fortune dwindle.
10. Sue has gone away and won't return for two months.

Adopted from Susan Thurman (2012)

▪ Predicate Adjectives

Identifikasi predikat kata sifat pada kalimat-kalimat di bawah ini!

1. Cathy's three aunts are the most kind.
2. The raucous mob became unruly and dangerous.
3. Until the congregation began applauding, the baby was unusually quiet.
4. Our cousin would have gladly accommodated you.
5. "Wasn't that clumsy," Coy said after she dropped the pancakes.
6. He is the most delightful child I have ever worked with.
7. The latest Lawrence Block novel excites me greatly.
8. My new desk chair is comfy but not very high.
9. "We're so glad you're here!" our grandparents yelled.
10. August seemed humid.

Adapted from Susan Thurman (2012)

Predicate Nominatives

Identifikasi predikat nominatif pada kalimat-kalimat di bawah ini!

1. "Those are the dishes I've been looking for!" Marianne cried happily.
2. Even after all the preparation, Monday was the day I dreaded.
3. After six months of renovation, our house will soon be a place we can be proud of.
4. Next year will be the eleventh anniversary of when I turned thirtynine.
5. Our favorite dog was a loving basset hound named Eugene.
6. Both the ring and the necklace are sterling silver.
7. This has been a day I'll never forget.
8. Rob, Sally, Laura, and Al were all kids when they first met.
9. Thankfully, I am no longer the club president.
10. All the cats have been guests at the local kennel while we have been away

Adopted from Susan Thurman (2012)

Activity V

Isilah bagian yang kosong dengan kata-kata yang benar berdasarkan teks bacaan (*The Use of Excavator in Construction*)!

1. An excavator is a construction vehicle used to or move large objects.
2. A driving base associated a powerful boom arm with an designed for excavating.
3. They are used for small housing projects to do a and fill
4. There are several types of excavators which are on their use, brand and purpose.
5. ... the excavators used for small housing projects to do a cut and fill?

Activity VI

Susun ulang kalimat di bawah ini dalam susunan yang benar sehingga menghasilkan terjemahan Bahasa Indonesia sebagaimana tertera pada setiap kalimat di bawah ini!

1. Basically/ made/ is/ an /excavator / up/ of/ 2 /parts?
Apakah eskavator pada dasarnya terdiri dari 2 bagian?
2. Within/ a /base/ and/ controls/ small/ cab/ does/ the/ operator/ sit/ connected /to/ the/ the /arm/? *Apakah operator duduk di dalam kabin kecil?*
3. System/ to /does /the/ excavator/ use/ a /hydraulic/ generate/ a /hydraulic/ force/ to /control/ the /mechanical/ arm /of/ the /machine/? *Apakah ekskavator menggunakan sistem hidraulik untuk menghasilkan gaya hidraulik untuk mengontrol lengan mekanis alat berat?*
4. wheel/ system/ for/ its/ does/ the /excavator/ also /use/ a /chain /movement/? *Apakah ekskavator juga menggunakan sistem roda rantai untuk pergerakannya?*
5. /excavators / used /in /large /are /the/ and/ small /scale/ constructions/? *Apakah eskavator digunakan dalam konstruksi skala besar dan kecil.*
6. /used/ for /small /are /the/ excavators / housing/ projects/ to /do/ a /cut/ and /fill?

Apakah eskavator digunakan untuk proyek perumahan kecil untuk melakukan cut and fill?

7. Excavators/ used/ in/ road/ construction /are/ the/?

Apakah eskavator digunakan dalam pembangunan jalan?

8. Marine/ structures/ to/ are /the/ excavators / used/ in /place/ large/ rocks/?

Apakah eskavator digunakan dalam struktur laut untuk mengangkat batu besar?

9. Also/ been /used /in /have/ the/ excavators/ larger/ sites/ to/ excavate/?

Apakah eskavator juga telah digunakan di lokasi yang lebih besar untuk melakukan penggalian?

10. Move/ construction/ do/ the/ excavators/ material/?

Activity VII

Temukan 15 kosakata pada kotak di bawah ini yang berhubungan dengan teks bacaan (The Use of Excavator in Construction) kemudian terjemahkan dalam bahasa Indonesia!

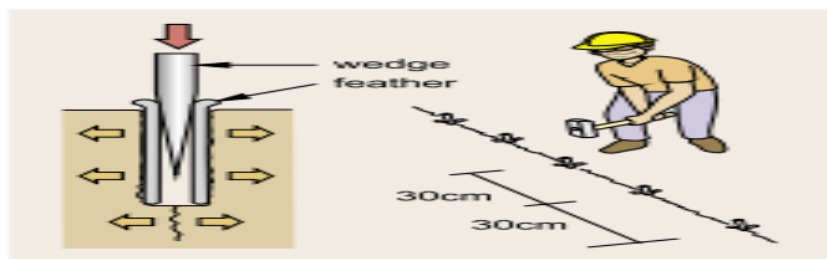
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| I | M | E | C | H | A | N | I | C | A | L |
| O | H | P | R | O | J | E | C | T | S | K |
| H | Y | D | R | A | U | L | I | C | U | C |
| H | K | P | U | R | P | O | S | E | J | O |
| M | S | R | W | E | R | T | Y | U | I | N |
| A | C | E | N | S | M | A | L | L | N | S |
| R | A | M | M | A | C | H | I | N | E | T |
| I | L | O | D | W | T | J | K | J | K | R |
| N | E | V | O | H | G | M | I | G | R | U |
| E | S | E | D | E | B | K | U | H | G | C |
| R | D | T | L | E | N | L | Y | I | T | T |
| O | E | N | K | L | M | O | N | K | L | I |
| A | R | M | E | S | Y | S | T | E | M | O |
| D | G | I | S | E | V | E | R | A | L | N |
| H | V | G | F | O | R | C | E | O | I | S |

- | | | |
|---------|-----------|-----------|
| 1 _____ | 6. _____ | 11. _____ |
| 2 _____ | 7. _____ | 12. _____ |
| 3 _____ | 8. _____ | 13. _____ |
| 4 _____ | 9. _____ | 14. _____ |
| 5 _____ | 10. _____ | 15. _____ |

UNIT III

Rock excavation should as a general measure be avoided on rural road works. It is a costly activity and requires special tools, equipment and skills. For these reasons, the best way of dealing with rocky terrain is to realign the road to avoid it. When the road alignment passes through areas with limited sections of rock, the solution can be to raise the road levels, and place the completed road on a fill on top of the rocky terrain. excavated manually with the use of pickaxes, crowbars, chisels and sledgehammers. Rocky outcrops and large boulders can be dealt with using feathers and wedges,

feathers and wedges, splitting it into smaller pieces.



splitting it into smaller pieces. The use of plugs and feathers is a common method for splitting rock in quarries. This method is also used for limited excavation of rock on roadwork sites. The feathers and wedges are inserted into a seam of holes, and struck in succession with a sledgehammer. Large boulders and rocky outcrops can also be broken up with the use of fire and water. This method of first heating the rock and then rapidly cooling it off with water, causing it to crack, is not recommended as it requires

extensive amount of fuels and provides very limited outputs. Rock can be broken up using several methods, with explosives, wedge and feather sets or expansion chemicals. The efficiency of these methods are very much dependent on the quality of the rock. Some rock types are softer and easier to drill and thereby make it worthwhile to use manual work methods, while in other situations, the rock is so hard that mechanised equipment is the only sensible solution.

Drilling and Blasting

Drilling and blasting is by far the most effective way of dealing with rock excavation. In mountainous terrain where there is not much choice in terms of alternative alignments, the amount of rock excavation may justify the mobilisation of proper drilling equipment and staff with the essential skills. Before commencing any drilling and blasting work, make sure that the project has access to a certified blasting expert. Both the drilling and the blasting should be supervised by a person with a proven record of work experience in this field. Drilling equipment for road works is normally pneumatic, powered by a mobile compressor. There are also petrol powered hammer drills available on the market, which are appropriate for more limited drilling works. The art of manual drilling is a skill, which has disappeared in most countries. If it is no longer in practice, it is not recommended to attempt to resuscitate this trade. Minor works can of course be carried out relying on hand drilling. Blasting obviously raises a number of security issues, and regulations relating to the security of people and surrounding properties need to be observed in a proper manner. In some places, special permits are required before such works can commence. In areas with civil unrest or armed conflicts, the military authorities may have placed restrictions on the use of explosives. Due attention should also be given to the safety and health aspects of the drilling operation. Both manual and pneumatic drilling require adequate protective clothing to be worn. With pneumatic equipment on site, the rest of the labour force should be directed away from the drilling works to avoid the noise caused by this equipment.

<https://www.ilo.org/wcmsp5/groups/public/asia/ro-bangkok/documents/genericdocument/>

Activity I

Identifikasi kata dan frase di bawah ini kemudian hafalkan!

| | |
|-------------------------------|-----------------------------------|
| 1. rock excavation | ➤ penggalian batu |
| 2. as a general | ➤ sebagai seorang jenderal |
| 3. measure | ➤ mengukur |
| 4. avoided | ➤ dihindari |
| 5. on rural road works | ➤ pada pekerjaan jalan pedesaan |
| 6. a costly activity | ➤ aktivitas yang mahal |
| 7. requires | ➤ membutuhkan |
| 8. special tools | ➤ alat khusus |
| 9. equipment | ➤ peralatan |
| 10. for these reasons | ➤ untuk alasan-alasan ini |
| 11. the best way of dealing | ➤ cara terbaik untuk bertransaksi |
| 12. rocky terrain | ➤ medan berbatu |
| 13. to realign the road | ➤ untuk menyetel kembali jalan |
| 14. alignment passes | ➤ keselarasan berlalu |
| 15. through areas | ➤ melalui area |
| 16. limited sections of rock | ➤ bagian batuan yang terbatas |
| 17. to raise the road levels | ➤ untuk menaikkan level jalan |
| 18. completed road | ➤ jalan selesai |
| 19. on a fill on top | ➤ di isi di atas |
| 20. the rocky terrain | ➤ medan berbatu |
| 21. excavated manually | ➤ digali secara manual |
| 22. the use of pickaxes | ➤ penggunaan beliung |
| 23. crowbars | ➤ linggis |
| 24. chisels | ➤ pahat |
| 25. sledgehammers | ➤ palu godam |
| 26. outcrops | ➤ singkapan |
| 27. large boulders | ➤ batu besar |
| 28. be dealt with using | ➤ ditangani dengan menggunakan |
| 29. wedges | ➤ irisan |
| 30. splitting | ➤ pemisahan |
| 31. smaller pieces | ➤ potongan-potongan kecil |
| 32. The use of plugs | ➤ Penggunaan busi |
| 33. a common method | ➤ metode umum |
| 34. splitting rock | ➤ membelah batu |
| 35. in quarries | ➤ di tambang |
| 36. This method | ➤ Metode ini |
| 37. limited excavation | ➤ penggalian terbatas |
| 38. rock on roadwork sites | ➤ batu di lokasi perbaikan jalan |
| 39. inserted into | ➤ dimasukkan ke dalam |
| 40. a seam of holes | ➤ jahitan lubang |
| 41. struck in succession | ➤ dipukul secara berurutan |
| 42. with a sledgehammer | ➤ dengan palu godam |
| 43. Large boulders | ➤ Batu-batu besar |
| 44. rocky outcrops | ➤ singkapan berbatu |
| 45. broken up | ➤ putus hubungan |
| 46. the use of fire and water | ➤ penggunaan api dan air |
| 47. The efficiency | ➤ Efisiensi |

| | |
|---|--|
| <p>48. mechanised equipment</p> <p>49. sensible solution.</p> <p>50. Drilling and Blasting</p> <p>51. most effective way</p> <p>52. dealing with rock excavation</p> <p>53. In mountainous terrain</p> <p>54. justify</p> <p>55. make sure</p> <p>56. certified blasting expert</p> <p>57. supervised by</p> <p>58. a proven record</p> <p>59. recommended</p> <p>60. to attempt</p> <p>61. to resuscitate</p> <p>62. carried out relying on</p> <p>63. hand drilling</p> <p>64. obviously raises</p> <p>65. regulations relating</p> | <p>➤ peralatan mekanis</p> <p>➤ solusi yang masuk akal.</p> <p>➤ Pengeboran dan Peledakan</p> <p>➤ cara yang paling efektif</p> <p>➤ berurusan dengan penggalian batu</p> <p>➤ Di daerah pegunungan</p> <p>➤ membenarkan</p> <p>➤ yakinkan</p> <p>➤ ahli peledakan bersertifikat</p> <p>➤ diawasi oleh</p> <p>➤ rekor yang terbukti</p> <p>➤ direkomendasikan</p> <p>➤ untuk mencoba</p> <p>➤ untuk menyadarkan</p> <p>➤ dilakukan mengandalkan</p> <p>➤ pengeboran tangan</p> <p>➤ jelas menimbulkan</p> <p>➤ peraturan terkait</p> |
|---|--|

Activity II

Jawablah pertanyaan di bawah ini berdasarkan teks bacaan!

1. Why should quarrying stone on country road works be avoided?
2. What is the best way to deal with rocky terrain?
3. How do you deal with rocky and cobblestone outcrops in road construction?
4. What are the most common methods for splitting rock in mines?
5. Why is it not recommended to heat the rock first and then rapidly cool it with water to create cracks?
6. Why are drilling and blasting regarded as the most efficient methods?
7. What to look for before installing drilling guards
8. What are the requirements for a person who drills security guards?
9. What is the rationale behind the requirement that drillers obtain special permission before engaging in their activities?
10. Which tools are most important for manual drillers? What tools do manual drillers require the most?

Activity III

Tulislah T (TRUE) jika kata yang digaris bawahi pada kalimat di bawah ini benar dan perbaikalah kata tersebut pada kolom yang tersedia di sebelah kanan jika kata tersebut salah!

| No. | Statement | |
|-----|---|--|
| 1. | The quarrying stone on country road works <u>should be</u> avoided. | |
| 2. | The best way <u>are</u> to deal with rocky terrain. | |
| 3 | <u>Do</u> the rocky and cobblestone deal outcrops in road construction. | |
| 5. | It <u>were</u> not recommended to heat the rock first and then rapidly cool it with water to create cracks. | |
| 6. | The drilling and blasting <u>was</u> considered the most effective. | |
| 7. | <u>Are</u> everything looking out for before drilling guards? | |
| 8. | What <u>are</u> the qualifications for someone who drills guards? | |
| 9. | The reason for the need for drillers <u>am</u> to obtain special permission before carrying out their activities? | |
| 10. | Some tools <u>are</u> required most by manual drillers. | |

Activity IV

Susun ulang kalimat di bawah ini dalam susunan yang benar sehingga menghasilkan terjemahan Bahasa Indonesia sebagaimana yang tertera pada kolom sebelah kanan!

| | |
|---|--|
| <p>1. equipment/ and/ skills/ it is/ a /costly/ activity /and/ requires/ special/ tools/</p> <p>2. to/ avoid/ it /the/ best /way /of /dealing/ with /rocky/ terrain is/ to realign the road. /</p> <p>3. the /rocky /terrain/ the/ solution/ can be / to / raise / the road/ levels,/ and /place/ the /completed/ road on /a/ fill on /top of /</p> | <ul style="list-style-type: none"> ➤ Ini adalah kegiatan yang mahal dan membutuhkan alat, perlengkapan, dan keterampilan khusus. ➤ Cara terbaik untuk mengatasi medan berbatu adalah dengan menyetel kembali jalan untuk menghindarinya. ➤ Solusinya bisa dengan menaikkan permukaan jalan, dan menempatkan jalan yang sudah selesai di atas lahan berbatu. |
|---|--|

| | |
|---|--|
| <p>4. chisels/ and/ sledgehammers/.it/ is /always/ excavated /manually /with the use/ of pickaxes/, crowbars,/</p> <p>5. feathers /and /wedges /rocky /outcrops/ and /large/ boulders /can be /dealt /with using /</p> <p>6. splitting /rock/ in/ quarries/ the/ use /of plugs/ and feathers /is/ a /common /method for /</p> <p>7. roadwork/ sites /this /method/ is /also used for/ limited /excavation/ of rock/ on/</p> <p>8. use/ of /fire /and /water/ large /boulders/ and/ rocky /outcrops /can also/ be/ broken /up /with the/</p> <p>9. dealing/ with /rock/ excavation /drilling /and /blasting /is /by/ far /the /most/ effective/ way /of/.</p> <p>10. alternative /alignments/ there /is/ not /much /choice/ in /terms/ of /</p> <p>11. with/ the/ essential/ skills/ the /amount /of/ rock /excavation/ may /justify/ the/ mobilisation/ of/ proper /drilling/ equipment/ and/ staff/</p> <p>12. a /certified/ blasting/ expert/ make /sure/ that/ the /project /has /access/ to /</p> <p>13. work/ experience/ in/ this/ field/ both /the/ drilling/ and/ the /blasting /should /be/ supervised/ by /a/ person/ with/ a/ proven/ record/ of /</p> | <ul style="list-style-type: none"> ➤ Itu selalu digali secara manual dengan menggunakan beliung, linggis, pahat dan palu godam. ➤ Singkapan berbatu dan batu besar dapat ditangani dengan menggunakan bulu dan irisan ➤ Penggunaan busi dan bulu adalah metode umum untuk membelah batuan di tambang ➤ Metode ini juga digunakan untuk penggalian batuan terbatas di lokasi perbaikan jalan ➤ Batu-batu besar dan singkapan batu juga bisa dipecah dengan menggunakan api dan air. ➤ Pengeboran dan peledakan sejauh ini merupakan cara paling efektif untuk menangani penggalian batuan. ➤ Tidak banyak pilihan dalam hal keberpihakan alternatif ➤ jumlah penggalian batu dapat membenarkan mobilisasi peralatan pengeboran yang tepat dan staf dengan keterampilan yang penting. ➤ Pastikan bahwa proyek tersebut memiliki akses ke ahli peledakan bersertifikat ➤ Baik pengeboran maupun peledakan harus diawasi oleh seseorang yang memiliki catatan pengalaman kerja yang terbukti di bidang ini ➤ Ada juga bor palu bertenaga bensin yang tersedia di pasaran. ➤ Seni mengebor manual adalah sebuah keterampilan ➤ Jika tidak lagi dalam praktik, tidak disarankan untuk mencoba |
|---|--|

| | |
|---|--|
| <p>14. on /the/ market/ there/ are/ also/ petrol /powered/ hammer/ drills/ available/</p> <p>15. is/ a /skill/ the /art/ of /manual /drilling /</p> <p>16. to/ resuscitate /this /trade/ if /it /is /no/ longer /in/ practice,/ it/ is/ not/ recommended /to/ attempt /</p> <p>17. out/ relying/ on /hand/ drilling/ minor/ works /can/ of /course/ be /carried /</p> <p>18. can /commence /special/ permits/ are /required/ before/ such/ works/.</p> <p>19. use /of /explosives /the /military/ authorities/ may/ have /placed /restrictions/ on/ the/</p> <p>20. the /drilling /operation /due /attention /should /also/ be/ given /to /the/ safety/ and/ health/ aspects/ of /</p> <p>21. Clothing/ to/ be/ worn/ both /manual /and /pneumatic/ drilling /require/ adequate/ protective/</p> <p>22. caused /by/ this/ equipment/the/ rest/ of /the/ labour/ force /should /be /directed/ away/ from/ the /drilling /works/ to/ avoid/ the /noise/</p> | <p>menghidupkan kembali perdagangan ini.</p> <ul style="list-style-type: none"> ➤ Pekerjaan kecil tentu saja dapat dilakukan dengan mengandalkan pengeboran tangan. ➤ izin khusus diperlukan sebelum pekerjaan tersebut dapat dimulai. ➤ -otoritas militer mungkin telah membatasi penggunaan bahan peledak. ➤ Perhatian juga harus diberikan pada aspek keselamatan dan kesehatan operasi pengeboran ➤ Pengeboran manual dan pneumatik membutuhkan pakaian pelindung yang memadai untuk dikenakan ➤ Sisa tenaga kerja harus diarahkan jauh dari pekerjaan pengeboran untuk menghindari kebisingan yang disebabkan oleh peralatan ini. |
|---|--|

Activity V

Temukan 15 kosakata pada kotak di bawah ini yang berhubungan dengan teks bacaan kemudian terjemahkan dalam bahasa Indonesia!

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| E | X | C | A | V | A | T | I | O | N | S |
| S | P | E | C | I | A | L | S | O | O | O |
| R | E | Q | U | I | P | M | E | N | T | S |
| O | R | A | L | I | G | N | M | E | N | T |
| A | E | P | A | S | S | E | S | T | H | E |
| D | A | F | O | R | C | E | W | O | R | K |
| S | S | A | T | T | E | N | T | I | O | N |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| O | O | P | R | O | T | E | C | T | I | N |
| N | N | G | I | V | E | N | H | A | V | E |
| D | R | I | L | L | I | N | G | A | N | D |
| D | R | I | L | L | I | N | G | C | A | N |
| P | O | W | E | R | E | X | P | E | R | T |
| P | E | T | R | O | L | R | O | C | K | S |

1. _____ 6. _____ 11. _____
2. _____ 7. _____ 12. _____
3. _____ 8. _____ 13. _____
4. _____ 9. _____ 14. _____
5. _____ 10. _____ 15. _____

UNIT IV

I. Reading Comprehension

THE USE OF GRADER IN CONSTRUCTION



A grader is a construction machine with a long blade that is used to create a flat surface. It is variously known as a road grader, a blade, a maintainer, and a motor grader. Graders are primarily used in road construction to build and maintain dirt and gravel roads. The grader usually has three axles, with the engine and cab on top, the rear axles at one end of the vehicle, and a third axle at the front end, with the blade in between. They are used in the construction of paved roads to prepare the base course, which creates a wide flat surface for the asphalt to be placed on. They are also used to level native soil foundation pads prior to the construction of large buildings. Many countries use graders to flatten the ground before laying asphalt. Graders, too, come in a variety of

styles; some have a large fork front, while others have a flat blade front that comes in a variety of sizes.

Activity I

Identifikasi kosa kata dan frase kemudian hafalkan!

- | | |
|-------------------------|---------------------------|
| 1. a grader | ➤ seorang grader |
| 2. construction machine | ➤ mesin konstruksi |
| 3. with a long blade | ➤ dengan pisau panjang |
| 4. used to create | ➤ digunakan untuk membuat |
| 5. a flat surface | ➤ permukaan datar |
| 6. commonly called | ➤ biasa disebut |
| 7. such as road grader | ➤ seperti perata jalan |
| 8. a blade | ➤ sebuah pisau |

| | | | |
|-----|---------------------------|---|--------------------------|
| 9. | a maintainer | ➤ | seorang pengelola |
| 10. | motor grader | ➤ | perata jalan |
| 11. | mostly | ➤ | kebanyakan |
| 12. | for construction | ➤ | untuk konstruksi |
| 13. | maintenance of dirt roads | ➤ | pemeliharaan jalan tanah |
| 14. | gravel roads | ➤ | jalan kerikil |
| 15. | typically | ➤ | khas |
| 16. | consist of | ➤ | terdiri dari |
| 17. | conspiguration | ➤ | konspigurasi |
| 18. | axles | ➤ | as roda |
| 19. | cab situated top | ➤ | taksi terletak di atas |
| 20. | rear axles | ➤ | as roda belakang |
| 21. | the vehicle | ➤ | kendaraan |
| 22. | paved roads | ➤ | jalan beraspal |
| 23. | to prepare | ➤ | untuk mempersiapkan |
| 24. | the base course | ➤ | kursus dasar |
| 25. | a wide flat surface | ➤ | permukaan datar yang |
| 26. | the asphalt | | lebar |
| 27. | to be placed on | ➤ | aspal |
| 28. | soil foundation pads | ➤ | untuk ditempatkan |
| 29. | grade prior | ➤ | bantalan pondasi tanah |
| 30. | large buildings | ➤ | kelas sebelumnya |
| 31. | a large fork front | ➤ | bangunan besar |
| 32. | different sizes. | ➤ | depan garpu besar |
| | | ➤ | ukuran yang berbeda. |

Activity II

Jawablah pertanyaan di bawah ini berdasarkan teks bacaan!

1. What exactly is grader?
2. What is the common name for grader?
3. Can you explain how graders are most commonly used?

4. Can you explain about three axles on a grading machine?
5. Can you explain about the various types of graders?
6. What graders are used in the construction of paved roads?
7. What is the purpose of using graders to install native soil foundation bearings?
8. Is it only in Indonesia that a grader is used for grading before installing asphalt?
9. Describe the various types of graders based on their function!
10. How important is a grader in Indonesia?

Activity III

Tuliskan T (TRUE) jika kata yang digaris bawah pada kalimat di bawah ini benar dan perbaikalah kata tersebut pada kotak yang tersedia di sebelah kanan jika kata tersebut salah!

| No. | Statements | |
|-----|--|--|
| 1. | In the construction of paved roads they <u>was</u> used to prepare the base course to create a wide flat surface for the asphalt to be placed on | |
| 2. | They were also <u>used</u> to set native soil foundation pads to finish grade prior to the construction of large buildings | |
| 3. | Many countries <u>used</u> grader for the flattening process that is done before the placing of Asphalt. | |
| 4. | A grader <u>was</u> a construction machine with a long blade used to create a flat surface. | |
| 5. | It <u>were</u> commonly called in names such as road grader, a blade, a maintainer and motor grader | |

Activity IV

Isilah titik-titik di bawah ini dengan kata yang benar berdasarkan teks bacaan!

1. Road grader, a blade, and motor grader.
2. The engine and cab top, the rear axles at one end of the vehicle.

3. In the construction of paved roads they are used to prepare the base course to create a wide flat surface for the to be placed on.
4. They are also used to set native soil pads to finish grade prior to the construction of large buildings.
5. Many countries use grader for that is done before the placing of Asphalt.

Activity V

Susun ulang kalimat di bawah ini dalam susunan yang benar sehingga menghasilkan terjemahan Bahasa Indonesia sebagaimana yang tertera pada kolom sebelah kanan!

| | |
|--|---|
| 1. for/ the/ construction/ and/ maintenance/ of/ dirt/ roads/ and/ gravel/ roads/ are/ graders/ widely/ used/ in/ road/ construction/? | 1. Apakah grader banyak digunakan pada konstruksi jalan untuk memelihara jalan tanah dan jalan kerikil? |
| 2. consist/ of/ three/ axes/ does/ the/ leveler/ usually/? | 2. Apakah alat perata biasanya terdiri dari tiga sumbu? |
| 3. tool/ used/ to/ prepare/ the/ is/ there/ a/ leveling/ plinth/ path/ to/ create/ a/ wide/ flat/ surface/ for/ laying/ asphalt/? | 3. Apakah ada alat perata yang digunakan untuk menyiapkan jalur landasan saat membuat permukaan datar yang lebar untuk peletakan aspal? |
| 4. also/ used/ to/ are/ graders/ install/ original/ ground/ foundation/ pads/ for/ finishing/ slopes/ prior/ to/ large/ building/ construction/? | 4. Apakah grader juga digunakan untuk meratakan pondasi tanah untuk meratakan lereng pada konstruksi bangunan besar? |
| 5. that/ many/ Is/ it/ true/ countries/ use/ graders/ for/ the/ assessment/ process? | 5. Benarkah banyak negara menggunakan grader untuk proses asesmen? |
| 6. have/ various/ do/ graders/ also/ types/? | 6. Apakah grader juga memiliki berbagai tipe? |

| | |
|--|--|
| 7. consist/ of/ a/ does/ the/ grader/large/ front/ fork/? | 7. Apakah grader terdiri dari garpu depan yang besar? |
| 8. graders/ to/ install /original/ ground /why /do/ people/ use /foundation/ pads/? | 8. Mengapa grader yang digunakan orang untuk memasang bantalan pondasi tanah asli? |
| 9. a /grader /for/ the/ grading/ process/ before/ installing/ does/ only /Indonesia/ use asphalt?/ | 9. Apakah hanya Indonesia yang menggunakan grader untuk proses grading sebelum memasang Asphalt? |
| 10. to/ its/ function/ explain/ the/ type /of/ grader/ according/! | 10. Jelaskan jenis alat perata menurut fungsinya! |
| 11. a/ grader/ how /important/ is/ in/ Indonesia/? | 11. Seberapa penting grader di Indonesia |

Activity VI

Temukan 15 kosakata pada kotak di bawah ini yang berhubungan dengan teks bacaan kemudian terjemahkan dalam bahasa Indonesia!

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| O | C | S | O | W | U | I | O | P | Q | F | G | H | D | G | I |
| I | R | T | U | R | J | K | L | R | Y | R | T | S | D | A | H |
| I | E | T | J | C | O | N | S | T | R | U | C | T | I | O | N |
| Y | A | U | J | S | D | R | B | E | F | O | R | E | A | N | D |
| Y | T | Y | Y | H | G | O | G | H | F | S | C | F | B | H | L |
| N | A | T | I | V | E | A | H | L | R | O | O | L | U | O | A |
| S | O | I | L | J | L | D | I | K | O | M | N | A | I | U | R |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| U | S | E | D | K | K | E | S | H | N | E | T | T | L | S | G |
| R | P | R | E | P | A | R | E | D | T | B | R | T | D | E | E |
| S | U | R | F | A | C | E | G | W | T | L | I | I | I | E | C |
| P | R | I | O | R | B | F | H | I | F | A | E | N | N | V | B |
| D | O | N | E | B | C | N | J | D | G | D | S | G | G | F | P |
| D | J | G | D | D | F | W | G | E | D | E | V | G | S | E | T |

- 1 _____ 6. _____ 11. _____
2 _____ 7. _____ 12. _____
3 _____ 8. _____ 13. _____
4 _____ 9. _____ 14. _____
5 _____ 10. _____ 15. _____

UNIT V

I. Reading Comprehension

THE USE OF BACKHOE IN CONSTRUCTION

A backhoe, also known as a rear actor or back actor, is a section of excavating equipment or digger consisting of a digging bucket on the end of a two-part articulated arm. They are typically mounted on the back of a tractor or front loader. The section of the arm nearby to the vehicle is known as the boom, and the section which carries the bucket is known as the dipper or dipper stick (the terms “boom” and “dipper” having been used previously on steam shovels). The boom is attached to the vehicle through a pivot



known as the kingpost, which allows the arm to slew left and right, usually through a total of around 200 degrees. Modern backhoes are powered by hydraulics. With the advent of hydraulic powered attachments such as a tiltrotator, breaker, a grapple or an auger, the backhoe is frequently used in many applications other than excavation and with the tiltrotator attachment, serves as an effective tool carrier. Many backhoes feature quick coupler (quick-attach) mounting systems for simplified attachment mounting, dramatically increasing the machine's utilization on the job site. Backhoes are usually employed together with loaders and bulldozers. Excavators that use a backhoe are sometimes called "trackhoes" by people who do not realize the name is due to the action of the bucket, not its location on a backhoe loader.



Backhoe loaders can be designed and manufactured from the start as such, or can be the result of a farm tractor equipped with a front end loader (FEL) and rear backhoe. Though similar looking, the purpose-designed backhoe loaders are much stronger, with the farm variation unsuitable for heavy work. The farm variation also requires that the operator switch seats from sitting in front of the backhoe controls to the tractor seat in order to reposition the equipment while digging, and this often slows down the digging process.

Activity I

Identifikasi kata dan frase di bawah ini kemudian hafalkan!

| | |
|-------------------------------|-----------------------------|
| 1. the advent | ➤ Kedatangan |
| 2. hydraulic | ➤ hidrolik |
| 3. tiltrotators | ➤ tiltrotator |
| 4. grapple | ➤ memegang erat |
| 5. or augers | ➤ atau augers |
| 6. backhoes | ➤ sepatu belakang |
| 7. many applications | ➤ banyak aplikasi |
| 8. excavation | ➤ penggalian |
| 9. and with | ➤ dan dengan |
| 10. equipped | ➤ diengkapi |
| 11. a quick-coupler | ➤ penggandeng cepat |
| 12. mount system | ➤ sistem pemasangan |
| 13. easy attachment | ➤ lampiran mudah |
| 14. of the attachment | ➤ dari lampiran |
| 15. greatly increasing | ➤ sangat meningkat |
| 16. machine utilization | ➤ pemanfaatan mesin |
| 17. commonly used | ➤ umum digunakan |
| 18. referred to | ➤ dirujuk |
| 19. designed and manufactured | ➤ dirancang dan diproduksi |
| 20. a front loader | ➤ pemuat depan |
| 21. rear backhoe | ➤ backhoe belakang |
| 22. despite | ➤ meskipun |
| 23. its appearance | ➤ penampilannya |
| 24. this specially designed | ➤ ini dirancang khusus |
| 25. backhoe loader | ➤ backhoe loader |
| 26. much sturdier | ➤ jauh lebih kuat, |
| 27. wide variety ranches | ➤ berbagai macam peternakan |
| 28. tough work | ➤ kerja keras |
| 29. the farm variant | ➤ varian pertanian |

| | |
|----------------------------|----------------------|
| 30. also requires | ➤ juga membutuhkan |
| 31. tractor seat | ➤ kursi traktor |
| 32. the implement position | ➤ posisi implement |
| 33. during digging | ➤ selama penggalian |
| 34. slows down | ➤ melambat |
| 35. the digging process. | ➤ proses penggalian. |

Activity II

Jawablah pertanyaan di bawah ini berdasarkan teks bacaan!

1. Where is the digging bucket on the backho?
2. What is the function of the hydraulics on the backho?
3. How many degrees can the backho arm rotate left and right?
4. What is the function of the tiltrotator, breaker, grapple or auger, on the backhoe?
5. Why are many backho equipped with a quick coupler installation system?
6. What is the main function of the backho loader?
7. What is the benefit of the boom and scope of the backhoe?

Activity III

Tuliskan T (TRUE) jika kata yang digaris bawahi pada kalimat di bawah ini benar dan perbaikalah kata tersebut pada kotak yang tersedia di sebelah kanan jika kata tersebut salah!

| No. | Statements | |
|-----|---|--|
| 1 | <u>Was</u> they typically mounted on the back of a tractor or front loader. | |
| 2 | Excavators that use a backhoe <u>is</u> sometimes called "trackhoes" by people. | |
| 3 | <u>Am</u> backhoe loaders designed and manufactured from the start? | |

| | | |
|----|---|--|
| 4 | <u>Was</u> modern backhoes powered by hydraulics? | |
| 5 | Where <u>were</u> the digging bucket on the backho? | |
| 6 | <u>Are</u> they working here two days ago | |
| 7 | <u>Is</u> the workers in the forest right now | |
| 8 | They <u>was</u> in the camp yesterday | |
| 9 | He <u>are</u> a good driver | |
| 10 | I and you <u>was</u> invited by the manager | |

II. Understanding an English Structure

PERSONAL PRONOUNS (KATA GANTI)

| Meaning | Subject | Object | Possessive Adjective | Possessive Pronoun |
|-----------------|---------|--------|----------------------|--------------------|
| Saya | I | Me | My ... | Mine |
| Kamu/Kalian | You | You | Your... | Yours |
| Kami | We | Us | our... | Ours |
| Mereka | They | Them | Their... | Theirs |
| Dia (Laki-Laki) | He | Him | His... | His |
| Dia (Perempuan) | She | Her | Her... | Hers |
| Itu (Benda) | It | Its | Its... | Its |

REFLEXIVE PRONOUNS

| | | |
|------------|---|-------------------------|
| Myself | = | Saya sendiri |
| Yourself | = | Anda sendiri |
| Yourselves | = | Kalian sendiri |
| Ourselves | = | Kami sendiri |
| Themselves | = | Mereka sendiri |
| Himself | = | Dia (laki-laki) sendiri |
| Herself | = | Dia (perempuan) sendiri |
| Itself | = | Itu sendiri |

Tuntunan Dasar Pemakaian Personal Pronouns

1. Yang termasuk kelompok **We**: *You and I, Haris and I, Anis and I, My father and I, My mother and I.*
2. Yang termasuk kelompok **They**: *Alun and Arkanha, my father and my mother, the boys, the men, the women, the books, the trees.*
3. Yang termasuk kelompok **She**: *Salsa, Desy, Asmawati, etc.*
4. Yang termasuk kelompok **He**: *Noorcholish, Ramli, Anto, my father, the boy, the man.*
5. Yang termasuk kelompok **It**: *the book, the table, the tree, the dog, the cow, etc.*

I. Personal Pronoun; **I, They, We, She, He, It**, adalah subjek yang terletak sebelum kata kerja atau kata kerja bantu.

Contoh:

1. **I** gave him a book (= Saya memberinya sebuah buku, **gave** adalah kata kerja)
2. **You** are clever man (= Anda seorang laki-laki yang pintar, **are** adalah kata kerja bantu)
3. **We** accompanied her to the market two days ago(= Kami menemani dia ke pasar 2 hari yang lalu, **accompanied** adalah kata kerja)
4. **They** congratulated me on my successful concert (Mereka mengucapkan selamat atas keberhasilan saya di konser itu, **congratulated** adalah kata kerja)
5. **It** is a book (Itu sebuah buku, **is** adalah kata kerja bantu)

Contoh:

II. Personal Pronoun : **Me, You, Them, Us, Her, Him, dan It**, letaknya setelah kata kerja atau kata depan **of**.

1. They invited **us** came there (Mereka mengundang kami ke sana)
2. He sent **me** some durians (Dia mengiriminya saya durian)
3. We sent **them** some books (Kami mengiriminya mereka beberapa buku)
4. Mr Olis gave **him** a lot of money (Tuan Olis memberinya banyak uang)
5. I always dream of **her**. (Saya selalu memimpikannya)

III. Possessive Adjective: **My, Your, Their, Our, His, Her, Its, and Ali's**
letaknya sebelum kata benda.

Contoh:

1. That is **my** ship. (Itu adalah kapal saya, **ship** adalah kata benda)
2. This is **your** apple. (Ini apelmu, **apple** adalah kata benda)
3. These **are** our books. (Ini buku-buku kami, **books** adalah kata benda)
4. This is Ali's pen. (Ini pulpen Ali, **pen** adalah kata benda)
5. That is **her** supervisor. (Itu pengawasnya, **supervisor** adalah kata benda profesi)
6. That is **its** tail. (Itu ekornya, **tail** adalah kata benda)

IV. Possessive Pronouns: **Mine, Yours, Ours, Theirs, Hers, His, Its**
tidak bisa diikuti oleh kata benda sesudahnya. Kata ini menunjukkan kepemilikan saya, kepemilikanmu, kepemilikan kami, kepemilikan mereka, kepemilikan dia (perempuan), kepemilikan dia (laki-laki) dan kepemilikannya (benda)

Contoh:

1. That is **mine** (Itu kepunyaanku)
2. These books are **yours** (Buku-buku ini kepunyaanmu)
3. Those projects are **ours** (Proyek-proyek itu kepunyaan kami)
4. This house is **theirs** (Rumah ini kepunyaan mereka)
5. This company is **hers** (Perusahaan ini kepunyaan dia (perempuan))
6. This hospital is **his** (Rumah sakit ini kepunyaan dia (laki-laki))

V. Kata-kata **Myself, Yourself, Ourselves, Themselves, Yourselves, Herself, Himself, Itself** menunjukkan diri, tidak boleh ditempatkan di depan suatu kalimat serta berfungsi untuk menyatakan sesuatu mengenai diri sendiri guna mempertegas suatu pernyataan.

Contoh:

1. I look at **myself** in the mirror (Saya melihat diriku sendiri di dalam cermin)

2. You must defend **yourself** (Anda harus membela diri anda sendiri)
 3. He killed **himself** with a pistol (Ia membunuh dirinya sendiri dengan pistol)
 4. She hit **herself** yesterday (Ia memukuli dirinya sendiri kemarin)
 5. You **yourself** must go there (Anda sendiri yang harus pergi ke sana)
 6. dr. Zairullah **himself** will open the meeting (dr. Zairullah sendiri yang akan membuka rapat itu)
 7. We **ourselves** will do it (Kami sendiri yang akan mengerjakannya)
 8. They **themselves** don't know about this matter (Mereka sendiri tidak tahu persoalan itu)
- >> Jika kata-kata **-SELF** didahului kata depan **BY** diartikan sendirian (**alone**)
9. I don't like sleeping by myself = I don't like sleep alone (Saya tidak suka tidur sendirian)
 10. Dani lives by himself that big house = Dani lives alone that big house (Dani tinggal sendiran di rumah yang besar itu)
 11. We don't like to go by ourselves. (Kami tidak suka pergi sendirian).

Activity IV

Isilah titik-titik di bawah ini dengan kata yang benar berdasarkan teks bacaan!

1. A backhoe, is a section of equipment or digger consisting of a digging bucket on the end of a two-part articulated arm.
2. The boom is to the vehicle through a pivot known as the kingpost.
3. Many backhoes feature quick coupler (quick-attach) mounting systems for attachment mounting.
4. Backhoes are usually together with loaders and bulldozers.
5. Backhoe loaders ... designed and manufactured from the start as such, or can be the result of a farm tractor equipped with a front end loader (FEL) and rear backhoe.

Activity V

▪ *Simple Subjects*

Identifikasi subjek pada setiap kalimat di bawah ini!

1. Beyonce's new CD is fantastic!
2. The late-night infomercial about whitening teeth lasts a half an hour.
3. Parents should choose their battles with their teenagers.
4. After feuding for three years, the twin sisters forgave each other.
5. In the long run, is health more important than wealth?
6. Five old pals from high school have recently "friended" me on Facebook.
7. The most unusual dish offered in the newly opened restaurant is fried eel.
8. I miss the festivals in my hometown.
9. While waiting for a taxi, Woody talked with the doorman.
10. In today's newspaper is an article about growing tomatoes

Adopted from Susan Thurman (2012)

▪ *Simple Predicates*

Identifikasi predikat (kata kerja) pada setiap kalimat di bawah ini!

1. Charles and Catherine climbed the stairs to the fourth floor.
2. Click on the yellow icon.
3. That movie was a real rip-off.
4. After driving 500 miles in one day, Nellie found a motel room.
5. Charlie and Marlene left today on their around-the-world cruise.
6. At the bottom of the ninth inning, the score remained 5–5.
7. Katie and Carlos sat outside for their anniversary dinner.
8. Damon lost his cell phone for the third time in a month.
9. All thirty people at the meeting dove into the pizza.
10. Before the show, some actors kissed the aging stagehand for good luck.

Adopted from Susan Thurman (2012)

▪ **Direct Object**

Identifikasi objek pada setiap kalimat di bawah ini!

1. Surprisingly, George called Lucy from Philadelphia last night.
2. Even though they didn't want to go, Paula and Phillip attended the company picnic.
3. Your computer contracted a horrible new virus.
4. Both of my children have a mild case of the flu.
5. Over the last few days, the telephone has made strange noises.
6. My grandfather told several remarkable stories to my cousins and me.
7. Please find the stapler before you leave.
8. When I drive, I keep my registration in the glove compartment of my car.
9. Do you ride your bicycle to work every day or just on Fridays?
10. The whole family visited uncle Oscar on our recent trip to California.

Adopted from Susan Thurman (2012)

Activity VI

Susun ulang kalimat di bawah ini dalam susunan yang benar hingga menghasilkan terjemahan Bahasa Indonesia sebagaimana yang tertera pada setiap kalimat di bawah ini!

1. an/ effective/ tool /carrier /than/ digging/ Backhoes/ are/ often /used/ in/ many/ applications /other /and /with/ a/ tiltrotator /attachment/, which/ serves/ as/?
(Apakah backhoe sering digunakan dalam banyak aplikasi selain penggalian dan attachment tiltrotator, yang berfungsi sebagai pembawa alat yang efektif.)
2. many/ backhoes/ with/ a /quick-coupler/ mounting/ system/ are/ equipped/ for/ easy /installation?. (Apakah banyak backhoe dilengkapi dengan sistem pemasangan quick-coupler untuk kemudahan pemasangan?).
3. used/ with/ loaders/ backhoes/ are/ commonly/ and/ bulldozers/?.
(Apakah backhoe biasanya digunakan dengan loader dan bulldozer?).
4. /backhoes /sometimes /excavators/ using /are /referred /to /as/ "tracks"/.
(Eskavator yang menggunakan backhoe terkadang disebut sebagai "tracks").
5. and manufactured by the backhoe loader can be designed development country

(Backhoe loader dapat dirancang dan diproduksi oleh negara-negara maju).

