

Reg. No.: SCM15CE080Name: Rahudhu Haridas

FIRST SEMESTER B.TECH DEGREE EXAMINATION, JANUARY 2016

Course Code: BE101-01

Course Name: INTRODUCTION TO CIVIL ENGINEERING

Max. Marks: 100

Duration: 3 Hours

**Part A***Answer ALL questions. Each question carries 1 mark*

1. What is a retaining wall?
2. What is the minimum compressive strength of brick?
3. List out the grades of Ordinary Portland Cement.
4. Which is the strongest bond in brickwork?
5. What is the full form of TMT steel?
6. Write any one relevant factor for selecting suitable flooring material

**Part B***Answer ALL questions. Each question carries 5 marks*

7. a) List out the various building components of your house (2)  
(b) Give the functions of any three building components. (3)
8. List out the various types of tiles used in civil engineering. (5)
9. What are fine aggregates and coarse aggregates?. Write a laboratory test for assessing the grading of aggregates. (2+3)
10. Draw the plan and elevation of (a) One and half brick wall (b) Two brick wall, in English bond (2.5+2.5)
11. What are the uses of mild steel? (5)
12. What are the different types of roofing material? (5)

**Part C***Answer Any 3 questions. Each question carries 6 marks*

13. Explain setting out of a building
14. Classify the types of buildings as per National Building Code of India
15. Discuss the various tests conducted on roofing tiles.

16. Explain the classification of stones.

*Answer Any 3 questions. Each question carries 6 marks*

17. Explain (a) Fineness test of cement (b) Initial and final setting time test of cement (3+3)  
18. Sketch the flow diagram in dry process of manufacture cement (6)  
19. What are the essential features of English bond? (6)  
20. Compare brick masonry and stone masonry? (6)

## **Part D**

*Answer Any 4 questions. Each question carries 7 marks*

21. (a) What is meant by seasoning of timber? (2)  
(b) Explain three different methods of seasoning. (5)  
22. Discuss any seven defects occurring in timber. (7)  
23. Sketch and explain any three structural steel sections (7)  
24. What are the different flooring materials and factors affecting its selection? (7)  
25. List out seven advantages and disadvantages of flat roof. (7)

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Reg. No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
FIRST SEMESTER B.TECH DEGREE EXAMINATION, JUNE 2016

**Course Code: BE101-01**

**Course Name: INTRODUCTION TO CIVIL ENGINEERING**

Max. Marks: 100

Duration: 3 Hours

**PART A**

*Answer ALL questions. Each question carries 1 mark*

1. The discipline of civil engineering that deals with purification of drinking water and waste water disposal is \_\_\_\_\_.
2. How igneous rocks are formed?
3. Which cement is ideal for under water construction?
4. What is a brick bat?
5. What is seasoning of timber?
6. Define span of a roof.

**PART B**

*Answer ALL questions. Each question carries 5 marks*

7. Explain setting out of a building.
8. Describe any 3 tests conducted on stones.
9. Give reasons for the following: (i) During the grinding of cement a small quantity of gypsum is added (ii) The proportion of lime in cement is to be carefully maintained (2.5 marks each)
10. Make a short note on Random rubble masonry.
11. What are the defects found in timber?
12. Write the criteria for selection of roofing materials.



## PART C

*Answer Any Three questions. Each question carries 6 marks*

13. Draw a neat section of a residential building showing various components?
14. Classify the types of buildings as per National Building Code of India.
15. Describe about the classification of bricks.
16. What are the qualities of a good building stone?

*Answer Any Three questions. Each question carries 6 marks*

17. Explain with a schematic diagram, the different steps involved in wet process for the manufacturing of cement.
18. Explain the different tests for coarse aggregates.
19. Draw the plan and elevation of (a) One brick wall (b) One and half brick wall (c) Two brick wall, in English bond. (2 marks each)
20. What are the different types of ashlar rubble masonry?

## PART D

*Answer Any Four questions. Each question carries 7 marks*

21. Compare the characteristics of soft wood and hard wood in timber.
22. Sketch and explain any three structural steel sections.
23. Compare different aspects of natural seasoning and artificial seasoning.
24. What are the different flooring materials and explain factors affecting choice of flooring material?
25. Explain the different types of sloping roofs with neat diagrams.