6. /loader /is /this /specially /designed/ backhoe/ much /sturdier/, with /a/ frame/ variation/ not /suitable/ for/ the/ tough /jobs/.

(Backhoe loader yang dirancang khusus ini jauh lebih kokoh, dengan variasi rangka yang tidak sesuai untuk pekerjaan berat).

7. /requires/ the/ operator/ to/ change/ the/ seat/ from /the/ seat/ in /front /of /the/ backhoe/ controls //to the// tractor/ seat/ to// change /the/ position/ of/ the/ equipment/ during /digging,/ which/ often/ slows/ down/ the/ digging/ process/ the/ farm /variant/ also./

(Varian pertanian juga mengharuskan operator untuk mengubah kursi dari kursi di depan kontrol backhoe ke kursi traktor untuk mengubah posisi peralatan selama penggalian, yang seringkali memperlambat proses penggalian.)

Activity VII

Temukan 15 kosakata pada kotak di bawah ini yang berhubungan dengan teks bacaan

(The Use of Backhoe in Construction) kemudian terjemahkan dalam bahasa Indonesia!

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L | O | A | D | E | R | S | A | D | G |
| D | F | A | R | M | M | U | C | H | U |
| E | T | S | T | R | O | N | G | E | R |
| S | R | L | O | K | N | O | W | N | D |
| I | A | O | F | B | O | O | M | G | I |
| G | C | O | T | A | L | L | O | W | G |
| N | T | K | E | S | L | E | W | S | G |
| E | O | I | N | S | L | O | W | S | I |
| D | R | N | F | A | R | M | T | U | N |
| N | S | G | B | W | H | I | L | E | G |
| B | T | S | I | T | T | I | N | G | F |
| M | H | R | E | Q | U | I | R | E | S |
| R | E | H | E | A | V | Y | T | G | H |

- | | | |
|---------|-----------|-----------|
| 1 _____ | 6. _____ | 11. _____ |
| 2 _____ | 7 _____ | 12 _____ |
| 3 _____ | 8. _____ | 13. _____ |
| 4 _____ | 9. _____ | 14. _____ |
| 5 _____ | 10. _____ | 15. _____ |

UNIT VI

A. Teaching for general purposes

After completing this course, students will be able to master reading techniques and sentence structure that can help with reading skills in English for academic needs in the field of Civil Engineering through skimming, scanning, guessing meaning, text organization, and information transfer.

B. Teaching for a Specific Purpose

After completing this course, students will be able to use appropriate references in the text as well as important words in the reading text in accordance with the Civil Engineering major. Students who complete this course are able to guess the meaning of words based on context, word types, and other punctuation marks. After completing this course, students will be able to classify word groups such as adjectives, nouns, adverbs of place and time, pure verbs, and progressive verbs. Students who complete this course are able to use correct sentence structures, particularly those that use **TO DO form**. After completing this course, students will be able to correctly rearrange random sentences.

I. Reading Comprehension

THE USE OF CRANE IN CONSTRUCTION, ADVANTAGE AND DISADVANTAGE



A crane is a type of machine commonly used in construction, generally equipped with an elevator, ropes or chains and sheaves that can be used both to move and to lift and lower materials horizontally. It is mainly used for heavy lifting and transport to other locations.

One or more simple machines are used to provide a mechanical benefit and thus to move loads on the normal ability of a person. Cranes are commonly employed in the transport industry for the loading and unloading of goods for the movement of materials and manufacturing industries for mounting agricultural machinery, in the construction industry.

A crane uses the pulley and cable system to create a mechanical advantage so that large loads can be lifted. The two most important criteria in crane design are lifting capacity and stability. Winders, cables, ropes, chains, and a basic level-pulley system are essential parts of any type of crane. The lever and other simple machines make work easier by decreasing the amount of force required to accomplish lifting and moving tasks. Levers manipulate the torque involved and enable construction engineers to lift heavy loads. A pulley serves its basic purpose, which is to distribute the amount of weight needed to lift an object. Inclusion of electronic comp. Onents has made cranes even easier to operate because the control remains no more manual. A hi-tech crane will essentially be a combination of simpler systems integrated together.

Activity I

Identifikasi kata dan frase di bawah ini kemudian hafalkan!

| | |
|-------------------------------------|---------------------------------------|
| 1. Crane | ➤ derek |
| 2. type of machine | ➤ jenis mesin |
| 3. usually | ➤ biasanya |
| 4. complete | ➤ lengkap |
| 5. escalator | ➤ eskalator |
| 6. rope | ➤ tali |
| 7. chain | ➤ rantai |
| 8. use both | ➤ gunakan keduanya |
| 9. to move and lift | ➤ untuk memindah dan mengangkat |
| 10. lower the material horizontally | ➤ turunkan material secara horizontal |
| 11. heavy lifting | ➤ angkat berat |
| 12. transport | ➤ mengangkut |
| 13. to another location | ➤ ke lokasi lain. |
| 14. simpler machine | ➤ mesin yang lebih sederhana |
| 15. provide | ➤ menyediakan |
| 16. benefits | ➤ manfaat |
| 17. capacity | ➤ kapasitas |
| 18. unloading goods | ➤ bongkar barang |
| 19. in the manufacturing industry | ➤ di industri manufaktur |
| 20. to install | ➤ untuk memasang |
| 21. agricultural machines | ➤ mesin pertanian |

Activity II

Jawablah pertanyaan di bawah ini berdasarkan teks bacaan!

1. What is a crane?
2. What for is the crane generally used?
3. What is most often used to move, lift, and lower material horizontally?
4. What tools are chosen to move the load according to one's normal ability?

5. What is the main function of the control system and wiring on the crane
6. Name the two most important criteria in Crene's design.
7. Mention the important parts of any type of crane.
8. What are the advantages of including electronic components in crane control
9. Stating the two most important criteria in crane design!
10. Stating the essentials of all crane types.
11. What is the basic purpose of the pulley?

II. Understanding Grammar of English

TO DO (DO, DOES, DID)

I
You
They
We



Contoh Kalimat:

1. **Does** our supervisor **come** to this office every Saturday afternoon? (Apakah pengawas kita datang ke kantor ini setiap hari Sabtu sore?)
2. **Do** the labors of this project **work** seven days in a week? (Apakah para pekerja pada proyek ini bekerja 7 hari dalam seminggu?)
3. **Did** the expert **attend** the meeting yesterday? (Apakah tenaga ahli itu menghadiri rapat kemaren?)
4. Our foreman **does not (doesn't) evaluate** our work every week (Mandor kami tidak mengevaluasi pekerjaan kami setiap minggu).

5. **Does** the contractor **come** to this place everyday? (Apakah kontraktor itu datang ke tempat ini setiap hari?)
6. **Do** the labors **get** enough salary?. (Apakah para buruh mendapatkan gaji yang cukup?)
7. **Did** our foreman **meet** you last night? (Apakah mandor kita menemui kamu tadi malam?)
8. I **do not (don't)** always **finish** my work well. (Saya tidak selalu menyelesaikan pekerjaan saya dengan baik?)

>> **Catatan:**

Untuk kalimat positif, yang menggunakan subyek seperti: she, he, supervisor, expert, contractor, it dan lain lain, maka kata kerjanya akan mengalami perubahan sebagai berikut:

a. Pada umumnya, kata kerja yang digunakan harus ditambahkan huruf –s

Contoh Kalimat:

1. He works in the office every morning (Dia bekerja di kantor setiap pagi)
2. The supervisor comes to this place everyday (Pengawas itu datang ke tempat ini setiap hari)

b. Tetapi kata kerja yang berakhiran dengan : -es, -ch, -sh, -x, dan o bukan huruf –s yang ditambahkan melainkan –es.

Contoh Kalimat:

1. He **passes** my house every week. (Dia melewati rumah saya setiap minggu).
2. Mis Eta **finishes** her work well. (Nona Eta menyelesaikan pekerjaannya dengan baik)
3. My uncle **fixes** his motorcycle every three months. (Paman saya memperbaiki sepeda motornya setiap tiga bulan).
4. Mr. Hengki **teaches** us English three times a week. (Pak Hengki mengajar kami bahasa Inggris tiga kali seminggu).
5. His younger brother sometimes **goes** to school on foot (Adik laki-lakinya kadang-kadang berjalan kaki ke sekolah).

6. Jhon does her homework everyday. (Jhon mengerjakan pekerjaan rumahnya setiap hari).

c. **Kata-kata yang berakhiran dengan huruf -y dan didahului oleh huruf mati, -y diganti dengan -i kemudian ditambahkan dengan -es.**

Contoh Kalimat:

- Study : Roy **studies** English

- Carry : Mr. Jaka **carries** a box

- Fly : The bird **flies** in the sky

d. **Kata-kata yang berakhiran dengan -y dan didahului oleh huruf hidup, langsung ditambah -s di belakangnya.**

Contoh Kalimat:

- Play = The boy always **plays** football in front of his house.

- Buy = My wife **buys** new dress every month.

Activity III

Tuliskan T (TRUE) jika kata yang digaris bawah pada kalimat di bawah ini benar dan perbaikilah jika kata tersebut salah!

| | | |
|----|---|--|
| 1. | <u>Does</u> the company sell various types of cranes | |
| 2. | <u>Does</u> the entrepreneur own a crane? | |
| 3. | . Whether the crane is functioning properly | |
| 4. | They <u>did not</u> see the crane fall | |
| 5. | Construction engineers <u>do not</u> want to order their subordinates to work in heavy rain | |
| 6. | Whether the crane can be <u>operated</u> without good electronic components | |
| 7. | What <u>do</u> you think about the construction of the long bridge? | |

| | | |
|-----|--|--|
| 8. | It is very easy to complete construction work by using sophisticated tools | |
| 9. | <u>Do</u> th pulleys serve their basic purpose, namely to distribute the amount of load needed to lift an object?. | |
| 10. | How <u>did</u> you finish the work? | |

Activity IV

Isilah titik-titik di bawah ini dengan kata yang benar!

1. It is mainly used for heavy and transport to other locations
2. One or more simple machines are used to provide a mechanical and thus to move loads on the normal ability of a person.
3. A crane uses the pulley and cable system to create a mechanical so that large loads can be lifted.
4. Levers the torque involved and enable construction engineers to lift heavy loads.
5. The lever and other simple machines make..... by decreasing the amount of force required to accomplish lifting and moving tasks.
6. What ... the main function of the control system and wiring on the crane?
7. What...the advantages of including electronic components in crane?
8. Mention the important parts of any type of crane.
9. What ... the advantages of including electronic components in crane control?
10. the two most important criteria in crane design!
11. the essentials of all crane types!
12. What ,,,,the basic purpose of the pulley?

Activity V

Susun ulang kalimat di bawah ini dalam susunan kalimat bertanya/interogatif!

1. Has/Onents/ made/ cranes/ even/ easier/ to/ operate/ because/ the/ control/ remains/ no/ more/ manual/?/
2. A/hi-tech/crane/is/the /combination/of/simpler/systems/integrated/ together?/
3. Is/ a /crane /a /type/ of/ machine/ commonly/ used/ in /construction?/
4. lifting /It/ is/ mainly /used /for /heavy/ lifting?/
5. used/ to/ provide/ a/ mechanical/ benefit/ one /or/ more/ simple/ machines /ar?/
6. transport/ industry/ for/ the/ loading/ cranes/ are/ commonly/ employed/ in/ the?/
7. the/ pulley/ and/ cable/ system/ a/ crane/ used/ to/ create/ a/ mechanical/ advantage/ so/ that/are?/
8. the/ large/ loads/was/ lifted/last/week?/
9. The two most important criteria in crane design are lifting capacity and stability?/
10. Essential/ parts/ of/ any/ type/ of/ crane/ winders, /cables,/ ropes,/ chains, /and /a/ basic level-pulley/ system/ are?/

Activity VI

Temukan 15 kosakata pada kotak di bawah ini yang berhubungan dengan teks bacaan (Use Of Crane In Construction, Advantage And Disadvantage) kemudian terjemahkan dalam bahasa Indonesia!

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| C | C | I | C | C | E | U | L | L | L |
| R | O | M | H | A | N | S | I | O | A |
| A | N | P | A | B | G | E | F | A | R |
| N | T | O | I | L | I | D | T | D | G |
| E | R | R | N | E | N | S | S | S | E |
| A | U | T | E | C | E | T | A | S | K |
| N | C | A | S | F | E | W | O | R | K |
| Y | T | N | D | V | R | M | A | D | E |
| U | I | T | O | P | E | R | A | T | E |
| I | O | | C | R | E | A | T | E | K |
| O | N | E | N | A | B | L | E | O | N |
| S | T | A | B | I | L | I | T | Y | U |

| | | | | | | | | | |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| H | I | T | E | C | H | E | V | E | N |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|

- | | | |
|---------|-----------|-----------|
| 1 _____ | 6. _____ | 11. _____ |
| 2 _____ | 7. _____ | 12. _____ |
| 3 _____ | 8. _____ | 13. _____ |
| 4 _____ | 9. _____ | 14. _____ |
| 5 _____ | 10. _____ | 15. _____ |



UNIT VII

Reading Comprehension

INTAN TRISAKTI



Intan Trisakti is the name of a diamond that had shocked the world of precious stones, especially in Indonesia because of the highest value. "Trisakti" was one of the largest diamond discovered in South Borneo on August 26, 1965. A diamond panning group that chaired by H. Madsalam found this big diamond at the location of Sungai Tiung , Cempaka District , Banjarbaru . The named "Trisakti" was given to the diamond by the first President of the Republic of Indonesia, Ir. Soekarno, which means "three principles," which obviously refers to the motto of the Indonesian Republic, Nationalism, Religion and Unity. The word trisakti can also have a different connotation. It could also mean "three times sacred."

When Intan Trisakti was found, the size was like a dove's egg. It weighed 166.75 carats and after sharpening it into a diamond, it was estimated at up to 10 trillion rupiah. The discoverers, totaling 43 people, received compensation worth Rp 3.5 billion. However, due to inflation that change the value of the money from Rp. 1,000 to Rp. 1, in the end the money received was only Rp. 3.5 million. This remuneration is then used to go on the pilgrimage for the inventor and his family and other parties involved, totaling around 80 people. The existence of Intan Trisakti is still a mystery . However, some traders in Cahaya Bumi Selamat market on Martapura within approximately 5 kilometers from Cempaka, Trisakti believed that these diamonds were in one museum in the Netherlands . Even though the discoverer only saw it once, that was when the object was found after finally the diamond was immediately brought to Jakarta .

Source: Wikipedia

Activity I

Identifikasi kata dan frase di bawah ini kemudian hafalkan!

| | |
|--------------------------|------------------|
| 1. a diamond (noun) | ➤ sebuah berlian |
| 2. surprised (adjective) | ➤ terkejut |
| 3. valuable (.....) | ➤ berharga |
| 4. stone | ➤ batu |

| | |
|--------------------------|-----------------------|
| 5. especially | ➤ terutama |
| 6. the highest score | ➤ nilai Tertinggi |
| 7. the biggest | ➤ yang terbesar |
| 8. was found | ➤ ditemukan |
| 9. panning group | ➤ kelompok panning |
| 10. was found | ➤ ditemukan |
| 11. given | ➤ diberikan |
| 12. means " | ➤ berarti " |
| 13. three principles | ➤ tiga prinsip |
| 14. clear | ➤ bersih |
| 15. referring to | ➤ mengacu |
| 16. mean | ➤ berarti |
| 17. three times holy | ➤ tiga kali suci |
| 18. size | ➤ ukuran |
| 19. dove eggs | ➤ telur merpati |
| 20. be weighed | ➤ ditimbang |
| 21. carrats | ➤ carrats |
| 22. and then | ➤ lalu |
| 23. hone | ➤ mengasah |
| 24. estimated | ➤ diperkirakan |
| 25. inventor | ➤ penemu |
| 26. be accepted | ➤ diterima |
| 27. compensation | ➤ kompensasi |
| 28. sanering | ➤ sanering |
| 29. change | ➤ perubahan |
| 30. be accepted | ➤ diterima |
| 31. remuneration | ➤ remunerasi |
| 32. pilgrimage | ➤ ziarah |
| 33. inventor | ➤ penemu |
| 34. the parties involved | ➤ pihak yang terlibat |
| 35. existence | ➤ adanya |
| 36. A mystery | ➤ Sebuah misteri |
| 37. traders | ➤ pedagang |
| 38. around | ➤ sekitar |

Activity II

Jawablah pertanyaan di bawah ini berdasarkan teks bacaan!

1. In which province was Intan Trisakti found?
2. When was Diamond Trisakti discovered?
3. Who is the founder of Intan Trisakti?
4. In which district was Intan Trisakti found?
5. Who gave the name Trisakti?

6. What does Trisakti mean?
7. Trisakti means three principles which clearly refer to the motto of the Unitary State of the Republic of Indonesia. Name everything!
8. The word Trisakti can also have different connotations. Can you tell me what it is?
9. Can you tell us the size of the Trisakti Diamond?
10. Tell us the weight of Intan Trisakti!
11. Can you tell us how many discoverers of Intan Trisakti?
12. How many trillions of rupiah does Intan Trisakti estimate after being honed?
13. Unfortunately, there is sanering that changes the value for money. So how many
14. Founder of Intan Trisakti received Rupiah?
15. Some traders from Cempaka believe that Intan Trisakti is in one museum. In which country is the museum located?
16. How many Trisakti Diamonds did the discoverer see before they were brought to Jakarta? Some traders from Cempaka believe that Intan Trisakti were in one museum. On which country the museum is?
17. How many time was the discoverer saw Intan Trisakti before it brought to Jakarta?

Activity III

Tulislah T (TRUE) jika kata yang digaris bawahi pada kalimat di bawah ini benar dan perbaikalah pada kotak yang tersedia di sebelah kanan jika kata tersebut salah!

| No. | Statements | |
|-----|--|--|
| 1. | <u>Do</u> "Trisakti" one of the largest diamonds found in South Kalimantan on August 26, 1965? | |
| 2. | <u>Are</u> the diamond panning group chaired by H. Madsalam? | |
| 3. | <u>Did</u> this large diamond found at the Tiung River location, Cempaka District, Banjarbaru? | |

| | | |
|-----|---|--|
| 4. | <u>Did</u> The name of the Trisakti diamond given by the first President of the Republic of Indonesia, Ir. Soekarno which means "three principles"? | |
| 5. | Trisakti diamond <u>is</u> the name of a diamond | |
| 6. | It <u>was</u> shaking up the world of precious stones, especially in Indonesia because of its highest value. | |
| 7. | There <u>were</u> 43 people, received compensation of Rp 3.5 billion. | |
| 8. | This remuneration <u>was</u> then used to perform the haj pilgrimage for the inventor and his family as well as other parties involved. | |
| 9. | It <u>were</u> totaling around 80 people. | |
| 10. | <u>Do</u> the existence of Intan Trisakti still a mystery? | |
| 11. | <u>Could</u> you tell us the size of Intan Trisakti? | |
| 12. | <u>Did</u> you able to tell us the weight of Intan Trisakti? | |
| 13. | <u>Could</u> you tell us how many discoverers of Intan Trisakti? | |
| 14. | How many trilion rupiahs <u>was</u> Intan Trisakti estimated after being sharpened? | |

Activity IV

Susun ulang kalimat di bawah ini dalam susunan yang benar sehingga menghasilkan terjemahan Bahasa Indonesia sebagaimana yang tertera pada kolom di sebelah kanan!

| | |
|---|--|
| 1. the name of diamond Trisakti is a diamond | ➤ Intan Trisakti adalah nama sebuah intan |
| 2. its highest value shaking up the world of precious stones, especially in indonesia because of its highest value. | ➤ Mengguncang dunia batu mulia, khususnya di Indonesia karena nilainya yang tertinggi. |
| 3. on august 26, 1965."trisakti" is one of the largest diamonds found in South Kalimantan | ➤ "Trisakti" adalah salah satu berlian terbesar yang ditemukan di Kalimantan Selatan pada 26 Agustus 1965. |
| 4. river location, cempaka the diamond panning group chaired by | ➤ Kelompok pendulang intan yang diketuai H. Madsalam |

| | |
|--|--|
| <p>h. madsalam found this large diamond at the tiung district, banjarbaru.</p> <p>5. "three principles",the name of the trisakti diamond was given by the first president of the republic of Indonesia, ir. soekarno which means</p> <p>6. Indonesia, nationalism, religion and unity it clearly refers to the slogan of the unitary state of the republic of.</p> <p>7. "three times holy."the word trisakti can also have different connotations.</p> <p>8. a dove's egg when intan trisakti was found, it was about the size of.</p> <p>9. 10 trillion rupiah it weighs 166.75 carrat after being sharpened into a diamond, estimated at.</p> <p>10. rp 3.5 billion.the discoverers, as many as 43 people, received compensation of</p> <p>11. totaling around 80 people this remuneration is then used to perform the haj pilgrimage for the inventor and his family as well as other parties involved</p> <p>12. still a mystery the existence of intan trisakti is</p> | <p>menemukan intan besar tersebut di lokasi Sungai Tiung, Kecamatan Cempaka, Banjarbaru.</p> <p>➤ Nama intan Trisakti diberikan oleh Presiden pertama Republik Indonesia, Ir. Soekarno yang artinya "tiga prinsip",</p> <p>➤ Itu jelas mengacu pada slogan Negara Kesatuan Republik Indonesia, Nasionalisme, Agama dan Persatuan.</p> <p>➤ Kata trisakti juga dapat memiliki konotasi yang berbeda. Itu juga bisa berarti "tiga kali suci".</p> <p>➤ Saat Intan Trisakti ditemukan, Intan Trisakti seukuran telur burung merpati.</p> <p>➤ Beratnya 166,75 carrat setelah diasah menjadi berlian, diperkirakan mencapai 10 triliun rupiah.</p> <p>➤ Penemunya sebanyak 43 orang mendapat santunan sebesar Rp 3,5 miliar.</p> <p>➤ Remunerasi ini kemudian digunakan untuk menunaikan ibadah haji bagi penemu dan keluarganya serta pihak lain yang terlibat yang berjumlah sekitar 80 orang.</p> <p>➤ Keberadaan Intan Trisakti masih menjadi misteri.</p> |
|--|--|

Activity V

Tulislah T (TRUE) jika kata yang digaris bawah pada kalimat di bawah ini benar dan perbaikilah pada kotak yang tersedia di sebelah kanan jika kata tersebut salah!

| | | |
|-----|--|--|
| 1. | The named "Trisakti" <u>did not</u> given to the diamond by the first President of the Republic of Indonesia, Ir. Soekarno. | |
| 2. | Intan Trisakti <u>does not</u> the name of a diamond. | |
| 3. | A diamond panning group that <u>did not</u> chaired by H. Madsalam found this big diamond at the location of Sungai Tiung , Cempaka District , Banjarbaru. | |
| 4. | What <u>is</u> Trisakti means? | |
| 5. | <u>Did</u> Intan Trisakti found in south Kalimantan or east Kalimantan? | |
| 6. | <u>Do</u> the size of Trisakti like a dove's egg. | |
| 7. | <u>Do</u> Trisakti weigh 166.75 carrats? | |
| 8. | The existence of Intan Trisakti <u>does not</u> still a mystery. | |
| 9. | <u>Do</u> many people of Banjarmasin see the diomand at the time? | |
| 10. | How many discoverers of Intan Trisakti <u>are</u> ? | |

Activity VI

Temukan 15 kosakata pada kotak di bawah ini yang berhubungan dengan teks bacaan (Intan Trisakti) kemudian terjemahkan dalam bahasa Indonesia!

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| D | I | A | M | O | N | D | T | H | E |
| D | I | S | C | O | V | E | R | E | D |
| L | P | C | M | I | R | P | T | S | W |
| O | I | O | O | N | E | R | R | T | E |
| C | L | M | N | V | C | E | I | O | I |
| A | G | P | E | E | E | C | S | N | G |
| T | R | E | Y | N | I | I | A | E | H |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| I | I | N | V | T | V | O | K | D | E |
| O | M | S | A | O | E | U | T | D | D |
| N | A | A | L | R | D | S | I | D | D |
| B | G | T | U | S | T | O | T | A | L |
| B | E | I | E | M | O | N | E | Y | B |
| S | C | O | C | A | R | R | A | T | S |
| L | V | N | C | H | A | N | G | E | S |

- | | | |
|---------|-----------|-----------|
| 1 _____ | 6. _____ | 11. _____ |
| 2 _____ | 7. _____ | 12. _____ |
| 3 _____ | 8. _____ | 13. _____ |
| 4 _____ | 9. _____ | 14. _____ |
| 5 _____ | 10. _____ | 15. _____ |

UNIT VIII

Teaching for general purposes

After completing this course, students will be able to master reading techniques and sentence structure that can help with reading skills in English for academic needs in the field of Civil Engineering through skimming, scanning, guessing meaning, text organization, and information transfer.

A. Teaching for a Specific Purpose

After completing this course, students will be able to use appropriate references in the text as well as important words in the reading text in accordance with the Civil Engineering major. Students who complete this course are able to guess the meaning of words based on context, word types, and other punctuation marks. After completing this course, students will be able to classify word groups such as adjectives, nouns,

adverbs of place and time, pure verbs, and progressive verbs. Students who complete this course are able to use correct sentence structures, particularly those that use **TO HAVE** form. After completing this course, students will be able to correctly rearrange random sentences.

I. Reading Comprehension

THE USE OF CONCRETE MIXTURE (CEMENT MIXTURE) IN CONSTRUCTION

A concrete mixer is a machine that evenly distributes cement and aggregates such as sand or gravel into concrete. The components are mixed in a typical concrete mixer using a rotating drum. Portable concrete mixers are frequently used to mix concrete for smaller volume projects. They can be manufactured on-site, providing workers with sufficient time to work with the concrete before it hardens. In construction, manually mix concrete. To transport manufactured concrete and ready-mixed concrete to construction sites, special trucks are required. They can be filled with both dry and liquid matter, with the latter being mixed during transportation. The ingredients are

combined in this manner. The liquid mixture is retained in the concrete truck during transport by the drum's movement or rotation.

Combination of concrete. For industrial production of ready-mix concrete, and even more so for precast/prestressed concrete, the market today increasingly demands consistent homogeneity and short mixing times. This resulted in advancements in concrete mixing technology. Numerous styles of stationary mixers have been developed, each with its own inherent advantages, to serve distinct segments of the concrete manufacturing market. Today, the three most frequently used mixers are as follows:

- Twin-shaft mixers, which combine at a high rate of speed and for a short period of time.

These mixers are typically used for high-strength concrete, RCC, and SCC in batches ranging from 2 to 6 m³ (2.6 to 7.8 cu yd).

- Vertical axis mixers are the most frequently used type of mixer in precast and prestressed concrete.

This type of mixer is ideal for colored concrete, smaller batches (typically 0.75–3 m³ or 0.98–3.92 cu yd), and multiple discharge points. Pan mixers are losing ground to more efficient planetary (or counter-current) mixers in this category, as the additional mixing action aids in the production of more critical concrete mixes (color consistency, SCC, etc.).

- Drum mixers (both inverting and tilting drum mixers) are used to produce large volumes (3–9 m³ or 3.9–11.8 cu yd batch sizes).

This mixer is capable of producing a high volume of material.



Twin shaft concrete mixer for concrete plant

Activity I

Identifikasi kosa kata dan frase berikut ini kemudian hafalkan!

| | |
|--|---|
| <ol style="list-style-type: none"> 1. cement mixer machine 2. combine cement 3. evenly 4. to form an aggregate 5. like sand or scrap 6. concrete mixer 7. using a rotating drum 8. to mix the components. 9. for smaller volume work 10. portable concrete mixer 11. regularly used 12. produced on site 13. hardening. 14. manual concrete mix 15. under construction 16. special trucks 17. transporting concrete 18. ready mix concrete 19. to the construction site. 20. trucks can be filled with 21. dry matter and water 22. mixing 23. during transportation 24. the ingredients are mixed. 25. liquid mixture 26. maintained by movement 27. rotation of the drum to delivery. 28. concrete mix 29. current market | <ol style="list-style-type: none"> 1. mesin pengaduk semen 2. menggabungkan semen 3. secara merata 4. untuk membentuk agregat 5. seperti pasir atau kerik 6. pengaduk beton 7. menggunakan drum berputar 8. untuk mencampur komponen. 9. untuk pekerjaan volume yang lebih kecil 10. pencampur beton portabel 11. secara teratur digunakan 12. diproduksi di lokasi 13. pengerasan. 14. campuran beton manual 15. dalam konstruksi 16. truk khusus 17. mengangkut beton 18. beton siap pakai 19. ke lokasi konstruksi. 20. truk dapat diisi dengan 21. bahan kering dan air 22. pencampuran 23. selama pengangkutan. 24. bahan dicampur 25. campuran cairan 26. dipertahankan dengan gerakan 27. rotasi drum ke pengiriman. 28. campuran beton 29. pasar saat ini 30. semakin membutuhkan |
|--|---|

| | |
|--------------------------------------|--------------------------------------|
| 30. need more | 31. homogenitas yang konsisten |
| 31. consistent homogeneity | 32. pencampuran yang singkat |
| 32. short mixing | 33. mixer yang paling umum digunakan |
| 33. the most commonly used mixers | 34. mixer poros ganda |
| 34. double shaft mixer | 35. pencampuran intensitas tinggi |
| 35. high intensity mixing | 36. mixer sumbu vertikal |
| 36. vertical axis mixer | 37. beton pracetak dan pratekan |
| 37. precast and prestressed concrete | 38. gaya pencampur |
| 38. mixing style | 39. membersihkan dengan baik |
| 39. clean well | 40. volume besar |
| 40. large volume | |

Activity I

Jawablah pertanyaan di bawah ini berdasarkan teks bacaan!

1. What is the primary function of the cement mixer?
2. How does a typical concrete mixer mix the components?
3. What method is used for smaller volume work?
4. Can the portable concrete mixer help to expedite the job's completion?
5. How is production and ready-mix concrete transported to the construction site?
6. Can the mixing take place during the transportation process?
7. What is the industrial market increasingly requiring?
8. Describe the newly developed stationary mixing style!
9. How many different types of mixers are there today?
10. What is the distinction between a vertical axis mixer and a double shaft mixer?

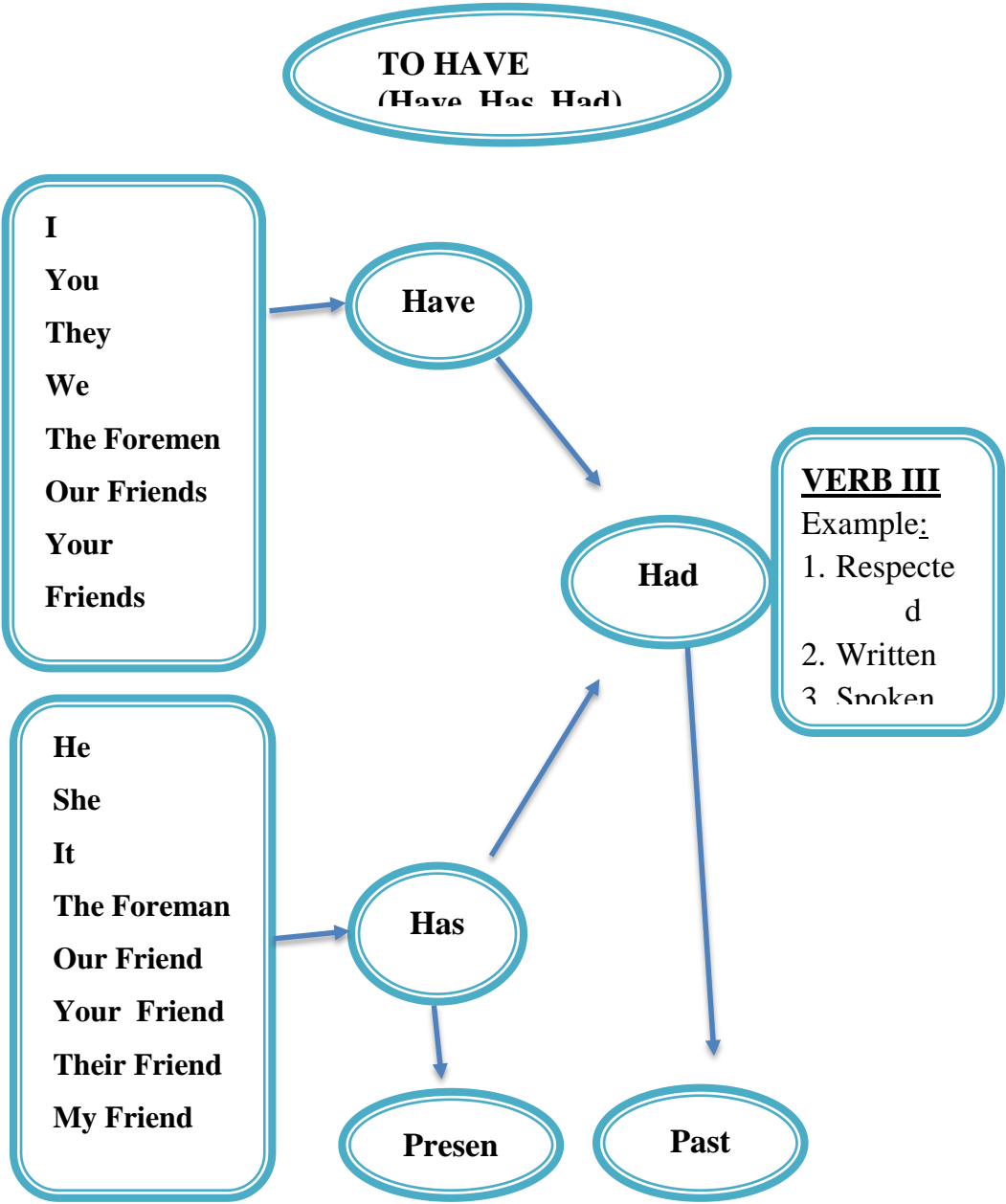
Activity III

Isilah titik-titik di bawah ini dengan kata yang benar!

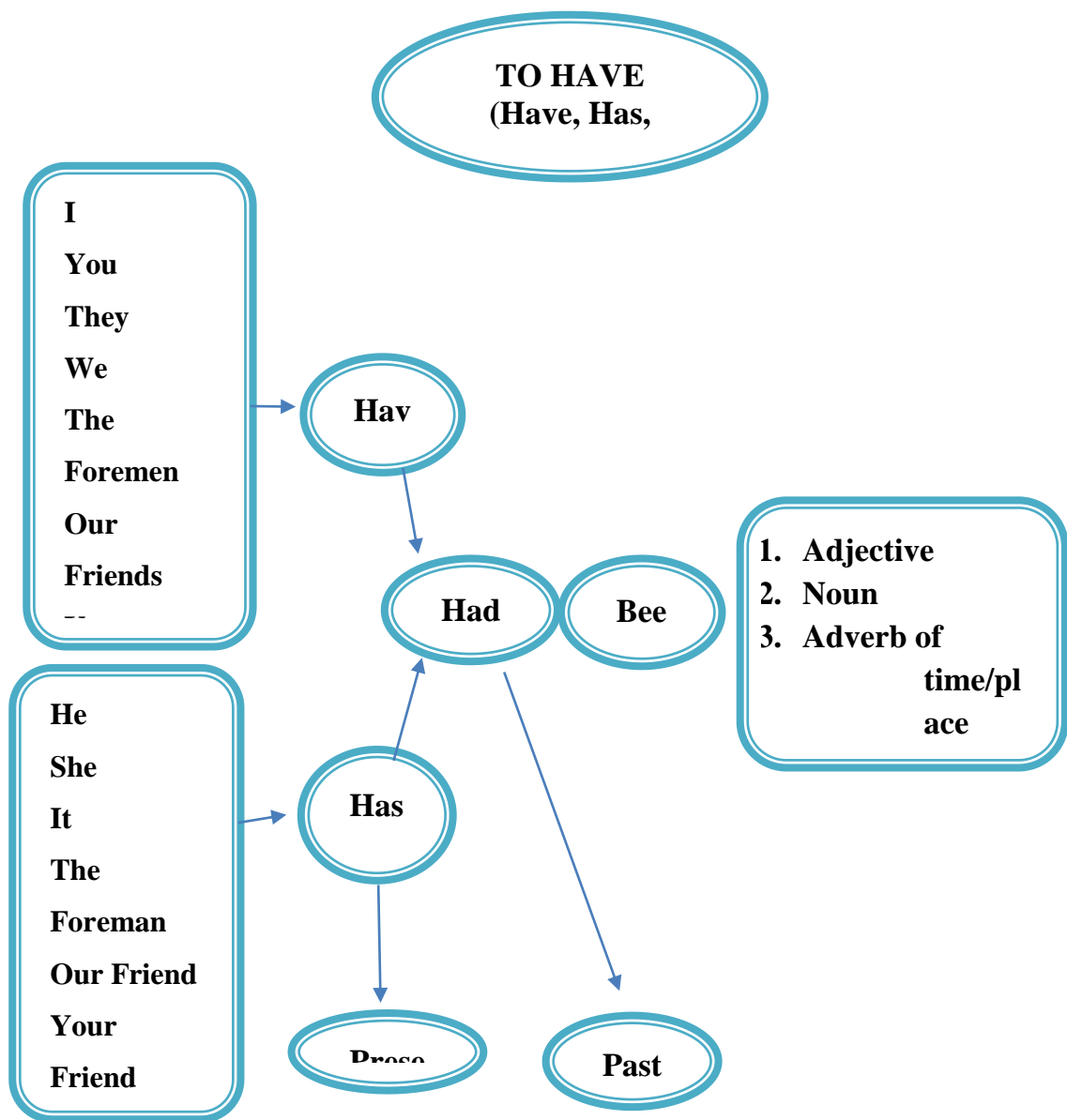
1. A typical concrete mixer uses a rotating drum to mix the components.

2. Can be filled with dry matter and water, by mixing... .. during transportation.
3. This results in... .. the mixing technology for concrete production
4. Double shaft mixer, which is known for... .. its high mixing, and short mixing time
5. The concrete truck conveyance of the liquid mixture ... by movement or rotation of the drum to the delivery.

II. Understanding English



II. Understanding English Grammar



→ To Have (have, has, dan had) cocok dengan kata kerja bentuk III, tidak cocok dengan kata kerja bentuk I dan II. To Have yang ditambahkan **BEEN** setelahnya cocok dengan : (1) *Noun* (kata benda), (2) *Adjective* (kata sifat) (3) *Adverb of place/time* (kata keterangan tempat/waktu) (4) *Verb I + ing*, (kata kerja bentuk I +

ing) (5) **Verb III** (kata kerja III), contoh: *written* (ditulis), *eaten* (dimakan), *punished* (dihukum) Etc.

Berikut kata kerja bentuk III yang berhadapan dengan To Have yang tidak ada **BEEN** –nya.

Contoh Kalimat:

1. Arman has written a letter for you (Arman telah menulis surat untuk anda)
2. Have you had your dinner already ? (Sudahkah anda makan malam?)
3. You had slept when we came. (Anda sudah tidur ketika kami datang.)
4. I have saved a lot of money, and now I can buy a new car (Saya telah menabung banyak uang dan sekarang saya dapat membeli sebuah mobil baru.)

Juga perhatikanlah kata sifat, kata benda, kata keterangan tempat/ waktu. Kata kerja I + *ing* dan kata kerja bentuk III yang diletakkan **BEEN** di depannya, seperti pada **contoh** kalimat berikut :

| |
|-----------------------------------|
| 1. BEEN → ADJECTIVE |
|-----------------------------------|

Contoh Kalimat:

1. She has been very busy lately (= Akhir-akhir ini dia sudah sangat sibuk)
2. They have been ill for three months (= Mereka telah sakit selama tiga bulan)
3. You have been late (= Kamu sudah terlambat)
4. You had been ill before he came here (= Kamu sudah sakit sebelum dia ke sini)

| |
|--|
| 2. BEEN → NOUN → diterjemahkan “sudah menjadi” |
|--|

1. She had been a **contractor** before I became a teacher (Dia sudah menjadi seorang kontraktor sebelum saya menjadi guru).
2. They had been **supervisors** when they went abroad. (Mereka sudah menjadi pegawai saat mereka ke luar negeri)
3. I hadn't been a **businessman** when I went to Australia at the time. (Saya belum jadi pengusaha saat saya pergi ke Australia)
4. She has been a **professor** (Dia sudah jadi profesor)

| |
|--|
| 3. BEEN → ADVERBS OF PLACE/TIME → diterjemahkan “berada” |
|--|

Contoh Kalimat:

1. We had been **in Surabaya** when they came from Makassar (Kami sudah berada di Surabaya ketika mereka datang dari Makassar)
2. I had been **here** since two hours (Saya sudah berada di sini selama dua jam)
3. Had you been **in Aceh** when it was devastated by Shunami earthquake (Apakah kamu sudah berada di Aceh ketika daerah itu diguncang oleh gempa tsunami ?)
4. We have been **in Batulicin** for three months (Kami sudah berada di Batulicin selama tiga bulan)

4. **BEEN** → **V ERB + ING** → **sedang ..**

Contoh Kalimat:

1. They have been **learning** English since seven o'clock (Mereka telah sedang belajar bahasa Inggris sejak jam delapan)
2. She had been **being** sick two week when we went to America (Dia sudah sakit selama dua minggu ketika kami pergi ke Amerika)
3. Alun hadn't been **studying** Arabic at Al Irsyad boarding school when you arrived in Banjarmasin. (Alun belum belajar bahasa Arab di pondok pesantren Al Irsyad ketika kamu tiba di Banjarmasin)

5. **BEEN** → **VERB III** → **diterjemahkan "di"/ter...**

Contoh Kalimat:

1. The letter has been **written** by Wira (Surat itu telah ditulis oleh Wira)
2. The book had been **copied** by him before we came home (Buku itu telah dipotokopi oleh dia sebelum kami pulang)

Berikut jenis kata keterangan *frequency* dan kata keterangan lainnya yang sering disisipkan diantara TO HAVE (HAS, HAD) dan kata kerja bentuk III yaitu:

| | |
|----------|-----------------|
| Already | = sudah |
| Just | = saja |
| Ever | = pernah |
| Never | = tidak pernah |
| Sometime | = kadang-kadang |

| | |
|--------------|-----------------|
| Occasionally | = sekali-sekali |
| Often | = usually |
| Always | = selalu |
| Almost | = hampir |

Penggunaan dalam kalimat :

1. ALREADY (Sudah)

Dipakai dalam kalimat positif dan interrogative dan letaknya sebelum *verb III* atau pada akhir kalimat.

Contoh Kalimat:

1. I have already posted the letter = I have posted the letter already. (Saya telah memposkan surat itu)
2. Roy has finished his work already = Roy has already finished his work. (Roy telah menyelesaikan pekerjaannya)

2. YET (Belum)

Dipakai dalam kalimat menyangkal dan kalimat tanya. Dan letaknya pada akhir kalimat.

Contoh Kalimat:

1. I havn't seen the film yet (Saya belum melihat filem itu)
2. Haven't you read the book yet? (Belumkah kamu baca buku itu ?)

3. JUST (Saja)

Letaknya sebelum kata kerja III

Contoh Kalimat:

1. I have just received a short message of hers (Saya baru saja menerima SMS-nya)
2. They have just arrived. (Mereka baru saja tiba)

4. EVER AND NEVER (Pernah/Tidak pernah)

Letaknya sebelum kata kerja "EVER" dipakai dalam kalimat positive dan kalimat tanya, sedangkan "NEVER" dipakai dalam kalimat positive.

Contoh Kalimat:

1. Have you ever gone to Surabaya? (Sudah pernah ke Surabaya)
2. Has she ever come here? (Sudah pernah ke sini)
3. I have never smoke in class. (Saya belum pernah merokok di dalam kelas)

5. SOMETIMES (Kadang-kadang)

Dipakai dalam kalimat positive dan interrogative dan letaknya sebelum

Contoh Kalimat:

1. I have sometimes been late (Saya kadang-kadang datang terlambat)
2. Have they sometimes come here?. (Apakah mereka kadang-kadang datang ke sini?)

Activity IV

Tulislah T (TRUE) jika kata yang digaris bawahhi pada kalimat di bawah ini benar dan perbaikilah pada kotak yang tersedia di sebelah kanan jika kata tersebut salah!

| | | |
|-----|--|--|
| 1. | Cement mixer machine has <u>resulted</u> a big work | |
| 2. | <u>Has</u> the company provided adequate infrastructure? | |
| 3. | <u>Has</u> the company provided adequate infrastructure? | |
| 4. | The workers <u>had</u> just received a salary | |
| 5. | They <u>have</u> never met the owner of the company | |
| 6. | The company owner <u>has</u> increased the salaries of his employees | |
| 7. | <u>Has</u> the company provided adequate infrastructure? | |
| 8. | The owners of the company <u>has</u> increased the salaries of his employees | |
| 9. | They <u>has</u> never complained even though the work was hard for them | |
| 10. | He already <u>paid</u> our debt | |
| 11. | We <u>have</u> reported the company's amazing progress | |

Activity V

Susun ulang kalimat berikut dalam susunan yang benar sehingga menghasilkan terjemahan Bahasa Indonesia sebagaimana yang tertera di bawah ini!

1. are/ regularly/ used/ for /concrete /for/ smaller/ volume /works/ portable/ concrete mixers/ (untuk pekerjaan volume yang lebih kecil pencampur beton portabel secara teratur digunakan untuk beton)
2. to/ use /the/ concrete/ before/ it/ hardens/ time/ it / can /be/ produced /at /the/ site, so/ that/ workers/ have /enough/time. (dapat diproduksi di lapangan, sehingga pekerja memiliki cukup waktu untuk menggunakan beton sebelum waktu mengeras)
3. /and/ ready/-mix /concrete/ to /the/ construction/ site /special/ trucks /for /transporting/ concrete/ produced./ (truk khusus untuk mengangkut beton produksi dan beton siap pakai ke lokasi konstruksi)
4. with/ the/ mixing /occurring/ during/ transport /the/ trucks/ can/ be /charged/ with/ dry/ materials /and/ water,/ with/ the/ mixing /occurring /during/ transport./ (truk dapat diisi dengan bahan kering dan air, dengan pencampuran yang terjadi selama pengangkutan)
5. this/ method/ the/ material /was/ able/ to/ mixed/ with/. (dengan metode ini, bahan sudah bisa tercampur)
6. aggregates such as sand or gravel and water to concrete a concrete (cement mixer) is a machine that combines cement evenly to form (a concrete (cement mixer) adalah mesin yang menggabungkan semen secara merata untuk membentuk agregat seperti pasir atau kerikil dan air menjadi beton.
7. a/ typical/ concrete/ mixer/ using /a/ rotating/ drum/ for/ mixing/ the /components. /(mixer beton tipikal menggunakan drum berputar untuk mencampur komponen)
8. movement/ or /rotation /of /the/ drum/ to/ the /delivery/ the/ concrete /truck /transportation/ of/ liquid /mixture/ maintained /material /by. (pengangkutan truk beton dari campuran bahan cair dipelihara dengan gerakan atau rotasi drum ke pengiriman)

9. short/ mixing/ times /for/ the/ industrial/ production /today's/ market/ increasingly/ requires/ consistent /homogeneity /and/ of/ ready/-mix/ concrete/.
(pasar saat ini semakin membutuhkan homogenitas yang konsisten dan waktu pencampuran yang singkat untuk produksi industri beton siap pakai)
10. for/ concrete/ production/ this/ has/ resulted/ in/ refinement/ of/ mixing technologies./ (hal ini menghasilkan perbaikan teknologi pencampuran untuk produksi beton)
11. mixers/ have/ been/ developed/ different/ styles/ of/ stationary/. (berbagai gaya mixer stasioner telah dikembangkan.)
12. /production /market/ each/ with/ its /own/ inherent /strengths/ targeting/ different parts/ of /the/ concrete./ (mixer yang paling umum digunakan saat ini terbagi dalam tiga kategori)
13. /fall /into/ three/ categoriest /the/ most/ common /mixers/ used today/ (mixer yang paling umum digunakan saat ini terbagi dalam tiga kategori)
14. are/ typically /these/ mixers /used/ for/ high/ strength/ concrete./ rcc/ and /scc, /typically /in/ batches/ of 2–6 m³ / (2.6–7.8 cu yd). (mixer ini biasanya digunakan untuk beton mutu tinggi, rcc dan scc, biasanya dalam batch 2–6 m³ (2,6–7,8 cu yd).
15. /most/ commonly/ used /for/ precast/ and/ vertical/ axis/ mixers./ prestressed /concrete./ (mixer sumbu vertikal, paling umum digunakan untuk beton pracetak dan pratekan)
16. /mos/t commonly /used /for/ vertical/ axis/ mixers./ precast /and/ prestressed/ concrete/. (jenis mixer ini membersihkan dengan baik antar batch)
17. high/ production/ outputs/ this/ type /of/ mixer/ high production is capable of (mixer jenis ini mampu menghasilkan output produksi yang tinggi).

Activity V

Temukan 15 kosakata pada kotak di bawah ini yang berhubungan dengan teks bacaan kemudian terjemahkan dalam bahasa Indonesia!

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| C | H | O | M | O | G | E | N | I | T | Y |
| E | S | C | R | A | P | P | D | R | U | M |
| M | R | O | T | A | T | I | N | G | A | S |
| E | C | O | M | P | O | N | E | N | T | S |
| N | S | A | N | D | M | I | W | I | T | H |
| T | A | G | G | R | E | G | A | T | E | S |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| V | O | L | U | M | E | M | I | X | E | R |
| T | R | U | K | S | D | R | Y | A | N | D |
| F | H | A | R | D | E | N | I | N | G | I |
| I | R | M | T | R | A | S | P | O | R | L |
| L | E | A | S | W | A | T | E | R | S | I |
| L | A | T | I | R | O | T | A | T | E | V |
| E | D | T | T | S | H | O | R | T | E | E |
| D | Y | E | E | B | E | T | O | N | E | R |
| D | D | R | L | I | Q | U | I | D | E | Y |

1. _____ 6. _____ 11. _____
2. _____ 7. _____ 12. _____
3. _____ 8. _____ 13. _____
4. _____ 9. _____ 14. _____
5. _____ 10. _____ 15. _____

UNIT IX

THE USE OF PAVER IN CONSTRUCTION

I. Reading Comprehension



Road roller (sometimes called a roller-compactor, or just roller) is a compactor type engineering vehicle used to compact soil, gravel, concrete, or asphalt in the construction of roads and foundations, similar rollers are used also at landfills or in agriculture.

Basically, the roller drum weight is used for the compression of the surface required to be compacted. The initial compaction is obtained by the use of roller with tires. The wheels are flexible to attain some vertical movement that enables the roller to operate efficiently on an irregular ground surface. Subsequently, the final road surface finish is obtained by the use of rollers with metal drums. Road rollers are also used for the compaction of landfills. Such rollers have knobbed wheels and are used when a perfectly smooth surface is not required.

Road rollers consist of two or more big heavy drums, with one drum being driven and provide the pushing force. The other drum is pivoted, and connected to the roller body. It is rotated to guide the roller to the chosen pathway. In some rollers, the drum axles move in relation to each other to adjust for the surface irregularities. Different compacting and smoothing equipment is used with rollers for road construction operations. Normally, a road roller consists of roller units at the front and rear, with a hydraulic steering system. On some equipment, the roller drums are water filled to attain the weight desired for compaction of the road surface. Compaction can be increased by using vibrating roller drums that enables a smaller machine to achieve the same compactness as by a larger roller. Vibration is normally obtained by eccentric weights that are attached to the shaft of a motor located in the roller drum. The drum surface is lubricated by water for the prevention of asphalt being affixed with the drum surface. The other parts of a roller are a diesel engine, a driver canopy, a compaction gauge to determine the intensity of compaction, and a water supply system.

Rollers are also used in landfill compaction. Such compactors typically have pad foot or "sheep's-foot" drums, and do not achieve a smooth surface. The pads aid in compression, due to the smaller area contacting the ground.

<https://www.google.com/search?newwindow=1&safe=strict&sa=X&sxsrf=ALeKk01>

QIS

Activity I

Identifikasi kata dan frase di bawah ini kemudian hafalkan!

| | |
|--|--|
| 1. sometimes | ➤ kadang-kadang |
| 2. called a roller compactor | ➤ disebut roller-compactor |
| 3. compactor type engineering vehicle | ➤ kendaraan jenis rekayasa compactor |
| 4. to compact soil, | ➤ untuk memadatkan tanah |
| 5. gravel | ➤ kerikil |
| 6. asphalt | ➤ aspal |
| 7. in the construction of roads | ➤ dalam konstruksi jalan |
| 8. similar rollers | ➤ roller serupa |
| 9. at landfills | ➤ di tempat pembuangan sampah |
| 10. agriculture. | ➤ pertanian. |
| 11. basically | ➤ pada dasarnya |
| 12. the roller drum weight | ➤ berat rol drum |
| 13. compression of the surface | ➤ kompresi permukaan |
| 14. required to be compacted. | ➤ yang harus dipadatkan. |
| 15. the initial compaction is obtained . | ➤ pemadatan awal diperoleh |
| 16. the wheels are flexible | ➤ roda fleksibel |
| 17. to attain some vertical movement | ➤ untuk mencapai beberapa gerakan |
| 18. enables the roller | ➤ memungkinkan roller |
| 19. to operate efficiently | ➤ beroperasi secara efisien |
| 20. on an irregular ground surface. | ➤ pada permukaan tanah yang tidak teratur. |
| 21. Subsequently | |
| 22. the final road surface finish | |
| 23. rollers with metal drums. | |

| | |
|---|--|
| <p>24. for the compaction of landfills.</p> <p>25. have knobbed wheels</p> <p>26. and are used when a perfectly smooth surface</p> <p>27. It is not required.</p> | <ul style="list-style-type: none"> ➤ Selanjutnya ➤ permukaan akhir jalan ➤ rol dengan drum logam. ➤ untuk pemadatan tempat ➤ memiliki roda yang dikerutkan ➤ dan digunakan saat permukaan yang sangat halus ➤ tidak diperlukan. |
|---|--|

Activity II

Jawablah pertanyaan di bawah ini berdasarkan teks bacaan!

1. What is material to use in road roller?
2. What is the use of roller with tires?
3. Tell us differences between compacting and smoothing equipment?
4. Why is the drum surface lubricated by water ?
5. What is another term for Road roller?
6. Where are the rollers usually used?
7. Why should the roller have a base weight?
8. How many drums does the road roller need when working
9. Please specify another part of the roller!
10. Where the movement allows the rollers to operate efficiently on irregular underfoot surfaces.

Activity III

Isilah titik-titik di bawah ini dengan kata yang benar!

1. Basically, the roller drum weight is used for the of the surface required to be compacted
2. The wheels are to attain some vertical movement that enables the roller to operate efficiently on an irregular ground surface
3. In some rollers, the drum axles move in relation to each other to adjust for the surface
4. The drum surface is lubricated by water for the of asphalt being affixed with the drum surface.
5. Compaction can be increased by that enables a smaller machine to achieve the same compactness as by a larger roller.
6. Vibration ... normally obtained by eccentric weights that ... attached to the shaft of a motor located in the roller drum.
7. The other parts of a roller are a diesel engine, a driver canopy andto determine the intensity of compaction, and a water supply system.
8.Rollers also used in landfill compaction?
9. Such compactors typically pad foot or "sheep's-foot" drums, and do not achieve a smooth surface.
10. The pads ... in compression, due to the smaller area contacting the ground.

Activity IV

Tuliskan T (TRUE) jika kata yang digaris bawahi pada kalimat di bawah ini benar dan perbaikilah pada kotak yang tersedia di sebelah kanan jika kata tersebut salah!

| | | |
|----|---|--|
| 1 | <u>Has</u> the asphalt been extended? | |
| 2 | <u>Have</u> they been well explained by the project leader how to compile the report? | |
| 3 | We <u>have been</u> told that next week will be working overtime | |
| 4 | The head of service <u>has not been</u> summoned by the minister | |
| 5 | I <u>have not</u> had my base salary increase this year | |
| 6 | Different compaction and smoothing equipment has been <u>uses</u> with rollers for road construction operations. | |
| 7 | The roller drum has been <u>fill</u> with water to achieve the desired weight for the compaction of the road surface. | |
| 8 | Compaction has been <u>improved</u> using vibrating drums which allows the smaller machine to achieve the same compactness as the larger rollers. | |
| 9 | The vibrations <u>has not been</u> obtained by an eccentric load attached to the motor shaft located on the drum roller. | |
| 10 | <u>Has</u> the drum surface been lubricated with water? | |
| 11 | Different compaction and smoothing equipment <u>has</u> been used with rollers for road construction operations. | |
| 12 | Civil engineering students <u>have</u> taken the mid-semester exam. | |
| 13 | <u>Had</u> the students finished their homework? | |
| 14 | Has this lesson been <u>explains</u> by the teacher? | |

| | | |
|----|---|--|
| 15 | Has the academic calendar been explained to all students? | |
|----|---|--|

Activity V

▪ Prepositional Phrases

Directions: Identify each prepositional phrase in each sentence.

1. We'll go over the bridge to get to our camping site.
2. That pesky fly came in through the hole in the screen.
3. You can find the courthouse beside the park in the middle of town.
4. All of our children woke up early on Saturday and asked for pancakes for breakfast.
5. Listening to the oldies, Lucy and Desi both burst into song.
6. Before the storm, we went to the basement for refuge.
7. If you'll do this favor for me, I'll help you with the painting inside your house.
8. A couple of my friends stopped and asked for a drink of my homemade wine.
9. Through searching on the Internet, Cleo found a number of friends from college.
10. In the house on the hill lives a couple of really strange people.

Adopted from Susan Thurman (2012)

▪ Adjective Phrases

Directions: Identify each adjective phrase in the sentences below.

1. The elderly gentleman near the door is a man of great pride.
2. Four men with tennis rackets walked confidently.
3. The unidentified object in the bottom of the kitchen cabinet turned out to be an old slow cooker.
4. While camping, the children were terrified when they saw something moving in the woods.
5. The CD by the door was a present from Richie and Barb.
6. The juicy, red tomatoes on the vines were ripe.
7. Two notices from the electrical company were waiting when the hospital released me.

8. Neither of the employees in the break room heard the alarm when it sounded.
9. Ten o'clock tonight will be the end of a very long day for me.
10. The last piece of the jigsaw puzzle is missing.

Adopted from Susan Thurman

(2012)

▪ **Adverb Phrases**

Directions: Identify each adverb phrase in the sentences below.

1. During the night, I got up twice because I heard noises in the hall.
2. The creamer Laura put in her coffee was flavored with vanilla.
3. Look at the pictures I just posted on Facebook.
4. Our former neighbor has won \$5,000 on Jeopardy!
5. Stephen and Erica went to the auction and bought a table for their den.
6. I think the book I'm looking for may be hidden in this pile.
7. In his teens, Travis was falsely accused of stealing a friend's golf clubs.
8. Jamie realized she should have read the Edgar Allan Poe stories during the daylight hours.
9. In the bottom was a surprise toy my son Charlie loved.
10. We all went for an evening swim in the pond.

Adopted from Susan Thurman (2012)

▪ **Participial Phrases**

Directions: Identify each participial phrase in the sentences below.

1. Discovered in 1799, the Rosetta Stone has been on display at the British Museum since 1802.
2. Tom feigned a smile, forcing himself to appear happy with the news.
3. Six white cars, riding low to the ground, cruised the block after midnight.
4. Jeremy slept fitfully, puzzled by the day's events.
5. "Looking back, we now realize that our high school years were difficult and delightful," the commencement speaker said.
6. Having become stuck in the chimney, the would-be thief screamed for help.
7. Our little boat, anchored in the cove for the night, tossed and turned during the sudden storm.

8. “We have some good news for you,” said our son and daughter-in-law, e-mailing from abroad.
9. Nearly trampled by the bulls last year at Pamplona, the determined man has returned this year.
10. The lone eagle, gliding gracefully across the sky, finally disappeared from sight

Adopted from Susan Thurman

(2012)

▪ **Gerund Phrases**

Directions: Identify each gerund phrase in the sentences below.

1. Happiness is hugging little children.
2. Giving a large donation to three local charities is what Brad and Ann do every December.
3. When I was with my grandfather, I loved skipping rocks across the river.
4. Cherie said, “Jumping through hoops to please the new boss is not my idea of fun.”
5. After we moved, finding the box with our nightclothes was our first big challenge.
6. Thinking about my days off impaired my concentration at work.
7. Kenneth and Alicia enjoyed strolling down the beach at midnight.
8. Updating his webpage topped Alex’s to-do list.
9. When I was younger, I liked going to local museums with my friends from school.
10. You can find the latest information by clicking “What’s New” on the homepage

Adopted from Susan Thurman (2012)

Activity VI

Susun ulang kalimat di bawah ini dalam susunan yang benar sehingga menghasilkan terjemahan Bahasa Indonesia sebagaimana yang tertera pada kolom yang ada di sebelah kanan!

| | |
|--|--|
| 1. to/ be/ compacted /basically,/ the/ roller/ drum/ weight/ is/ used/ for/ the/ compression/ of/ the/ surface /required / | 1. Pada dasarnya, bobot roller drum digunakan untuk pemampatan permukaan yang dibutuhkan untuk dipadatkan. |
|--|--|

| | |
|---|---|
| <p>2. of /roller/ with /tires./the/ initial/ compaction /is /obtained/ by/ the/ use /</p> <p>3. to/ attain/ some/ vertical /movement/ that/ enables /the /roller /to/ operate/ efficiently /on/ an/ irregular/ ground /surface/ the /wheels are/ flexible/</p> <p>4. by/ the/ use /of /rollers /with/ metal/ drums./ subsequently,/ the/ final/ road /surface /finish /is/ obtained/</p> <p>5. also/ used/ for/ the /compaction/ of/ landfills./ road/ rollers/ are /</p> <p>6. wheels/ such/ rollers/ have/ knobbed/</p> <p>7. /used/ when /a /perfectly/ smooth/ surface /is/ not/ required/ the /rollers/ are.</p> <p>8. The/ pushing/ force /road/ rollers/ consist/ of two/ or/ more/ big/ heavy/ drums/, with/ one /drum/ being/ driven /and/ provide.</p> <p>9. Is/ pivoted,/ and/ connected/ to/ the/ roller body./</p> <p>10. It/ is /rotated/ to/ guide/ the /roller/ to/ the/ chosen/ pathway/ the/ other /drum.</p> <p>11. In/ some/ rollers, /the/ drum/ axles/ move/ in/ relation /to /each /other/ to/ adjust /for/ the /surface/ irregularities./</p> <p>12. /and/ smoothing /equipment /is /used/ with /rollers/ for /road /construction/ operations different/ compacting/.</p> <p>13. Consists/ of /roller/ units/ at /the/ front/ and/ rear, /with/ a /hydraulic/</p> | <p>2. Pemadatan awal diperoleh dengan penggunaan roller dengan ban.</p> <p>3. Roda fleksibel untuk mencapai beberapa gerakan vertikal yang memungkinkan roller beroperasi secara efisien pada permukaan tanah yang tidak beraturan.</p> <p>4. Selanjutnya, hasil akhir permukaan jalan diperoleh dengan menggunakan roller dengan drum logam.</p> <p>5. Penggiling jalan juga digunakan untuk pemadatan tempat pembuangan akhir.</p> <p>6. Rol semacam itu memiliki roda kenop</p> <p>7. Rol digunakan ketika permukaan yang sangat halus tidak diperlukan.</p> <p>8. Road roller terdiri dari dua atau lebih drum berat yang besar, dengan satu drum digerakkan dan memberikan gaya dorong.</p> <p>9. Drum lainnya diputar, dan terhubung ke badan roller.</p> <p>10. Itu diputar untuk memandu roller ke jalur yang dipilih.</p> <p>11. Pada beberapa rol, poros drum bergerak terkait satu sama lain untuk menyesuaikan ketidakteraturan permukaan.</p> <p>12. Peralatan pemadatan dan pemulusan yang berbeda digunakan dengan roller untuk operasi konstruksi jalan.</p> <p>13. Biasanya, penggiling jalan terdiri dari unit penggiling di bagian</p> |
|---|---|

| | |
|--|---|
| <p>steering/ system /normally, /a/ road/ roller./</p> <p>14. , /the/ roller/ drums/ are /water /filled/ to /attain /the /weight d/esired/ for /compaction/ of /the/ road/ surface/ on /some /equipment./</p> <p>15. Increased/ by/ using/ vibrating /roller /drums /that /enables /a/ smaller/ machine/ to/ achieve/ the/ same/ compactness/ as/ by/ a /larger /roller/ compaction/ can/ be/</p> <p>16. /obtained /by/ eccentric/ weights/ that/ are /attached /to/ the/ shaft/ of/ a/ motor/ located/ in/ the /roller /drum/ vibration/ is/ normally./</p> <p>17. Is/ lubricated/ by/ water/ for/ the/ prevention/ of /asphalt /being/ affixed /with /the/ drum/ surface/ the/ drum /surface./</p> <p>18. are/ a /diesel/ engine,/ a driver /canopy,/ a/ compaction/ gauge/ to /determine/ the /intensity /of /compaction,/ and /a water /supply /system/ the/ other/ parts /of /a roller./</p> <p>19. /have/ pad/ foot/ or/ "sheep's-foot"/ drums /such/ compactors /typically./</p> <p>20. /compression,/ due /to/ the /smaller /area /contacting/ the/ ground/ the /pads/ aid in./</p> | <p>depan dan belakang, dengan sistem kemudi hidrolis.</p> <p>14. Pada beberapa peralatan, drum roller diisi air untuk mencapai bobot yang diinginkan untuk pemadatan permukaan jalan.</p> <p>15. Pemadatan dapat ditingkatkan dengan menggunakan drum bergetar yang memungkinkan alat berat yang lebih kecil mencapai kekompakan yang sama seperti dengan roller yang lebih besar.</p> <p>16. Getaran biasanya diperoleh dengan beban eksentrik yang dipasang ke poros motor yang terletak di drum roller.</p> <p>17. Permukaan drum dilumasi dengan air untuk mencegah aspal menempel pada permukaan drum.</p> <p>18. Bagian lain dari roller adalah mesin diesel, kanopi pengemudi, pengukur pemadatan untuk menentukan intensitas pemadatan, dan sistem pasokan air.</p> <p>19. Compactor semacam itu biasanya memiliki drum pad foot atau "sheep's-foot",</p> <p>20. Bantalan membantu dalam kompresi, karena area yang lebih kecil yang menyentuh tanah.</p> |
|--|---|

Activity VII

Temukan 15 kosakata pada kotak di bawah ini yang berhubungan dengan teks bacaan (The Use of Paver in Construction) kemudian terjemahkan dalam bahasa Indonesia!

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | E | D | P | A | R | T | S | A | S | P | H | A | L | T |
| R | N | R | I | T | G | S | V | E | A | H | E | L | W | D |
| U | G | I | N | Y | R | Y | I | Q | D | Y | C | A | H | I |
| M | I | V | T | P | O | S | B | U | J | D | C | N | E | T |
| S | N | E | E | I | U | T | R | I | U | R | E | D | E | E |
| H | E | R | N | C | N | E | A | P | S | A | N | F | L | R |
| E | B | A | S | A | D | M | T | M | T | U | T | I | S | M |
| E | U | I | I | L | G | K | I | E | N | L | R | L | B | I |
| P | T | D | T | L | H | L | O | N | J | I | I | L | B | N |
| A | N | D | Y | Y | J | M | N | T | K | C | C | S | Y | E |

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____

UNIT X

I. Reading Comprehension

A PLANE TABLE

A plane table (plain table prior to 1830) is a device used in surveying and related disciplines to provide a solid and level surface on which to make field drawings, charts and maps.



The early use of the name *plain table* reflected its simplicity and plainness rather than its flatness

The plane table surveying is the fast method of surveying. In this type of surveying plotting of the plan and field observations can be done simultaneously. In case of plane table surveying Geometrical conditions of site are manuscript in the map sheet using plane table and alidade after that topographic details are arranged on the map. A plane table consists of a smooth table surface mounted on a sturdy base. The connection between the table top and the base permits one to level the table precisely, using bubble levels, in a horizontal plane. The base, a tripod, is designed to support the table over a specific point on land. By adjusting the length of the legs, one can bring the table level regardless of the roughness of the terrain. In use, a plane table is set over a point and brought to precise horizontal level. A drawing sheet is attached to the surface and an alidade is used to sight objects of interest. The alidade, in modern examples of the instrument a rule with a telescopic sight, can then be used to construct a line on the drawing that is in the direction of the object of interest. By using the alidade as a surveying level, information on the topography of the site can be directly recorded on the drawing as elevations. Distances to the objects can be measured directly or by the use of stadia marks in the telescope of the alidade. The equipment needed in plane table surveying is straightforward and almost available everywhere. Following are the plane table survey instruments.



Drawing Board



Alidade



Spirit level

Activity II

Identifikasi kata dan frase di bawah ini kemudian hafalkan!

| | |
|-------------------------------------|------------------------------------|
| 1. a plane table | 1. meja pesawat |
| 2. a device | 2. sebuah alat |
| 3. disciplines | 3. disiplin |
| 4. to provide | 4. untuk menyediakan |
| 5. a solid and level surface | 5. permukaan yang kokoh dan rata |
| 6. to make field drawings | 6. untuk membuat gambar lapangan |
| 7. charts and maps | 7. bagan dan peta |
| 8. the early use | 8. penggunaan awal |
| 9. plain table | 9. meja biasa |
| 10. reflected | 10. tercermin |
| 11. its simplicity | 11. kesederhanaannya |
| 12. its flatness | 12. kerataannya |
| 13. surveying | 13. survei |
| 14. the plan and field observations | 14. rencana dan observasi lapangan |
| 15. done simultaneously | 15. dilakukan secara bersamaan |
| 16. manuscript | 16. naskah |
| 17. in the map sheet | 17. di lembar peta |
| 18. alidade | 18. alidade |
| 19. topographic details | 19. detail topografi |
| 20. arranged on the map | 20. diatur di peta |
| 21. consists of | 21. terdiri dari |
| 22. a smooth table surface | 22. permukaan meja yang halus |
| 23. mounted | 23. terpasang |
| 24. on a sturdy base | 24. di atas dasar yang kokoh |
| 25. permits | 25. izin |

| | |
|----------------------------------|---------------------------------|
| 26. precisely | 26. tepat |
| 27. using bubble levels | 27. menggunakan level gelembung |
| 28. in a horizontal plane | 28. dalam bidang horizontal |
| 29. designed | 29. dirancang |
| 30. by adjusting | 30. dengan menyesuaikan |
| 31. the roughness of the terrain | 31. kekasaran medan |
| 32. distances to the objects | 32. Jarak ke objek |
| 33. measured directly | 33. diukur secara langsung |
| 34. The equipment needed | 34. Peralatan yang dibutuhkan |

Activity II

Jawablah pertanyaan di bawah ini berdasarkan teks bacaan!

1. What is a field table?
2. What does a plain table reflect?
3. What does the regular table show?
4. What types of surveys can be conducted simultaneously?
5. Where is the field table usually installed?
6. Where the topographical details can be arranged
7. What is the connection between table top and pedestal?
8. Why the base and tripod were designed
9. When the site topography can be directly recorded on the image as elevation.
10. How to make a line on the image in the direction of the object you want.

Activity III

Tulislah T (TRUE) jika kata yang digaris bawahi pada kalimat di bawah ini benar dan perbaikilah pada kolom yang tersedia di sebelah kanan jika kata tersebut salah!

| | | |
|----|---|--|
| 1. | <u>Has</u> a tool like this already been provided | |
|----|---|--|

| | | |
|-----|--|--|
| 2. | The handwriting speech of the Mayor of Banjarmasin <u>was</u> given by a team of experts after they <u>had</u> received specific instructions. | |
| 3. | We <u>had</u> been trained to go to war for several months. | |
| 4. | Before I was born, our grandfather <u>had</u> built a luxury hotel. | |
| 5. | For the last 15 years, Japan <u>has</u> been importing high-quality cranes to Indonesia. | |
| 6. | He <u>had</u> sold the house before we left town a few years ago. | |
| 7. | The public hospital building <u>had</u> been drawn by them. | |
| 8. | The invitation letter <u>has</u> not been closed. | |
| 9. | <u>Has</u> They arrived in Indonesia? | |
| 10. | How long <u>have</u> she been staying here? | |
| 11. | What <u>have</u> you done? | |
| 12. | We <u>has</u> been invited to attend the conference | |
| 13. | The president of Turkey <u>have</u> been in Indonesia | |
| 14. | Indonesia <u>has</u> become developing country | |
| 15. | The civil engineering students of Uniska <u>have</u> joined the final test | |

Activity IV

Susun ulang kalimat di bawah ini dalam susunan yang benar sehingga menghasilkan terjemahan Bahasa Indonesia sebagaimana yang tertera pada kolom yang ada di sebelah kanan!

| | |
|---|--|
| 1. shows /simplicity/ the/ use /of/ simple/ table/ names/ at/ first/. | ➤ Penggunaan nama tabel sederhana pada awalnya menunjukkan kesederhanaan. |
| 2. Gather/ information /a/ plane/ table /survey/ is /a /simple /way/ to/. | ➤ Survei tabel pesawat adalah cara sederhana untuk mengumpulkan informasi. |
| 3. this /form/ of /survey/.plotting/ plans /and/ field/ observations/ can/ all/ be /done /at/ the/ same /time/ in / | ➤ Rencana pembuatan plot dan observasi lapangan semuanya dapat dilakukan |

| | |
|---|---|
| <p>4. is/ used/.in/ surveys/, the/ field /table /(an /ordinary/ table /before /1830)</p> <p>5. geometric /state./a /manuscript /on /a /map /sheet /depicts /the /site's /</p> <p>6. smooth/ tabletop /the/ plane/ table /is made/ up /of /a/ flat/,.</p> <p>7. The/ gravity /of /the/ terrain/ the /connection/ between/ the/ table/ top/ and/ the/ pedestal /allows /one/ to /precisely/ level/ the/ table/ and/ make/ it/ flat /regardless/ of./</p> <p>8. Horizontal/ level /in /use/, the/ plane /table /is /positioned/ above/ the/ point and/ raised/ to/ the /proper./</p> <p>9. to /the /surface/ an /alidade /is/ used/ to /view/ objects/ of /interest /and /a /drawing/ sheet/ is /attached/.</p> <p>10. On/ the/ image/ we/ can/ use/ alidade /as the survey /level. Elevation/ data/ from /the /site /can /be /recorded /directly.</p> <p>11. On/ the /alidade /telescope/.the distance /to the object /can /be/ measured/ /directly /using/ the /stadia/ mark/</p> <p>12. almost /everywhere/ the/ equipment/ needed for/ the plane/ table/ survey/ is very /simple/ because /it is./</p> | <p>pada waktu yang sama dalam bentuk survei ini.</p> <ul style="list-style-type: none"> ➤ Dalam survei, tabel lapangan (tabel biasa sebelum 1830) digunakan. ➤ Naskah pada lembar peta menggambarkan keadaan geometris situs. ➤ Meja pesawat terdiri dari meja datar dan halus. ➤ Sambungan antara bagian atas meja dan penyangga memungkinkan seseorang untuk meratakan meja secara tepat dan membuatnya rata terlepas dari gravitasi medan. ➤ Saat digunakan, tabel bidang diposisikan di atas titik dan dinaikkan ke tingkat horizontal yang sesuai. ➤ Alidade digunakan untuk melihat objek yang menarik dan lembar gambar dilampirkan ke permukaan. ➤ Kita bisa menggunakan alidade sebagai level survei. data ketinggian dari situs dapat direkam langsung pada gambar. ➤ Jarak benda tersebut dapat diukur secara langsung dengan menggunakan tanda stadia pada teleskop alidade. ➤ Peralatan yang dibutuhkan untuk survey sangat sederhana karena meja pesawat hampir ada dimana-mana. |
|---|---|

Temukan 15 kosakata pada kotak di bawah ini yang berhubungan dengan teks bacaan (A Plane Table) kemudian terjemahkan dalam bahasa Indonesia!

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | E | Q | U | I | P | M | E | N | T | P | R | D | A | T |
| L | E | V | E | L | I | O | P | F | W | R | U | R | G | E |
| A | D | R | R | T | G | N | M | F | D | O | S | A | U | L |
| N | E | E | A | L | I | D | A | D | E | V | D | W | D | E |
| E | S | C | S | U | R | V | E | Y | W | I | B | I | S | S |
| T | I | O | I | T | Y | S | O | L | I | D | J | N | G | C |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | G | R | M | E | A | S | U | R | E | E | K | G | S | O |
| B | N | D | P | E | R | M | I | T | O | P | L | Q | E | P |
| L | C | E | L | W | R | B | N | P | R | O | V | I | D | E |
| E | V | D | E | V | I | C | E | M | Q | K | L | O | U | W |

- 1 _____ 6. _____ 11. _____
- 2 _____ 7. _____ 12. _____
- 3 _____ 8. _____ 13. _____
- 4 _____ 9. _____ 14. _____
- 5 _____ 10. _____ 15. _____

UNIT XI

I. Reading Comprehension

AUTOMATIC LEVEL

A level is an optical instrument used to establish or verify points in the same horizontal plane in a process known as leveling, and is used in conjunction with a



leveling staff to establish the relative heights levels of objects or marks. It is widely used in surveying and construction to measure height differences and to transfer, measure, and set heights of known objects or marks. It is also known as a Surveyors level, Builders level, Dumpy level or the historic "Y" level. It operates on the principle of establishing a visual level relationship between two or more points, for which an inbuilt telescope and a highly accurate bubble level are used to achieve the necessary accuracy. Traditionally the instrument was completely adjusted manually to ensure a level line of sight, but modern automatic versions self-compensate for slight errors in the coarse leveling of the instrument,

and are thereby quicker to use. The optical level should not be confused with a theodolite which can also measure angles in the vertical plane. An optical level consists of a precision telescope with crosshairs and Stadia marks. The cross hairs are used to establish the level point on the target, and the stadia allow range-finding; stadia are usually at ratios of 100:1, in which case one meter between the stadia marks on the leveling staff represents 100 meters from the target. The complete unit is normally mounted on a tripod, and the telescope can freely rotate 360° in a horizontal plane. The surveyor adjusts the instrument's level by coarse adjustment of the tripod legs and fine adjustment using three precision leveling screws on the instrument to make the rotational plane horizontal. The surveyor does this with the use of a bull's eye level built into the instrument mount. The surveyor looks through the eyepiece of the telescope while an assistant holds a vertical level staff which is a graduated in inches or centimeters. The level staff is placed with its foot on the point for which the level measurement is required. The telescope is rotated and focused until the level staff is plainly visible in the crosshairs. In the case of a tilting level, the fine level adjustment is made by an altitude screw, using a high accuracy bubble level fixed to the telescope. This can be viewed by a mirror whilst adjusting or the ends of the bubble in a "split bubble" display can be viewed within the telescope. This also allows assurance of the accurate level of the telescope whilst the sight is being taken. However, in the case of an automatic level, altitude adjustment is done automatically by a suspended prism due to gravity, as long as the coarse leveling of the instrument base is accurate within certain limits. When level, the staff graduation reading at the crosshairs is recorded, and an identifying mark or marker placed where the level staff rested on the object or position being surveyed.

Identifikasi kata dan frase di bawah ini kemudian hafalkan!

Activity I

| | |
|--|---|
| 1. an optical instrument | 1. instrumen optik |
| 2. used to establish | 2. digunakan untuk membangun |
| 3. verify points | 3. verifikasi poin |
| 4. in the same horizontal plane | 4. di bidang horizontal yang sama |
| 5. in a process known as levelling | 5. dalam proses yang dikenal sebagai leveling |
| 6. used in conjunction | 6. digunakan bersama |
| 7. with a leveling staff | 7. dengan staf leveling |
| 8. the relative heights levels | 8. tingkat ketinggian relatif |
| 9. objects or marks | 9. benda atau tanda |
| 10. in surveying | 10. dalam survei |
| 11. construction | 11. konstruksi |
| 12. to measure height differences | 12. untuk mengukur perbedaan ketinggian |
| 13. to transfer | 13. untuk mengirim |
| 14. measure | 14. mengukur |
| 15. set heights of objects | 15. mengatur ketinggian objek |
| 16. operates | 16. beroperasi |
| 17. on the principle | 17. berdasarkan prinsip |
| 18. a visual level relationship | 18. hubungan tingkat visual |
| 19. between two or more points | 19. antara dua atau lebih titik |
| 20. bubble level | 20. tingkat gelembung |
| 21. to achieve the necessary accuracy. | 21. untuk mencapai akurasi yang diperlukan. |
| 22. completely adjusted manually | 22. sepenuhnya disesuaikan secara manual |
| 23. to ensure a level line of sight | 23. untuk memastikan garis pandang yang datar |

| | |
|---|--|
| 24. automatic versions 25. self-compensate | 24. versi otomatis 25. kompensasi sendiri |
|---|--|

Activity II

Jawablah pertanyaan berikut berdasarkan teks bacaan!

1. What are the functions of instrument optics?
2. What are used to establish the relative heights levels of objects or marks?
3. What is widely used in surveying and construction to measure height differences and to transfer, measure, and set heights of known objects or marks?
4. What is the other name of surveyors level, builders level, dumpy level or the historic "Y" level?
5. What kinds of instruments are needed to achieve the necessary accuracy to ensure a level line of sight?
6. How to establish a visual level relationship between two or more points?
7. How to establish the level point on the target?
8. Explain what does stadia with ratios of 100:1?
9. Why does the surveyor adjust the instrument's level by coarse adjustment of the tripod legs and fine adjustment using three precision leveling screws on the instrument?
10. How do surveyors see the split bubble?
11. What for do the surveyor use a bull's eye level built into the instrument mount?
12. How is the telescope used accurately?
13. What is the function of a suspended prism?
14. How do the surveyors know the tilting levels?
15. Where is usually the level staff rested?

Activity III

Tuliskan T (True) jika kata yang digaris bawahi pada kalimat di bawah ini benar dan perbaikilah pada kotak yang tersedia di sebelah kanan jika kata tersebut salah!

| | | |
|----|---|--|
| 1 | They have been <u>studying</u> English for three years | |
| 2 | He <u>have been</u> in this city since a month ago | |
| 3 | Our uncle has been <u>elected</u> as mayor of the city of Banjarmasin | |
| 4 | We <u>had</u> been waiting for you for 2 hours | |
| 5 | <u>Have</u> you met the chairman of the foundation | |
| 6 | I <u>don't</u> understood this concept yet | |
| 7 | I <u>have</u> never been <u>crushed</u> by him | |
| 8 | We have lived on the island of Borneo before they <u>worked</u> for the company | |
| 9 | He has been <u>admired</u> and respected by many people | |
| 10 | The new telescope <u>was</u> returned to its owner | |
| 11 | He <u>is</u> already a very successful businessman | |
| 12 | He <u>have</u> already talked us about his a successful business | |
| 13 | the heavily damaged road <u>has</u> been paved | |
| 14 | He <u>has</u> already finish his task | |
| 15 | The old bulding <u>has been</u> renovated by Indonesian government | |

Activity IV

1. Important Identivication

▪ Infinitive Phrase

Directions: Identify each infinitive phrase in the sentences below.

1. On the first day of work I hope to learn everyone's name.
2. To study Japanese is Judy's goal for the next year.

3. Do you want me to close the door?
4. If Meredith wants to view the document, let Matt know.
5. I hesitate to ask about Ila's health issues.
6. We're going to keep this party casual.
7. Let's create enough momentum to get the crowd enthusiastic.
8. Whether you want to give time or to give money, our organization needs your help.
9. The kids will need you to direct them to the next level.
10. Melanie needs to change clothes before she goes to the meeting.

Adopted from Susan Thurman (2012)

▪ **Appositive Phrases**

Directions: Identify each appositive phrase in the sentences below.

1. Philanthropic organizations, like the Gates Foundation, contribute to diverse causes.
2. For dinner, Father Harold ate his niece's best casserole, chicken and broccoli.
3. Larry hung a poster of his favorite Picasso painting, Guernica.
4. The sudden noise, a clap of thunder from an unexpected storm, startled the crowd.
5. We donated the money from our yard sale to a local charity, Colonels for College.
6. George Wilson, a graduate of the state university, was recently hired as the head basketball coach.
7. Christa misplaced her folder, the one she needs for class.
8. Jerry's car, the Chevy involved in the wreck, was declared a total loss.
9. Munching between meals, a habit I'm guilty of, will stop next week when I start my new diet.
10. Sharon McCarn, star of the local production, hopes to continue her acting in New York.

Adopted from Susan Thurman (2012)

▪ **Adjective Clauses**

Direction: Identify each adjective clause in the sentences below.

1. Economics, which has been described as a “dismal science,” is Mr. Thompson’s favorite subject.
2. The Dixons, who moved in next door, came from Iowa.
3. These strawberries, which I bought yesterday, have already gone bad.
4. Is this the brand of chocolate you craved?
5. Gayle drives a car that is twenty years old.
6. Mary Anne’s cat, which is a Siamese, often sits on the ledge in the living room.
7. I want you to know I’ll need more help.
8. Is this the movie Wayne wanted to see?
9. Donna’s blouse, which she purchased in Chicago, is a knockoff of a designer shirt.
10. This is the site where the apartment complex will be built.

Adopted from Susan Thurman (2012)

▪ **Noun Clauses**

Direction: Identify each noun clause in the sentences below.

1. You’ll Ever Need, page 44. 1. What Marie saw in the documentary shocked her.
2. Am I responsible for what my dog does?
3. All the employees are happy that a new boss will be hired soon.
4. Students in the class knew that they were in for a treat.
5. Each guest must decide which entrée he or she wants.
6. The nonprofit group began to raise funds from the seed money we gave them.
7. Don’t all the employees hope they get a raise this year?
8. The movie showed that atrocities had been committed.
9. Our dream is that we build a home in the country.
10. Why Chris turned out the way he did is a mystery to everyone.

▪ **Adverb Clauses**

Directions: Identify each adverb clause in the sentences below.

1. When I looked at the little girl, I saw that she had been crying.
2. Mike and Paul are concerned about the rain because they may have to cancel their golf game.
3. Take a break until the next meeting starts.

4. I'm going to buy that house, although I'm not sure how.
5. Since we're early, let's take a walk.
6. If there's more coffee, Joan would like another cup.
7. Before the interview began, Luke looked over the prospective questions.
8. After I ate at the new restaurant, I sang its praises to my friends.
9. Our family donates to this cause because we believe in it.
10. Jerome has been a valuable employee since he was hired in 1995.

Adopted from Susan Thurman (2012)

▪ Restrictive and Nonrestrictive Clauses

Direction: Determine if the underlined clauses are restrictive or nonrestrictive.

1. The question about whether we will get out of town for the weekend has not been decided.
2. Several claims that had been submitted to X J Truman Company were eventually denied.
3. My maternal grandmother owned this table until the early 1960s, when she gave it to my aunt.
4. The staff policies, which you can find in the employee handbook, were written ten years ago.
5. The mayor opted to give employees who earned merit raises the rest of the day off.
6. Ponce de Leon, who was a Spanish explorer, was the first governor of Puerto Rico.
7. While it is not perfect, the democratic system is better than its alternatives.
8. I asked the man who rang the doorbell what he was selling.
9. Since the drought persists, the population is imperiled by extreme conditions.
10. The sisters returned to their hometown, even though they did not feel they fit in there.

Adopted from Susan Thurman (2012)

▪ Sentence Functions

Direction: Determine if the sentence is declarative, interrogative, imperative, or exclamatory.

Give me your tired, your poor, your huddled masses yearning to breathe free.

1. The new online search engine seems easy to navigate.
2. Will you show me how to download an app to a smartphone?
3. Put that back where you found it.
4. The passing fire trucks raced by our house.
5. Stop right now!
6. Has anyone seen my coffee cup?
7. We won by five points!
8. The border between the two countries reaches for 200 miles.
9. Take back what you wrote in the online post.