Reg. No. \_\_\_\_\_

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**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
**FIRST SEMESTER B. TECH DEGREE EXAMINATION, JANUARY 2017**

Course Code: **BE101-01**

Course Name: **INTRODUCTION TO CIVIL ENGINEERING**

Max. Marks: 100

Duration: 3 Hours

**PART A**

*Answer ALL questions. Each question carries ONE mark*

1. What is meant by assembly building?
2. Which is the major constituent in good brick earth? If it is excess, how does it affect the quality of brick?
3. What is indicated by grade of cement?
4. Define bonding in brick masonry.
5. What is meant by seasoning of timber? List the various methods of seasoning of timber.
6. Differentiate gable roof and gambrel roof.

**PART B**

*Answer ALL questions. Each question carries FIVE marks*

7. How will you set out a room of size 5m X 6m?
8. What are the qualities of good building stones?
9. What are the basic ingredients of cement? Explain the functions of each?
10. Differentiate rubble masonry and ashlar masonry.
11. What are the defects due to natural forces in timber? Explain any *four*?
12. List the advantages of flat roof compared to sloped roof.

## PART C

*Answer ANY THREE questions. Each question carries SIX marks*

13. What is the relevance of Civil Engineering in the infrastructural development of the country?
14. Explain the functions of any *four* components of a building with a neat sketch.
15. Write the procedure of any *three* tests for checking the quality of stones?
16. List out the quality tests on bricks. Explain any *two* in detail.

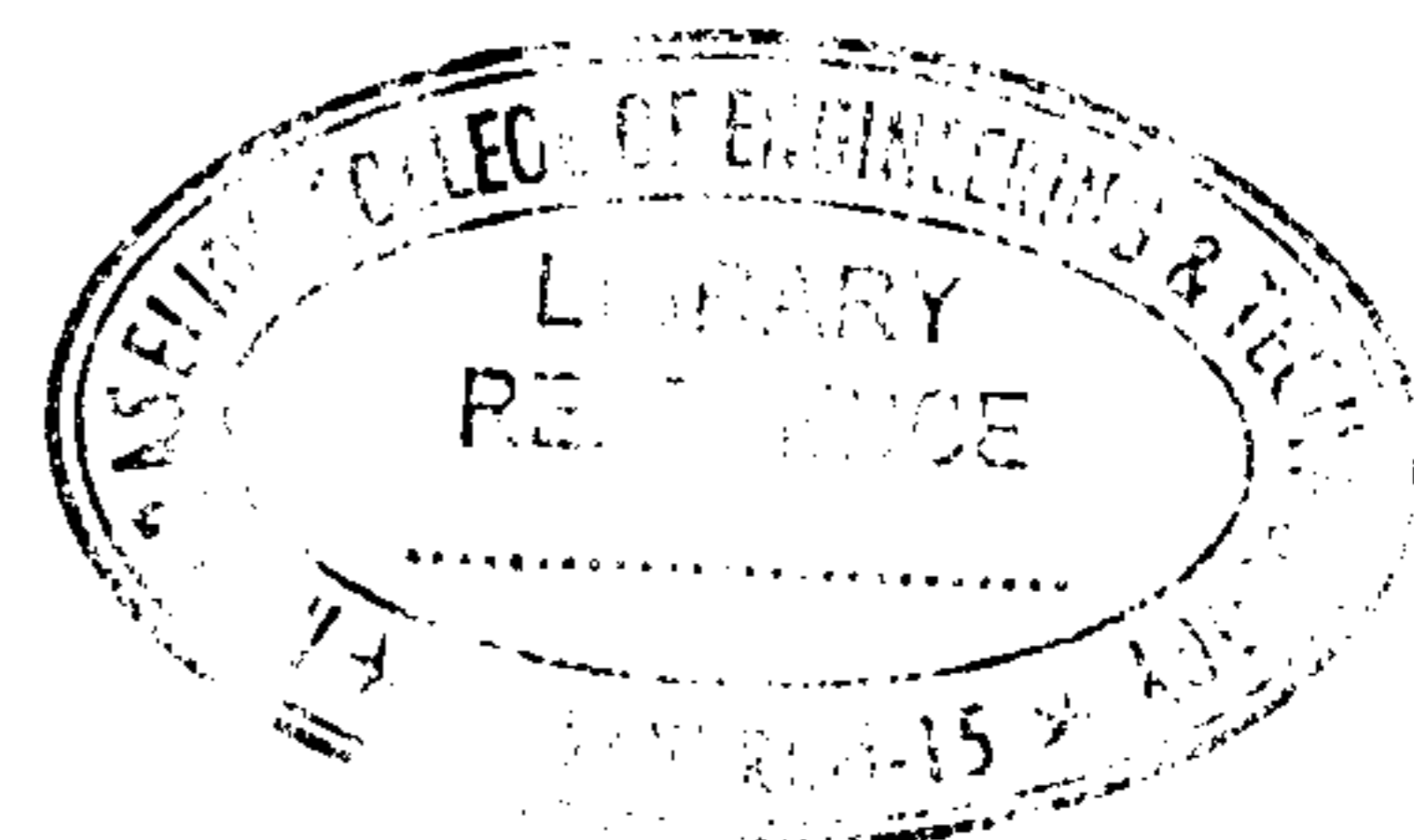
*Answer ANY THREE questions. Each question carries SIX marks*

17. Write the test procedure for finding the initial setting time of cement. What is its specification?
18. Define fineness modulus of aggregates. Write test procedure for finding out the fineness modulus.
19. Explain *any two* types of ashlar masonry with neat sketches.
20. Draw the plan and elevation of *two brick thick* English bond.

## PART D

*Answer ANY FOUR questions. Each question carries SEVEN marks*

21. Explain the manufacturing process of particle board? What are its uses and advantages?
22. List out the market forms of steel. Explain *any two* with figure?
23. What are the selection criteria for flooring material?
24. What are the different types of sloped roofs? Explain *any two* with figure?
25. What are the factors to be considered while selecting the roofing materials?



**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
FIRST SEMESTER B.TECH DEGREE EXAMINATION, JULY 2017

Course Code: **BE101-01**

Course Name: **INTRODUCTION TO CIVIL ENGINEERING**

Max. Marks: 100

Duration: 3 Hours

**PART A**

*Answer ALL questions. Each question carries 1 mark*

1. What is the function of foundation of the building?
2. What is efflorescence?
3. List the major ingredients of cement with their general percentages?
4. What is bonding in brick masonry?
5. What is plain carbon steel?
6. What is roof pitch and how would you determine it?

**PART B**

*Answer ALL questions. Each question carries 5 marks*

7. Classify the types of building as per national building code of India. (5)
8. What are the factors to be considered while selecting tiles? (5)
9. What is fineness modulus of aggregates? Explain the laboratory test for assessing the Fineness modulus. (2+3)
10. Draw the plan and elevation of (a) one brick thick (b) one and a half brick thick english bond. (2.5+2.5)
11. List down the various market forms of structural steel. Explain *two* of them in detail. (5)
12. What are the various factors affecting the choice of flooring materials? (5)

**PART C**

*Answer Any 3 questions. Each question carries 6 marks*

13. What are the factors affecting selection of site of residential buildings?
14. With a neat sketch, show the different components of a building structure and indicate the functions of any *three* components.
15. Explain the manufacturing process of tiles.
16. Explain the formation of different rocks coming under geological classification of rocks. Give *two* examples for each of them.

**Answer Any 3 questions. Each question carries 6 marks**

17. Explain the laboratory test methods for determining (a) Consistency test of cement (b) soundness test of cement. (3+3)
18. With a flow diagram, explain the manufacturing process of cement. (6)
19. Differentiate between rubble and ashlar masonry. Explain different classes of rubble masonry. (6)
20. List the different types of bonds. Compare english bond with flemish bond. (6)

**PART D**

**Answer Any 4 questions. Each question carries 7 marks**

21. (a) What is meant by preservation of timber? (1)  
(b) What are the various preservatives used. Explain the method of preservation by means of any *three* preservatives. (6)
22. Explain in detail the *three* different causes for defects in timber. (7)
23. Differentiate between TMT and HYSD bars. Describe the properties of each of them in detail. (7)
24. With neat sketches, explain king post truss and queen post truss. (7)
25. List the different types of flat roofs. Explain *two* of them in detail with neat sketches. (7)





**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
**FIRST SEMESTER B.TECH DEGREE EXAMINATION, JULY 2017**

Course Code: **BE101-05**

Course Name: **INTRODUCTION TO COMPUTING AND PROBLEM SOLVING**

Max. Marks: 100

Duration: 3 Hours

**PART A**

*Answer all questions.*

1. What are the objectives of operating system? (2)
2. What is the significance of cache memory? (2)
3. Differentiate between assemblers, compilers and interpreters. (3)
4. Write an algorithm to find the sum of first 'n' odd numbers, for a given positive integer n. (2)
5. What are the advantages of top-down design? (2)
6. Draw the flowchart to generate the first 'n' numbers in the Fibonacci sequence. (3)
7. Write the output produced by the following code.  
a. `for count in range(10,0,-2):`                      b. `Print 4 + 2 * * 3 * 6` (2)  
    `print(count, end=" ")`
8. Write a Python code that prints the absolute value of a given number without using Python's **abs** function. (2)
9. Write a program to find the roots of a quadratic equation. (3)
10. Write a function in Python to print a newline. (2)
11. What are the advantages of using functions? (2)
12. Write two functions `isdigit()`, which returns True if the character passed is a digit and `isletter()`, which returns True if the character passed is a letter. (3)
13. Write a program to remove all vowels from a given string. (3)
14. Is the compound type tuple in Python is mutable? Write a Python script to interchange 2 variables using tuple. (3)
15. Write a function `exists()` which returns True if the given file exists and False if it does not. (3)
16. What is meant by pickling in python? Explain its significance with the help of example. (3)