Adopted from Susan Thurman (2012)

▪ **The Problem of Prepositions**

Direction: Identify the correct verb problems with prepositions and subjects.

1. The women in the class (a) is (b) are all from a foreign country.
2. After deducting expenses, the cost for the parties (a) was (b) were over \$500.
3. Several of the cars on the lot (a) was (b) were vandalized last night.
4. Disputes about the bill (a) has (b) have increased.
5. The soldiers in the trenches (a) has (b) have the most dangerous duty.
6. Residents in the gray house down the street (a) is (b) are hosting a block party.
7. The signature on the forms (a) looks (b) look forged.
8. After a long trip at sea, owners of the boat (a) has (b) have returned to shore.
9. One of the bowls (a) is (b) are Fido's favorite.
10. "The reason for my absences (a) is (b) are simple," said Greg

Adopted from Susan Thurman (2012)

▪ **Finding the Correct Verb**

Direction: Identify the correct verb. Problems with indefinite pronouns and verbs.

1. Because of the rain, everyone (a) is (b) are staying inside.
2. None of the papers Morley dropped (a) is (b) are within reach.
3. Everything (a) stop (b) stops when the power goes out.
4. All of the equipment (a) has (b) have been delivered on time.

5. Each of the books I chose (a) is (b) are one I read as a child.
6. Most of the day (a) consist (b) consists of sitting at a desk, staring at a computer.
7. Terrence wondered if any of the tickets (a) was (b) were still available.
8. Some in the store (a) was (b) were fed up with the poor service.
9. Everybody (a) was (b) were already here when we finally arrived.
10. If none of the money (a) is (b) are recovered, what will happen?

▪ Using Compound Subjects

Direction: Identify the correct verb. Problems with compound subjects are covered

1. The police officer or the FBI agent (a) is (b) are going to investigate more thoroughly.
2. Hallie's teachers or her advisor (a) is (b) are scheduling a conference.
3. The mechanics or the insurance adjustor (a) is (b) are writing the final report about the wreck.
4. Jack and Jill (a) is (b) are going up the hill to fetch a pail of water.
5. The air conditioner or the fans (a) needs (b) need to be turned off.
6. Macaroni and cheese (a) is (b) are a favorite dish of all my relatives.
7. Cardboard and paper products (a) go (b) goes in this container for recyclable material.
8. One cup and all the saucers (a) was (b) were all in the dishwasher.
9. Spaghetti and meatballs (a) is (b) are what I am looking forward to ordering.
10. At the convention, Kentucky and Texas (a) was (b) were represented with over fifty delegates each.

Adopted from Susan Thurman (2012)

▪ Mixed Numbers

Direction: Identify the correct verb. Problems with mixed numbers.

1. One cause of the traffic problem (a) is (b) are the many stoplights.
2. Happy campers (a) is (b) are the reason the campground stays open.
3. Another example of Joan's compassion (a) is (b) are the random acts of kindness she commits.
4. The goal of our division (a) is (b) are promotions for every member.

5. On his birthday, Joe's favorite gift (a) was (b) were three new computer games.
6. The team (a) is (b) are looking at which players it will re-sign next year.
7. Although they're expensive, pink roses (a) is (b) are Susie's favorite present.
8. Potato chips (a) is (b) are Ted's junk food of choice.
9. The subject of Clifford's essay (a) is (b) are methods of treating choking victims.
10. In a shoebox under the bed (a) is (b) are letters from former lovers.

Adopted from Susan Thurman (2012)

▪ Participles

Direction: Identify the participle in each sentence. Problems with participles

1. Consumed with rage, the victim's father stormed at the defendant.
2. The tennis player, dripping with sweat, left the court suddenly.
3. Let the demanding customers wait in line.
4. One young man, seated in the middle of the row, dozed off.
5. Judy gave up her seat to the elderly woman, thinking she was doing a good deed.
6. Running water is a luxury in many countries.
7. The flag blowing in the wind gave hope to us all.
8. Broken promises made by Renata were what destroyed her relationship with Rick.
9. Delighted to learn he'd won the competition, Jerry began to smile.
10. The dogs hiding in the cellar were a worry for everyone.

Adopted from Susan Thurman (2012)

▪ Gerunds

Direction: Identify the gerund in each sentence. Problems with gerunds

1. All of our planning for the outdoor wedding faded when the storm approached.
2. While playing baseball, Marcus injured his right foot.
3. Meredith decided that missing her husband was enough reason to cut her vacation short.
4. The bride and groom knew that smashing wedding cake would not be something they would do.
5. The lighting in the meeting room was terrible, and everyone got a headache.
6. No one seems to appreciate my practicing the violin.
7. When he was arrested for trespassing, the man pleaded ignorance.
8. Finding the right person for the job sometimes takes quite a long time.

9. Marge was overwhelmed by Mary's offering to help.
10. Suffering from a cold will cause many people to miss work.

Adopted from Susan Thurman (2012)

Activity V

Susun ulang kalimat di bawah ini dalam susunan yang benar sehingga menghasilkan terjemahan Bahasa Indonesia sebagaimana yang tertera pada kolom yang ada di sebelah kanan!

| | |
|--|--|
| 1. Been/ studying/ english/ for /three /years /they/ have/ | 1. mereka telah belajar bahasa inggris selama tiga tahun |
| 2. Been/ in /this /city/ since /a month/ ag/o he/ had /not/ | 2. dia tidak berada di kota ini sejak sebulan yang lalu |
| 3. of /banjarmasin/ our /uncle/ has/ not/ been /elected/ as /mayor / | 3. paman kami belum terpilih menjadi walikota banjarmasin |
| 4. for/ 2 /hours/ hav/e they/ been /waiting for /you / | 4. apakah mereka telah menunggu anda selama 2 jam |
| 5. have /never/ met /we/ the /chairman/ of the/ uniska/ foundation/ | 5. kami belum pernah bertemu dengan ketua yayasan uniska |
| 6. this/ have/ you /understood /concept/ | 6. sudahkah anda memahami konsep ini |
| 7. the/ company /we /never /lived /on/ the /island /of /borneo /when/ they /worked/ for/ | 7. kami tidak pernah tinggal di pulau kalimantan ketika mereka bekerja di perusahaan |
| 8. he/ is/ admired/ and /respected /by /many /people?/ | 8. apakah dia dikagumi dan dihormati oleh banyak orang |
| 9. was /the/ new/ telescope/ returned/ to/ its /owner/ | 9. teleskop baru dikembalikan ke pemiliknya |
| 10. businessman/ he /has/ become/ a/ very /successful / | 10. dia telah menjadi pengusaha yang sangat sukses |
| 11. roads/ in/ this /village /have/ been /paved /thickly /all/ the/ damaged/ | 11. semua jalan rusak di desa ini sudah diaspal tebal |
| | 12. jembatan raksasa ini telah diresmikan oleh presiden republik indonesia. |

| | |
|---|--|
| <p>12. by /the/ this /giant/ bridge/ has/ been/ inaugurated /president/ of /the /republic /of /indonesia./</p> <p>13. renovated/ the /building /should/ have /been./</p> <p>14. construction/ has /been /tested/ this /road./</p> <p>15. car/ has /he /rented /a /tronton?/</p> <p>16. help /from /they/ have /asked /fo/r the/ regent/</p> | <p>13. bangunan itu seharusnya sudah direnovasi</p> <p>14. pembangunan jalan ini sudah teruji .</p> <p>15. apakah dia menyewa mobil tronton?</p> <p>16. mereka sudah meminta bantuan kepada bupati</p> |
|---|--|

Activity VI

Temukan 15 kosakata pada kotak di bawah ini yang berhubungan dengan teks bacaan (Automatic Level) kemudian terjemahkan dalam bahasa Indonesia!

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| R | E | N | O | V | A | T | E | A | S |
| L | E | V | E | L | P | O | I | N | T |
| U | O | P | T | I | C | A | L | I | T |
| I | N | S | T | R | U | M | E | N | T |
| E | S | T | A | B | L | I | S | H | |
| M | O | P | E | R | A | T | E | O | N |
| E | E | N | S | U | R | E | T | H | E |
| A | Q | U | I | C | K | E | R | A | N |
| S | T | E | L | E | S | C | O | P | S |
| U | S | U | R | V | E | Y | O | R | S |
| R | A | C | C | U | R | A | C | Y | A |
| E | E | D | J | U | S | T | E | D | R |
| C | O | M | P | L | I | T | L | Y | E |

- 1 _____ 6. _____ 11. _____
2 _____ 7. _____ 12. _____
3 _____ 8. _____ 13. _____
4 _____ 9. _____ 14. _____
5 _____ 10. _____ 15. _____

UNIT XII

A. Teaching for general purposes

After completing this course, students will be able to master reading techniques and sentence structure that can help with reading skills in English for academic needs in the field of Civil Engineering through skimming, scanning, guessing meaning, text organization, and information transfer.

B. Teaching for a Specific Purpose

After completing this course, students will be able to use appropriate references in the text as well as important words in the reading text in accordance with the Civil Engineering major. Students who complete this course are able to guess the meaning of words based on context, word types, and other punctuation marks. After completing this course, students will be able to classify word groups such as adjectives, nouns, adverbs of place and time, pure verbs, and progressive verbs. Students who complete this course are able to use correct sentence structures, particularly those that use **MODAL AUXILIARY form**. After completing this course, students will be able to correctly rearrange random sentences.

I. Reading Comprehension

HEODOLITE



A theodolite is a precision optical instrument for measuring angles between designated visible points in the horizontal and vertical planes. The traditional use has been for land surveying, but they are also used extensively for building and infrastructure construction, and some specialized applications such as meteorology and rocket launching. It consists of a moveable telescope mounted so it can rotate around horizontal and vertical axes and provide angular readouts. These indicate the orientation of the telescope, and are used to relate the first point sighted through the telescope to subsequent sightings of other points from the same theodolite position. These angles can be measured with great accuracy, typically to mill radian or seconds of arc. From these readings a plan can be drawn, or objects can be positioned in accordance with an existing plan. The modern theodolite has evolved into what is known as a total station where angles and distances are measured electronically, and are read directly to computer memory. In a transit theodolite, the telescope is short enough to rotate through the zenith, otherwise for non-transit instruments vertical (or altitude), rotation is restricted to a limited arc. The optical level is sometimes mistaken for a theodolite, but it does not measure vertical angles, and is used only for leveling on a horizontal plane. In modern electronic theodolites, the readout of the horizontal and vertical circles is usually done with a rotary encoder. These produce signals indicating the altitude and azimuth of the telescope which are fed to a microprocessor. CCD sensors have been added to the focal plane of the telescope allowing both auto-targeting and the automated measurement of residual target offset. All this is implemented in embedded software of the processor. Many modern theodolites are equipped with integrated electro-optical distance measuring devices, generally infrared based, allowing the measurement in one step of complete three-dimensional vectors—albeit in instrument-defined polar co-ordinates, which can then be transformed to a pre-existing co-ordinate system in the area by means of a sufficient number of control points. This technique is called a resection solution or free station position surveying and is widely used in mapping surveying. Such instruments are "intelligent" theodolites called self-registering tachometers or colloquially "total stations", and perform all the necessary angular and distance

calculations, and the results or raw data can be downloaded to external processors, such as ruggedized laptops, PDAs or programmable calculators.

Activity I

Identifikasi kata dan frase di bawah ini kemudian hafalkan!

| | |
|---|----------------------------------|
| 1. A theodolite | ➤ Theodolite |
| 2. precision | ➤ presisi |
| 3. instrument | ➤ instrumen |
| 4. for measuring angles | ➤ untuk mengukur sudut |
| 5. between designated visible points | ➤ antara titik terlihat yang |
| 6. in the horizontal and vertical planes. | ➤ ditunjuk |
| 7. The traditional use | ➤ di bidang horisontal dan |
| 8. for land surveying | ➤ vertikal. |
| 9. used extensively | ➤ Penggunaan tradisional |
| 10. for building | ➤ untuk survei tanah |
| 11. infrastructure construction | ➤ digunakan secara luas |
| 12. some specialized applications | ➤ untuk bangunan |
| 13. such as meteorology | ➤ pembangunan infrastruktur |
| 14. rocket launching | ➤ beberapa aplikasi khusus |
| 15. consists of | ➤ seperti meteorologi |
| 16. a moveable telescope | ➤ peluncuran roket |
| 17. mounted | ➤ terdiri dari |
| 18. rotate around horizontal | ➤ teleskop yang bisa dipindahkan |
| 19. vertical axes | ➤ dipasang |
| 20. provide angular readouts | ➤ putar di sekitar horisontal |
| 21. indicate | ➤ sumbu vertikal |
| 22. the orientation of the telescope | ➤ memberikan pembacaan sudut |
| 23. used to relate | ➤ menunjukkan |
| 24. the first point | ➤ orientasi teleskop |
| 25. sighted through the telescope | ➤ digunakan untuk menghubungkan |

| | |
|---------------------------------------|------------------------------------|
| 26. to subsequent sightings | ➤ poin pertama |
| 27. from the same theodolite position | ➤ terlihat melalui teleskop |
| 28. great accuracy | ➤ untuk penampakan berikutnya |
| 29. typically | ➤ dari posisi theodolite yang sama |
| 30. to mill radian | ➤ akurasi tinggi |
| 31. drawn, | ➤ khas |
| 32. positioned | ➤ ke pabrik radian |
| 33. in accordance with | ➤ digambar, ditarik, |
| 34. an existing plan | ➤ diposisikan |
| 35. The modern theodolite | ➤ Menurut |
| | ➤ rencana yang ada |
| | ➤ Theodolite modern |

Activity II

Jawablah pertanyaan di bawah ini berdasarkan teks bacaan (Theodolite)!

1. What is a theodolite?
2. What is a traditional use of theodolite beside using as land surveying?
3. What for is a moveable telescope mounted ?
4. How are the angles measured?
5. How can the planes be drawn?
6. Which theodolite has evolved into a total station?
7. Where angles and distances are measured electronically, and are read directly to computer memory?
8. What can be measured and read directly to computer memory.
9. What is the function of a rotary encoder?
10. What is the effect after being added ccd sensors to the focal plane of the telescope?
11. Is there a little modern theodolites equipped with integrated electro-optical distance measuring devices?

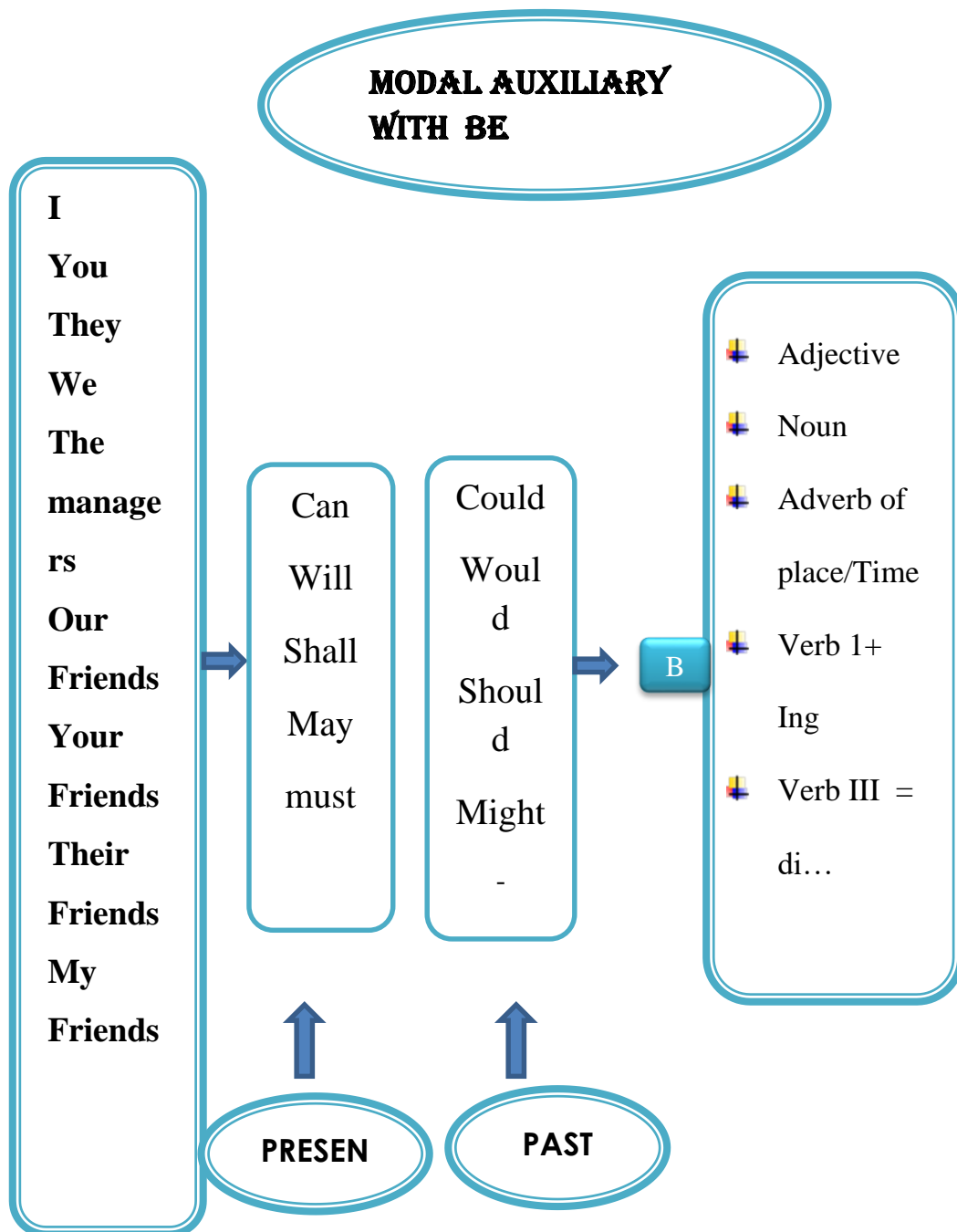
12. Is it generally not infrared based?

13. What techniques are used in mapping surveying

II. Understanding The Grammar of
English

**MODAL AUXILIARY
WITHOUT BE**

II. Understanding The Grammar of English



Modal Auxiliary berhadapan dengan kata kerja bentuk pertama murni, yang tidak mendapat tambahan *-s* dan *-es* sesudahnya, dan perlu diingat kata kerja tersebut tanpa **to**.

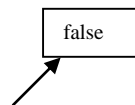
Modal auxiliary tersebut bisa diikuti oleh kelima kelompok kata yang sudah dijelaskan pada bab terdahulu tetapi sebelumnya diletakkan **BE**.

Contoh Kalimat:

1. She will **be** rich. (Dia akan kaya)
2. He will **be** a contractor. (Dia akan menjadi seorang kontraktor)
3. We will **be** in Banjarmasin at 10 o'clock (Kami akan berada di Banjarmasin pada pukul 10)
4. She will **be** studying English at 4 o'clock p.m. in Campus of UNISKA
(Dia akan belajar bahasa Inggris pada pukul empat sore di UNISKA)
5. They will **be** taught English by Mr. George (Mereka akan diajar bahasa Inggris oleh pak George)

Berikut kalimat modal auxiliary yang tidak mengikuti kaidah yang semestinya.

Contoh:



1. Salah = She can to speak English fluently
Benar = She can speak English Fluently. (Dia dapat berbahasa Inggris dengan lancar)
2. Salah = He must works hard
Benar = He must work hard. (Dia harus bekerja keras)

Penggunaan modal auxiliary

>> ***Diingat!!!***

Dalam suatu kalimat tidak boleh ada dua modal auxiliary, berikut contoh kalimat yang salah karena menggunakan dua kata bantu modal auxiliary.

Salah: I must can speak English well (Saya harus dapat berbahasa Inggris dengan baik)

Benar: I must be able to speak English well.

C. CAN & COULD

CAN

Can digunakan untuk menyatakan:

1. Kesanggupan atau Kemahiran Seseorang

Contoh Kalimat:

- a. She can sing beautifully. (Dia dapat menyanyi dengan merdu)
- b. We can speak English well. (Kami dapat berbahasa Inggris dengan baik)
- c. She can drive a car. (Dia dapat mengendarai mobil dengan cepat)

2. Meminta Izin

Contoh Kalimat:

- a. Can I borrow your book? (Bisakah saya meminjam buku anda ?)
- b. Can I come to your house? (Bisa saya datang kerumah anda?)
- c. You can go home now (Anda bisa pulang sekarang)
- d. Can I go to the party with you tonight? (Bisakah saya pergi kepesta itu dengan anda sebentar malam?)

3. Kemungkinan

Contoh Kalimat:

- a. She can be at home at noon. (Dia mungkin berada di rumah pada siang hari)
- b. He can be ill (Mungkin dia sakit)

4. Untuk menyatakan suatu “Power/Ability” atau Kemampuan/Kecakapan

Dalam hal ini “CAN” mempunyai pengertian yang sama dengan “know how to” (Tahu bagaimana caranya), dan dapat digantikan oleh “to be able to”.

Contoh Kalimat:

- a. Jane **can** sing a song very well
- b. Jane **is able to** sing a song very well
- c. Jane **knows how to** sing a song very well.

COULD

Could selain digunakan untuk kata ganti lampau dari can, **could** juga dapat digunakan untuk menghaluskan suatu permohonan dan memberikan kesan sopan dari pada “can”.

Contoh Kalimat:

1. Could you give me a favor?
2. Could you help me a moment?
3. Could you hand me that book?
4. Could you spare me a few minutes?
5. Could I go with her?

B. MAY & MIGHT

Kedua kata kerja bantu ini dapat digunakan untuk:

1. Menyatakan suatu “Permission” (Pemberian izin)

Dalam hal ini “**May**” atau **Might**” dapat dipergantikan dengan **to be Permitted to** atau **be Allowed to** (boleh/diizinkan).

Contoh Kalimat:

- a. You may go home now (Kamu boleh pulang sekarang)
- b. You are allowed to go home now
- c. You are permitted to go home now.

MIGHT

Might adalah lampau dari “**May**”

Contoh Kalimat:

- = He said we might stay here last night (Dia berkata kita bisa tinggal di sini tadi malam).
- = He said we were allowed to stay here last night.
- = He said we were permitted to stay here last night.

2. Menyatakan suatu “Possibility/Probability” atau suatu kemungkinan. Dalam hal ini yang lebih keras daripada **Might**.

1. Susi looks pale, she may suffer from Anemia.
(Susi nampak pucat, kemungkinan besar dia menderita anemia).
2. I don’t remember where I put my key, I may leave it at home.

NOTES:

May dapat digunakan untuk menyatakan suatu pengharapan atau kemungkinan (“**Wish**”). Dalam hal ini kata kerja bantu **May** ditempatkan pada bagian depan dalam suatu kalimat.

Contoh Kalimat:

1. May God bless you. (Semoga tuhan memberkatimu)
2. May you succeed in your life (Semoga kamu sukses dalam menjalani hidup ini)
3. May God always forgive you (Semoga Tuhan selalu mengampunimu)
4. May all your dreams become true. (Semoga mimpi-mimpimu menjadi kenyataan)
5. May all the happiness be with you (Semoga kebahagiaan bersamamu)
6. May you enjoy good health. (Semoga kau sehat walafiat)

C. MUST

Kata kerja bantu ini digunakan untuk:

1. Menyatakan “Necessity/Compulsion” atau suatu “Keperluan/Keharusan”

Contoh Kalimat:

- a. You must obey this regulation. (Kamu harus mentaati aturan ini)
- b. You must study hard or fail the exam (Kamu perlu belajar dari kegagalan pada ujian itu)

2. Menyatakan Tujuan atau Niat yang Sudah Pasti

Contoh Kalimat:

- a. I must repair my car before I go (Saya harus memperbaiki mobil saya sebelum saya pergi)
- b. I must marry the girl, in all risk (Saya harus menikahi gadis itu, apa pun risikonya.)

3. Menyatakan Tugas atau Kewajiban

Contoh Kalimat:

- a. We must pay the income tax to the government. (Kamu harus membayar pajak kepada pemerintah)
- b. You must pay your debts (Kamu harus membayar semua utangmu)
- c. All students must do their homework. (Semua siswa harus mengerjakan pekerjaan rumahnya)

4. Menyatakan Suatu Keyakinan yang Kuat pada Suatu Fakta

Contoh Kalimat:

- a. Hi, you look so happy today, you **must** have much money. (He..., kamu nampak sangat bahagia, kamu pasti punya banyak uang)
- b. He has beautiful wife, he **must** be happy (Dia mempunyai istri yang cantik, dia pasti bahagia)
- c. She **must** be in hospital by this time. (Dia pasti berada di rumah sakit sekarang)

5. Bentuk Must Not (Mustn't) untuk Menyatakan Larangan

Contoh Kalimat:

- a. You mustn't smoke. (Kamu tidak boleh merokok)
- b. You mustn't go alone. It is too risk (Kamu tidak boleh pergi sendirian. Itu terlalu beresiko)
- c. You mustn't smoke near gasoline tank. (Kamu tidak boleh merokok di dekat tangki bensin)

Notes:

Must saat digunakan untuk menyatakan suatu keharusan bisa dipergantikan dengan **“have to”**

Contoh Kalimat:

- a. We **have to** know what is going on (Kami harus tahu apa yang sedang terjadi)
- b. You **have to** return this book to the library (Kamu harus mengembalikan buku ini ke perpustakaan)

D. WILL & WOULD

Will digunakan untuk:

1. Menyatakan Keadaan atau Kegiatan yang akan Terjadi

Contoh Kalimat:

- a. I will go to Surabaya tomorrow
- b. The examination will begin on Monday

2. Menyatakan Permintaan secara Halus atau Sopan

Contoh Kalimat:

- a. Will you help me, please?
- b. Will you come in, please?
- c. Will you go to mosque with me?

3. Menyatakan Janji atau Tekad yang akan Dilakukan

Contoh Kalimat:

- a. I will do my best
- b. He will meet you tomorrow morning.

Would

Would mempunyai beberapa kegunaan, yaitu:

1. Sebagai Bentuk Lampau dari “Will”

Contoh Kalimat:

- a. He said that he **would** come on time (Dia berkata dia akan datang tepat waktu)
- b. You promised me that you **would** buy me a new car
- c. I knew that she **would** come yesterday
- d. He **would** buy that house, but he had not much money.

2. Menyatakan Perintah atau Permintaan secara Halus dari pada “Will”.

Contoh Kalimat:

- a. **Would** you open the window, please?
- b. **Would** you give this book to Anis?
- c. **Would** you like something to drink?
- d. **Would** you like some coffee?

Notes:

Untuk menjawab **would you like please**, kita dapat menggunakan ungkapan-ungkapan berikut::

- a. Sure, I will
- b. Okey, I will
- c. of course, I will
- d. All right
- e. Yes, I will.
- f. Why not. Ect.

E. SHALL, SHOULD & OUGHT TO

SHALL

Shall digunakan untuk:

1. Menyatakan Suatu Kegiatan yang akan Dilakukan

Contoh Kalimat:

- a. I **shall** go to Palestine tomorrow. (Saya akan pergi ke London besok)
- b. We **shall** buy a new laptop next week. (Kami akan membeli sebuah laptop baru minggu depan)

Catatan:

Dalam British English, **Shall** digunakan untuk subyek **I** dan **We**, sedangkan **Will** digunakan pada subyek **They, You, She, He, and It**.

2. Menawarkan Bantuan

Contoh Kalimat:

- a. Shall I open the door?
- b. Shall I make coffee for you?

3. Suatu Janji (Perjanjian)

Contoh Kalimat:

- a. I shall meet her tomorrow.
- b. You shall have a motorcycle.

SHOULD

Should digunakan untuk:

1. Menghaluskan suatu Permintaan atau Permohonan

Contoh Kalimat:

- a. You called me "Johari". That is not my name. You should call me "Jauhari"
- b. You dialed 46667; but it should be 47766
- c. Should dapat juga menyatakan suatu "Weak Obligation" atau kewajiban yang lemah.

2. Suatu Keharusan atau yang Seharusnya Dilakukan

Dalam hal ini pengertian **Should** sama dengan "**Ought to**" (seharusnya).

Contoh Kalimat:

- a. You should do your homework everyday/You ought to do your homework everyday.
- b. You should come to this party earlier/You ought to come to this party earlier.
- c. He should be more careful/He ought to be more careful.
- d. You should do what I told you/You ought to do what I told you.

3. Bentuk Lampau dari Shall

Contoh Kalimat:

- a. He said that he should go home right away.
- b. I told that lady I should be in her house a little late.
- c. We informed her that we should take her to a movie.

F. USED TO

Used to digunakan untuk menyatakan suatu kebiasaan atau perbuatan yang dilakukan berulang-ulang pada masa lampau, tetapi kebiasaan ini tidak lagi dilakukan.

Contoh Kalimat:

- a. She used to sing when she was young. (Dia biasa menyanyi ketika ia muda)
- b. He used to cry when he was a child. (Dia biasa menangis ketika ia masih kecil)
- c. She used to come here every week. (Dia biasa datang setiap minggu)

Bentuk kalimat tanya dan kalimat menyangkal dapat menggunakan kata bantu **Did**, biasa juga tidak.

Contoh Kalimat:

- a. Used you to sleep after lunch? Yes, I used to/ No, I usedn't to.
- b. She usedn't to sleep after lunch.
- c. Did you use to sleep after lunch ? No, I didn't/Yes I did.
- d. She didn't use to visit me regularly.

G. NEED

Need adalah kata kerja yang artinya “**perlu**” dan dapat digunakan sebagai kata kerja bantu, terutama dalam menyusun kalimat negatif dan atau menjawab pertanyaan yang menggunakan kata **Must**.

Contoh Kalimat:

- a. I must go now (positif) (Saya harus pergi sekarang).
- b. I needn't go now (negatif) (Saya tidak boleh pergi sekarang).

Bukan I musn't go now karena jika demikian maka kalimat tersebut berarti: Saya melarang pergi sekarang).

- c. Must I go now? (Haruskah saya pergi sekarang?) Hendaknya dijawab **No, you needn't** (Tidak, kamu tidak boleh pergi) atau **Yes you must** (Ya, kamu boleh pergi).

H. DARE

Dare mempunyai arti “berani” (have the courage to) yang dapat digunakan sebagai:

1. Kata Kerja Bantu

Contoh Kalimat:

- a. He dare go there alone (+)
- b. I dare not to climb the tree (-)
- c. Dare she do it? (?)

Tidak ada penambahan huruf “S” untuk subjek orang ketiga tunggal sebagaimana contoh kalimat pada poin a.

Bukan **She/He dares**

2. Kata Kerja Biasa

Maka kalimat tanya dan kalimat menyangkal menggunakan Auxiliary Verb.

Contoh Kalimat:

- a. She doesn't dare to go there alone. (+)

- b. I don't dare to come alone. (-)
- c. Does he dare to come alone? (?)

Dalam bentuk lampau atau Past Tense, **Dare** terkadang dipakai untuk kalimat tanya dan kalimat menyangkal.

Contoh Kalimat:

- a. He dare not to go alone yesterday atau He didn't dare to go alone yesterday
- b. Dared he go there alone? atau Did he dare to go?

Activity III

Tulislah T (True) jika kata yang digaris bawah pada kalimat di bawah ini benar dan perbaikilah pada kotak yang tersedia di sebelah kanan jika kata tersebut salah!

| No. | Statements | |
|-----|---|--|
| 1. | <u>Is</u> the theodolite a precision optical instrument for measuring angles between designated visible points in the horizontal and vertical planes? | |
| 2. | The traditional use <u>has</u> been for land surveying? | |
| 3. | These angles <u>can</u> be measured with great accuracy. | |
| 4. | <u>Can</u> it rotate around horizontal and vertical axes and provide angular readouts? | |
| 5. | <u>Can</u> the objects be positioned in accordance with an existing plan? The modern theodolite has <u>evolved</u> into a total station? | |
| 6. | Where angles and distances <u>are</u> measured electronically? | |
| 7. | <u>Is</u> the horizontal and vertical circles usually done with a rotary encoder? | |
| 8. | <u>Is</u> the telescope short enough to rotate through the zenith? | |
| 9. | Many modern theodolites <u>are</u> equipped with integrated electro-optical distance measuring devices. | |

| | | |
|-----|--|--|
| 10. | <u>Can</u> the results or raw data be downloaded to external processors? | |
| 11. | <u>Is</u> this technique called a resection solution? | |
| 12. | CCD sensors <u>has be</u> added to the focal plane of the telescope allowing both auto-targeting and the automated measurement of residual target offset | |
| 13. | The raw data can <u>been</u> downloaded to external processors | |
| 14. | Does it <u>consists</u> of a moveable telescope mounted. | |
| 15. | It can <u>rotating</u> around horizontal and vertical axes and provide angular readouts | |

Activity IV

Puzzles of Certain Word Identification in Each Sentences

▪ Infinitives

Direction: Identify the infinitive in each sentence. Problems with infinitives

1. Larry refused to take any money for helping his friend Will move across town.
2. "If you want to get ahead, keep your nose to the grindstone," the life coach said.
3. To learn grammar was never a priority when I was in school.
4. During the ice storm, athletes missed not being able to run outdoors.
5. "I want you kids to stop arguing!" Dad screamed.
6. We have enough evidence to proceed with the case.
7. To write a good essay, most people revise their work several times.
8. Is it okay to drink a bottle of water in the concert hall?
9. To get to the park, take a left and walk three blocks.
10. I was surprised when my ninety-year-old cousin said she wanted to write to me via e-mail.

Adopted from Susan Thurman (2012)

▪ Irregular Verbs

Direction: Identify the correct form of the irregular verb in parentheses!

1. Three problems with the plan have (arise).
2. All the new TV programs (is) listed in the paper yesterday.
3. Until the day she died, Cecelia (bear) the scar from the injury on the playground.
4. The Snakes have been (beat) four times in a row.
5. A good solution to the problem has (become) clear.
6. Competition between the candidates has (begin) to heat up.
7. Last week, the magician (bend) the spoon before our eyes.
8. The problems that have (beset) the family have mounted.
9. When he (bid) his troops farewell, the general's voice cracked.
10. Police discovered the victim (bind) with tape.

Adopted from Susan Thurman (2012)

▪ Irregular Verbs

Direction: Identify the correct form of the irregular verb in parentheses!

1. That dog has (bite) me before.
2. After the fight, Roy's nose (bleed) for a half an hour.
3. Harsh winds (blow) through last week.
4. Usually by February, I have (break) my New Year's resolution.
5. In the past, we have (breed) our dog with one that has won several competitions.
6. The new employees have (bring) fresh ideas to the business.
7. When it was first (build), the skyscraper was a tourist attraction.
8. Yesterday I (burn) the toast and the scrambled eggs.
9. Elizabeth (burst) into the room an hour ago.
10. When Fernando (bust) the the piñata a few minutes ago, all the children squealed in delight.

Adopted from Susan Thurman (2012)

▪ Irregular Verbs 1

Direction: Identify the correct form of the irregular verb in parentheses!

1. Cathy (buy) all these items at last week's auction.
2. Fishing in the ocean last summer, every time we (cast) our lines the wind whipped them back to us.
3. "We (catch) him red-handed this time!" cried the police officer.
4. Those invited to participate were (choose) by a committee.
5. After a recount, the Democratic candidate (cling) to a small lead.
6. "Has it really (came) to this?" the distraught lover asked.
7. A feeling of dread (creep) into the investigator's heart as he approached the door.
8. Funding for the project has been (cut) 15 percent in the last fiscal year.
9. The sad event was (deal) with in a dignified manner.
10. Tunnels beneath the city were (dig) over 200 years ago.

Adopted from Susan Thurman (2012)

▪ Irregular Verbs 2

Direction: Identify the correct form of the irregular verb in parentheses!

1. Last year, the company (dive) headfirst into a more aggressive marketing campaign.
2. "We (do) it!" the quarterback exclaimed as he watched the clock tick to 00:00.
3. The findings were (draw) on statistics that were outdated.
4. Last night I (dream) I went to Panama again.
5. Steven and Carol stopped to pay for the sodas that had already been (drink).
6. Recent changes in the stock market have been (drive) by favorable reports from European markets.
7. Facebook and MySpace have (dwell) alongside each other for several years.
8. Have you ever (eat) calamari?
9. The shadow of the Earth has (fall) on the moon, so we have a lunar eclipse.
10. During our stay in Haiti, we were (feed) by several missionary groups.

Adopted from Susan Thurman (2012)

▪ Irregular Verbs 3

Direction: Identify the correct form of the irregular verb in parentheses!

1. Effects of the recession were (feel) strongly in the Detroit area.
2. The most difficult battles were (fight) in the first months of the war.

3. Researchers have (find) fewer problems than they had anticipated.
4. “Yesterday, I (fit) into some jeans I haven’t worn in years,” Jenny said, after her dramatic weight loss.
5. Many have (flee) the violence and taken refuge elsewhere.
6. In the victory parade, the championship team (fling) candy from a float.
7. Neither of my grandchildren has (fly) before.
8. The tribe wants to reclaim land it (forsake) many years ago.
9. Teeth chattering in the subzero temperature, Matt said, “Okay, I’m now officially (freeze).”
10. This computer has (got) on my nerves all day.

Adopted from Susan Thurman (2012)

Irregular Verbs 4

Direction: Identify the correct form of the irregular verb in parentheses!

1. To jazz it up, we (gild) the frame of the picture we purchased.
2. Marcy has (gave) her promise to stop smoking.
3. Have you ever (go) to sleep while driving?
4. Last week, I (grind) some coffee beans, but now I can’t find them.
5. “I can’t believe how you’ve (grow)!” George’s grandmother exclaimed.
6. We (hang) the picture on the wall closest to the door.
7. Sara Beth has (has) two migraines in the last four days.
8. Have you (hear) the news about the new industry that’s coming to town?
9. Since she’s afraid we’ll eat them all, Mom has (hide) the Girl Scout cookies.
10. When she was small, Allison was (hit) by a motorcycle.

Adopted from Susan Thurman (2012)

Activity V

Susun ulang kalimat di bawah ini dalam susunan yang benar sehingga menghasilkan terjemahan Bahasa Indonesia sebagaimana yang tertera pada kolom yang ada di sebelah kanan!

| | |
|---|---|
| 1. and /vertical/ planes/a /theodolite /is /a /precision /optical /instrument /used /to/ measure/ | ➤ Theodolite adalah instrumen optik presisi yang digunakan untuk mengukur sudut |
|---|---|

| | |
|---|--|
| <p>the /angle /between/ two /visible/ points /in /the/ horizontal /</p> <p>2. for /land/ surveying/ its /traditional /application is/.</p> <p>3. Infrastructure/ construction/it/ is /also /widely/ used/ in/ building /and /</p> <p>4. Rocket/ launching /some /specialized/ applications/ include /meteorology/ and/</p> <p>5. a /mobile /telescope./it /consists /of/</p> <p>6. /orientation/ this/ demonstrates /the/ telesc's/</p> <p>7. Angular. Reading/ it/ is/ set/ up /to/ rotate/ around/ the horizontal /and /vertical /axis,/ giving/</p> <p>8. the telescope's /orientation /this /image /depicts/</p> <p>9. the/ same/ theodolite/ location/ it/ links/ the/ first/ point/ seen /through /the/ telescope /with /subsequent/ sightings/ of other/ points /made /from/.</p> <p>10. with /extreme /precision/ this/ angle/ can /be /calculated/ down /to/ milliradians/ or/ arcseconds/</p> | <p>antara dua titik yang terlihat pada bidang horizontal dan vertikal.</p> <ul style="list-style-type: none"> ➤ Aplikasi tradisionalnya adalah untuk survei tanah. ➤ Ini juga banyak digunakan dalam konstruksi bangunan dan infrastruktur. ➤ Beberapa aplikasi khusus termasuk meteorologi dan peluncuran roket. ➤ Terdiri dari teleskop seluler. ➤ Ini menunjukkan orientasi teleskop. <p>➤ Ini diatur untuk berputar di sekitar sumbu horizontal dan vertikal, memberikan pembacaan sudut.</p> <p>➤ Gambar ini menggambarkan orientasi teleskop.</p> <p>➤ Ini menghubungkan titik pertama yang terlihat melalui teleskop dengan penampakan berikutnya dari titik lain yang dibuat dari lokasi teodolit yang sama.</p> <p>➤ 10. Sudut ini dapat dihitung hingga miliradian atau detik busur dengan presisi ekstrim.</p> |
|---|--|

UNIT XIII

Reading Comprehension

INVESTIGATING CIVIL ENGINEERING

According to the (BLS) Bureau of Labor Statistics, demand for new roads, bridges, airports, utility projects, and other critical structures is expected to grow by 6% by 2028. According to the BLS, civil engineers earned an average of \$87,060 in 2019. Civil engineers conduct surveys, analyze construction sites and materials, and assess project costs, regulations, and risks during project planning. They plan structures and systems

using complex design programs. Then they monitor the construction to ensure structural safety and troubleshoot any issues. Civil engineers usually work for engineering companies or the government.

Civil engineering skills

Technical Skills: Civil engineers must understand physics, mathematics, and use specialized design software. Civil engineers need a CAD suite and building design software. Knowledge of scheduling software is also required. The civil engineer will interact with the client to gather requirements and communicate them to the construction team. Project management includes scheduling, materials tracking, and logistics management. Engineers must also be able to troubleshoot site problems and follow building codes.

Civil engineers design large systems such as municipal sewers and other infrastructure projects. Civil engineering's ability to combine disparate parts into one work system is its hallmark.

Civil engineers must often create elegant solutions when working within constraints such as laws of nature, regulations, material availability, and public safety. Their critical thinking skills allow them to design solutions to all potential problems.

Civil Engineering Career

Environmental, structural, and materials science engineering are all sub-disciplines of civil engineering. Many civil engineers manage long-term development plans for cities and counties. Civil engineers are essential in designing traffic and road systems, as well as water and wastewater systems. Careers in civil engineering include: Civil and safety engineering includes civil, environmental, and water and wastewater engineers. These professionals specialize in large public works projects, either designing and supervising the entire project or specific aspects of construction. Civil engineering managers oversee the technical design and engineering of projects such as large buildings and infrastructure. Coordinate and oversee engineering teams while tracking client budgets, schedules and communications.

Construction Manager: The construction manager oversees the project from planning to completion, keeping it on time and on budget. Projects include residential, commercial, and industrial buildings, roads, and schools. Construction supervisors, site managers, and construction directors are examples. Civil engineering technicians assist

civil engineers in the preparation and review of construction plans and blueprints, site inspections, cost estimates, and project monitoring.

Learn More About MS in Civil Engineering

Civil engineers must ensure the reliability and cost-effectiveness of critical construction projects. Comparing architecture to civil engineering, the demanding nature of a civil engineering career makes an additional educational background important. Civil engineers benefit from specialized training that prepares them to complete large-scale infrastructure projects. Some of the courses covered in a civil engineering master's degree program such as the LSU Online Master of Science in Civil Engineering include: These courses teach engineers about traffic regulations, monitoring of traffic flow, design and operation of traffic control systems, and specialized engineering methods such as drawing and lighting.

Activity I

Answer the questions based on the reading text

1. What exactly is BLS?
2. What type of development is expected to grow by 6% in 2028?
3. When should civil engineers create elegant solutions?
4. What are the benefits of being a civil engineer with critical thinking skills?
5. What is the scope of project management?
6. What is the average BLS score for civil engineers?
7. What steps do civil engineers take in project planning?
8. Which departments are suitable for civil engineers to work in?
9. What are the main responsibilities of a construction manager?
10. What are the advantages of a civil engineer who always attends special training?

Activity II

Identifikasi kata dan frase di bawah ini

| | |
|-------------------------------|--------------------------------|
| 1. Investigating | 1. Menyelidiki |
| 2. Bureau of Labor Statistics | 2. Biro Statistik Tenaga Kerja |
| 3. demand | 3. tuntutan |

| | |
|------------------------------------|--------------------------------------|
| 4. utility projects | 4. proyek utilitas |
| 5. critical structures | 5. struktur kritis |
| 6. expected to grow | 6. diharapkan tumbuh |
| 7. an average | 7. rata-rata |
| 8. surveys | 8. survei |
| 9. sites and materials | 9. situs dan materi |
| 10. assess project costs | 10. menilai biaya proyek |
| 11. regulations | 11. peraturan |
| 12. risks during project planning | 12. risiko selama perencanaan proyek |
| 13. design programs | 13. program desain |
| 14. ensure | 14. memastikan |
| 15. structural safety | 15. keamanan struktural |
| 16. troubleshoot | 16. memecahkan masalah |
| 17. engineering companies | 17. perusahaan teknik |
| 18. software | 18. perangkat lunak |
| 19. required | 19. diperlukan |
| 20. interact with the client | 20. berinteraksi dengan klien |
| 21. to gather requirements | 21. untuk mengumpulkan persyaratan |
| 22. the construction team | 22. tim konstruksi |
| 23. management includes scheduling | 23. manajemen termasuk penjadwalan |
| 24. materials tracking | 24. pelacakan bahan |
| 25. logistics management | 25. manajemen logistik |
| 26. to troubleshoot site problems | 26. untuk memecahkan masalah situs |
| 27. municipal sewers | 27. selokan kota |
| 28. work system | 28. sistem kerja |
| 29. its hallmark. | 29. ciri khasnya. |
| 30. elegant solutions | 30. solusi elegan |
| 31. material availability | 31. ketersediaan bahan |
| 32. all potential problems. | 32. semua potensi masalah. |
| 33. inspections | 33. inspeksi |
| 34. cost estimates | 34. perkiraan biaya |
| 35. project monitoring. | 35. pemantauan proyek. |

Activity III

Temukan 15 kosakata pada kotak di bawah ini yang berhubungan dengan teks bacaan (Investigating Civil Engineering) kemudian terjemahkan dalam bahasa Indonesia!

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | A | T | E | R | E | Q | U | I | R | E | D | D | S | B | L |
| W | I | L | L | S | Y | S | T | E | M | A | N | D | U | E | I |
| A | V | A | I | L | A | B | I | L | I | T | Y | S | P | N | G |
| O | N | I | N | T | R | A | C | T | I | S | M | E | E | E | H |
| W | O | R | K | S | P | E | A | K | E | R | E | L | R | F | T |
| D | I | S | P | A | R | A | T | E | I | F | T | E | V | I | I |
| E | N | G | I | N | E | E | R | I | F | G | H | G | I | T | N |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | O | G | O | G | O | G | O | G | O | G | O | A | S | M | G |
| S | P | E | C | I | A | L | I | Z | E | D | D | N | O | A | L |
| O | O | O | O | O | O | I | I | I | I | I | S | T | R | N | E |
| O | N | G | O | N | E | O | V | E | R | S | E | E | S | Y | T |

Activity IV

Tulislah T (True) jika kata yang digaris bawah pada kalimat di bawah ini benar dan perbaikilah pada kotak yang tersedia di sebelah kanan jika kata tersebut salah!

| | | |
|-----|--|--------------------------|
| 1. | Civil engineers must <u>understand</u> physics, mathematics, and use specialized design software. | <input type="checkbox"/> |
| 2. | Civil engineers <u>needs</u> a CAD suite and building design software. | <input type="checkbox"/> |
| 3. | Knowledge of scheduling software <u>is</u> also required | <input type="checkbox"/> |
| 4. | .The civil engineer will <u>interacted</u> with the client to gather requirements and communicate them to the construction team. | <input type="checkbox"/> |
| 5. | Project management <u>includes</u> scheduling, materials tracking, and logistics management. | <input type="checkbox"/> |
| 6. | Engineers <u>must also able</u> to troubleshoot site problems and follow building codes. | <input type="checkbox"/> |
| 7. | Civil engineers <u>design</u> large systems such as municipal sewers and other infrastructure projects. | <input type="checkbox"/> |
| 8. | Civil engineers must <u>ensure</u> the reliability and cost-effectiveness of critical construction projects. | <input type="checkbox"/> |
| 9. | The demanding nature of a civil engineering career <u>makes</u> an additional educational background important. | <input type="checkbox"/> |
| 10. | These courses <u>teach</u> engineers about traffic regulations, monitoring of traffic flow, design and operation of traffic control systems, and specialized engineering methods such as drawing and lighting. | <input type="checkbox"/> |

UNIT XIV

I. Reading Comprehension

TOWER CRANE

Fixed cranes which are used for hoisting purposes in construction of tall structures. Heavy materials like pre-stressed concrete blocks, steel trusses, frames etc. can be easily lifted to required height using this type of equipment. They consist mast which is the vertical supporting tower, jib which is operating arm of crane, counter jib which is the other arm carries counter weight on rear side of crane and an operator cabin from which the crane can be operated.



TELEHANDLERS



Telehandlers are hoisting equipment used in construction to lift heavy materials up to required height or to provide construction platform for workers at greater heights etc. It contains a long telescopic boom which can be raised or lowered or forwarded. Different types of arrangements like forklifts, buckets, cabin, lifting jibs etc. can be attached to the end of telescopic boom based on the requirement of job.



Fig : Feller Buncher



FELLER BUNCHERS AND DUMP TRUCKS

Feller buncher is tree cutting heavy equipment used to remove large trees in the construction field. They cut the tree and grab it without felling, likewise gathers all the cut down trees at one place which makes job easier for loaders and dump trucks.

Dump trucks are used in construction sites to carry the material in larger quantities from one site to another site or to the dump yard. Generally, in big construction site, off-road dump trucks are used. These off-road dump trucks contains large wheels with huge space for materials which enables them to carry huge quantity of material in any type of ground conditions.

<https://civiljungle.com/civil-engineering-tools-and-equipment/>

Activity I

Identifikasi kata dan frase di bawah ini kemudian hafalkan!

| | |
|------------------------------|-------------------------------|
| 1. Tower cranes | ➤ Menara crane |
| 2. Purposes in construction | ➤ Tujuan mengangkat |
| 3. Tall structures | ➤ Struktur tinggi |
| 4. Heavy materials | ➤ Bahan-bahan berat |
| 5. Steel trusses | ➤ Rangka baja |
| 6. Can be easily lifted | ➤ Dapat dengan mudah diangkat |
| 7. Type of equipment | ➤ Jenis peralatan |
| 8. Consists | ➤ Terdiri |
| 9. Vertical supporting tower | ➤ Menara pendukung vertikal |

| | |
|--------------------------------|--------------------------------|
| 10. Operating arm of crane | ➤ Lengan operasi crane |
| 11. Carries counter weight | ➤ Membawa beban counter |
| 12. On rear side of crane | ➤ Sisi belakang crane |
| 13. Operator cabin | ➤ Kabin operator |
| 14. Operated. | ➤ Dioperasikan. |
| 15. Hoisting equipment | ➤ Peralatan pengangkat |
| 16. Used in construction | ➤ Digunakan dalam konstruksi |
| 17. To lift | ➤ Untuk mengangkat |
| 18. Heavy materials | ➤ Material berat |
| 19. To required height | ➤ Ketinggian yang dibutuhkan |
| 20. To provide | ➤ Untuk menyediakan |
| 21. Construction platform | ➤ Platform konstruksi |
| 22. For workers | ➤ Untuk pekerja |
| 23. At greater heights | ➤ Ketinggian yang lebih tinggi |
| 24. Contains | ➤ Berisi |
| 25. A long telescopic boom | ➤ Booming teleskopik panjang |
| 26. Raised or lowered | ➤ Dinaikkan atau diturunkan |
| 27. Forwarded | ➤ Diteruskan. |
| 28. Different types | ➤ Berbagai jenis |
| 29. Arrangements | ➤ Pengaturan |
| 30. Like forklifts, | ➤ Seperti forklift, |
| 31. Buckets, cabin, | ➤ Bucket, kabin, |
| 32. Lifting jibs | ➤ Jib yang mengangkat |
| 33. Attached | ➤ Dipasang |
| 34. To the end telescopic boom | ➤ Pada ujung boom teleskopik |
| 35. Based on | ➤ Berdasarkan |
| 36. The requirement of job. | ➤ Kebutuhan pekerjaan. |

Activity II

Jawablah pertanyaan berikut berdasarkan teks bacaan!

1. What is commonly used to lift high construction structures?
2. What materials are usually raised by tower cranes?
3. Why Can pre-compressed concrete beams, steel frames, frames, etc. be easily lifted to the required height using cranes?
4. Could you please explain aspects of Tower cranes
5. What is function of counter jib?
6. How to use a telescopic boom
7. There are various types of telescopic boom settings, can you mention them
8. where forklifts, buckets, taxis, jib lifts can be installed
9. What is commonly used to lift heavy material at a certain height?
10. What are telehandlers ?
11. What is the name of civil engineering equipment that usually used to remove large trees in the construction field?
12. What is a feller bunchier?
13. How can feller bunchier make job easier for loaders and dump trucks?
14. Where is the dump trucks always used in?
15. What is the differences between feller bunchers and dump trucks
16. Why must the dump trucks contain large wheels?
17. Why do the dump trucks also need huge space?

Activity III

Tuliskan T (True) jika kata yang digaris bawahi pada kalimat di bawah ini benar dan perbaikilah kata tersebut pada kotak yang tersedia di sebelah kanan jika kata tersebut salah!

| No. | Statements | |
|-----|---|--|
| 1. | My grandmother is eighty-five, but she <u>can</u> still read and write without glasses. (Ability) | |

| | | |
|-----|--|--|
| 2. | <u>Could</u> you help me with the housework, please? (Polite request) | |
| 3. | There was a time when I <u>could</u> stay up very late. (Past ability) | |
| 4. | We <u>must</u> make the first move. (Prohibition) | |
| 5. | It is snowing outside so I <u>will</u> stay at home. (Intention) | |
| 6. | I <u>will</u> get you a shawl from Kashmir. (Promise) | |
| 7. | <u>Would</u> you mind if I borrowed your car? (Permission) | |
| 8. | <u>Will</u> you take care of my dog for a day? (Polite request) | |
| 9. | Our country <u>may</u> become a super power by 2025. (possibility) | |
| 10. | She <u>might</u> sell her home because she needs money. (weak possibility) | |

2. Identify the Correct Irregular Verbs

Direction: Identify the correct form of the irregular verb in parentheses!

1. Agnes recently changed several of the beliefs she has long (hold).
2. Mark was (hurt) when he read what his boss had said.
3. All the data I (input) yesterday has vanished!
4. When I watched the jeweler (inset) the diamond in the ring, I knew I wanted to buy the ring.
5. Helen and Arturo (keep) their secret as long as they could.
6. As they (kneel) at the altar, the couple joined hands.
7. I had to throw away the first scarf I (knit).
8. If I'd (know) then what I know now, I would have done a few things differently.
9. When I come in, I have always (lay) my keys in this dish.
10. Ms. Lee has always (lead) by example.

Adopted from Susan Thurman (2012)

Irregular Verbs

Direction: Identify the correct form of the irregular verb in parentheses!

1. Smith's bodyguard (leap) from his seat when he saw the stranger approach.
2. Ed admitted he wished he had (learn) more from his mistakes.
3. If we had (leave) when I planned to, we wouldn't be so late.
4. After the tragedy, the Red Cross immediately (lend) its aid.
5. Sick to my stomach, I (lie) in bed for three hours last week.
6. The tiny torch (light) the way for those escaping through the forest.
7. I've (lose) my cell phone again.
8. Arturo Labs has (make) millions on its latest drug.
9. Switching to my present job (mean) I would have a better health plan.
10. Have you (meet) the new librarian?

Adopted from Susan Thurman (2012)

UNIT XV

I. Reading Comprehension

EIFFEL TOWER



In 1889, Paris held the Exposition Universelle (World Fair) to mark the 100th anniversary of the French Revolution. More than 100 artists submitted competing plans for a monument to be built on Champ-de-Mars, which is located in the center of Paris, and serves as an exhibition entrance. The commission was awarded to Eiffel et Compagnie, a consulting and construction company owned by renowned bridge builder, architect and metal expert Alexandre-Gustave Eiffel. Although

Eiffel himself often receives full awards for the monument that bears his name, it is one of his employees - a structural engineer named Maurice Koechlin - who created and perfected the concept. Support assembly began on July 1, 1887 and was completed twenty-two months later. All elements are prepared at the Eiffel factory located in Levallois-Perret on the outskirts of Paris. Each of the 18,000 parts used to build the Tower was specially designed and calculated, traced to an accuracy of one-tenth of a millimeter and then put together to form new pieces about five meters each. A team of constructors, who have been working on a large metal bridge project, are in charge of 150 to 300 workers on site that assemble this giant erector set. All of the tower metal pieces are held together by rivets, a construction method that was refined at the time the Tower was built. First, the pieces are assembled at the factory using bolts, then replaced one by one with thermally assembled rivets, which contract during cooling ensuring a very tight fit. A team of four is needed for each rivet installed: one to heat it, another to hold it in place, a third to form the head and a fourth to beat it with a sledgehammer. Only a third of the 2,500,000 rivets used in the construction of the Tower were put directly on site.

The tower rests on a concrete foundation set several meters below ground level on a layer of compacted gravel. Each corner edge rests on its own support beam, exerts a pressure of 3 to 4 kilograms per square centimeter, and each block is connected to the wall. In the Seine side construction, the builders used watertight metal caissons and injected compressed air, so they could work below the surface of the water. The tower was assembled using wooden scaffolding and a small steam crane was attached to the tower

itself. First tier assembly is accomplished using twelve temporary wooden scaffolds, 30 meters high, and four large scaffolds 40 meters each. The “sandbox” and hydraulic jack - replaced after use with a permanent wedge - allow the metal support beams to be positioned with an accuracy of one millimeter. It took only five months to build the foundation and twenty-one to complete assembling the Tower metal pieces.

On March 31, 1889, Eiffel celebrated the completion of a major structural work by leading a group of the press and officials on a tour of the tower - via stairs. After reaching the top with his most powerful party, Eiffel flew the French flag with a burst of 25 guns. There is still work to be done, particularly on elevators and facilities, and the tower is not open to the public until nine days after the exposition opening on 6 May; even then, the lift wasn't finished. The tower was an instant success with the public, and nearly 30,000 visitors made an ascent of 1,710 steps to the summit before the lift began operating on May 26.

Activity I

Identifikasi kata dan frase di bawah ini kemudian hafalkan!

| | |
|---|--|
| 1. Eiffel Tower | 1. menara Eiffel |
| 2. Universelle Exhibition | 2. Pameran Universelle |
| 3. To mark its 100th birthday | 3. Untuk menandai ulang tahunnya yang ke-100 |
| 4. Submit competing plans | 4. Menyerahkan rencana yang bersaing |
| 5. A monument | 5. Sebuah monumen |
| 6. To be built | 6. Untuk dibangun |
| 7. Located in the center | 7. Terletak di tengah |
| 8. Exhibition entrance | 8. Pintu masuk pameran |
| 9. Commission | 9. Komisi |
| 10. Presented to | 10. Dipersembahkan kepada |
| 11. A consulting and construction company | 11. Sebuah perusahaan konsultan dan konstruksi |
| 12. Owned by a famous bridge builder | 12. Dimiliki oleh seorang pembangun jembatan yang terkenal |
| 13. Architects and metalworkers | |

| | |
|---------------------------------------|--|
| 14. Although | 13. Arsitek dan pengrajin logam |
| 15. Receive the full award | 14. Meskipun |
| 16. The monument that bears his name | 15. Menerima penghargaan penuh |
| 17. Who creates and perfects concept | 16. Monumen yang menyanggah namanya |
| 18. Support assembly | 17. Yang menciptakan dan menyempurnakan konsep |
| 19. All elements prepared on | 18. Perakitan pendukung |
| 20. Specially designed and calculated | 19. Semua elemen dipersiapkan |
| 21. Traced to | 20. Dirancang dan dihitung secara khusus |
| 22. Accuracy | 21. Ditelusuri ke |
| 23. Collect | 22. Ketepatan |
| 24. To form new pieces | 23. Mengumpulkan |
| 25. A team of constructors | 24. Untuk membentuk potongan baru |
| 26. Big metal bridge project | 25. Sebuah tim konstruktor |
| 27. Cost | 26. proyek jembatan logam besar |
| 28. Get together | 27. Biaya |
| 29. Giant erector | 28. Bersama-sama |
| 30. Metal pieces of the tower | 29. Erektor raksasa |
| 31. Held together | 30. Potongan logam menara |
| 32. Construction method | 31. Diadakan bersama |
| . | 32. Metode konstruksi |
| . | . |

Activity II

Jawablah pertanyaan berikut berdasarkan teks bacaan!

1. What is the purpose of holding the exposition universelle?
2. How many artists have submitted plans to compete in the world exhibition?
3. Where is the monument located?
4. Who gets the commission

5. what is the Eiffel et Compagnie?
6. What was the name of the famous metal master?
7. Also who is Alexandre Gustave Eiffel?
8. Where are the elements of the monument prepared?
9. How many rivets were used in the construction of the tower?
10. How many workers assemble the erector set from the project? this giant?
11. How many people are required for each rivet that is applied?
12. How many rivets were used in the construction of towers installed directly on site?
13. When was the Eiffel Tower completed?
14. What is the form of the celebration as a sign of the completion of the big structural work?
15. Why was the French flag raised and 25 guns fired

Activity III

Tulislah T (True) jika kata yang digaris bawahi pada kalimat di bawah ini benar dan perbaikilah pada kotak yang tersedia di sebelah kanan jika kata tersebut salah!

UNIT XVI

| No. | Statements | |
|---------------------------------|--|--|
| I. Reading Comprehension | | |
| 2. | What <u>should be</u> used to determine the relative height of the object or sign? | |
| 3. | What <u>has</u> been widely used in surveying and construction? | |
| 4. | They <u>will</u> met us. | |
| 5. | This car <u>has</u> been purchased by our leader. | |
| 6. | He <u>has</u> saved a lot of money in the BCA bank. | |
| 7. | The regulation <u>have</u> been amended. | |
| 8. | This car <u>have</u> been purchased by our leader. | |
| 9. | the community <u>has</u> worked together to build a bamboo bridge. | |
| 10. | A meeting hall <u>has</u> been built by the community. | |
| 11. | The tools <u>have</u> been already in the field. | |
| 12. | He <u>had</u> been working for 1 hour. | |
| 13. | They <u>has</u> become permanent employees. | |
| 14. | We had been in this place since yesterday. | |
| 15. | He had been very hungry since two hours ago . | |

BAKUT ISLAND



Bakut Island is also one of the conservation areas in South Kalimantan which is a proboscis monkey habitat with a mangrove forest ecosystem type. Bakut Island is located on the Barito River, precisely under the Barito Bridge, which connects South Kalimantan with Central Kalimantan.

Bakut Island has been designated as a nature conservation area with the function of a natural tourism park by the Minister of Forestry based on the Decree of the Minister of Forestry Number 140 / Kpts-II / 2003 dated 21 April 2003.

The types of flora that exist in The Nature Tourism Park (TWA) of Bakut Island is a type of mangrove forest ecosystem. The types of flora that grow in TWA Bakut Island are Jeruju (*Acanthus ilicifolius*), Piai (*Acrostichum aureum*), Api-api (*Acicennia officinalis*), Putat (*Barringtonia asiatica*), Kelampa (*Cerbera manghas*), Bakung (*Crimum asiaticum*), Jingah (*Gluta renghas*), Nipah (*Nypa frusticans*), Pandan (*Pandanus tectorius*), Rambai (*Sonneratia caseolaris*), and Mirih (*Xylocarpus granatum*). The types of fauna that exist are the types commonly found in mangrove forest ecosystems. Among others, Red-tailed honeybird (*Aethopyga temminckii*), Burung Kelapa Madu (*Anthreptes malacensis* *), Wallet sapi (*Collocalia esculenta*), Celadi belacan (*Dendrocopus canicapillus*), Cekakak river (*Halcyon chloris* *), Elang Bondol (*Haliastur indus* *), Kalimantan Bondol (*Lonchura fuscans*), Cinenen Merah (*Orthotomus sericeus*), Pekaka Emas (*Pelargopsis capensis* *), Tupai Kelapa (*Callosciurus natatus*), Bekantan (*Nasalis larvatus* *), Ular Air (*Cerberus rynchops*), Lizard (*Mabouya multifasciata*),

The Nature Tourism Park (TWA) of Bakut Island is a residence for the proboscis monkey (*Nasalis larvatus*), a Kalimantan endemic animal which is the mascot or identity of the province of South Kalimantan. Proboscis monkeys are protected species and are one of the 14 priority species stipulated by the Minister Forestry Regulation Number P.57 of 2008 concerning Strategic Directions for National Species Conservation 2008-2018.

Bakut Island Nature Tourism Park (TWA) has a flat topography and is an island-shaped forest area in the middle of the Barito River and is greatly influenced by the tides of the river. During high tide, almost the entire Bakut Island is inundated by water except for the area under the Barito Bridge where the ground is relatively higher because of the former embankment during the bridge construction. The geological condition of TWA Bakut Island is composed of sedimentary rocks, alluvium types of steps and coral reefs in the form of sand and gravel. The soil type is alluvial with a gray clay texture with a thick humus content.

Activity I

Jawablah pertanyaan berikut berdasarkan teks bacaan!

1. Where is the location of Bakut Island?
2. What is connected by the Barito Bridge?
3. When did Bakut Island designated as a nature conversation area?
4. What is the function of Bakut Island?
5. Can you mention 2 types of Flora that exist in the Bakut Island Tourism Park?
6. Can you mention 2 types of Fauna that exist in the Bakut Island Tourism Park?
7. What is the Bakut Island Tourism Park residence for?
8. What is the latin name of Bekantan?
9. How many species of animal priority that stipulate by the Minister of Forestry regulation?
10. What is the geological condition of Bakut Island Tourism Park composed of?

https://en.wikipedia.org/wiki/Category:Islamic_architecture

Activity II

Identification

▪ Irregular Verbs

Direction: Identify the correct form of the irregular verb in parentheses!

1. My cousin is often (mistake) for a famous movie star.

2. In my opinion, the grass has been (mow) too low.
3. Unfortunately, the Johnsons were (outbid) on the house they wanted.
4. Sherry's daughter has (outgrow) her baby clothes.
5. Donna Strempp has (outrun) her competitors.
6. Clarence Bugg has (outsell) everyone else in his realty office.
7. Yesterday, we (partake) in lunch with members of the soup kitchen.
8. Fortunately, the bill has been (pay) in full.
9. The defendant (plead) not guilty.
10. Giving up chocolate has (prove) to be more difficult than I had imagined.

Adopted from Susan Thurman (2012)

▪ **Subjunctive Mood**

Direction: Using the subjunctive mood, determine the correct verb form.

1. I wish it (a) was (b) were Thanksgiving.
2. It's not necessary that you (a) be (b) are here for the meeting.
3. If we (a) was (b) were in Orlando, I'd head straight for Disney World.
4. If I (a) were (b) was a carpenter, would you marry me anyway?
5. Carole's daughter, now stationed overseas, wishes she (a) was (b) were home for the family reunion.
6. If I (a) were (b) was you, I'd think twice about buying that brand of car.
7. It's imperative that Deshawn (a) is (b) be at the next class.
8. Abe Lincoln said, "If I (a) were (b) was two-faced, would I be wearing this one?"
9. I request that Tom (a) is (b) be in my presence at all times.
10. In Shakespeare's Twelfth Night, Orsino said, "If music (a) be (b) is the food of life, play on."

Adopted from Susan Thurman (2012)

UNIT XVII

I. Reading Comprehension

MONAS TOWER

After the Indonesian government returned to Jakarta from Yogyakarta in 1950



following the Dutch recognition of Indonesian independence, President Sukarno began to contemplate the construction of a national monument comparable to the Eiffel Tower on the square in front of the Presidential Palace. On 17 August 1954, a National Monument Committee was established and a design competition was held in 1955. This attracted 51 entries, but only one design, by Frederick Silaban, met any of the criteria determined by the

committee, which included reflecting the character of Indonesia in a building capable of lasting for centuries. A repeat competition was held in 1960, but once again, none of the 136 entries met the criteria. The chairman of the jury team then asked Silaban to show his design to Sukarno. However, Sukarno did not like the design as he wanted the monument to be in the form of a *linga* and *yoni*. Silaban was asked to design such a monument, but his design was for a monument so large that it would have been unaffordable given the economic conditions at the time. Silaban refused to design a smaller monument, suggesting that construction be delayed until the Indonesian economy improved. Sukarno then asked the architect R.M. Soedarsono to continue with the design. Soedarsono incorporated the numbers 17, 8 and 45, representing the 17 August 1945 Proclamation of Indonesian Independence, in the dimensions of the monument. The construction of Monas proceeded in three stages. The first period, from 1961/1962–1964/1965 began with the official start of construction on 17 August 1961 with Sukarno ceremonially driving in the first concrete pile. A total of 284 piles were used for the foundation block. A further 360 piles were driven in for the museum foundations, with work being completed in March 1962. The walls of the museum in the base were completed by October. Construction of the obelisk then commenced and was finished in August 1963. Work in the second stage, from 1966 to 1968, was delayed by shortages of funding and the aftermath of the 30 September Movement coup attempt. In the final phase, from 1969–1976, the dioramas for the historical museum were added. Problems remained once construction was complete, and work was needed to solve

problems with water leaking into the museum. Monas was officially opened to the public on 12 July 1975. The location of Monas is known as Merdeka Square.

The towering monument encapsulates the philosophy of Lingga and Yoni. Lingga resembles an alu rice pestle and Yoni resembles a lesung rice mortar, two important traditional Indonesian tools. Lingga and Yoni also symbolize harmony, balance, fertility and eternal life with the lingga phallic symbol, representing masculinity, positive elements, and daytime and the Yoni the female organs symbol, representing femininity, negative elements, and night. It also resembles the bloom of the famous *Amorphophallus titanum*, native to Indonesia. Indeed, fiberglass *Amorphophallus* and *Rafflesia* sculptures were once installed around the monument.

The monument consists of a 117.7m obelisk on a 45m square platform at a height of 17m, the goblet yard. The obelisk itself is clad with Italian marble. The northern pond measuring 25×25 m was designed to cool water for the air conditioning system of Monas as well as to enhance the beauty of the surrounding area. To the north, there is a statue of Indonesia national hero Prince Diponegoro by Italian sculptor Cobertaldo. In the outer yard surrounding. The story begins in the northeastern corner and describes events during eras such as the Singhasari and Majapahit empires. The reliefs extend along the four walls showing the European colonialization of the Indonesian archipelago, various popular local uprisings, modern Indonesian organizations in the early 20th century, the Japanese occupation in World War II, the Proclamation of Independence, and post-independence developments. The reliefs were made from molded cement although several of the statues are damaged and have decayed due to weathering. The Indonesian National History Museum has a display of dioramas in the large marble-lined hall below Monas. There are a total of 51 dioramas around the walls and in the centre of the hall. The dioramas begin in the northeastern corner, displaying the scenes from Indonesian history from the beginning during the earliest days of Prehistoric Indonesia, the construction of Borobudur, the Sriwijaya and Majapahit eras, followed with events from the period of European colonization and uprisings against Dutch East Indies Company and Dutch East Indies rule. The dioramas continue well into the 20th century showing the Japanese occupation, the proclamation of Indonesian independence in 1945, the struggle for

independence of Indonesian revolution, and on to events during the New Order era of Suharto's regime. The Hall of Independence (Indonesian: Ruang Kemerdekaan) is situated inside the goblet or "cup" part of Monas (Indonesian: Cawan). The hall, which contains various symbols of independence, can be reached through spiral stairs at the north and south doors. The original text of the Proclamation of Independence is stored in a glass case inside the bronze golden door. On the west side of the inner wall. Mechanized bronze doors weigh 4 tons and are coated with goldleaf adorned with the image of a Wijaya Kusuma flower, symbolizing eternity, and a lotus flower, symbolizing purity. The doors, known as Gerbang Kemerdekaan or the Gate of Independence, open slowly while the nationalist Padamu Negeri song plays followed by a recording of Sukarno reading the text of the Proclamation. On the southern wall there is a large bronze gold-coated statue of the coat of arms of Indonesia weighing 3.5 tons. On the eastern side is the text of the proclamation in bronze lettering. Originally the eastern side displayed the most sacred Indonesian flag, *Sang Saka Merah Putih*, originally raised on 17 August 1945. However, because it is fragile and in poor condition it is no longer displayed. The wall on the northern side displays a map of the Indonesian archipelago coated in gold. There is a middle platform on top of the *cawan* (goblet) which provides visitors with views from a height of 17 metres. This middle platform is accessible through the elevator on the way down from the main observation deck (the lift stops on the way down at the *cawan* to allow visitors to exit) or through stairs from below.

Activity 1

Identifikasi kata dan frase di bawah ini kemudian hafalkan!

| | |
|------------|--------------|
| 1. Back to | ➤ Kembali ke |
|------------|--------------|

| | |
|------------------------------------|-----------------------------------|
| 2. Recognition | ➤ Pengakuan |
| 3. Indonesian independence | ➤ Indonesia merdeka |
| 4. Began to contemplate | ➤ Mulai merenung |
| 5. Construction | ➤ Konstruksi |
| 6. A national monument | ➤ Sebuah monumen nasional |
| 7. Comparable | ➤ Sebanding |
| 8. The box | ➤ Kotak |
| 9. In front of | ➤ Di depan |
| 10. A National Monument | ➤ Sebuah monumen nasional |
| 11. Committee | ➤ Komite |
| 12. Set | ➤ Set |
| 13. Design competition | ➤ Kompetisi desain |
| 14. On hold | ➤ Tertahan |
| 15. Interested | ➤ Tertarik |
| 16. Entry | ➤ Masuk |
| 17. Criteria specified | ➤ Kriteria ditentukan |
| 18. Including reflection | ➤ Termasuk refleksi |
| 19. Repeated competition | ➤ Persaingan berulang |
| 20. Rendered unreachable | ➤ Tidak dapat dijangkau |
| 21. Economic conditions | ➤ Kondisi perekonomian |
| 22. Refused to design | ➤ Menolak untuk mendesain |
| 23. A smaller monument | ➤ Sebuah monumen yang lebih kecil |
| 24. Suggested | ➤ Disarankan |
| 25. That construction | ➤ Konstruksi itu |
| 26. Postponed until | ➤ Ditunda sampai |
| 27. Improved | ➤ Ditingkatkan |
| 28. Incorporated | ➤ Tergabung |
| 29. Represent | ➤ Mewakili |
| 30. Proclamation | ➤ Proklamasi |
| 31. Independence | ➤ Kemerdekaan |
| 32. The dimensions of the monument | ➤ Dimensi monument |
| 33. Construction | ➤ Konstruksi |

| | |
|------------------------|-----------------------|
| 34. Delayed by | ➤ Tertunda oleh |
| 35. Deficiency | ➤ Kekurangan |
| 36. Funding | ➤ Pendanaan |
| 37. The result | ➤ Hasil |
| 38. Still there | ➤ Masih di sana |
| 39. Officially opened | ➤ Dibuka secara resmi |
| 40. Box | ➤ Kotak |
| 41. Summarize | ➤ Meringkaskan |
| 42. Philosophy | ➤ Filsafat |
| 43. Resembles | ➤ Menyerupai |
| 44. Rice pestle | ➤ Alu padi |
| 45. Resembles | ➤ Menyerupai |
| 46. Mortar rice mortar | ➤ Mortir beras mortir |

Activity II

Jawablah pertanyaan di bawah ini berdasarkan teks bacaan!

1. What does this colossal structure represent?
2. When a national monuments committee was formed
3. Could you explain the Lingga and Yoni symbols?
4. How many people entered the national monument design competition?
5. How many qualified design works are there?
6. What Lingga and Yoni have in common
7. Represents what Lingga and Yoni are. What does the monument consist of?
8. What is the purpose of the northern pool design measuring 25X25m?
9. Who is the subject of the statue of Indonesia's national hero created by Coberttaldo, an Italian sculptor?
10. How many dioramas were discovered around the walls and in the center of the Monas hall?
11. How many piles are used for the foundation beam? How to reach the hall which contains the symbols of independence?
12. Where is the original text of the Declaration of Independence kept?

13. How much did the mechanical bronze door, covered in gold leaf and emblazoned with the Wijaya Kusuma flower, which symbolizes immortality, weigh?

Activity III

Identification

Infinitives

Direction: Identify the infinitive in each sentence. Problems with infinitives!

1. Larry refused to take any money for helping his friend Will move across town.
2. "If you want to get ahead, keep your nose to the grindstone," the life coach said.
3. To learn grammar was never a priority when I was in school.
4. During the ice storm, athletes missed not being able to run outdoors.
5. "I want you kids to stop arguing!" Dad screamed.
6. We have enough evidence to proceed with the case.
7. To write a good essay, most people revise their work several times.
8. Is it okay to drink a bottle of water in the concert hall?
9. To get to the park, take a left and walk three blocks.
10. I was surprised when my ninety-year-old cousin said she wanted to write to me via e-mail.

II. Understanding Grammar of English

THE KEY TO CREATE QUESTIONS IN ENGLISH

What Am.....
What book

Am....

Are...

Is....

Was...

Were ...

1. Adjective
2. Noun
3. Adverb of Place and Time
4. Verb 1 + Ing
5. Verb III

Whose
Which was ..sedang



Which book

{ Do
Does
Did }



Verb I

Who
Whom (Who)
Where
When
Why

{ Have
Has
Had }



Verb III

How (keadaan/cara)
How old

How many times
How many books
How much
How much wine

{ Will
Shall
Can
May
Must
Should ...
Might
Could
Would ... }



Verb I

Semua kunci pertanyaan di atas tidak bisa digunakan dalam kalimat tanya tanpa diikuti langsung oleh salah satu dari keempat kelompok kata bantu berikut ini, yaitu: **To Be, To Do, To Have, Modal Auxiliary**

What

What book

Whose

Whose book

Which

Which book

Who

Whom

Where

When

How many times

Contoh Kalimat:

- Salah : Why you always cry?
Betul : Why do you always cry? (Mengapa kamu selalu menangis?)
Salah : Where you were you born
Betul : Where were you born (Dimana anda lahir ?)
Salah : What she has done ?
Betul : What has she done? (=Apa yang sudah dia lakukan?)
Salah : Whose son they will invite?
Betul : Whose son will they invite? (Putranya siapa yang mereka akan undang?)
Salah : Who you did call yesterday?
Betul : Who did you call yesterday ? (Siapa yang kamu panggil kemarin?)

Pengecualian

Kata-kata **who, what..., which..., whose...**, manakala digunakan untuk menanyakan subyek maka kata-kata tersebut langsung diikuti oleh kata kerja.

Contoh Kalimat:

- Salah : Who did call you yerterday?
Betul : Who called you yesterday? (Siapa menelpon kamu kemarin?).
Salah : Whose daughter do love you?
Betul : Whose daugther loves you? (Putrinya siapa yang mencintai kamu?).
Salah : Which man do like you very much?
Betul : Which man likes you very much? (Lelaki mana yang sangat menyukai kamu?)

- Salah : What does make you disappointed?
Betul : What makes you disappointed? (Apa yang membuatmu kecewa?).

QUESTION TAG

“Question Tag” adalah pertanyaan singkat yang ditambahkan pada akhir kalimat/ Pernyataan yang dalam bahasa Indonesia terkadang diterjemahkan bukan?, maukan? too?. Ciri-cirinya adalah:

1. Bila pernyataan positif (+), maka **question tag-nya** harus negatif (-)
2. Bila pernyataan negatif (-), maka **question tag-nya** harus positif (+)
3. Subyek dalam **question tag** harus pronoun
4. Jika statement menggunakan kata kerja bantu maka ia harus diulang dalam **tag-nya**.
5. Jika statement tidak menggunakan auxiliary maka pakailah **do, does, did** dalam **tag-nya**

Berikut uraiannya:

1. Pernyataan Positif, Tag-nya Negatif

Contoh Kalimat:

- a. You are a student, **aren't** you? (Kamu seorang siswa bukan?)
- b. You were in Banjarmasin last week, **weren't** you? (Kamu tidak berada di Banjarmasin minggu lalu bukan?)
- c. She is studying English now, **isn't** she? (Dia sedang belajar bahasa Inggris sekarang, bukan?)
- d. They are being taught English by Mr. Hengki, **aren't** they? (Mereka sedang diajar bahasa Inggris oleh Pak Hengki bukan?)
- e. She likes drinking tea, **doesn't** she? (Dia suka minum teh, bukan?)
- f. They have met you, **haven't** you? (Mereka telah menemui kamu, bukan?)
- g. Melodi will leave, **won't** she? (Melodi akan berangkat, bukan?)

2. Pernyataan Negatif, Tag-nya Positif

Contoh Kalimat:

- a. You **are not** a nurse, **are you?** (Kamu bukan perawat, bukan?)
- b. You **don't** like tea, **do you?**

- c. They **haven't** left, **have they?**
- d. You **were not** busy, **were you?**
- e. He **was not** at home, **was he?**
- f. Ali **seldom** goes to school, **does he?**
- g. She is **never** late, **is she?**
- h. There is **nothing** to do now, **is there?**

3. Tag Harus Menggunakan Kata Ganti (Pronoun)

Contoh Kalimat:

- a. Mr. **Jhohari** is in, **isn't he?**
- b. The **ladies** are friendly, **aren't they?**
- c. That is your **cat**, **isn't it?**
- d. **This** is her, **isn't it?**
- e. That is your **cat**, **isn't it?**

Pengecualian:

- Kata “**there**” yang ada pada pernyataan tetap menggunakan kata yang sama (there) pada **Tag-nya**.

Contoh Kalimat:

- a. There were a lot of people at the party, **weren't there?**
- b. There is a book on your table, **isn't there?**

- Kata-kata “**these, those** dan kata **benda jamak**”, seperti books, pens harus menggunakan “**They**” pada **Tag-nya**.

Contoh Kalimat:

- a. Those are your pens, **aren't they?**
- b. These are mine, **aren't they?**

- Kata-kata “everybody, everyone, somebody, none, someone, neither” harus menggunakan “**They**” pada **tag-nya**.

Contoh Kalimat:

- a. Everybody is ready, **aren't they?**
- b. Nobody is absent, **are they?**
- c. None of them cried, **did they?**
- d. Neither she nor you went, **did they?** (Baik dia maupun kamu tidak pergi, bukan?).

4. Auxiliary yang ada pada Pernyataan Diulang pada Tag-nya

Contoh Kalimat:

- a. They **are** sick, **aren't they?**
- b. He **won't** go, **will he?**

Kecuali To Be “**am**” pada pernyataan positif diganti dengan “**are**” pada **Tag-nya**.

Contoh Kalimat:

- a. I am late, aren't I ?
- b. I am not late, am I ?

5. Statement tanpa Auxiliary Menggunakan “Do, Does, dan Did “ pada Tag-nya

Contoh Kalimat:

- a. You write a letter every month, **don't you?**
- b. She speaks English everyday, **doesn't she?**
- c. They went to Pangasinan last week, **didn't they?**

6. Perintah/Ajakan Menggunakan “Will/Shall” pada Tag-nya

Contoh Kalimat:

- a. Come here tomorrow, **will you?**
- b. Be carefull, **will you?**
- c. Let's read loudly, **shall we?**
- d. Let's study, **shall we?.**

UNIT XVIII

II. Reading Comprhension

TOWER OF KHALIFA



Burj Khalifa (Arabic: خليفة برج, Arabic pronunciation: [bʊrdʒ xa'li:fa]; pronounced in English: / 'bɜːrdʒ kə'li:fə /, meaning "Tower of Khalifa" in English), known to Burj Dubai before it was inaugurated in 2010, is a skyscraper in Dubai, United Arab Emirates. With a total height of 829.8 m (2,722 ft, over half a mile) and a roof height (excluding antennae, but including spire of 244 m [2]) 828 m (2,717 ft), the Burj Khalifa is the tallest structure and building in the world. world since its peak in 2009 (preceded by Taipei 101).

Construction on the Burj Khalifa began in 2004, with the exterior being completed five years later in 2009. Its main structure is reinforced concrete. The building was opened in 2010 as part of a new development called Downtown Dubai. It is designed to be at the heart of large-scale development and mixed use. The decision to build the building was based on the government's decision to diversify from an oil-based economy, and for Dubai to gain international recognition. The building was originally named Burj Dubai but was renamed in honor of the ruler of Abu Dhabi and president of the United Arab Emirates, Khalifa bin Zayed Al Nahyan; Abu Dhabi and the UAE government loaned money to Dubai to pay its debts. The building broke many height records, including its designation as the tallest building in the world.

The Burj Khalifa was designed by Adrian Smith, of Skidmore, Owings & Merrill, whose company was designed by Willis Tower and One World Trade Center. Hyder Consulting was selected as the supervising engineer with NORR Group Consultants International Limited being selected for the project architecture. The designs are derived from Islamic architecture in the area, such as at the Grand Mosque of Samarra. The Y-shaped tripartite floor geometry is designed to optimize residential

and hotel spaces. The supported core and central wing are used to support the height of the building. Although this design comes from Tower Palace III, the main core of the Burj Khalifa remembers all transportation with exits on each wing. [6] The structure also features a cladding system designed to withstand Dubai's hot summer temperatures. It contains a total of 57 lifts and 8 escalators.

At certain in the architectural and engineering processes, the original Emaar developer ran into problems, and needed more money and financial points of the economy. Sheikh Khalifa, ruler of the United Arab Emirates, provided monetary and carrying aid, resulting in a change of name to "Burj Khalifa". The concept of profitability obtained by constructing a high-density development and a nearby mall location has been proven successful. The surrounding malls, hotels and condominiums in Downtown Dubai have generated the largest share of revenue from the project as a whole, while the Burj Khalifa itself has made little or no profit.

Critical reception of the Burj Khalifa has been generally positive, and the building has received many awards. However, there are many complaints about migrant workers from South Asia who are the main building workforce. It centers on low wages and the practice of confiscating passports until assignments are completed. [9] Several cases of suicide were reported. Tallest skyscraper (to the top of the spire): 828 m (2,717 ft) (formerly Taipei 101 - 509.2 m or 1,671 ft). Tallest skyscraper to above antenna: 829.8 m (2,722 ft) (formerly Willis Tower (formerly Sears) - 527 m or 1,729 ft). Building with most floors: 163 (formerly World Trade Center - 110).

The tower was designed by Skidmore, Owings and Merrill (SOM), who also designed the Willis Tower (formerly the Sears Tower) in Chicago and the One World Trade Center in New York City. The Burj Khalifa uses the Willis Tower bundle tube design, invented by Fazlur Rahman Khan. Due to its tubular system, proportionally only half the amount of steel used in construction, compared to the Empire State Building. Khan's contributions to the design of tall buildings had a profound impact on architecture and engineering. It's hard to find a worldwide practice in the design of tall buildings that wasn't influenced directly or indirectly by his work. The design is reminiscent of Frank Lloyd Wright's vision for The Illinois, the one-mile-high skyscraper designed for Chicago, as well as Chicago's Lake Point Tower. When Adrian

Smith was working on a project at SOM, he looked out his office window at the curved three-wing layout of Lake Point Tower. "There is a prototype," he said. According to Strabala, the Burj Khalifa was designed based on the 73rd floor of Tower Palace Three, a Seoul residential building. In the original planning, the Burj Khalifa was intended as a place to live entirely.

Following the original Skidmore, Owings and Merrill design, Emaar Properties selected Hyder Consulting to be the supervising engineer and NORR Group Consultants International Ltd to oversee the project architecture. Hyder was selected for their expertise in structural engineering and MEP (mechanical, electrical and plumbing). Hyder Consulting's role was to oversee construction, certify design architects, and be a registered engineer and architect with the UAE authorities. The role of NORR is to oversee all architectural components including on-site supervision during construction and the design of an additional 6 floors for the office enclosure for architectural documentation. NORR is also responsible for architectural integration drawings for the Hotel Armani which is included in the Tower. Emaar Properties also engaged GHD, an international, multidisciplinary consulting firm, to act as an independent verification and testing authority for concrete and steel works.