## PART B

*Answer any 4 complete questions, each having 8 marks.*

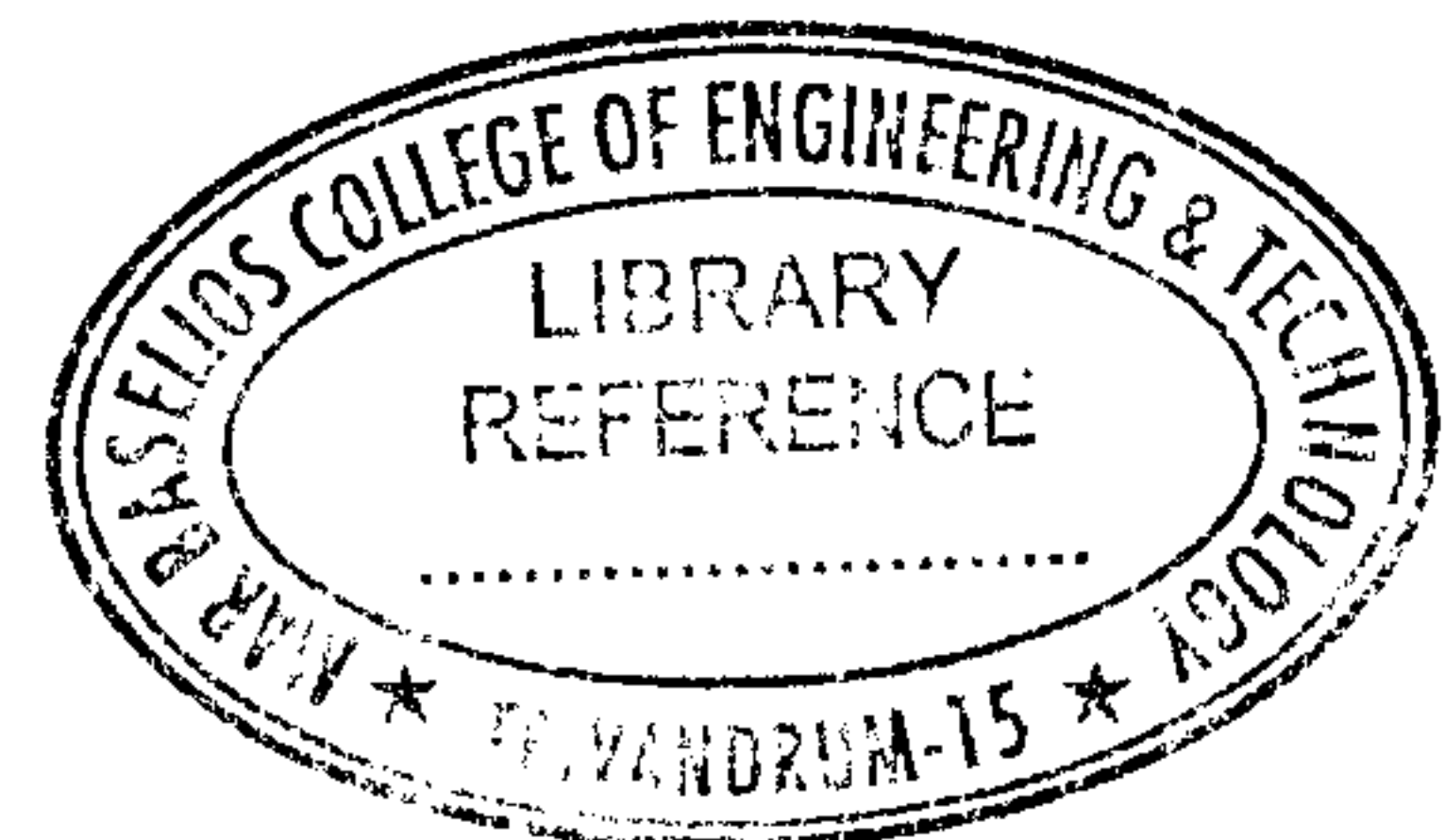
17. a) Describe the Von-Neumann architecture. (4)  
b) Explain the memory hierarchy used in the computer storage with a diagram. (4)
18. Design an algorithm that accepts a positive integer 'n' and print all prime numbers up to 'n'. Also draw the flowchart. (8)
19. a) Write a python program to find the sum of digits of a given positive integer. (4)  
b) Write a program to print the following pattern
- ```
1
2 3
4 5 6
```
- (4)
20. a) Write a program using function to display a multiplication table of n\*n size. for any given 'n'. (5)  
b) Compare the built-in functions int() and str() with examples. (3)
21. a) Write a program using function to find the binomial coefficient,  ${}^n C_r$ . (4)  
[Note:  ${}^n C_r = n! / r!(n-r)!$ ]  
b) Write a program that accepts the length of three sides of a triangle as input and determine whether or not the triangle is a right triangle. (4)