The design comes from Islamic architecture. As the tower rises from the flat desert base, there are 27 supports in a spiral pattern, reducing the cross-section of the tower as it rises and creating a comfortable outdoor terrace. These drawbacks are regulated and aligned in a way that minimizes wind load vibrations from eddy and eddy currents. At the top, a central core emerged and was carved to form the spire. At its highest point, the tower swings for 1.5 m (4.9 ft).

https://en.wikipedia.org/wiki/Burj_Khalifa#Development (retrived On 24/12/2020)

Activity I

Identifikasi frase dan kata di bawah ini kemudian hafalkan!

| | |
|------------------|---------------------|
| 1. Designed | 1. Dirancang |
| 2. Whose company | 2. Perusahaan siapa |
| 3. Selected | 3. Terpilih |

| | |
|--------------------------------------|---|
| 4. Supervisory engineer | 4. Insinyur pengawas |
| 5. Project architecture | 5. Arsitektur proyek |
| 6. Islamic architecture | 6. Arsitektur islam |
| 7. In the area as | 7. Di daerah |
| 8. At the great mosque of samarra. | 8. Di masjid agung samarra. |
| 9. Floor geometry | 9. Geometri lantai |
| 10. Hotel space | 10. Ruang hotel |
| 11. Core supported | 11. Inti didukung |
| 12. Middle wing | 12. Sayap tengah |
| 13. To support altitude | 13. Untuk mendukung ketinggian |
| 14. The main core | 14. Inti utama |
| 15. Considering all transportation | 15. Mempertimbangkan semua transportasi |
| 16. Structure | 16. Struktur |
| 17. Features a cladding system | 17. Memiliki fitur sistem kelongsong |
| 18. Summer temperature | 18. Suhu musim panas |
| 19. In particular | 19. Khususnya |
| 20. In architecture | 20. Dalam arsitektur |
| 21. Engineering process | 21. Proses rekayasa |
| 22. Run into problems | 22. Mengalami masalah |
| 23. Need more money | 23. Butuh lebih banyak uang |
| 24. Financial points | 24. Poin keuangan |
| 25. The concept of profitability | 25. Konsep profitabilitas |
| 26. Obtained by building | 26. Diperoleh dengan membangun |
| 27. High density development | 27. Pengembangan kepadatan tinggi |
| 28. The location of the nearest mall | 28. Lokasi mall terdekat |
| 29. Proved successful | 29. Terbukti berhasil |
| 30. Mall around | 30. Mall di sekitar |
| 31. Hotels and condos | 31. Hotel dan kondominium |
| 32. Critical acceptance | 32. Penerimaan kritis |
| 33. The tower was designed | |
| 34. Created by | |
| 35. Because of its tubular system | |
| 36. Proportionally | |

| | |
|---|--|
| 37. Half of the amount of steel | 33. Menara itu dirancang |
| 38. Used in construction | 34. Dibuat oleh |
| 39. Compared with | 35. Karena sistem tubularnya |
| 40. Directly | 36. Secara proporsional |
| 41. Indirectly by | 37. Setengah dari jumlah baja |
| 42. Remind | 38. Digunakan dalam konstruksi |
| 43. A one-mile target | 39. Dibandingkan dengan |
| 44. Skyscrapers | 40. Langsung |
| 45. Looking out | 41. Secara tidak langsung oleh |
| 46. Office window | 42. mengingatkan |
| 47. To catapult | 43. Target satu mil |
| 48. Project architecture | 44. Gedung pencakar langit |
| 49. Their expertise | 45. melihat keluar |
| 50. In structural engineering | 46. Jendela kantor |
| 51. Consulting role | 47. untuk melontarkan |
| 52. Construction delivery | 48. Arsitektur proyek |
| 53. Design architect certification | 49. Keahlian mereka |
| 54. A registered engineer and architect | 50. Dibidang teknik struktural |
| 55. All architectural components | 51. Peran konsultasi |
| 56. Supervision in place | 52. Pengiriman konstruksi |
| 57. During construction | 53. Sertifikasi arsitek desain |
| 58. Architectural documentation | 54. Seorang insinyur dan arsitek terdaftar |
| 59. Responsible for architecture | 55. Semua komponen arsitektur |
| 60. Integration image | 56. Pengawasan di tempat |
| 61. Multidisciplinary consulting firm | 57. Selama konstruksi |
| 62. To act as | 58. Dokumentasi arsitektur |
| 63. Examining authority | 59. Bertanggung jawab atas arsitektur |
| 64. Concrete and steel work | 60. Gambar integrasi |
| | 61. Perusahaan konsultan multidisiplin |
| | 62. Untuk bertindak sebagai |

| | |
|--|------------------------------|
| | 63. Memeriksa otoritas |
| | 64. Pekerjaan beton dan baja |

Activity II

Jawablah pertanyaan berikut berdasarkan teks bacaan!


1. Who designed the Burj Khalifa Tower, Willis Tower and the One World Center in New York City?
2. What tube design was invented by Fazlur Rahman Khan?
3. What services can Fazlur Rahman Khan have in the world of architecture?
4. How many floors of the Burj Khalifa tower were designed according to Strabala?. how the Burj Khalifa was originally designed?
5. Who did Emaar Properties choose to be the consultant?
6. What is the role of Hyder Consultants in the tower project?
7. What is GHD?
8. Why does Emaar properties engage GHD?
9. Who is the ruler of the United Arab Emirates who provided finance for the construction of the tower?
10. What is the impact of the concept of profitability by building a high density development and a nearby mall location?
11. What critical acceptance and general positive acceptance did Burj Khalifa get?
12. What records did Burj Khalifa receive?

Activity III

Tuliskan T (True) jika kata yang digaris bawah pada kalimat di bawah ini benar dan perbaikilah pada kotak yang tersedia di sebelah kanan jika kata tersebut salah!

UNIT XIX

I. Reading Comprehension

| | | |
|--|--|--|
|  | | |
| | construction. | |
| 4. | They <u>will</u> met us. | |
| 5. | This car <u>has</u> been purchased by our leader. | |
| 6. | He <u>has</u> saved a lot of money in the BCA bank. | |
| 7. | The regulation <u>have</u> been amended. | |
| 8. | This car <u>have</u> been purchased by our leader. | |
| 9. | the community <u>has</u> worked together to build a bamboo bridge. | |
| 10. | A meeting hall <u>has</u> been built by the community. | |
| 11. | The tools <u>have</u> been already in the field. | |
| 12. | He <u>had</u> been working for 1 hour. | |
| 13. | They <u>has</u> become permanent employees. | |
| 14. | We had been in this place since yesterday. | |
| 15. | He had been very hungry since two hours ago . | |

MASJID AGUNG AL-KAROMAH

Masjid Agung Al-Karomah is one of the largest mosque in South Kalimantan. Located at Achmad Yani street, Martapura, South Kalimantan. This mosque is close from the 'Batuah' market. This mosque can accommodate 10,000 worshipers. This mosque was founded on 10 Muharram 1280 H or 27 April 1863, by mosque committee, that is H.M. Nasir, H.M. Taher (Datu Kaya), H.M. Apip (Datu Landak). This committee was supported by Raden Tumenggung Kesuma Yuda and Mufti H. M Noor.

Masjid Jami 'officially changed its name to Masjid Agung Al-Karomah which means "glory" on 12 Rabiul Awal 1415 H or coincide on May 23, 1994 when the celebration of the birthday of our Great Prophet Muhammad SAW.

One of the unique aspects of the Al Karomah Great Mosque in Martapura is the architectural technique and also the interior arrangement of the interior of the mosque which combines the old mosque architecture built from ironwood structures which are still alive with modern architecture that is so magnificent and classy typical of the middle east, as though we see an old mosque building made from ironwood in a magnificent mosque.

The architecture of the Great Mosque of Al-Karomah adopts the style of modern mosques in the Middle East with domes in the shape of an onion layered with dominant blue and green enamel colors with a very beautiful symmetrical pattern of 7 (seven) pieces, 3 (three) main domes on the part the center of the building and 4 (four) smaller domes at each corner of the main building. The dome has a unique shape with exotic colours at the peak, beautiful architecture has a high traction. The inside of the Great Mosque of Al-Karomah, we can found and seen of the old side of this mosque, it was not dismantled. So, we can seen as historical evidence of founding this mosque. There are 4 pillars made from ironwood which is one of the historical relics, as local community known "soko guru", its function as a scope for the cella room or sacred space located right in front of the mihrab room. Until now, the four pillars still stand firm. The flower strands on the pillars differentiate these four pillars from the other pillars. The pulpit of the mosque is more than a centenary, and it still can be used untill now. This pulpit is shaped like a stage with decorative carved strands of flowers. Many people make this place for tourist destinatioan, just to tke a photos or spend time with their family.

https://upload.wikimedia.org/wikipedia/commons/a/ad/COLLECTIE_TROPENMUSEUM_Alun-alun_met_moskee_Martapoera_TMnr_60018755.jpg

Activity I

Jawablah pertanyaan berikut berdasarkan teks bacaan!

1. Who did build Masjid Agung Al-Karomah?
2. When did Masjid Agung Al-Karomah built?
3. Where is locatation of Masjid Agung Al-karomah?
4. What do you know about Masjid Agung Al-Karomah?
5. How many domes are there in Masjid Agung Al-Karomah?
6. What's the meaning of 'soko guru'?
7. What is the difference between 'soko guru' and other pillars?

8. Besides soko guru, what else is considered historic?
9. What is the meaning of Al-Karomah?
10. When did Masjid Jami change its name to Masjid Agung Al-Karomah?
11. How much capacity is The Masjid Agung Al-Karomah?
12. What is the function of soko guru?
13. Have you ever been go to Masjid Agung Al-Karomah?
14. What is one aspect of the uniqueness of the Masjid Agung Al-Karomah?
15. How the shape of the historic pulpit at Masjid Agung Al-Karomah

Activity II

Tulislah T (True) pada kolom yang tersedia di sebelah kanan jika pernyataan di bawah ini benar dan F (False) jika pernyataan tersebut salah!

| No. | Statement | T / F |
|-----|--|-------|
| 1. | The architecture of the Great Mosque of Al-Karomah adopts the style of modern mosques in the Middle East with domes in the shape of an onion layered with dominant blue and green enamel colors with a very beautiful symmetrical pattern of 7 (seven) pieces, 3 (three) main domes on the part the center of the building and 4 (four) smaller domes at each corner of the main building. | |
| 2. | Masjid Agung Al-Karomah located at Pangeran Hidayatullah Street, Martapura, South Kalimantan. | |
| 3. | There are 4 pillars made from teak wood which is one of the historical relics, as local community known “soko guru”. | |
| 4. | Soko guru, its function as a scope for the cella room or sacred space located right in front of the mihrab room | |
| 5. | This mosque can accommodate 100,000 worshippers. | |
| 6. | One of the unique aspects of the Al Karomah Great Mosque in Martapura is the architectural technique and also the interior arrangement. | |

| | | |
|-----|--|--|
| 7. | The pulpit of the mosque is more than a centenary, and it still cannot be used righ now. | |
| 8. | It is of course, there is the difference between 'soko guru' and other pillars. | |
| 9. | The People can found and seen of the old side of this mosque, it was not dismantled. | |
| 10. | Masjid Agung Al-Karomah is one of the largest mosque in South Kalimantan. | |

Activity III

Temukan 15 kosakata pada kotak di bawah ini yang berhubungan dengan teks bacaan (Masjid Agung Al-Karomah) kemudian terjemahkan dalam bahasa Indonesia!

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X | U | D | F | Z | N | M | I | Y | R | E | S | I | O | P | A |
| V | M | O | D | E | R | N | B | N | M | L | T | K | J | D | K |
| A | F | O | V | B | T | Y | G | H | S | Q | Y | B | J | O | P |
| O | Q | F | S | F | O | T | U | R | J | E | L | T | W | M | S |
| Z | C | B | A | Q | B | M | L | D | G | H | O | Y | T | E | L |
| X | C | B | E | A | U | T | I | F | U | L | I | O | C | N | P |
| B | N | H | B | F | I | E | M | S | L | N | A | A | N | N | E |
| Z | X | D | G | V | T | Y | U | I | M | O | P | T | E | Q | W |
| I | G | A | V | P | K | J | T | G | H | S | W | E | G | U | I |
| T | P | O | J | I | B | F | D | F | S | F | T | E | T | E | P |
| E | I | T | P | K | P | U | L | P | I | T | H | Y | R | N | Y |
| W | L | K | X | E | B | D | L | K | G | U | F | S | O | N | H |
| Q | L | G | A | T | O | U | R | I | S | T | M | I | M | A | E |
| T | A | A | H | N | T | F | O | F | R | J | S | Q | Z | H | E |
| J | R | T | H | D | U | P | V | E | R | O | O | M | S | N | N |

- | | | |
|---------|-----------|-----------|
| 1 _____ | 6. _____ | 11. _____ |
| 2 _____ | 7. _____ | 12. _____ |
| 3 _____ | 8. _____ | 13. _____ |
| 4 _____ | 9. _____ | 14. _____ |
| 5 _____ | 10. _____ | 15. _____ |

UNIT XX

I. Reading Comprehension

BENTENG ORANJE NASSAU



The Oranje Nassau Fort and Mine Tourism Object is one of the tourist destinations in Banjar Regency,

South Kalimantan. This building is a silent witness to the history of the struggle of Prince Antasari and his troops against Dutch colonialism.

It was also here that the Banjar War began, a very long, heroic and painful war for the Banjar people. This war claimed many lives from the natives which began on June 30, 1859 and ended with the collapse of the Banjar Kingdom in 1905. Prince

Antasari's troops were greatly feared by the Dutch, especially before the outbreak of this war, the Dutch were made frantic by the sinking of the Dutch warship, Onrust, in 1858, in the waters of Muara Teweh, Central Kalimantan. This fort was a coal mine owned by the Dutch East Indies Government which was built in 1848 and named after Oranje Nassau.

Oranje Nassau is a former underground coal mine located in Pengaron District. Oranje Nassau fort is located on Jalan Jati Negara, Benteng Village, Pengaron District, Martapura, Banjar Regency. Local residents often call it Pengaron Fortress. The ruins of the Oranje Nassau have a lot of history as a modern mine with a steam engine working system. Fort Oranje Nassau Pengaron is the first coal mine in Indonesia which was built in 1848, or ten years before the Dutch built the Ombilin coal mine in Sawahlunto, West Sumatra.

This building was built using the traditional Banjar people's power. The shape of the building has now been so destroyed that it is no longer like a fortress in general. There are holes and underground tunnels that are very dark which are believed to penetrate to the end that empties near the Pengaron River which is located in Pengaron Village, near this location. The alleys cross the three villages in this area, namely Benteng, Maniapun and Pengaron with a length of about 4-5 kilometers. The holes are the entrances to the underground passage.

Activity I

Identifikasi frase dan kata di bawah ini kemudian hafalkan!

| | |
|------------------------|----------------------------|
| 1. Tourist attraction | 1. Objek wisata |
| 2. Banjar Regency | 2. Kabupaten Banjar |
| 3. silent witness | 3. saksi bisu |
| 4. struggle | 4. perjuangan |
| 5. troops | 5. pasukan |
| 6. against | 6. melawan |
| 7. Dutch colonialism., | 7. Kolonialisme Belanda., |
| 8. heroic | 8. heroik |
| 9. painful war | 9. perang yang menyakitkan |
| 10. claimed | 10. diklaim |

| | |
|----------------------------------|---------------------------------------|
| 11. ended | 11. berakhir |
| 12. fall down | 12. jatuh |
| 13. very feared | 13. sangat ditakuti |
| 14. Netherlands | 14. Belanda |
| 15. outbreak of war | 15. wabah Perang |
| 16. panic | 16. panik |
| 17. sinking of Dutch warships | 17. tenggelamnya kapal perang Belanda |
| 18. coal mine | 18. tambang batubara |
| 19. owned by | 19. dimiliki oleh |
| 20. former | 20. bekas |
| 21. underground | 21. bawah tanah |
| 22. coal mine | 22. tambang batubara |
| 23. wreckage | 23. reruntuhan |
| 24. has a lot of history | 24. punya banyak sejarah |
| 25. working steam engine. | 25. mesin uap bekerja. |
| 26. traditional power | 26. kekuatan tradisional |
| 27. of the Banjar people. | 27. dari orang Banjar. |
| 28. The shape of the building | 28. Bentuk bangunannya |
| 29. destroyed | 29. hancur |
| 30. underground pits and tunnels | 30. lubang dan terowongan bawah tanah |
| 31. very dark | 31. sangat gelap |
| 32. believed to penetrate | 32. diyakini menembus |
| 33. until the end | 33. sampai akhir |
| 34. empty near | 34. kosong di dekat |
| 35. The alley | 35. Gang itu |
| 36. Hole | 36. Lubang |
| 37. entrance | 37. jalan masuk |

Activity II

Jawablah pertanyaan berikut berdasarkan teks bacaan!

1. What are the names of the fort and coal mine in the text above?
2. Where is the location of the Oranje Nassau Fort and Coal Mine?
3. Who built the Oranje Nassau Fort and Coal Mine?
4. When was the Oranje Nassau Fort built?
5. When did the Banjar Kingdom collapse?
6. What is the historical events happened at Oranje Nassau Fort?
7. Who owns the Oranje Nassau Fort and Coal Mine?
8. How long is the passage in this fortress?
9. What the locals call the Oranje Nassau Fort?

10. How is the fortress pengaron today?

Activity III

Tulislah T (True) pada kolom yang tersedia di sebelah kanan jika pernyataan di bawah ini benar dan F (False) jika pernyataan tersebut salah!

| No. | Statements | T/F |
|-----|--|-----|
| 1. | This is where the Banjar War began, a war that was not too long, ordinary and did not hurt the Banjar people. This war, which claimed the few lives of the natives, began on June 30, 1869 and ended with the glory of the Banjar Kingdom in 1905. | |
| 2. | This fort was a coal mine owned by the Dutch East Indies Government which was built in 1848 and named after Oranje Nassau. | |
| 3. | Oranje Nassau is a former underground coal mine located in Pengaron District. Oranje Nassau fort is located on Jalan Jati Negara, Benteng Village, Pengaron District, Martapura, Banjar Regency. | |
| 4. | Local residents often call it Pengaron Fortress | |
| 5. | There are holes and underground tunnels that are very dark which are believed to penetrate to the end that empties near the Pengaron River which is located in Pengaron Village, far this location | |

Activity IV

Temukan 15 kosakata pada kotak di bawah ini yang berhubungan dengan teks bacaan (Benteng Oranje Nassau) kemudian terjemahkan dalam bahasa Indonesia!

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| F | O | R | T | A | D | S | F | N | S |
| G | H | I | D | U | T | C | H | A | T |
| G | O | V | E | R | M | E | N | T | R |
| E | L | E | S | E | I | D | N | I | U |
| A | E | R | N | N | B | T | N | V | G |
| S | T | O | U | R | I | S | M | E | G |
| T | H | R | F | E | I | C | O | A | L |
| C | O | L | L | A | P | S | E | L | E |
| F | W | D | I | S | T | R | I | C | T |

1. _____ 6. _____ 11. _____

- | | | |
|---------|-----------|-----------|
| 2 _____ | 7. _____ | 12. _____ |
| 3 _____ | 8. _____ | 13. _____ |
| 4 _____ | 9. _____ | 14. _____ |
| 5 _____ | 10. _____ | 15. _____ |

UNIT XXI

I. Reading Comprehension

KEMBANG ISLAND

Kembang Island is a land or delta in the middle of the Barito river. Called The island, because of its sizeable area and on top of it there is a tourist forest of more than 60 hectares that can be u



sed as one of the tourist destinations. Kembang Island is also belongs to the administrative area of Alalak sub-district, Barito Kuala Regency, South Kalimantan province.

To get to Kembang Island visitors can go through several accesses there. The most traveled route to get there is the Siring River in Martapura, and Muara Kuin village. If we pass through Siring Martapura River, visitors can rent a klotok boat that is there every day with the destination of Kembang Island. If we go on a weekday the rental price of klotok boat is 300,000/klotok boat. But if we go to

Kembang Island in the holiday season, or weekends, visitors can only pay 35,000/person if there are enough passengers at least 12 people.

The journey time to the island is approximately 1 hour. On the way to the Kembang Island, visitors will pass through the Banjarmasin floating market. During the trip visitors will see the beauty of Martapura River and the famous Barito River, we can also see the life of the people around the river. If you go through Muara Kuin village, visitors can directly rent a klotok boat that was available in there. When we go through Muara Kuin village route it is better to leave before sunrise, because we will pass the Muara Kuin Floating market which will be crowded in the morning. The journey time through the Muara Kuin village is faster about 45 Minutes, because the distance traveled is not too far, but it is not yet the time if we stops at Floating Market Tourism.

Kembang Island is open for tourist visits, starting at 07:00, and closing at 17:00. Exploring the Kembang Island can be done by walking on the bridge provided, because the land there is part of the swamp so it can not be passed. The entrance ticket to Kembang Island tourist attraction is quite cheap, only with 7.500/person (for local tourists), visitors can already enter and interact directly with hundreds of apes there. After entering, you will be greeted by 2 statues of white apes (hanoman) and a small temple used for pilgrimage for ethnic Chinese, also inside the island there is a bathroom and a stall that was selling snacks and drinks. But do not occasionally show food or drink openly. There's a risk of being forcibly taken by the apes there.

In Kembang Island, visitors can find many monkeys and various types of birds. One of the monkeys we can meet on this island is Bekantan. It's a bit hard to see him because Bekantan was very shy. Bekantan has long nose, unlike other monkeys in general. Monkey in this island are a tame monkeys, because they are used to being fed by visitors who come in. Visitors who are afraid of the crowds of monkeys, who always followed visitors on the island, can ask the officers who are ready to accompany visitors during the tour of the island. They're the one who's going to protect if there's an ape coming, they also sold snacks like a peanut, that was usually visitors bought and give to apes there. For the accompanying officers, they usually received a little as payment.

A fun experience when you can interact directly, chatting with apes in the wild while feeding them. Make it seem like you're feeding your own pet. In addition, you can also

tour the pilgrimage at Hanoman temple on the Kembang Island. An ethnic Chinese pilgrimage site are Inside the area of Kembang Island, there is a green-yellow walled hut to the right of the main altar. Many visitors come to the cottage. They ask for the success of what they want. If the request is granted, the visitor will return to Kembang Island by bringing various foods such as brown sugar, ketan, eggs, and coconut. These glutans and eggs are given to the apes. There is trust, that was the apes brought a good luck. The habit of pilgrimages and praying while carrying flowers finally led to the naming of Kembang Island.

Activity I

Jawablah pertanyaan berikut berdasarkan teks bacaan!

1. Why is the Kembang Island can be used as a tourist destination?
2. Where is Kembang Island was located?
3. What does we can be found on the Kembang Island?
4. What time does Kembang Island open and close?
5. How many route that can we get to Kembang Island ?
6. How much does a klotok boat ticket cost?
7. What facilities are there in the Kembang Island?
8. Why we better leave before the sun rises when passing through the village of Muara kuin route?
9. How long does it take to get to Kembang Island by using a klotok boat?
10. Why is this island called Kembang Island?
11. When is the Kembang Island crowded with visitors?
12. Where can we buy peanuts for monkeys?
13. How much is the entrance ticket to Kembang Island for local people ?
14. What ethnic groups come to Kembang Island for pilgrimage ?
15. What can be done besides interacting with monkeys on Kembang Island?

Activity II

Tulislah T (True) pada kolom yang tersedia di sebelah kanan jika pernyataan di bawah ini benar dan F (False) jika pernyataan tersebut salah!

| No. | Statements | T/F |
|-----|---|-----|
| 1. | There are bird and hundreds of monkeys in the Kembang Island. | |
| 2. | The habit of pilgrimage and praying while carrying flowers eventually led to the naming of the Kembang Island. | |
| 3. | Usually tourists use boats to go to the Kembang Island. | |
| 4. | The price of admission to Kembang Island is very expensive for local people. | |
| 5. | On the Kembang Island there is no temple for ethnic Chinese pilgrims. | |
| 6 | When were the Kembang Island crowded with visitors from overseas country ? | |
| 7 | How long are it take to get to Kembang Island by using a klotok boat? | |
| 8 | What facilities are there in the Kembang Island? | |
| 9 | In Kembang Island, visitors can find many monkeys and various types of birds. | |
| 10 | The entrance ticket to Kembang Island tourist attraction is quite cheap, only with 5.500/person (for local tourists), | |

Activity III

Temukan 15 kosakata pada kotak di bawah ini yang berhubungan dengan teks bacaan (Kembang Island) kemudian terjemahkan dalam bahasa Indonesia!

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | B | C | I | U | O | L | N | P | V | I | S | I | T | O | R |
| E | R | T | S | Y | L | H | U | F | I | C | W | V | S | E | F |
| S | I | K | L | T | T | D | R | S | K | B | S | M | D | C | G |
| T | O | Y | A | D | A | W | Q | V | L | C | F | T | H | H | R |
| I | P | W | N | P | I | L | G | R | I | M | A | G | E | I | I |
| N | P | Q | D | Z | Z | Q | D | O | S | Z | P | R | V | N | V |
| A | U | K | O | D | I | T | O | U | R | G | U | I | D | E | E |
| T | T | S | K | N | Q | G | L | L | A | S | F | H | M | S | R |
| I | U | B | J | C | B | I | A | X | D | C | L | C | F | E | O |
| O | M | O | H | S | I | O | X | K | G | L | O | J | B | R | K |
| N | O | A | T | J | R | L | Y | A | U | J | W | G | X | F | D |
| P | N | T | A | X | D | M | R | D | Q | B | E | A | N | Y | G |
| O | K | U | E | N | W | N | S | G | O | E | R | F | S | G | H |
| U | E | S | Q | Z | E | K | C | V | L | W | Y | S | G | K | L |
| U | Y | R | T | O | U | R | I | S | T | Q | W | A | B | H | S |
| R | O | I | W | K | D | D | K | L | H | E | D | W | X | G | X |
| E | F | L | O | A | T | I | N | G | M | A | R | K | E | T | Z |
| Q | O | P | A | D | H | S | W | C | S | A | S | H | K | S | M |
| S | I | L | G | C | J | A | B | E | K | A | N | T | A | N | S |
| D | F | A | P | E | S | R | Y | R | Z | Y | Q | L | W | A | E |

1. _____ 6. _____ 11. _____
2. _____ 7. _____ 12. _____
3. _____ 8. _____ 13. _____
4. _____ 9. _____ 14. _____
5. _____ 10. _____ 15. _____

UNIT XXII

I. Reading Comprehension

FLOATING MARKET MUARA KUIN IN BANJARMASIN, INDONESIA



has been going on a long time ago.

In Banjarmasin, South Kalimantan, there are a hundred rivers that become the important transportation route until now. The tourism objects focus on the river, like the floating market of Muara Kuin in Banjarmasin city. When the sun rises, go to this market that reflects the light in the morning between the transactions of vegetables and crops from villages along the Barito River and its tributaries.

The floating market of Muara Kuin is a traditional floating market located on the Barito river, Kuin river mouth, Banjarmasin, South Kalimantan. Traders and buyers use "jukung", the name of the boat in Banjar language. This market is started after

shubuh prayer until 09.00 o'clock. The specialness of this market is the barter system still used between Boating merchant (in Banjarnese called bapanduk). The woman traders (dukuh), which boating, sell their own production result, whereas the second hand that is bought from woman traders (dukuh) for later resel called "panyambangan".

Banjarmasin, as the province mother city, is a trade and tourism centre. Banjarmasin city got the nickname as the City of Water because of its land location is a few centimetres below sea level. Banjarmasin city has an area of approximately 72 square miles or approximately 0.22 percent of the area of South Kalimantan. This city is split by Martapura river that gives the thew for the social life, especially the utilization of the river as water transportation, commerce, and tourism. Besides the floating market in Muara Kuin, Banjarmasin, the other floating market that can be visited is in Lok Baintan, which is located in Martapura river.

Activity I

Jawablah pertanyaan berikut berdasarkan teks bacaan!

1. What is the floating market?
2. What did Indonesian people call Floating Market?
3. Where is the floating market location in Indonesia?
4. What is the name of the boat in Banjar language?
5. When is this market started?
6. What the specialness name system of this market?
7. What the boating merchant in Banjarnese called?
8. What the Banjarmasin city got the nickname?
9. Why Banjarmasin city got the nickname as the City of Water?
10. Where the other floating market besides in Muara Kuin that can be visiting?
11. How many rivers in Banjarmasin that become the important transportation route until now?
12. What the name exactly at the junction of the river of the floating market is located in Banjarmasin,?

13. Who used "jukung" in Floating Market?
14. How many square miles Banjarmasin city has an area of approximately?
15. The floating market is a reflection of?

Activity II

Tulislah T (True) pada kolom yang tersedia di sebelah kanan jika pernyataan di bawah ini benar dan F (False) jika pernyataan tersebut salah!

| No. | Statements | True/False | Correction |
|-----|--|------------|------------|
| 1. | We must need to go to Thailand or Vietnam, to visit unique floating market. | | |
| 2. | This market is started after shubuh prayer until 08.00 o'clock. | | |
| 3. | Besides the floating market in Muara Kuin, Banjarmasin, no other floating market that can be visit. | | |
| 4. | Banjarmasin, as the province mother city. | | |
| 5. | The floating market of Muara Kuin is a traditional floating market located on the Barito river, Kuin river mouth, Banjarmasin, South Kalimantan. | | |

Activity III

Temukan 10 kosakata pada kotak di bawah ini yang berhubungan dengan teks bacaan (Floating Market) kemudian terjemahkan dalam bahasa Indonesia!

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T | | A | N | S | A | C | T | I | O | N | S | A | B | L | S |
| V | H | C | O | M | M | E | R | C | E | I | E | U | A | O | U |
| T | O | U | R | I | S | M | A | U | I | J | T | B | I | P | R |
| O | N | E | S | A | O | F | D | J | K | E | A | S | B | T | W |
| B | P | Q | W | E | U | U | I | K | C | U | L | T | U | R | E |
| O | T | O | U | R | I | K | T | L | O | R | D | I | Y | G | S |
| U | Z | C | T | A | T | O | I | M | M | S | P | K | E | I | Y |
| G | E | V | J | S | F | L | O | A | T | I | N | G | R | K | I |
| H | R | B | O | Y | A | E | N | Z | V | P | K | O | S | O | P |
| T | O | A | V | A | T | R | A | D | E | R | S | P | O | L | O |
| S | A | N | T | E | R | O | L | P | E | B | N | A | G | U | T |
| T | R | A | N | S | P | O | R | T | A | T | I | O | N | O | P |

- 1 _____ 6. _____ 11. _____
- 2 _____ 7. _____ 12. _____
- 3 _____ 8. _____ 13. _____
- 4 _____ 9. _____ 14. _____
- 5 _____ 10. _____ 15. _____

UNIT XXIII

II. Reading Comprehension

THE DIAMOND AND JEWELRY MARKET OF MARTAPURA



Situated some 45 Kilometers east of Banjarmasin, **Martapura** is a sparkling little city literally filled with diamonds and precious rocks mined from inside Borneo's earth. Martapura is well known as "the Diamond City" due to the production of extremely precious gem stones which is able to attract most of the

accessories collectors through all over the world. The city is also well-known as the center of the diamond industry as well as the main diamond cutting and polishing venue in Kalimantan, aside from being producers of top quality jewelry and gems. The city has played a valuable role in history since it was the continue seat of the Banjar Sultanate all through the reign of Sultan Adam from 1825-1857. The first name "Martapura" itself is understood to be inflicted with been agreed by the 4th Sultan of Banjar, Sultan Mustain Billah in 1630. Martapura has always something to do with diamond. The town has been an object for the miners of precious stones. Several mining villages exist, such as Lukaas and Sungai Tiung,

lying five kilometers from Martapura. Furthermore, the Dutch colonialists once attempted to occupy this land due towards the ample natural descent discovered there.

For those who fancy jewelry and accessories such as necklaces, bracelets, rings, brooches, and various others made from pure diamond, gold, zircon, silver, and many other gemstones, or even of plastic or glass imitations, then Martapura is the place of interest for those who fancies those assortments to be written down on their list of places to visit . The quality of Martapura's jewelry is globally recognized as one of the best in the world. These sparkling treasures of Martapura are best found at the city's iconic landmark in the diamond and jewelry market of **Cahaya Bumi Selamat**.

At the heart of Martapura, one can find a lot of diamond polishing houses which use both traditional and modern techniques. The most notable of these is the Kayu Tangi Diamond Polishing Center just behind the Cahaya Bumi Selamat Diamond Market. These market could well be one of the most unique diamond markets the world, since instead of featuring exquisite and elegant stores, Cahaya Bumi Selamat Diamond and Jewels Market is merely a conglomeration of simple stores and a few hawkers. It is even not uncommon to sometimes see millions of rupiahs worth of transaction conducted between two men passing in the street, instead of in an established store. The choice of uncut gems, silver and gold jewelry and threading beads-both strung and unstrung- are excellent here. *Image Source: <https://hasanzainuddin.wordpress.com>*

Activity I

Jawablah pertanyaan berikut berdasarkan teks bacaan!

1. How far is Martapura from Banjarmasin?
2. Why is Martapura named as the Diamond City?
3. Why does the Dutch Colonials attempted to occupy Martapura back in the past?
4. Where is Martapura iconic landmark?
5. Why is Martapura's jewelry globally recognized as one of the best in the world?
6. What types of known gems that are popular in Martapura?

7. What kind of jewelries that are commonly sold at the Jewelry Market of Martapura?
8. Where does the gemstones of Martapura mined from?
9. Who agreed to name the city of gems as Martapura?
10. What is the year that Martapura becomes a seat for the Banjar Sultanate Sultan Adam?

Activity II

Recognize the following phrases and words

| | |
|---------------------------------------|---------------------------------------|
| 1. precious stones | ➤ batu berharga |
| 2. mined from the depths of Borneo | ➤ ditambang dari kedalaman Kalimantan |
| 3. Known as " | ➤ Dikenal sebagai " |
| 4. Diamond City | ➤ Kota Berlian |
| 5. precious gemstone production | ➤ produksi batu permata berharga |
| 6. interested | ➤ tertarik |
| 7. accessories collector | ➤ kolektor aksesoris |
| 8. around the world. | ➤ keliling dunia. |
| 9. the center of the diamond industry | ➤ pusat industri berlian |
| 10. diamond cutting | ➤ pemotongan berlian |
| 11. Poland | ➤ Polandia |
| 12. a producer | ➤ seorang produser |
| 13. quality jewelery and gems. | ➤ perhiasan dan permata berkualitas. |
| 14. The city has played | ➤ Kota telah bermain |
| 15. valuable role | ➤ peran yang berharga |
| 16. in history | ➤ dalam sejarah |
| 17. precious stone miners | ➤ penambang batu mulia |
| 18. Several mining villages | ➤ Beberapa desa pertambangan |
| 19. Dutch colonialists | ➤ Penjajah Belanda |
| 20. jewelry and accessories | ➤ perhiasan dan aksesoris |
| 21. necklace bracelet, | |
| 22. recognized globally | |
| 23. iconic landmarks of the city | |

| | |
|--|--|
| 24. uncut gems, silver and gold jewelry, | ➤ kalung gelang, |
| 25. threaded beads | ➤ diakui secara global |
| - | ➤ landmark ikonik kota |
| | ➤ permata yang belum dipotong, perhiasan perak dan emas, |
| | ➤ manik-manik berulir |

Activity III

Temukan 15 kosakata pada kotak di bawah ini yang berhubungan dengan teks bacaan kemudian terjemahkan dalam bahasa Indonesia!

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | D | I | A | M | O | N | D | J | U | V | B | E | R | R | I | N | G | X | V |
| Q | U | I | R | E | Y | T | Q | U | X | C | Z | B | B | A | N | J | A | R | E |
| S | T | G | O | L | D | C | A | H | A | Y | A | Z | Q | S | S | Q | I | E | R |
| C | C | B | B | J | Y | U | O | R | L | X | C | V | B | N | U | R | Q | E | S |
| V | H | V | N | A | I | O | J | L | X | G | E | M | S | T | O | N | E | S | J |
| B | Q | W | M | I | L | L | I | O | N | S | M | S | F | M | K | X | Q | U | E |
| E | W | S | I | L | V | E | R | Q | E | P | F | N | X | B | V | T | S | L | W |
| R | Q | B | P | V | U | S | U | N | G | A | I | T | I | J | U | N | G | T | E |
| O | H | H | H | H | P | O | L | I | S | R | I | N | G | J | K | Y | R | A | L |
| Z | W | G | X | U | U | I | B | R | A | K | E | L | E | T | S | T | U | N | R |
| I | A | Z | F | H | J | J | I | O | S | L | P | I | M | P | Q | S | Y | A | Y |
| R | U | P | I | A | H | I | H | O | P | I | Y | Q | S | Q | Y | I | Y | T | P |
| C | Q | X | R | W | X | G | F | U | M | N | R | T | A | P | U | R | A | E | I |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| O | D | Q | E | A | O | P | J | I | X | G | E | R | X | X | S | Z | Q | E | L |
| N | C | M | A | R | K | E | T | P | L | X | C | E | V | B | R | O | O | C | H |

- 1 _____ 6. _____ 11. _____
- 2 _____ 7. _____ 12. _____
- 3 _____ 8. _____ 13. _____
- 4 _____ 9. _____ 14. _____
- 5 _____ 10. _____ 15. _____

Activity IV

Tulislah T (True) pada kolom yang tersedia di sebelah kanan jika pernyataan di bawah ini benar dan F (False) jika pernyataan tersebut salah!

| | Statement | True/False | |
|----|--|------------|--|
| 1. | Martapura <u>are</u> the dubbed the diamond city | | |
| 2. | The jewelry market also <u>sells</u> high quality metals and meteorite fragments | | |
| 3. | Martapura <u>is</u> the seat of banjar sultanate to this day | | |
| 4. | The quality of martapura's diamonds <u>is</u> poor | | |
| 5. | Cahaya Bumi Selamat Market <u>were</u> one of the diamond markets in martapura | | |

| | | | |
|-----|---|--|--|
| 6. | The name of the city "Martapura" <u>is</u> agreed at the year 1580 | | |
| 7. | Sungai Tjung <u>lies</u> 10 kilometers from Martapura | | |
| 8. | Gold, Zircon and Gemstones <u>is</u> one of the things sold at the jewelry market | | |
| 9. | Every market at martapura <u>sells</u> gold and diamonds | | |
| 10. | Sultan Adam <u>regins</u> from 1825 to 1890 | | |

Activity V

Atur ulang kalimat di bawah ini kedalam susunan yang benar hingga menghasilkan terjemahan Bahasa Indonesia yang baik seperti yang tertera pada setiap kalimat di bawah ini!

1. from the depths of Borneo martapura is a small sparkling town filled with diamonds and precious stones mined (*Martapura adalah kota kecil berkilau yang dipenuhi berlian dan batu mulia yang ditambang dari kedalaman Kalimantan*)
2. known as martapura is the "city of diamonds". (martapura dikenal sebagai "kota berlian")
3. the accessories collectors around the world this precious gemstone from martapura has attracted most of (batu permata berharga dari martapura ini banyak diminati oleh kolektor aksesoris di seluruh dunia.
4. polishing site in kalimantan the city is also known as the center for the diamond industry as well as the main diamond cutting and (kota ini juga dikenal sebagai pusat industri intan serta lokasi pemotongan dan pemolesan intan utama di kalimantan)
5. the reign of sultan adam the city has played an important role in history since becoming the center of the banjar sultanate during 1825-1857)

6. is 45 kilometers from banjarmasin it (jaraknya 45 kilometer dari banjarmasin)
7. around the world martapura is known as the “city of diamonds” because of its production of precious gemstones which attracts most of the accessories collectors (martapura dikenal sebagai “kota berlian” karena produksinya dari batu permata berharga yang menarik sebagian besar kolektor aksesoris di seluruh dunia)
8. landmark martapura's iconic is cahya bumi selamat.(landmark ikon martapura adalah cahya bumi selamat)
9. the best in the world the quality of both martapura jewelery is excellent, recognized as one of. (kedua perhiasan martapura ini berkualitas sangat baik, diakui sebagai salah satu yang terbaik di dunia)
10. a few hawkers jewels market is merely a conglomeration of simple stores and (pasar perhiasan hanyalah konglomerasi toko sederhana dan beberapa pedagang asongan)
11. between two men passing in the street it is even not uncommon to sometimes see millions of rupiahs worth of transaction conducted. (bahkan tidak jarang terkadang terjadi transaksi bernilai jutaan rupiah antara dua orang yang lalu lalang di jalan).
12. to do with diamonds martapura always has something (martapura selalu ada kaitannya dengan intan)
13. precious stone miners the city has become an object for (kota ini telah menjadi obyek bagi para penambang batu mulia)
14. to occupy this land the dutch colonialists had tried (penjajah belanda telah mencoba menduduki tanah ini)
15. lukaas village and tiung river two villages that are famous as mining sites, namely (dua desa yang terkenal sebagai tempat penambangan yaitu, desa lukaas dan sungai tiung).

UNIT XXIV

GARDEN RAYA BANUA

1. Reading Comprehension

The banua botanical gardens are located in the central government offices of the province of south Kalimantan. Bina king west, cempaka, new flood, banua botanical gardens (kr banua) were developed. The banua botanical gardens form a green area enjoyed by the people of the kalsel and serve as one of the tourist spots. In an area of approximately 100 hektare are (sk governor no. 188.44/0131/ kum /2013) at the kebu of banua, various plants were developed.

The current collection of plants, embedded in orchids and non – plants in nurseries, contained some 7000 specimens. As for the collection of plants embedded in the collection zone 234 kinds, approximately 1528 specimens. Nonembedded vegetation of the directorship, verdant, suppressor, pioneer, and ornamentation, approximately 4260 specimens.

From canning to now, some of the results of the activity that can be presented. Physical infrastructure, drivers' road, gicok/paving block road, a few interzone lanes Furthermore, there are also backups, including the house of paranet, Nursery, residence, batimung house, the house of herbs, the information building, the water tower, the toilet, musholla, pagers & park benches, the maze tower, the glass house, the herbarium

building, conservatory, fruit themed park views, the tree house, children's playground, the main plaza. There is also the area of semisal thematic park: aromatic thematic park, medicinal thematic garden, herbal bed park, flower bedpark, bromeliapark, garden maze, bougenvilepark, visitors' open area park, fruit thematic park. Collection zone: 191alimantan drug collection zone, non-kalimantan drug collection zone, wood collection zone, fruit collection zone, aromatic collection zone, spices and atsiri, frenetic collection zone, orchid collection (breeding)

The government of south 191alimantan through governor no. 041/2012 on June 1, 2012, created the technical operating unit of the banua province of south 191alimantan. Located within the government office of the province of south 191alimantan in the flooding new, in the administration of the kel. Palam, kec. Cempaka. Area 100 ha (sk governor no. 188.44/0131/ kum /2013).

The conference on the kr banua project was held on February 13, 2013 by the deputy governor of south 191alimantan, h. Rudy resnawan.

The inauguration (launch) banua botanical gardens was carried out on December 8, 2016 by the governor of south 191alimantan, h. sahbirin noor

The introduced theme of plant conservation from the banua botanical gardens is “a drug – quality plant of Borneo.

“Banua botanical gardens are upt under the south 191alimantan provincial research and development agency”. The basic task is to do inventory, exploration, collections, the cultivation and maintenance of medicinal plants particularly from the Borneo region and other rare plants that have the knowledge and economic potential to collect in the form of a botanical garden; Perform filing, documenting, development of services and conservation information penitentiary for science in the field of thought, introduction and plant reintroduction. Inventory, exploration, conservation, and reintroduction of medicinal herbs, especially those from the Borneo region that have a scientific value and economic potential; The development and documentation of biodata of a collection of plants associated with the conservation of ex; The administration of scientific services, the detention of science in the fields of plant conservation and plant introduction.

Activity I

1. *Jawablah pertanyaan di bawah ini dengan berdasar pada teks di atas*

1. Where are the continent's botanical gardens?
2. How big are the botanical gardens on the continent?
3. What results can be presented there?
4. What crops are grown in the continent's botanical gardens?
5. When did the southern provincial government of the technical enforcement unit establish a continental botanical garden?
6. When did the continental botanical gardens' construction begin?
7. Who intends to construct botanical gardens on the continent?
8. When were the continental botanical gardens established?
9. What is the plant conservation theme in continental botanical gardens?
10. Who was responsible for the establishment of the continental botanical gardens?

Activity I

1. Temukan 15 kosa kata di bawah ini dan terjemahkan ke dalam Bahasa Indonesia

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N | U | R | S | E | R | Y | F | L | O | W | E | R | B |
| Q | W | E | B | R | T | E | E | R | T | Y | U | Y | H |
| A | K | A | A | G | L | A | S | S | H | O | U | S | E |
| Z | N | S | T | A | F | R | U | I | T | T | H | H | H |
| R | M | F | V | R | A | R | N | M | D | B | N | H | N |
| T | H | G | P | D | E | Y | N | G | Z | E | N | H | N |
| H | G | V | O | E | S | E | Y | F | X | T | N | Y | M |
| H | R | H | U | N | T | J | H | R | C | R | Y | C | Y |
| B | T | J | G | U | Y | M | Q | O | V | E | H | J | E |
| M | A | I | N | P | L | A | Z | A | U | W | F | H | J |
| G | A | R | D | E | N | M | A | Z | E | S | D | G | N |
| T | Y | U | W | A | T | E | R | T | O | W | E | R | T |

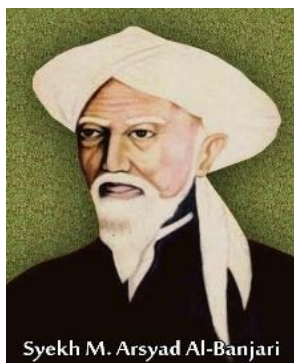
1. _____ 6. _____ 11. _____

2. _____ 7. _____ 12. _____
 3. _____ 8. _____ 13. _____
 4. _____ 9. _____ 14. _____
 5. _____ 10. _____ 15. _____

UNIT XXV

SYEIKH MUHAMMAD ARSYAD AL BANJARI

1. Reading Comprehension



He was born in Lok Gabang, 17 March 1710. He is a scholar of Syafii Fiqh School from the city of Martapura in Tanah Banjar (Sultanate of Banjar), South Kalimantan. He earned the posthumous nickname Datu Kelampaian. He is the author of the book *Sabilal Muhtadin* which has become a reference for many Muslims in Southeast Asia.

The teachers included Syeikh Athaillah, Ahmad Al Mishry, Al Faqih Syeikh Muhammad Al Sulaiman al Kurdi, and Al Arif Billah Syeikh Muhammad bin Abdul Karim As Samman Al Hasani Al Madani. His name is well known in Mecca because of the breadth of his knowledge, especially the knowledge of Qira'at. He even compile a book of Qira'at which came from Imam Asy Syatibi. Uniquely, each juz of the book is equipped with a typical Banjar calligraphy. According to history, Sheikh Muhammad Arsyad Al Banjari studied with tree Indonesian scholars, namely Syeikh Abdus Shomad al Palembangi, Syeikh Abdul Wahab Bugis, and Syeik Abdurrahman Mesri. The four of them are known as Empat Serangkai who studied at Al Haramain asy syarifain. Furthermore, Syeikh Abdul Wahab Bugis became his son-in-law because he was married with his first daughter.

After more than 30 years of studying, he had a desire to return to his hometown. Before arriving in his hometown, Syeikh Muhammad Arsyad Al Banjari stopped in

Jakarta. He spent the night at the house of one of his friends who was also studying in Mecca. In fact, according to his story, Syeikh Muhammad Arsyad Al Banjari gave directions to the direction of the Qiblat of the Jembatan Lima Mosque in Jakarta before going to Kalimantan.

In the month of Ramadhan 1186H, Syeik Muhammad Arsyad arrived at his hometown in Martapura, the center of Sultanate of Banjar at that time. The King of The Sultanate Banjar, Sultan Tahmidullah, welcomed his arrival with a traditional ceremony. All the people hailed him as a religious scholar of Matahari whose light is expected to shine on the entire Sultanate Banjar . Syeikh Arsyad is active in spreading Islam in Kalimantan. His work is not only in the field of education by preparing Islamic boarding schools with an agricultural system to sustain the lives of his students, but he also preaches by holding recitation, both among the Palace and the lower class community. For more than 40 years, Sheikh Arsyad had spread Islam in his homeland.

He died in Dalam Pagar, 3 October 1812 at the age of 102 years. Before he died, he had a testament to have his body buried in Kalampayan if the river was navigable, or in Karang Tengah, where his wife, Bujat, was buried, If the river was not navigable. However, because when he died the water was navigable, he was buried in Kalampayan, Astambul, Banjar, South Kalimantan. In an area located about 56 KM from the city of Banjarmasin.

Activity I

1. Recognize the following phrases and words

| | |
|-----------------------|-------------------------|
| 2. <i>born</i> | ➤ <i>lahir</i> |
| 3. <i>bachelor</i> | ➤ <i>bujangan</i> |
| 4. <i>received</i> | ➤ <i>diterima</i> |
| 5. <i>posthumous</i> | ➤ <i>anumerta</i> |
| 6. <i>Nick name</i> | ➤ <i>Nama panggilan</i> |
| 7. <i>becomes</i> | ➤ <i>menjadi</i> |
| 8. <i>reference</i> | ➤ <i>referensi</i> |
| 9. <i>including</i> | ➤ <i>termasuk</i> |
| 10. <i>breadth</i> | ➤ <i>luasnya</i> |
| 11. <i>especially</i> | ➤ <i>terutama</i> |
| 12. <i>knowledge</i> | ➤ <i>pengetahuan</i> |
| 13. <i>arrange</i> | ➤ <i>mengatur</i> |
| 14. <i>come</i> | ➤ <i>datang</i> |

| | |
|---|--|
| <p>15. <i>unique</i> 16. <i>complete</i> 17. <i>typical</i> 18. <i>calligraphy</i> 19. <i>based on</i> 20. <i>learn</i> 21. <i>known</i> 22. <i>Next</i> 23. <i>Becomes</i> 24. <i>married</i> 25. <i>a wish</i> 26. <i>restore</i> 27. <i>to his hometown</i> 28. <i>stop</i> 29. <i>spend</i> 30. <i>give direction</i> 31. <i>arrive at</i> 32. <i>traditional ceremonies</i> 33. <i>praised</i> 34. <i>a religious scholar</i> 35. <i>expected</i> 36. <i>to shine</i> 37. <i>entirely</i> 38. <i>spread</i> 39. <i>education by preparing</i> 40. <i>agricultural system</i> 41. <i>to sustain life</i> 42. <i>preach</i> 43. <i>conduct recitation</i> 44. <i>lower class community</i> 45. <i>spread Islam</i> 46. <i>in his homeland.</i> 47. <i>died</i></p> | <ul style="list-style-type: none"> ➤ <i>unik</i> ➤ <i>lengkap</i> ➤ <i>khas</i> ➤ <i>kaligrafi</i> ➤ <i>berdasarkan</i> ➤ <i>belajar</i> ➤ <i>dikenal</i> ➤ <i>Lanjut</i> ➤ <i>Menjadi</i> ➤ <i>menikah</i> ➤ <i>sebuah harapan</i> ➤ <i>mengembalikan</i> ➤ <i>ke kampung halamannya</i> ➤ <i>berhenti</i> ➤ <i>menghabiskan</i> ➤ <i>memberi arahan</i> ➤ <i>tiba di</i> ➤ <i>upacara adat</i> ➤ <i>dipuji</i> ➤ <i>seorang sarjana agama</i> ➤ <i>diharapkan</i> ➤ <i>bersinar</i> ➤ <i>sepenuhnya</i> ➤ <i>sebaran</i> ➤ <i>pendidikan dengan mempersiapkan</i> ➤ <i>sistem pertanian</i> ➤ <i>untuk menopang hidup</i> ➤ <i>berkhotbah</i> ➤ <i>melakukan pengajian</i> ➤ <i>komunitas kelas bawah</i> ➤ <i>menyebarkan Islam</i> ➤ <i>di tanah airnya.</i> ➤ <i>meninggal</i> ➤ <i>sebuah keinginan</i> ➤ <i>terkubur</i> ➤ <i>sungai</i> ➤ <i>dinavigasi</i> |
| <p>Activity II</p> <p>49. <i>buried</i> 50. <i>river</i> 51. <i>navigable</i></p> | |

2. Based on the reading text, answer the following questions

1. Where was Shaykh Muhammad Arsyad Al Banjari born?
2. When was Sheikh Muhammad Arsyad Al Banjari born?
3. Where did Arsyad Al-Banjari come from?

4. What is the nickname of Arsyad al banjari?
5. What is the title of Arsyad Al Banjari's book which is the reference for Muslims in Southeast Asia?
6. Where did Arsyad Al Banjari stopover before he returned to his hometown in Tanah Banjar,
7. Who was the king of the Banjar Sultanate who welcomed Arsyad Al-Banjari with a traditional ceremony?
8. When did Arsyad Al Banjari die?
9. How old was Arsyad Al Banjari when he died?
10. Where is arsyad al banjari buried in accordance with his will?

Activity III

3. **Temukan 15 kosa kata dan tuliskan arti dari kata tersebut!**

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|---|
| A | B | C | D | B | E | M | F | G | H | I | J | K | L | M | N | O | P |
| L | O | K | G | A | B | A | N | G | Q | R | S | T | U | V | W | R | X |
| Y | Z | A | B | N | C | R | D | E | F | G | H | Q | I | R | A' | A | T |
| I | J | K | L | J | M | T | N | O | P | Q | R | S | T | U | V | M | V |
| X | J | Y | Z | A | A | P | B | C | D | E | B | F | G | H | I | A | I |
| K | A | L | M | R | N | U | O | P | Q | R | U | S | T | U | V | D | W |
| X | K | Y | Z | A | B | R | C | D | E | F | J | G | H | I | J | H | K |
| L | A | M | K | A | L | A | M | P | A | I | A | N | N | O | P | A | Q |
| R | R | S | T | U | V | W | X | Y | Z | A | T | B | C | D | E | N | F |
| G | T | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W |
| T | A | H | M | I | D | U | L | L | A | H | X | Y | Z | A | B | C | D |
| E | F | G | H | I | J | K | C | A | L | L | I | G | R | A | P | H | Y |

1. _____ 6. _____ 11. _____

- 2 _____ 7. _____ 12. _____
 3 _____ 8. _____ 13. _____
 4 _____ 9. _____ 14. _____
 5 _____ 10. _____ 15. _____

Activity IV

4. Betulkanlah kata-kata yang dicetak miring pada titik-titik jalur kanan bila kata tersebut salah, dan tulislah huruf “T” bila dianggap sudah betul!

| No. | Statement | .../T |
|-----|---|-------|
| 1 | Syeikh Muhammad Arsyad Al Banjari <i>wiil be</i> born in Lok Gabang, 17 March 1710 | ..... |
| 2 | Syeikh Muhammad Arsyad Al Banjari <i>dies</i> in Dalam Pagar, 3 October 1812 at the age of 100 years | ..... |
| 3 | Syeikh Muhammad Arsyad Al Banjari <i>earns</i> the posthumous nickname Datu Kelampaian | ..... |
| 4 | Syeikh Muhammad Arsyad Al Banjari <i>was</i> the compile of the book Sabilal Muhtadin. | ..... |
| 5 | Before he died, he <i>have</i> a testament to have his body buried in Karang Tengah | ..... |
| 6 | Syeikh Abdus Shomad al Palembani, Syeikh Muhammad Arsyad Al Banjari , Syeikh Abdul Wahab Bugis, and Syeik Abdurrahman Mesri. The four of them <i>was</i> known as Empat Serangkai | ..... |
| 7 | The King of Sultanate Banjar, Sultan Tahmidullah, <i>welcomed</i> his arrival with a traditional ceremony. | ..... |
| 8 | Before <i>to arrive</i> in his homeland, Syeikh Muhammad Arsyad Al Banjari stopped in Surabaya. | ..... |

| | | |
|----|---|-------|
| 9 | In the month of Ramadhan 1186H, Syeik Muhammad Arsyad <u>will be arrived</u> at his hometown in Martapura | ..... |
| 10 | Muhammad Arsyad <u>was</u> buried in Kalampayan, Astambul, Banjar, South Kalimantan | ..... |

UNIT XXVI

CIVIL ENGINEERING

1. Reading Comprehension

9 Types of Civil Engineering



Civil engineering is one of the oldest jobs in the world. Civil engineering deals with constructing, designing, and maintaining a physical environment. This includes structures such as airports, roads, bridges, dams, sewerage, railways, and many more. As you can see, a civil engineer has an impact on the things we use every day and our surroundings. As such, there are 9 types of civil engineering projects.

What are the different branches of civil engineering?

There are 9 types of civil engineering projects. Each of these projects requires extensive

knowledge of math, mechanics, and physics, as well as the ability to solve problems creatively.

Construction and Management Engineering

Construction and management engineering is about creating things like bridges, buildings, roads, and railways. The purpose of engineering construction is to build these structures in the most efficient, safe, sustainable, and environmentally friendly way possible. Following the construction phase is an asset management phase. In this phase, you outline the maintenance, operation, and refurbishment over the lifespan of the project. These things need to be managed so that the owner of the project can make sure that there is value in return for money spent on the project.

Managers of construction engineers oversee many types of projects, and they have many duties:

- Developing construction budgets for projects
- Gathering teams of workers, physical materials, machines, and tools
- Overseeing safety and productivity on job sites
- Using **construction project management software**

Geotechnical Engineering

Out of the 9 types of civil engineering projects, **geotechnical engineering** is concerned with understanding how a project interacts with the ground out of the 9 types of civil engineering projects. People in the geotechnical engineering field deal with structures such as tunnels, bridges, roads, railways, and more. Geotechnical engineers deal with a different type of ground for every project. Whether it's made out of soil or rock, it is the job of the geotechnical engineer to figure out how it will interact with the project. This excites most geotechnical engineers because no two grounds are the same.

Geotechnical engineering has many responsibilities that are complex and demanding:

- Analyzing soil samples in subsurface investigations
- Conducting field tests to determine issues that can pose safety risks on projects
- Analyzing subsurface investigation and field tests with computer software

Structural Engineering

Analyzing and designing the construction of bridges, towers, buildings, dams, and more is the job of a **structural engineer**. These structures need to be built in a way that makes them safe, sustainable, economical, and somewhat pleasing to the eye. Just like construction and management engineering, structural engineering uses math and physics to do the job. Using math and physics, engineers can see if all parts of the project have enough strength to take loads, determine the structures service life, and see if the structure is stable. Of 9 types of civil engineering projects, structural engineering plays the biggest part in designing and selecting materials for a project.

Some tasks that structural engineers are responsible for:

- Calculating loads and stresses that structures can safely endure
- Surveying job sites before work even begins to determine suitable requirements
- Assessing and monitoring structures like bridges, dams, and buildings

Transport Engineering

To no surprise, **transport engineering** is the planning, designing, and operation of large transport systems. Whether public or private, everybody needs to have access to forms or modes of transportation to get around in the world we live in. We have many ways of transportation today, such as air, water, road, and railway. A transport engineer's job is to make sure these forms of transportation meet certain standards. Standards like sustainability and safety need to be met. With the technology we have now, transport engineers are trying to reduce emissions and energy use with the goal of becoming environmentally friendly. Of the 9 types of civil engineering projects, transport engineering is about always looking for a way to improve our transportation systems.

Transport engineers have complex tasks that include:

- Evaluating plans and proposals
- Analyzing schematics and data from other engineers
- Offering recommendations for driving and traffic policies

Water Engineering

How does water interact with our environment? **Water engineering** is about understanding why natural water systems, such as rivers and coasts, behave the way they do. This type of engineering also involves designing ways to store or direct water. Water engineers design and build hydraulic structures like dams, canals, and water distribution systems. Understanding how water can work creates a way for us to conserve water. Right now, water engineering is focused on dealing with floods, groundwater, and the nature of coastal waters.

Water engineering covers the following:

- Designing flood defense plans and sewer improvement programs
- Staying aware and up to date with policy and developments
- Crafting strategies for flood defense



Photo by Alex Bracken

Environmental Engineering

Environmental engineering concentrates on designing innovative ways to conserve densely populated areas and preventing pollution from destroying the environment and natural resources. Overall, environmental engineers administer detailed analysis on a wide spectrum of environmental issues and create solutions to these problems. Projects under environmental engineering help address global issues and improve control of recycling, public health, water, and pollution.

Environmental engineers are responsible for tasks that include but not limited to:

- Reviewing environmental investigation reports
- Designing projects that lead to environmental protection
- Monitoring progress of environmental improvement programs
- Analyzing scientific data & conducting quality-control checks
- Advising government and corporate agencies about procedures on contaminated sites.



by Romeo Pj

Coastal Engineering

This is a type of civil engineering that incorporates the sciences of oceanography and coastal geology to manage erosion, place, and buildings. **Coastal engineering** monitors coastal structures, nourish beaches and maintains harbors, ports, and other related navigation properties. In an attempt to address environmental and ecological issues, coastal engineering plays a crucial role in protecting coastlines.

Some tasks that involve coastal engineers are the following:

- Managing shoreline erosion
- Managing pollution in proximate marine environments
- Improving navigation channels and harbors

- Improving coastal recreation
- Protecting buildings from a flood brought on by storms, waves, tides

Earthquake Engineering

Earthquake engineering is a type of engineering that specializes in mitigating hazards involving earthquakes for structures. This type of engineering takes descriptions of earthquake sources to characterize structural responses and site effects. Earthquake engineering also Earthquake engineers apply their knowledge to design, plan, and construct earthquake-resistant structures. Like the other types of civil engineering, engineering, the seismic safety of a structure considers the same processes: design, construction, and location. For earthquake engineering, location is everything. The West Coast, in particular, is highly prone to earthquakes because it sits upon the San Andreas Fault. Earthquake engineers study special instruments like strong-motion seismographs to understand ground motions from earthquakes. Earthquake engineering has similar responsibilities to structural engineering in terms of determining the stability of structures.



by shigemi okano

Forensic Engineering

It's all about identifying **what went wrong**. By applying engineering knowledge, **forensic engineering** determines the cause of structure or machine failure. With reverse engineering, forensic engineers detect the causes of why a component, machine, or structure failed performance.

Within forensic engineering, there are many common tasks:

- Identifying failure of product, machine, building
- Collecting evidence to determine the hypotheses of failure
- Offering a conclusion to the likely cause of the failure from analysis

What types of projects do civil engineers work on?

Standard Analysis or Design

In a **standard analysis or design project**, civil engineers write up reports and create a few drawings for the project. Although not always asked for, civil engineers might go

the extra mile and draft up more than one idea. This is so there can be a proper discussion on which design or idea is more suitable for the project and why. Examples of this kind of project are main water designs, capacity analysis of highways, and improving storm drainage. Of the types of civil engineering projects, structural engineering would fall into this category the most.

Developing New Solutions

In a project about developing new solutions, you have to understand what the initial problem is, write a proposal on how to solve this problem, test your proposal, and see if the problem has been solved. Out of the five types of civil engineering projects, geotechnical engineering is a perfect example because the ground is never the same for a project.

Conclusion

Civil engineering made many of the structures we see every day. Bridges, roads, dams, railways, highways, and more have all been created by civil engineers. To say they have a huge impact on our lives would be an understatement. There are many types of civil engineering projects, but each one has an important role to fill. Without these projects, our society would not come close to being as advanced as we are now.

Posted in [Construction Software](#) and tagged [construction industry](#), [engineer](#), [project management](#).

Activity I

1. Recognize the following phrases and words

| | |
|---------------------------------|-------------------------------|
| 2. geotechnical engineering | ➤ teknik geotek |
| 3. demand responsibility | ➤ menuntut tanggung jawab |
| 4. subsurface | ➤ di bawah permukaan |
| 5. investigations | ➤ investigasi |
| 6. to determine | ➤ untuk menentukan |
| 7. safety risk | ➤ risiko keamanan |
| 8. subsurface investigations | ➤ investigasi bawah permukaan |
| 9. computer software | ➤ perangkat lunak komputer |
| 10. structural engineering | ➤ rekayasa struktural |
| 11. analyzing and designing | ➤ menganalisis dan mendesain |
| 12. the construction of bridges | ➤ pembangunan jembatan |
| 13. a structural engineer | ➤ seorang insinyur struktur |
| 14. constructed | ➤ dibangun |
| 15. sustainable | ➤ berkelanjutan |
| 16. economical and pleasing | ➤ ekonomis dan menyenangkan |

| | |
|---|---|
| <p>17. just like construction engineering</p> <p>Activity II</p> <p>18. structural engineering</p> <p>20. mathematics and physics</p> <p>21. all parts of the project</p> <p>22. sufficient strength</p> <p>23. to withstand the load</p> <p>24. determine the service</p> <p>25. life of the structure</p> <p>26. civil engineering projects</p> <p>27. structural engineering</p> <p>28. plays the biggest role</p> <p>29. in designing and selecting</p> <p>30. for a project.</p> <p>31. the responsibility</p> <p>32. structural engineers</p> <p>33. calculates the loads</p> <p>34. stresses a structure</p> <p>35. safely withstand</p> <p>36. suitable requirements</p> <p>37. assess and monitor structures</p> <p>38. dams, and buildings</p> <p>39. transportation engineering</p> <p>40. not surprisingly</p> <p>41. transportation engineering</p> <p>42. designing and operating</p> <p>43. large transportation systems</p> <p>44. looking for ways</p> <p>45. to improve</p> <p>46. transportation system.</p> <p>47. complex tasks</p> <p>48. evaluating plans</p> <p>49. schematic analysis</p> <p>50. groundwater</p> <p>51. prevent pollution</p> | <ul style="list-style-type: none"> ➤ persis seperti konstruksi ➤ teknik manajemen ➤ teknik struktur ➤ matematika dan fisika ➤ semua bagian proyek ➤ kekuatan yang cukup ➤ untuk menahan beban ➤ tentukan layanannya ➤ kehidupan struktur ➤ proyek teknik sipil ➤ teknik struktur ➤ memainkan peran terbesar ➤ dalam mendesain dan memilih ➤ untuk sebuah proyek. ➤ tanggung jawab ➤ insinyur struktur ➤ menghitung beban ➤ menekankan struktur ➤ bertahan dengan aman ➤ persyaratan yang sesuai ➤ menilai dan memantau struktur ➤ bendungan, dan bangunan ➤ teknik transportasi ➤ tidak mengherankan ➤ teknik transportasi ➤ merancang dan mengoperasikan ➤ sistem transportasi besar ➤ mencari cara ➤ meningkatkan ➤ sistem transportasi. ➤ tugas kompleks ➤ mengevaluasi rencana ➤ analisis skematik ➤ air tanah ➤ mencegah polusi |
|---|---|

2. Based on the reading text, answer the following questions

1. What is the discussion of civil engineering
2. why do many people think that civil engineering is one of the oldest sciences in the world?
3. What can be examples of construction engineering and management
4. What are the main tasks of the construction engineer manager
5. What is the purpose of engineering construction?
6. What do geotechnical engineers usually handle?

7. Who is in charge of developing the construction budget for the project
8. Who is obliged to gather a team of workers, materials?
9. Are the benefits of a civil engineer who knows earthquake engineering?
10. What are the functions of forensic techniques?
11. What complex responsibilities should a geotechnical engineer have?
12. What are the duties and responsibilities of structural engineers
13. What are the Duties of a transportation engineer?
14. What types of projects do civil engineers work on?
15. Are there many common tasks, In forensic engineering?

Activity III

▪ Participles

Directions: Identify the participle in each sentence. Problems with participles

1. Consumed with rage, the victim's father stormed at the defendant.
2. The tennis player, dripping with sweat, left the court suddenly.
3. Let the demanding customers wait in line.
4. One young man, seated in the middle of the row, dozed off.
5. Judy gave up her seat to the elderly woman, thinking she was doing a good deed.
6. Running water is a luxury in many countries.
7. The flag blowing in the wind gave hope to us all.
8. Broken promises made by Renata were what destroyed her relationship with Rick.
9. Delighted to learn he'd won the competition, Jerry began to smile.
10. The dogs hiding in the cellar were a worry for everyone.

Answer Key: 1. Consumed; 2. Dripping; 3. demanding; 4. seated; 5. thinking; 6. Running; 7. blowing; 8. Broken; 9. Delighted; 10. hiding.

▪ Gerunds

Directions: Identify the gerund in each sentence. Problems with gerunds

1. All of our planning for the outdoor wedding faded when the storm approached.
2. While playing baseball, Marcus injured his right foot.
3. Meredith decided that missing her husband was enough reason to cut her vacation short.
4. The bride and groom knew that smashing wedding cake would not be something they would do.
5. The lighting in the meeting room was terrible, and everyone got a headache.
6. No one seems to appreciate my practicing the violin.
7. When he was arrested for trespassing, the man pleaded ignorance.
8. Finding the right person for the job sometimes takes quite a long time.
9. Marge was overwhelmed by Mary's offering to help.
10. Suffering from a cold will cause many people to miss work.

Adopted from Susan Thurman (2012)

UNIT XXVII

1. Reading Comprehension

BOLTED CONNECTIONS

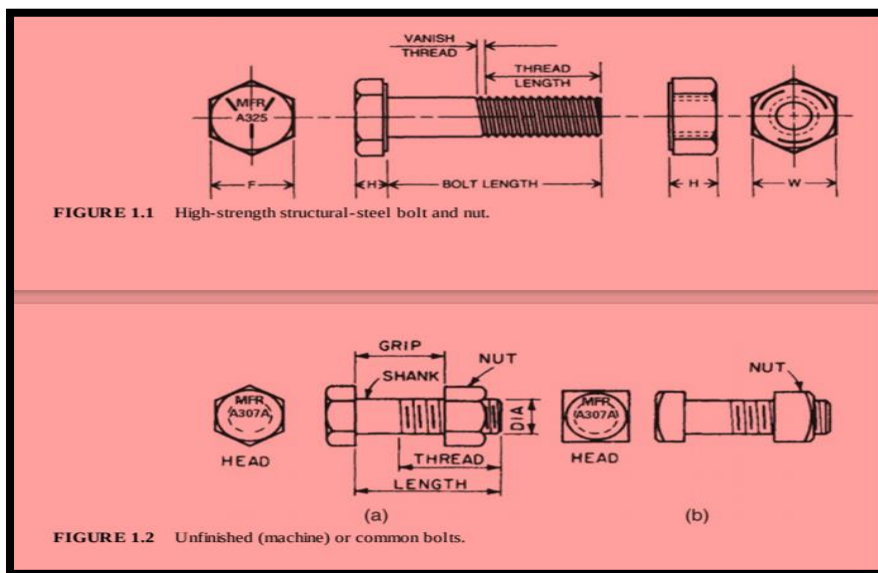


(Courtesy of The Steel Institute of New York.)

Types of Bolts

There are two kinds of bolts used in steel construction. These are high-strength structural bolts (Fig. 1.1) and common bolts manufactured under ASTM A307 (Fig. 1.2). High-strength bolts are included in three separate American Society for Testing and Materials (ASTM) Specifications: F3125, F3043, and F3111. F3125 is an umbrella specification that includes four grades: A325, A490, F1852, and F2280. The AISC Specification divides high-strength bolts into three groups based on minimum tensile strength. Group A bolts have a minimum tensile strength of 120 ksi and include ASTM F3125 Grades A325, A325M, and F1852, as well as ASTM A354 Grade BC. Group B bolts have a minimum tensile strength of 150 ksi and include ASTM F3125 Grades A490, A490M, and F2280, as well as A354 Grade BD. Group C bolts have a minimum tensile strength of 200 ksi and include ASTM F3043 and ASTM A3111. The various grades of F3125 are intended for general structural use, with the use of A354 and A449

fasteners intended only for conditions where the length or diameter limits of F3125 must be exceeded. F3034 and F3111 are probably best suited to heavily loaded connections. A449 bolts are also permitted to be used where the length and diameter limitations for A325 are exceeded. They are not included in Group A due to the multiple decreases in tensile strength based on diameter. A307 bolts, which were referred to previously as common bolts, are also variously called machine bolts, ordinary bolts, and unfinished bolts. The use of these bolts is limited primarily to shear connections in nonfatigue applications.



Structural bolts can be installed pretensioned or snug tight. Pretensioned means that the bolt is tightened until a tension force approximately equal to 70 percent of its minimum tensile strength is produced in the bolt. Snug tight is the condition that exists when all plies are in contact. It can be attained by a few impacts of an impact wrench or the full effort of a man using an ordinary spud wrench. Common bolts (A307) can be installed only to the snug-tight condition. There is no recognized procedure for tightening these bolts beyond this point. Pretensioned structural bolts must be used in certain locations. Section J3.1 of the AISC specification requires that they be used for the following joints: 1. Joints that are subject to significant load reversal 2. Joints that are subject to fatigue load with no reversal of the loading direction 3. Joints with ASTM A325 or F1852 bolts that are subject to tensile fatigue 4. Joints with ASTM A490 or F2280 bolts that are subject to tension or combined shear and tension, with or without fatigue 5. Connections subjected to vibratory loads where bolt loosening is a consideration 6. End connections of built-up members composed of two shapes either

interconnected by bolts or with at least one open side interconnected by perforated cover plates or lacing with tie plates, as required in Section E6.1 of the AISC Specification. In all other cases, A307 bolts and snug-tight A325 and A490 bolts can be used. The use of ASTM F3125 structural bolts shall conform to the requirements of the Research Council on Structural Connections (RCSC) “Specification for Structural Joints Using Bolts,” 2004. This document contains all of the information on design, installation, inspection, washer use, compatible nuts, etc. for these bolts. Information on the installation, inspection, washer use, compatible nuts, etc. for F3043 and F3111 bolts is contained in the ASTM Specifications. There is no comparable document for A307 bolts. The RCSC “bolt spec.” was developed in the 1950s to allow the replacement of rivets with bolts. Many sizes of high-strength bolts are available, as shown in Table 1.1. In general, a connection with a few large-diameter fasteners costs less than one of the same capacity with many small-diameter fasteners. The fewer the fasteners, the fewer the number of holes to be formed and the less installation work. Larger-diameter fasteners are generally favorable in connections, because the load capacity of a fastener varies with the square of the fastener diameter. For practical reasons, however, 3/4- and 7/8-in-diameter fasteners are usually preferred. Shop and erection equipment is generally set up for these sizes, and workers are familiar with them. It is also advisable to limit the diameter of bolts that must be pretensioned to 1 1/8 in since this is the largest diameter tension control (TC) bolt available.

Activity I

| | |
|--|------------------------------------|
| <p>Identifikasi frase dan kata kemudian hafalkan!</p> | |
| <p>1. Bolted connections</p> | <p>1. Koneksi bolted</p> |
| <p>2. Bolt type</p> | <p>2. Jenis baut</p> |
| <p>3. Steel construction</p> | <p>3. Konstruksi baja</p> |
| <p>4. Structural bolt strength</p> | <p>4. Kekuatan baut struktural</p> |
| <p>5. General bolt</p> | <p>5. Baut umum</p> |
| <p>6. Produced</p> | <p>6. Diproduksi</p> |

| | |
|----------------------------------|-----------------------------------|
| 7. High strength bolt | 7. Baut berkekuatan tinggi |
| 8. Including | 8. Termasuk |
| 9. Separate | 9. Terpisah |
| 10. American society | 10. Masyarakat amerika |
| 11. for testing and materials | 11. Untuk pengujian dan material |
| 12. Specification | 12. Spesifikasi |
| 13. Umbrella specifications | 13. Spesifikasi payung |
| 14. Including | 14. Termasuk |
| 15. High strength bolts | 15. Baut berkekuatan tinggi |
| 16. Minimum tensile strength | 16. Kekuatan tarik minimum |
| 17. Tensile strength | 17. Kekuatan tarik |
| 18. Various values of f3125. | 18. Berbagai nilai f3125. |
| 19. for general structures | 19. Untuk struktur umum |
| 20. Fasteners there | 20. Pengencang ada |
| 21. Exceeded | 21. Melebihi |
| 22. The most suitable | 22. Yang paling cocok |
| 23. A fully loaded connection | 23. Koneksi yang penuh muatan |
| 24. Diameter limitation | 24. Batasan .diameter |
| 25. some deductions | 25. Beberapa pengurangan |
| 26. in strength based | 26. Dalam kekuatan berbasis |
| 27. Previously referenced | 27. Dirujuk sebelumnya |
| 28. As a regular bolt, | 28. Sebagai baut biasa, |
| 29. Also called | 29. juga disebut |
| 30. Engine bolts, | 30. Baut mesin, |
| 31. Ordinary bolt | 31. Baut biasa |
| 32. Unfinished bolt | 32. Baut yang belum selesai |
| 33. Sliding base | 33. Pangkalan geser |
| 34. In non-fatigue applications. | 34. Dalam aplikasi non-kelelahan. |
| 35. Structural bolts | 35. Baut struktural |

Activity II

Jawablah pertanyaan berikut berdasarkan teks bacaan!

1. How many kinds of bolts are used in steel construction?
2. What does ASTM stand for?
3. The bolt belongs to the umbrella specification consisting of class, please specify!
4. The AISC specification divides high-strength bolts into three groups based on the minimum tensile strength. Mention!
5. What is the minimum tension for group A bolts?
6. What is the specificity of the F3125 score?
7. What type of bolt is most suitable for loaded joints?
8. What does pretension mean?
9. Under what conditions are ordinary bolts (A307) used?
10. The AISC specification requires that the bolt be used for 6 types of connections. Mention!

Activity III

Tuliskan T (TRUE) jika kata yang digaris bawahi benar pada kalimat di bawah ini dan perbaikalah kata tersebut pada kolom yang tersedia di sebelah kanan bila kata itu salah!

| | | |
|----|---|--|
| 1. | How <u>are</u> you do? | |
| 2. | How many kinds of bolts <u>are</u> used in steel construction? | |
| 3. | What does he always <u>talking</u> to you? | |
| 4. | The bolt <u>belonging</u> to the umbrella specification consisting of class, please specify! | |
| 5. | The AISC specification <u>divides</u> high-strength bolts into three groups based on the minimum tensile strength. Mention! | |
| 6. | How many kinds of bolts <u>was</u> used in steel construction? | |

| | | |
|----|---|--|
| 7 | What were the minimum tension for group A bolts? | |
| 8 | What does the specificity of the F3125 score? | |
| 9 | What type of bolt is most suitable for loaded joints? | |
| 10 | What does pretension mean? | |
| 11 | Under what conditions is ordinary bolts (A307) used? | |
| 12 | Where did you bought the bolts? | |
| 13 | When will you meet a leader of the project? | |
| 14 | Who are going to help you install the steel bridge bolt? | |
| 15 | How many workers can survive the completion of a toll bridge project? | |
| | | |

Activity IV

5. *Atur ulang kalimat di bawah ini kedalam susunan yang benar hingga menghasilkan terjemahan Bahasa Indonesia yang telah tersedia pada kolom sebelah keanan!*

| | |
|---|---|
| <ol style="list-style-type: none"> 1. Are/ two/ there /types/ of /bolts/ used in/ steel /construction./ 2. a high/ it /is/ strength/ structural/ bolt. 3. Are/ included/ high/ strength/ bolts/ in /three /separate/ American/ Society/ For/ Testing/ And/ Materials/ (ASTM). 4. specifications:/ f3125, f3043,/ and f3111. /f3125/ is /covering/ four /classes /an /umbrella /specification:/ a325, a490, f1852,/ and f2280/. 5. Minimum/ tensile /strength/ the/ AISC /specification/ divides /high-strength/ bolts/ into/ three/ groups/ based /on /their./ 6. Also/ permitted/ a449 bolt /is/ for /use/ if/ it/ exceeds /the length/ and diameter/ limits /for a325./ | <ol style="list-style-type: none"> 1. Ada dua macam baut yang digunakan dalam konstruksi baja. 2. Ini adalah baut struktural kekuatan tinggi 3. Baut berkekuatan tinggi disertakan dalam tiga American Society for Testing and Material (ASTM) terpisah. 4. Spesifikasi: F3125, F3043, dan F3111. F3125 adalah spesifikasi payung yang mencakup empat kelas: A325, A490, F1852, dan F2280. 5. Spesifikasi AISC membagi baut berkekuatan tinggi menjadi tiga kelompok berdasarkan kekuatan tarik minimum 6. Baut A449 juga diizinkan untuk digunakan jika melebihi |
|---|---|

| | |
|---|---|
| <p>7. Fatigue/ applications/ the /use/ of these /bolts /is/ limited/ primarily/ to/ sliding/ joints/ in non-./</p> <p>8. tightly /fixed/ structural /bolts /can/ be /tension/ mounted/ or./</p> <p>9. on/ th/e bolt/ pretension /means/ that/ the/ bolt/ is /tightened/ until/ the/ tensile/ force /is /approximately /equal /to 70 /percent /of/ the/ minimum /tensile /strength/ generated./</p> <p>10. in/ contact /snug /tight/ is/ a/ condition /that /occurs /when /all/ layers/ are./</p> <p>11. using/ an /ordinary /wrench /this /can/ be/ achieved/ with /some/ impact /from/ a collision/ wrench/ or/ the/ full/ effort/ of/ a person./</p> <p>12. in/ tigh/t conditions /the/ ordinary/ bolt/ (a307) /can/ only /be /installed./</p> <p>13. beyond/ this /point /there/ is /no</p> <p>14. /recognized /procedure/ for/ tightening /these bolts./</p> <p>15. in /specific/ locations /prestressed /structural/ bolts/ mus/t be/ used./</p> <p>16. load /reversal /a /connection/ that/ is /subjected /to /a /significant/</p> <p>17. the/ loading /joints/ subject/ to/ fatigue /load /without/ reversing/ the /direction/ of</p> <p>18. on/ structural/ joints/ the/ use /of/ astm f3125/ structural /bolts/ must /comply /with /the/ requirements/ of/ the /research/ council (RCSC)</p> | <p>batasan panjang dan diameter untuk A325.</p> <p>7. Penggunaan baut ini dibatasi terutama pada sambungan geser pada aplikasi non-fatik.</p> <p>8. Baut struktural dapat dipasang dengan prategangan atau terpasang erat.</p> <p>9. Pretensi berarti bahwa baut dikencangkan sampai gaya tarik kira-kira sama dengan 70 persen dari kekuatan tarik minimum yang dihasilkan pada baut.</p> <p>10. Snug tight adalah kondisi yang terjadi saat semua lapisan bersentuhan.</p> <p>11. Ini dapat dicapai dengan beberapa dampak dari kunci pas benturan atau upaya penuh dari orang yang menggunakan kunci pas biasa.</p> <p>12. Baut biasa (A307) hanya dapat dipasang pada kondisi yang rapat.</p> <p>13. Tidak ada prosedur yang diakui untuk mengencangkan baut ini di luar titik ini.</p> <p>14. Baut struktural prategang harus digunakan di lokasi tertentu.</p> <p>15. Sambungan yang mengalami pembalikan beban yang signifikan</p> <p>16. Sambungan yang dikenakan beban fatik tanpa pembalikan arah pembebanan</p> <p>17. Penggunaan baut struktural ASTM F3125 harus sesuai dengan persyaratan Dewan Riset tentang Sambungan Struktural (RCSC) "Spesifikasi Sambungan Struktural yang Menggunakan Baut", 2004.</p> <p>18. Dokumen ini berisi semua informasi tentang desain,</p> |
|---|---|

| | |
|---|---|
| <p>"Specifications /For /Structural/ Joints /Using /Bolts",/ 2004./</p> <p>19. contains /all /this/ document/ the/ information/ regarding/ the design, /installation, /inspection, /use/ of/ the /washer,/ compatible/ nuts, etc./</p> <p>20. no /comparable/ there/ is/ document/ for /the/ a307 bolt./ RCSC /"bolt specifications"/</p> <p>21. many/ sizes there/ are/ of/ high/ strength /bolts/ available/</p> <p>22. are /generally/ preferred /larger/ diameter /fasteners /in/ joints/</p> | <p>pemasangan, inspeksi, penggunaan mesin cuci, mur yang kompatibel, dll.</p> <p>19. Tidak ada dokumen yang sebanding untuk baut A307. "Spesifikasi baut" RCSC.</p> <p>20. Tersedia banyak ukuran baut berkekuatan tinggi</p> <p>21. Pengencang berdiameter lebih besar umumnya disukai dalam sambungan</p> |
|---|---|

UNIT XXVIII

1. Reading Comprehension

STEEL PRODUCTION

The overall process of steel production is shown in Figure 3.3. This process consists of the following three phases: 1. reducing iron ore to pig iron 2. refining pig iron (and scrap steel from recycling) to steel 3. forming the steel into products. The materials used to produce pig iron are coal, limestone, and iron ore. The coal, after transformation to coke, supplies carbon used to reduce iron oxides in the ore. Limestone is used to help remove impurities. Prior to reduction, the concentration of iron in the ore is increased by crushing and soaking the ore. The iron is magnetically extracted from the waste, and the extracted material is formed into pellets and fired. The processed ore contains about 65% iron. Reduction of the ore to pig iron is accomplished in a blast furnace. The ore is heated in the presence of carbon. Oxygen in the ore reacts with carbon to form gases. A flux is used to help remove impurities. The molten iron, with an excess of carbon in solution, collects at the bottom of the furnace. The impurities, slag, float on top of the molten pig iron.

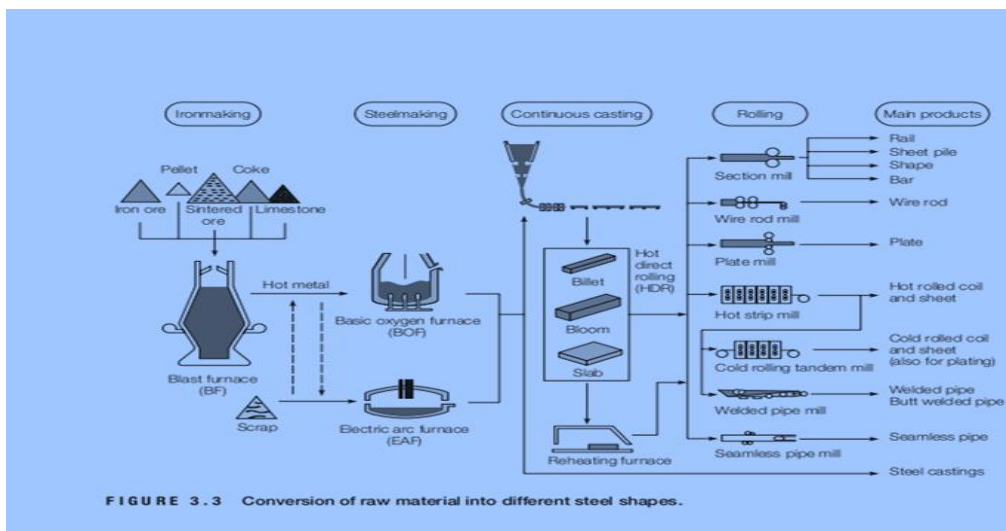


FIGURE 3.3 Conversion of raw material into different steel shapes.

The excess carbon, along with other impurities, must be removed to produce high-quality steel. Using the same refining process, scrap steel can be recycled. Two types of furnaces are used for refining pig iron to steel: 1. basic oxygen 2. electric arc The basic oxygen furnaces remove excess carbon by reacting the carbon with oxygen to form gases. Lances circulate oxygen through the molten material. The process is continued until all impurities are removed and the desired carbon content is achieved. The basic oxygen furnace process is used to produce construction products that require more drawability, such as hollow structural sections, studs, decking, and plate (Calkins, 2008). Electric furnaces use an electric arc between carbon electrodes to melt and refine the steel. These plants require a tremendous amount of energy and are used primarily to recycle scrap steel. Electric furnaces are frequently used in minimills, which produce a limited range of products. In this process, molten steel is transferred to the ladle. Alloying elements and additional agents can be added either in the furnace or the ladle. Structural members are primarily produced with the electric arc furnace process (Calkins, 2008). During the steel production process, oxygen may become dissolved in the liquid metal. As the steel solidifies, the oxygen can combine with carbon to form carbon monoxide bubbles that are trapped in the steel and can act as initiation points for failure. Deoxidizing agents, such as aluminum, ferrosilicon, and manganese, can eliminate the formation of the carbon monoxide bubbles. Completely deoxidized steels are known as killed steels. Steels that are generally killed include:

- ■ Those with a carbon content greater than 0.25%
- ■ All forging grades of steels
- ■ Structural steels with carbon content between 0.15 and 0.25%
- ■ Some special steel in the lower carbon ranges

Regardless of the refining process, the molten steel, with the desired chemical composition, is then either cast into ingots (large blocks of steel) or cast continuously into a desired shape. Continuous casting with hot rolling is becoming the standard production method, since it is more energy efficient than casting ingots, as the ingots must be reheated prior to shaping the steel into the final product. Cold-formed steel is produced from sheets or coils of hot rolled steel which is formed into shape either through press-braking blanks sheared from sheets or coils, or more commonly, by roll-

forming the steel through a series of dies. No heat is required to form the shapes (unlike hot-rolled steel) and thus the name coldformed steel. Cold-formed steel members and other products are thinner, lighter, and easier to produce, and typically cost less than their hot-rolled counterparts (IBS Digest, 2005)

Activity I

I. Recognize the following phrases and words

| | |
|-------------------------------|-------------------------------|
| 2. overall proces | ➤ proses keseluruhan |
| 3. steel production | ➤ produksi baja |
| 4. shown | ➤ ditampilkan |
| 5. consists | ➤ terdiri |
| 6. following three phases | ➤ mengikuti tiga fase |
| 7. reducing iron ore | ➤ mengurangi bijih besi |
| 8. refining | ➤ pengilangan |
| 9. scrap steel | ➤ besi tua |
| 10. from recycling | ➤ dari daur ulang |
| 11. forming | ➤ membentuk |
| 12. coal | ➤ batu bara |
| 13. limestone | ➤ batu kapur |
| 14. transformation | ➤ transformasi |
| 15. supplies carbon | ➤ memasok karbon |
| 16. iron oxides | ➤ oksida besi |
| 17. Limestone | ➤ Batu kapur |
| 18. remove impurities | ➤ menghilangkan kotoran |
| 19. increased | ➤ meningkat |
| 20. by crushing | ➤ dengan menghancurkan |
| 21. soaking the ore | ➤ merendam bijih |
| 22. magnetically extracted | ➤ diekstraksi secara magnetis |
| 23. from the waste | ➤ dari limbah |
| 24. the extracted material | ➤ bahan yang diekstraksi |
| 25. accomplished | ➤ ulung |
| 26. a blast furnace | ➤ tungku sembur |
| 27. ore | ➤ bijih |
| 28. heated i | ➤ dipanaskan i |
| 29. reacts | ➤ bereaksi |
| 30. form gases | ➤ bentuk gas |
| 31. flux | ➤ aliran |
| 32. remove impurities | ➤ menghilangkan kotoran |
| 33. molten iron | ➤ besi cair |
| 34. an excess of carbon | ➤ kelebihan karbon |
| 35. collects | ➤ mengumpulkan |
| 36. the bottom of the furnace | ➤ bagian bawah tungku |
| 37. float on top | ➤ mengapung di atas |
| 38. all impurities | ➤ semua kotoran |

| | |
|---|--|
| <p>39. Alloying elements 40. Electric furnaces 41. require more drawability 42. by reacting 43. liquid metal 44. monoxide 45. trapped 46. coldformed</p> | <p>➤ Elemen paduan ➤ Tungku listrik ➤ membutuhkan lebih banyak ➤ dengan bereaksi ➤ logam cair ➤ monoksida ➤ terjebak ➤ berbentuk dingin</p> |
|---|--|

Activity II

II. Based on the reading text, answer the following questions How many steel production processes are there? Mention!

1. What is the function of limestone?
2. How to increase iron concentration?
3. What is the function of flux?
4. How to produce high quality steel?
5. How many types of furnaces are used to purify pig iron?
6. What is the purpose of the basic oxygen furnace process?
7. What is used to smelt and refine steel?
8. What can eliminate the formation of carbon monoxide bubbles?
9. What is the cover so that the steel usually dies?
10. When does oxygen dissolve in molten metal?
11. What else must be done to mold the steel into the final product?

Activity III

III. *Atur ulang kalimat di bawah ini kedalam susunan yang benar hingga menghasilkan terjemahan Bahasa Indonesi yang telah tersedia pada kolom sebelah keanan!*

| | |
|--|--|
| <p>1. And/ iron /ore /the/ materials/ used/ to produce/ pig iron are coal, /limestone, 2. Soaking/ the/ ore /limestone/ is/ used/ /to help/ remove/ impurities./ 3. by /crushing/ and prior /to reduction,/ the /concentration/ of iron/ in the/ ore is /increased /</p> | <p>1. bahan yang digunakan untuk memproduksi pig iron adalah batu bara, batu kapur, dan bijih besi. 2. batu kapur digunakan untuk membantu menghilangkan kotoran. 3. sebelum reduksi, konsentrasi besi dalam bijih ditingkatkan dengan</p> |
|--|--|

| | |
|--|---|
| <p>4. into /pellets/ and/ fired /the/ iron/ is /magnetically /extracted/ from/ the waste,/ and the extracted /material/ is /formed./</p> <p>5. 65% iron/ the processed/ ore contains/ about/</p> <p>6. Is/ accomplished /in a blast/ furnace/ reduction /of the ore/ to pig iron./</p> <p>7. Presence/ of carbon /the ore/ is heated /in the/</p> <p>8. to/ form /gases /oxygen /in /the/ ore /reacts /with /carbon/</p> <p>9. help/ remove/ impurities/ a flux/ is /used to/</p> <p>10. of /the/ furnace/ the molten/ iron,/ with/ an/ excess/ of carbon/ in /solution, /collects/ at the bottom/</p> <p>11. molten/ pig/ iron/ the impurities,/ slag, /float /on top/ of /the/</p> <p>12. /high-quality/ steel /the excess/ carbon,/ along/ with /other /impurities,/ must be removed to produce/</p> <p>13. can /be /recycled /using/ the same /refining/ process, /scrap/ steel/</p> <p>14. 2 electric/ arc/ two /types/ of /furnaces /are/ used/ for/ refining/ pig/ iron/ to steel:/ 1. basic /oxygen /</p> <p>15. To/ form/ gases/ the/ basic/ oxygen /furnaces /remove /excess /carbon/ by /reacting /the/ carbon /with /oxygen/</p> <p>16. The/ molten /material/ lances /circulate/ oxygen/ through.</p> <p>17. Content/ is/ achieved/ the/ process/ is/ continued /until/ all/ impurities /are /removed /and/ the/ desired /carbon/</p> <p>18. Recycle/ scrap/ steel /these /plants/ require /a/ tremendous /amount/ of /energy/ and /are/ used /primarily /to /</p> <p>19. range /of /products /electric/ furnaces/ are /frequently/ used /in minimills,/ which /produce/ a limited/</p> <p>20. to/ the /ladle /in this /process,/ molten /steel /is/ transferred/</p> <p>21. or/ the/ ladle/ alloying/ elements /and/ additional /agents /can /be/ added /either/ in/ the /furnace/</p> | <p>cara menghancurkan dan merendam bijih.</p> <p>4. besi diekstraksi secara magnetis dari limbah, dan bahan yang diekstraksi dibentuk menjadi pelet dan dibakar.</p> <p>5. bijih olahan mengandung sekitar 65% zat besi.</p> <p>6. reduksi bijih menjadi pig iron dilakukan dalam blast furnace.</p> <p>7. bijih dipanaskan dengan adanya karbon.</p> <p>8. oksigen dalam bijih bereaksi dengan karbon membentuk gas.</p> <p>9. fluks digunakan untuk membantu menghilangkan kotoran.</p> <p>10. besi cair, dengan kelebihan karbon dalam larutan, terkumpul di dasar tungku.</p> <p>11. kotoran, terak, mengapung di atas pig iron cair.</p> <p>12. karbon berlebih, bersama dengan kotoran lainnya, harus dihilangkan untuk menghasilkan baja berkualitas tinggi.</p> <p>13. dengan menggunakan proses pemurnian yang sama, baja bekas dapat didaur ulang.</p> <p>14. dua jenis tungku yang digunakan untuk memurnikan pig iron menjadi baja: 1. oksigen dasar 2. busur listrik</p> <p>15. tungku oksigen dasar menghilangkan kelebihan karbon dengan mereaksikan karbon dengan oksigen untuk membentuk gas.</p> <p>16. tombak mengedarkan oksigen melalui bahan cair.</p> <p>17. proses dilanjutkan sampai semua kotoran dihilangkan dan kandungan karbon yang diinginkan tercapai.</p> <p>18. pabrik ini membutuhkan energi yang sangat besar dan digunakan</p> |
|--|---|

| | |
|--|---|
| <p>22. Arc/ furnace/ process/ structural /members/ are/ primarily/ produced /with/ the electric/</p> <p>23. in the liquid /metal/ during/ the steel production/ process, /oxygen/ may /become /dissolved./</p> <p>24. points/ for /failure/ as/ the steel /solidifies,/ the oxygen/ can/ combine/ with /carbon/ to/ form/ carbon /monoxide/ bubbles /that /are/ trapped/ in/ the /steel /and/ can /act /as //initiation./</p> <p>25. the/ carbon/ monoxide/ bubbles /deoxidizing /agents, /such as /aluminum, /ferrosilicon,/ and /manganese, /can /eliminate/ the/ formation of./</p> <p>26. /standard /production/ method /continuous /casting /with /hot /rolling/ is /becoming/ the /</p> <p>27. hot /rolled/ steel /cold-formed /steel/ is produced/ from/ sheets /or coils/ of /</p> | <p>terutama untuk mendaur ulang baja bekas.</p> <p>19. tungku listrik sering digunakan di minimill, yang menghasilkan rangkaian produk terbatas.</p> <p>20. dalam proses ini, baja cair dipindahkan ke sendok.</p> <p>21. elemen paduan dan bahan tambahan dapat ditambahkan baik di dalam tungku atau di sendok.</p> <p>22. anggota struktural terutama diproduksi dengan proses tungku busur listrik</p> <p>23. selama proses produksi baja, oksigen dapat terlarut dalam logam cair.</p> <p>24. saat baja mengeras, oksigen dapat bergabung dengan karbon untuk membentuk gelembung karbon monoksida yang terperangkap dalam baja dan dapat bertindak sebagai titik awal kegagalan.</p> <p>25. zat pengoksidasi, seperti aluminium, ferrosilicon, dan mangan, dapat menghilangkan pembentukan gelembung karbon monoksida.</p> <p>26. pengecoran berkelanjutan dengan penggulangan panas menjadi metode produksi standar,</p> <p>27. baja bentuk dingin dihasilkan dari lembaran atau gulungan baja canai panas</p> |
|--|---|

Activity IIV

Write (true)/justifying the wrong word on right side

| No | Sentences | True/being corrected |
|----|---|----------------------|
| 1 | How many steel production processes will there? Mention! | |
| 2 | What are the function of limestone? | |
| 3 | How do to increase iron concentration? | |

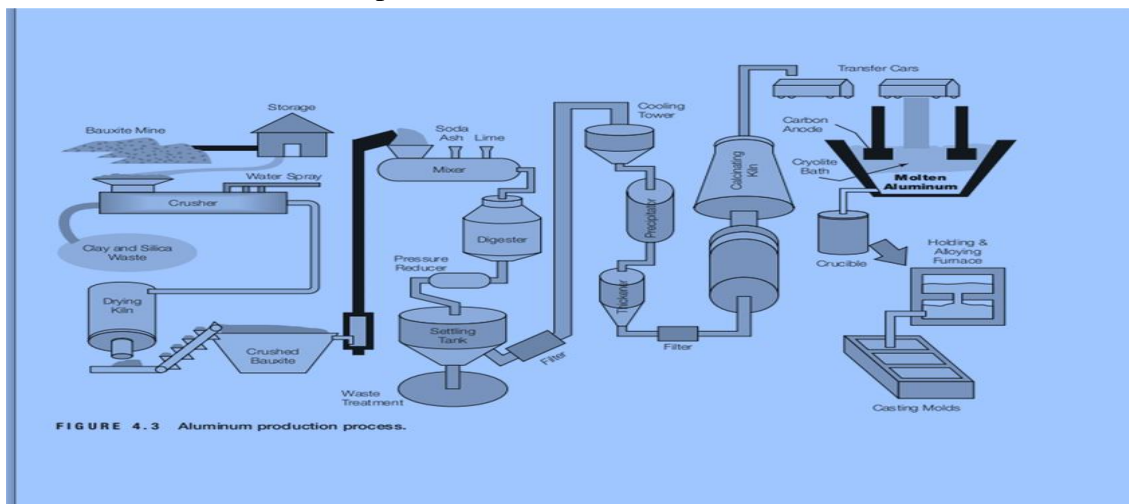
| | | |
|----|---|--|
| 4 | What have the function of flux? | |
| 5 | How to produce high quality steel? | |
| 6 | How many types of furnaces were used to purify pig iron? | |
| 7 | What is the purpose of the basic oxygen furnace process? | |
| 8 | What is used to smelt and refine steel? | |
| 9 | What might eliminate the formation of carbon monoxide bubbles? | |
| 10 | What are the cover so that the steel usually dies? | |
| 11 | When did oxygen dissolve in molten metal? | |
| 12 | What else must be done to mold the steel into the final product? | |
| 13 | What can eliminateing the formation of carbon monoxide bubbles? | |

UNIT XXIX

ALUMINIUM PRODUCTION

1. Reading Comprehension

Aluminum production uses processes that were developed in the 1880s. Bayer developed the sodium aluminate leaching process to produce pure alumina (Al_2O_3). Hall and Héroult, working independently, developed an electrolytic process for reducing the alumina to pure aluminum. The essence of the aluminum production process is shown in Figure 4.3. The production of aluminum starts with the mining of the aluminum ore, bauxite. Commercial grade bauxite contains between 45% and 60% alumina. The bauxite is crushed, washed to remove clay and silica materials, and is kiln dried to remove most of the water. The crushed bauxite is mixed with soda ash and lime and passed through a digester, pressure reducer, and settling tank to produce a concentrated solution of sodium aluminate. This step removes silica, iron oxide, and other impurities from the



sodium aluminate solution. The solution is seeded with hydrated alumina crystals in precipitator towers. The seeds attract other alumina crystals and form groups that are heavy enough to settle out of solution. The alumina hydrate crystals are washed to remove remaining traces of impurities and are calcined in kilns to remove all water. The resulting alumina is ready to be reduced with the Hall-Héroult process. The alumina is melted in a cryolite bath (a molten salt of sodium-aluminum-fluoride). An electric current is passed between anodes and cathodes of carbon to separate the

aluminum and oxygen molecules. The molten aluminum is collected at the cathode at the bottom of the bath. The molten aluminum, with better than 99% purity, is siphoned off to a crucible. It is then processed in a holding furnace. Hot gases are passed through the molten material to further remove any remaining impurities. Alloying elements are then added. The molten aluminum is either shipped to a foundry for casting into finished products or is cast into ingots. The ingots are formed by a direct-chill process that produces huge sheets for rolling mills, round loglike billets for extrusion presses, or square billets for production of wire, rod, and bar stock. Final products are made by either casting, which is the oldest process, or deforming solid aluminum stock. Three forms of casting are used: die casting, permanent mold casting, and sand casting. The basic deformation processes are forging, impact extrusion, stamping, drawing, and drawing plus ironing. Many structural shapes are made with the extrusion process. Either cast or deformed products can be machined to produce the final shape and surface texture, and they can be heat treated to alter the mechanical behavior of the aluminum. Casting and forming methods are summarized in Table 4.1. When recycling aluminum, the scrap stock is melted in a furnace. The molten aluminum is purified and alloys are added. This process takes only about 5% of the electricity that is needed to produce aluminum from bauxite. In addition to these conventional processes, very high strength aluminum parts can be produced using powder metallurgy methods. A powdered aluminum alloy is compacted in a mold. The material is heated to a temperature that fuses the particles into a unified solid.

Activity I

1. Recognize the following phrases and words

| | |
|-----------------------------|------------------------------------|
| 1. luminum production | ➤ Produksi aluminium |
| 2. develop sodium aluminate | ➤ mengembangkan natrium aluminat |
| 3. leaching process | ➤ proses pencucian |
| 4. to produce pure alumina | ➤ untuk menghasilkan alumina murni |
| 5. work independently | ➤ bekerja secara mandiri |
| 6. developed | ➤ dikembangkan |
| 7. electrolytic process | ➤ proses elektrolitik |
| 8. to reduce | ➤ untuk mengurangi |
| 9. aluminum | ➤ alumina |
| 11. The bottom line | |

Activity II

| | |
|--|--|
| <p>12. aluminum production process</p> <p>13. bauxite.</p> <p>14. Commercial bauxite</p> <p>15. contain</p> <p>16. crushed, washed</p> <p>17. clay and silica</p> <p>18. to remove</p> <p>19. mostly water</p> <p>20. Crushed bauxite</p> <p>21. mixed with soda ash</p> <p>22. pressure reducer</p> <p>23. impurities from the sodium aluminate</p> <p>24. displayed with</p> <p>25. hydrated alumina crystals</p> <p>26. in the settling tower</p> <p>27. attracting other alumina crystals</p> <p>28. quite heavy</p> <p>29. residual dirt</p> <p>30. calcined</p> <p>31. The resulting alumina</p> <p>32. oxygen molecules.</p> <p>33. Liquid aluminum</p> <p>34. collect</p> <p>35. at the cathode</p> <p>36. at the base of the bath</p> <p>37. Liquid aluminum, with</p> <p>38. purity more than 99%</p> <p>39. sucked into the container</p> <p>40. furnace</p> <p>41. liquid material</p> <p>42. to foundry</p> <p>43. to be poured into</p> <p>44. thrown into ingots</p> <p>45. . The ingot rod is formed by</p> <p>46. direct cooling process</p> <p>47. great sheets</p> <p>48. rolling mill,</p> <p>49. round wooden billet</p> <p>50. square billet</p> <p>51. remodel solid aluminum stock.</p> <p>52. form of casting</p> <p>53. reused die casting,</p> <p>54. permanent mold casting</p> <p>55. recycle aluminum</p> <p>56. remaining stock</p> <p>57. smelted in the furnace</p> <p>58. Liquid aluminum is</p> <p>59. purified</p> | <ul style="list-style-type: none"> ➤ menjadi aluminium murni ➤ . Garis bawah ➤ proses produksi aluminium bauksit. ➤ Bauksit komersial ➤ berisi ➤ dihancurkan, dicuci ➤ tanah liat dan silika ➤ untuk menghapus ➤ kebanyakan air ➤ Bauksit yang dihancurkan ➤ dicampur dengan soda ash ➤ pengurang tekanan ➤ kotoran dari larutan natrium aluminat ➤ ditampilkan dengan ➤ kristal alumina terhidrasi ➤ di menara pengendapan ➤ menarik kristal alumina lainnya ➤ cukup berat ➤ kotoran sisa ➤ dikalsinasi ➤ Alumina yang dihasilkan ➤ molekul oksigen. ➤ Aluminium cair ➤ mengumpulkan ➤ di katoda ➤ di dasar bak mandi ➤ Aluminium cair, dengan ➤ kemurnian lebih dari 99% ➤ tersedot ke dalam wadah ➤ perapian ➤ bahan cair ➤ untuk pengecoran ➤ untuk dituangkan ke dalam ➤ dibuang ke ingot ➤ . Batang ingot dibentuk oleh ➤ proses pendinginan langsung ➤ seprai bagus ➤ rolling mill, ➤ billet kayu bulat ➤ billet persegi ➤ merombak stok aluminium padat. ➤ bentuk pengecoran ➤ digunakan kembali die casting, |
|--|--|

| | |
|---|---|
| <p>60. alloy added 61. metallurgical method</p> | <ul style="list-style-type: none"> ➤ pengecoran cetakan permanen ➤ mendaur ulang aluminium ➤ sisa stok ➤ dilebur di tungku ➤ Aluminium cair adalah ➤ dimurnikan ➤ paduan ditambahkan ➤ metode metalurgi |
|---|---|

2. Based on the reading text, answer the following questions

1. What process was developed by Bayer?
2. What Hall and Heroult have developed
3. How to start the aluminum production process?
4. How to remove clay and silka from bauxite?
5. What percentage of alumina is contained by bauxite?
6. What mixture is given to Bauxite when crushed?
7. What is done to produce a concentrated sodium aluminate solution?
8. How to remove impurities and water in the crystals?
9. There are three forms of casting. Mention!
10. How to recycle aluminum?
11. Does it require electricity to produce aluminum from bauxite?
12. What methods are used to produce the ultra-high strength aluminum component?

Activity III

3. Direction: Underline the subject and predicate for each sentence below.
1. Liza and Cooper will watch television for an hour.
 2. This journal, written in the 1800s, has been handed down to me.
 3. A strong feeling of contentment filled Ben's heart after the race.
 4. Lynn knew she had made the right purchase.
 5. That she had called the wrong person suddenly occurred to Rita.
 6. Twenty-two years sounded like a long time.
 7. Jason's elaborate plans for the future need revising.
 8. Allison, accompanied by Mitchell, is driving home.
 9. Once considered a rising star, Cory has seen his fortune dwindle.
 10. Sue has gone away and won't return for two months.

Adopted from Susan Thurman (2012)

1. Reading Comprehension

KAMPUNG PELANGI

Kampung Pelangi is one of the tourist destinations in Banjarbaru, South Kalimantan. Located in Guntung Paikat Sub-district, which can be reached by Kemuning street or through Sumberadi village, South Banjarbaru. Kampung Pelangi is located not so far from the center of Banjarbaru City, only 10 minutes away by car. Visitors can freely enter this colorful village at any time

without being charged a penny. Yes that's right, at any time, Kampung Pelangi can still be enjoyed even at night. Hanging round lights will brighten the visitors. The path was still brightly lit even though the day had turned to night.

Do you know? This colorful village was once a slum area. The river, which was previously neglected, has been normalized since 2010 so that it becomes clean and comfortable to look at, then in 2016 a pedestrian path was created as well as a jogging track, and then in February 2017, an idea emerged from the local community to create Kampung Pelangi. At first, only 4 houses were painted in various colors, but it turned out that the Mayor of Banjarbaru was interested and looked for a paint donors. As a result, now all 350 houses are painted with beautiful colors. The walls are painted with Banjar ornament themes, cubism, scenery, animals, puppets, abstracts, and other cultural themes. There are also instagramable paintings that are suitable as backgrounds to post on your social media. Kampung Pelangi was officially opened by the mayor of Banjarbaru, Nadjmi Adhani on April 14, 2017.

Not only are the walls of the residents houses considered attractive, other areas also have their own charms. The clean environment makes any area suitable for photo spots, like the benches and small gardens beside the river, or the bridge between the

Kemuning River with “Kampoeng Pelangi” writing on it. In kampung pelangi, there is also a reading garden area and an outdoor fitness area. The fitness area is 100 meters from the entrance gate on the left. Simple versions of fitness equipment such as static bikes, pec deck fly, and others are neatly arranged in the open space. There is also a children's playground area where facilities such as swings, seesaw and others are provided. They said there is also free WiFi here, but too bad, when I visited there I didn't find any area that facilitates free WiFi.

Oh and don't forget the viewing tower which is no less interesting in this area. From the entrance gate, just turn to the right, about 1.5 km. It shaped like a pyramid, about 18 meters high. This viewing tower stands between the two sides of the Kemuning River. Painted in colors

that match the colorful village. The tower is composed of five floors and the higher the floor, the narrower it will be. Visitors and tourists can see the views of the Kemuning River and Kampung Pelangi from above.

Activity I

1. Recognize the following phrases and words

| | |
|----------------------------|------------------------------|
| 1. Rainbow Village | 1. Desa Pelangi |
| 2. destination | 2. tujuan |
| 3. Located | 3. Terletak |
| 4. districts | 4. distrik |
| 5. reached | 5. tercapai |
| 6. through | 6. melalui |
| 7. enter freely | 7. masuk dengan bebas |
| 8. this colorful village | 8. desa yang penuh warna ini |
| 9. anytime | 9. kapan saja |
| 10. free of charge | 10. gratis |
| 11. enjoyed | 11. dinikmati |
| 12. even at night | 12. bahkan di malam hari |
| 13. Hanging round lights | 13. Lampu gantung bulat |
| 14. enlighten visitors | 14. mencerahkan pengunjung |
| 15. Street | 15. Jalan |
| 16. shining brightly | 16. bersinar cerah |
| 17. although | 17. meskipun |
| 18. that day | 18. hari itu |
| 19. turned into night | 19. berubah menjadi malam |
| 20. previously ignored | 20. sebelumnya diabaikan |
| 21. normalized | 21. dinormalisasi |
| 22. since 2010 so that is | 22. sejak 2010 jadi itu |
| 23. comfortable to look at | 23. nyaman dipandang |

| | |
|----------------------------------|-------------------------------------|
| 24. , then in 2016 | 24., lalu pada 2016 |
| 25. pedestrian path | 25. jalur pejalan kaki |
| 26. made too | 26. dibuat juga |
| 27. jogging track | 27. Lintasan jogging |
| 28. an idea came up | 28. sebuah ide muncul |
| 29. Local community | 29. Komunitas lokal |
| 30. various colors | 30. berbagai warna |
| 31. evidently | 31. jelas |
| 32. Mayor of Banjarbaru | 32. Walikota Banjarbaru |
| 33. interested | 33. tertarik |
| 34. painted in beautiful colors. | 34. dicat dengan warna-warna indah. |
| 35. ornament theme | 35. tema ornamen |
| 36. other cultural themes | 36. tema budaya lainnya |
| 37. shaped like a pyramid | 37. berbentuk seperti piramida |
| 38. This viewing tower stands | 38. Menara pandang ini berdiri |
| 39. between the two sides | 39. antara kedua sisi |
| 40. Painted in color | 40. Dilukis dengan warna |
| 41. that match | 41. pertandingan itu |
| 42. consists of five floors | 42. terdiri dari lima lantai |
| 43. the higher the floor | 43. semakin tinggi lantainya |
| 44. will be narrower | 44. akan lebih sempit |
| 45. look at the view | 45. lihatlah pemandangan itu |

Activity II

2. **Based on the reading text, answer the following questions**
 1. **What is the Kampung Pelangi**
 2. **How many directions can be taken to arrive at Kampung Pelangi?**
 3. **When can we visit Kampung Pelangi?**
 4. **Who was the first to give ideas about Kampung Pelangi?**
 5. **How many houses are there in Kampung Pelangi?**
 6. **Actually, where is the location of Kampung Pelangi?**
 7. **How long does it take from Banjarmasin to arrive at Kampung Pelangi?**
 8. **How much does it cost to arrive at Kampung Pelangi?**
 9. **What themes are painted on the walls of Kampung Pelangi?**
 10. **When will Kampung Pelangi officially open to visitors?**

Activity III

2. Tulislah T (TRUE) jika kata yang digaris bawah benar pada kalimat di bawah ini dan perbaikalah kata tersebut pada kolom yang tersedia di sebelah kanan bila kata itu salah!

| No | Sentences | True/ Corrected |
|----|--|--------------------|
| 1 | Kampung Pelangi <u>is</u> one of the tourist destinations in Banjarmasin | |
| 2 | Kampung Pelangi can be <u>reached</u> by 2 directions | |
| 3 | We cannot <u>visiting</u> Kampung Pelangi at night | |
| 4 | Kampung Pelangi was <u>creat</u> because of the ideas of the local community there | |
| 5 | In Kampung Pelangi, there are 350 <u>house</u> | |
| 6 | Which sub-district <u>is</u> Kampung Pelangi located? | |
| 7 | How long <u>does</u> it take to get to Kampung Pelangi from the center of Banjarbaru city? | |
| 8 | How much <u>does</u> it cost to visit Kampung Pelangi? | |
| 9 | What themes <u>do</u> the walls in Kampung Pelangi have painted? | |
| 10 | When <u>did</u> Kampung Pelangi officially open? | |

Activity III

3. Write full sentences. Use am/ls/are each time.

1. (your shoes are very dirty) Your shoes are very dirty
2. (Your bed is very comfortable) You
3. (cigarette in bag)
4. (I'm not very happy. Today)
5. (This restaurant is very expensive)
6. (shop not open today)
7. (Mr. Kelly's daughter is six years old)
8. (the houses on this street are very old)
9. (examination is not difficult)
10. (The flowers are very beautiful)

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FORMULIR RENCANA PEMBELAJARAN SEMESTER (RPS)

RENCANA PEMBELAJARAN SEMESTER

| | | | |
|---------------------------------|---|---------|--------|
| Mata Kuliah : Bahasa Inggris | Semester : 1 (satu) | SKS : 2 | Kode : |
| Program Studi : Teknik Sipil | Dosen Pengampu/Penanggungjawab : 1. Dr. Hengki, S.S., M.Pd/ Ratna,S.Pd., M.Pd | | |
| Mata Kuliah Prasyarat | - | | |
| Capaian Pembelajaran Lulusan | <p>Sikap : Bertakwa kepada Tuhan yang Maha Esa serta mampu menunjukkan sikap religius</p> <p>Keterampilan Umum: Mampu menunjukkan kinerja mandiri, bermutu dan terukur</p> <p>Keterampilan Khusus: Mampu berkomunikasi dalam bahasa Inggris dengan baik dan benar dalam konteks percakapan sehari-hari</p> <p>Pengetahuan : Menguasai Tata Bahasa Inggris, mampu menulis materi presentasi yang berhubungan dengan ilmu teknik Sipil dalam bahasa Inggris dan menyajikan power point dalam bahasa Inggris</p> | | |
| Capaian Pembelajaran Matakuliah | <p>Mampu memperkenalkan diri dengan baik dalam bahasa Inggris</p> <p>Mampu memperkenalkan orang lain dengan baik dalam bahasa Inggris</p> <p>Mampu menggunakan tata bahasa yang tepat dalam percakapan dasar sehari-hari</p> <p>Mampu menyusun kalimat sederhana dalam bahasa Inggris baik secara lisan maupun tertulis</p> <p>Mampu memahami dan membaca teks bacaan yang sesuai disiplin ilmu Teknik.</p> | | |
| Deskripsi Matakuliah | <p>Mata kuliah ini membahas tentang struktur bahasa,dasar-dasar keterampilan berbicara dalam kehidupan sehari-hari. Materi mata kuliah ini mencakup beberapa keterampilan dalam bahasa Inggris yaitu listening, speaking, reading, dan writing. Mata kuliah ini menekankan pada kompetensi mahasiswa dalam menggunakan bahasa Inggris dalam kehidupan sehari-hari. Kompetensi tersebut meliputi (1) kemampuan berkomunikasi dalam bahasa Inggris dalam percakapan sehari-hari, (2) kemampuan menyusun kalimat</p> | | |



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| | | |
|-----------|--|--|
| | sederhana baik secara lisan maupun tertulis dengan tata bahasa yang benar, dan (3) kemampuan memahami teks bacaan yang terkait dengan ilmu ekonomi manajemen. | |
| Referensi | Referensi Utama: 1. Hengki & Ratan English For Civil Engineerinmg Students Referensi Pendukung: Internet (topic, English for Technical Engineering) | |

| Pert .ke- | Sub-CPMK | Bahan Kajian | Indikator | Metode Pembelajaran | Pengalaman Belajar | Penilaian (Jenis dan Kriteria) | Bobot | Waktu | Refer ensi |
|-----------|--|---|--|---------------------|--|--------------------------------|-------|-------|------------|
| 1. | Memahami dan mengimplementasikan isi kontrak perkuliahan | Kontrak Perkuliahan: Kehadiran Sikap Tugas UTS UAS | Melaksanakan Kontrak Perkuliahan sesuai dengan kesepakatan | Ceramah Diskusi | Menyimak penjelasan dan memberikan masukan terkait butir-butir dalam kontrak perkuliahan | Praktek keseharian | | 50 | |
| 2. | Mahasiswa memperkenalkan | Berbicara: Pengucapan, | Memperkenalkan diri di kelas dengan | Ceramah Simulasi | Menyimak dan latihan | Lisan | | 2x50 | UNIT 1 |



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FORMULIR RENCANA PEMBELAJARAN SEMESTER (RPS)

| | diri, dan memperkenalkan teman kelasnya | Tata Bahasa | pengucapan dan tata bahasa yang benar | | memperkenalkan diri | | | | |
|----|---|---|---|--------------------|---|-------------------|--|------|-----------------|
| 3. | Mahasiswa menyusun kalimat sederhana | Tata Bahasa: To Be (am, are, is, was, were) Adjective Noun Verb I + ing | Menyusun kalimat sederhana: Kalimat Positif (Positive Sentence) Kalimat Negatif (Negative Sentence) Kalimat Tanya (Interrogative Sentence) | Ceramah Latihan | Menyimak dan menyusun kalimat sederhana | Lisan dan Tulisan | | 2x50 | UNIT 1 & UNIT 2 |
| 4. | Mahasiswa menyusun kalimat sederhana | Tata Bahasa: To Be (am, are, is, was, were) Adverb of Place Adverb of Time Verb III | Menyusun kalimat sederhana: Kalimat Positif (Positive Sentence) Kalimat Negatif (Negative Sentence) Kalimat Tanya (Interrogative Sentence) | Ceramah | Menyimak dan menyusun kalimat sederhana | Lisan dan Tulisan | | 2x50 | - |



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| | | | | | | | | | |
|----|--|---|--|---------------------|---|----------------------|--|------------------|--------------------------|
| 5. | Memahami teks bacaan yang sesuai dengan jurusan teknik | Bacaan: <i>(The Use Of Excavator In Construction and Rock Excavation</i> Isi Kosa Kata | Memahami isi bacaan dan mampu menjawab soal-soal yang terkait dengan bacaan tersebut | Ceramah Diskusi | Membaca teks bacaan dengan pengucapan yang benar, memahami isi teks, dan menjawab soal-soal yang terkait dengan bacaan tersebut | Lisan dan Tulisan | | | UNIT 1 & UNIT 2 |
| 6. | Memahami teks bacaan yang sesuai dengan jurusan teknik | Bacaan : <i>The Use of Grader in Constructio,</i> <i>The Use of Backhoe in Construction</i> | Memahami isi bacaan dan mampu menjawab soal-soal yang terkait dengan bacaan tersebut | Ceramah Simulasi | Membaca teks bacaan dengan pengucapan yang benar, memahami isi teks, dan menjawab soal-soal yang terkait dengan bacaan tersebut | Lisan dan Tulisan | | 2x50 2x50 | UNIT 3 & UNIT 4 |
| 7. | Mahasiswa mampu | Structure: To Do (Do, Does, Did) | Mahasiswa mampu menyusun kalimat: | Ceramah Latihan | Menyimak dan menyusun | Lisan dan Tulisan | | 2x50 | UNIT 5 |



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| | | | | | | | | | |
|-----|---|---|---|-----------------|--|------------------------|-----|------|------------|
| | menyusun kalimat affirmative, Intrognative and Negative | Verb I | Positive sentences , Intrognative sentences and Negative sentences | | kalimat sederhana | | | | |
| 8. | Ujian Tengah Semester | | | | | Tulisan, Lisan (Video) | 30% | 2x50 | |
| 9. | Mahasiswa menyusun kalimat sederhana | Grammar mastery -Present Tense -Past tense | Menyusun kalimat sederhana: Kalimat Negatif (Negative Sentence) & Kalimat Tanya (Interrogative Sentence) | Ceramah Latihan | Menyimak dan menyusun kalimat sederhana | Lisan dan Tulisan | | 2x50 | UNIT 5 |
| 10. | Mahasiswa memahami teks bacaan yang sesuai dengan Teknik dengan | Bacaan: <i>(The Use of Concrete Mixture (Cement Mixture in Construction</i> | Memahami isi bacaan dan mampu menjawab soal-soal yang terkait dengan bacaan tersebut | Ceramah Diskusi | Membaca teks bacaan dengan pengucapan yang benar, memahami isi | Lisan dan Tulisan | | 2x50 | UNIT 5 & 6 |



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| | | | | | | | | | |
|-----|--|---|--|-----------------|---|-------------------|--|------|------------|
| | judul teks bacaan (<i>Grinding Wheel and Bench Grinder</i>) | <i>and Trisakti Diamond</i>) Isi Kosakata | | | teks, dan menjawab soal- soal yang terkait dengan bacaan tersebut | | | | |
| 11. | Mahasiswa mengidentifikasi jenis kosa kata yang terdapat pada teks tentang <i>the use of concrete mixture (cement mixture in construction and Trisakti Diamond</i> | Mengidentifikasi Kosa Kata pada Bacaan yaitu: Kata Sifat Kata Benda Kata keterangan Waktu Kata Keterangan Tempat Kata Kerja Bentuk I + Ing Kata Kerja Bentuk I Kata Kerja Bentuk III | Mengidentifikasi Kosa Kata | Diskusi | Mengidentifikasi Kosa Kata dan menerjemahkan dalam Bahasa Indonesia | Lisan dan Tulisan | | 2x50 | UNIT 5 & 6 |
| 12. | Mahasiswa memahami teks bacaan yang | Bacaan: (<i>The Use of Paver in Construction</i>) Isi dan Kosakata | Memahami isi bacaan dan mampu menjawab soal-soal | Ceramah Diskusi | Membaca teks bacaan dengan pengucapan yang benar, | Lisan dan Tulisan | | 2x50 | UNIT 7 |



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| | | | | | | | | | |
|-----|---|------------------------------------|--|------------------|---|-------------------|--|------|-----------|
| | sesuai dengan Teknik dengan judul teks bacaan (The Use of Paver in Construction) | | yang terkait dengan bacaan tersebut | | memahami isi teks, dan menjawab soal-soal yang terkait dengan bacaan tersebut | | | | |
| 13. | Mahasiswa mereview teks: A Plane Table | Menerjemahkan dan mengidentifikasi | Memahami isi bacaan dan mampu menjawab soal-soal yang terkait dengan bacaan tersebut | Ceramah Diskusi | Membaca teks bacaan dengan pengucapan yang benar, memahami isi teks, dan menjawab soal-soal yang terkait dengan bacaan tersebut | Lisan dan Tulisan | | 2x50 | Unit 8 |
| 14. | Mahasiswa mencari dan mereview artikel | Bacaan: Reading comprehension | Mereview dan mempresentasikan di kelas | Presentasi Tugas | Mempresentasikan hasil bacaan dari reading | Lisan | | 2x50 | Inter net |



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| | | | | | | | | | |
|-----|---------------------------------|--|---|--------------------|---|-------------------------|-----|------|-----------|
| | yang sesuai dengan teknik mesin | <i>(Understanding Disc Brakes.</i> | | | compression ilmu Teknik | | | | |
| 15. | Mahasiswa menyusun kalimat | Tata Bahasa: To Have (Have, Has, Had) Verb III | Menyusun kalimat: Kalimat Negatif (Negative Sentence) & Kalimat Tanya (Interrogative Sentence) | Ceramah Latihan | Menyimak dan menyusun kalimat sederhana | Lisan dan Tulisan | | 2x50 | UNIT 9 |
| 16. | Ujian Akhir Semester (UAS) | | | | | Tulisan & Lisan (Video) | 40% | | |



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FORMULIR RENCANA PEMBELAJARAN SEMESTER (RPS)

Daftar Referensi:

1. Referensi Utama:

Daftar Referensi

1. Harmer, J. 2014. *How to teach Speaking*, California Press
2. *Benyahia* 2008 Reading Techniques course. Academic year
3. Murray, R.& Moore,S 2006 *Cademic Writing A Fresh Approach*.Open University Press,McGraw-Hill Education, Rowena Murray and Sarah Moore
4. Arsyad, A. 2009. *Dasar-Dasar Penguasaan Bahasa Inggris Melalui Your Basic Vocabulary*. Pustaka Pelajar
5. Referensi Pendukung: Internet (topic, English for Technical Engineering)

2. Tugas mahasiswa dan penilaiannya:

1. Providing a presenting material
2. Answer the question from reading text

Mengetahui Ketua Program Studi

Banjarmasin, Juni 2022

Dosen Pengampu/Penanggung jawab MK

Dr. Hengki, S.S, M.Pd/ Ratna, S.Pd., M.Pd



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| No Kolom | Judul Kolom | Penjelasan Pengisian |
|----------|----------------------------------|---|
| 1 | Capaian pembelajaran lulusan | Rumusan capaian pembelajaran lulusan program studi yang telah ditetapkan prodi di kurikulum yang sesuai dengan mata kuliah, bisa CP sikap, CP pengetahuan, CP keterampilan umum atau CP keterampilan khusus |
| 2 | Capaian pembelajaran mata kuliah | Rumusan capaian pembelajaran mata kuliah yang ditetapkan dosen bersama KBK yang selaras dengan CP lulusan yang dirumuskan dalam mata kuliah |
| 3 | Deskripsi mata kuliah | Rumusan deskripsi mata kuliah yang telah dideskripsikan dalam kurikulum prodi |
| 4 | Pertemuan ke | Menunjukkan kapan suatu kegiatan dilaksanakan, yakni mulai minggu ke 1 sampai ke 16 (satu semester)(bisa 1/2/3/4 mingguan). |
| 5 | Sub-CPMK | Rumusan kemampuan dibidang kognitif, psikomotorik, dan afektif diusahakan lengkap dan utuh (<i>hard skills & soft skills</i>). Merupakan tahapan kemampuan yang diharapkan dapat mencapai kompetensi mata kuliah ini diakhir perkuliahan. |
| 6 | Bahan kajian (Materi Kuliah) | Bisa diisi pokok bahasan / sub pokok bahasan, atau topik bahasan (dengan asumsi tersedia diktat/modul ajar untuk setiap pokok bahasan). |
| 7 | Indikator | Indikator merupakan unsur-unsur yang menunjukkan ketercapaian tahap kemampuan |
| 8 | Metode pembelajaran | Bisa berupa ceramah, diskusi, presentasi tugas, seminar, simulasi, responsi, praktikum, latihan, kuliah lapang, praktek bengkel, su rvai lapangan, bermain peran, atau gabungan berbagai bentuk. Penetapan bentuk pembelajaran didasarkan pada keniscayaan bahwa kemampuan yang diharapkan diatas akan tercapai dengan bentuk/ model pembelajaran tersebut. |



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| | | |
|----|-----------|--|
| 9 | Waktu | Takaran waktu yang menyatakan beban belajar dalam satuan sks (satuan kredit semester). Satu sks setara dengan 50 (lima puluh) menit kegiatan belajar per minggu per semester |
| 10 | Penilaian | Sistem evaluasi yang digunakan, jenis tes, penilaian tugas dan kriteria penilaian akhir |
| 11 | Kriteria | Berisi indikator yang dapat menunjukkan unsur kemampuan yang dinilai (bisa kualitatif misal ketepatan analisis, kerapian sajian, Kreatifitas ide, kemampuan komunikasi, juga bisa juga yang kuantitatif : banyaknya kutipan acuan/unsur yang dibahas, kebenaran hitungan). |
| 12 | Bobot | Disesuaikan dgn waktu yang digunakan utk membahas / mengerjakan tugas, atau besarnya sumbangan suatu kemampuan |
| 13 | Referensi | Referensi |



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4. Arsyad, A. 2009. *Dasar-Dasar Penguasaan Bahasa Inggris Melalui Your Basic Vocabulary*. Pustaka Pelajar
5. Referensi Pendukung: Internet (topic, English for Technical Engineering)

Tugas Mahasiswa dan Penilaiannya

| No | Komponen Penilaian | Bobot (%) |
|--------------|----------------------------------|------------|
| 1. | Partisipasi dan Kehadiran Kuliah | 10 |
| 2. | Tugas Mandiri | 20 |
| 3. | Tugas Kelompok | 15 |
| 4. | Ujian Tengah Semester | 25 |
| 5. | Ujian Akhir Semester | 30 |
| Total | | 100 |

Mengetahui Ketua Program Studi

Banjarmasin, Juni 2022

Dr. Hengki, S.S., M.Pd/ Ratna, S.Pd., M.Pd

Penerbit :

Universitas Islam Kalimantan
Muhammad Arsyad Al -Banjary

Alamat :

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Universitas Islam Kalimantan
Muhammad Arsyad Al-Banjary

Jl. Adhyaksa No. 2 Kayutangi
Banjarmasin, Kalimantan Selatan
Telepon : 0511 - 3304352
FAX : 0511

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