## PART C

*Answer any 2 complete questions, each having 14 marks.*

22. a) Write a program to perform the following operations on a given string. (7)  
i. convert all small letters in a string into capital letters.  
ii. find the number of occurrences of a given substring.  
b) How to create a Dictionary in Python? Write a Python program to read and display a sparse matrix using dictionary. (7)
23. a) Write a program to read numbers stored in one file and store the sorted numbers in another file after deleting duplicates. (7)  
b) Create a class 'Rectangle' with attributes length and breadth and method area() for calculating the area of the rectangle. Create two instances of the class and call the method for each instance (7)
24. a) Write a program to sort a list of names in alphabetical order and print the sorted list in uppercase. (7)  
b) How exceptions are handled in Python? Illustrate with example. (7)

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Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
**FIRST SEMESTER B.TECH DEGREE EXAMINATION, APRIL 2018**

**Course Code: BE101-01**

**Course Name: INTRODUCTION TO CIVIL ENGINEERING**

Max. Marks: 100

Duration: 3 Hours

**PART A**

*Answer all questions, each carries 1 mark.*

Marks

- |   |                                                                                                            |     |
|---|------------------------------------------------------------------------------------------------------------|-----|
| 1 | The branch of Civil Engineering dealing with flow characteristics and mechanics of water is known as ..... | (1) |
| 2 | Define seasoning of stones.                                                                                | (1) |
| 3 | Which are the different grades of ordinary Portland cement?                                                | (1) |
| 4 | Define a stretcher course.                                                                                 | (1) |
| 5 | What is the carbon content in mild steel, medium carbon steel and high carbon steel?                       | (1) |
| 6 | Define pitch of a roof.                                                                                    | (1) |

**PART B**

*Answer all questions, each carries 5 marks.*

- |    |                                                                                                                         |     |
|----|-------------------------------------------------------------------------------------------------------------------------|-----|
| 7  | Explain setting out of building.                                                                                        | (5) |
| 8  | What is meant by quarrying of stones? What are the different methods of quarrying and explain any one method in detail. | (5) |
| 9  | a) What is meant by bulking of sand.                                                                                    | (2) |
|    | b) State the properties of good sand.                                                                                   | (3) |
| 10 | Write short note on Random Rubble masonry.                                                                              | (5) |
| 11 | What are the various defects occur in timber due to natural forces.                                                     | (5) |
| 12 | Write the requirements of a Good roofing material.                                                                      | (5) |

**PART C**

**Module I & II**

*Answer any three full questions, each carries 6 marks.*

- |    |                                                                                                       |     |
|----|-------------------------------------------------------------------------------------------------------|-----|
| 13 | Explain various components of a residential building. Give the functions of any three components.     | (6) |
| 14 | Classify various types of buildings on the basis of occupancy as per National Building Code of India. | (6) |
| 15 | What are the qualities of good building bricks?                                                       | (6) |
| 16 | Explain the manufacture of clay tiles.                                                                | (6) |

**Module III & IV**

*Answer any three full questions, each carries 6 marks.*

- |    |                                                                                          |     |
|----|------------------------------------------------------------------------------------------|-----|
| 17 | a) What are the various steps involved in the manufacturing of Ordinary Portland Cement. | (2) |
|----|------------------------------------------------------------------------------------------|-----|

- b) With the help of a flow chart explain any one method for mixing raw materials during manufacturing of cement. (4)
- 18 a) State the important properties of mortar. (3)  
b) Explain the preparation of mortar by Hand mixing. (3)
- 19 What are the different types of ashlar rubble masonry (6)
- 20 a) Differentiate between English Bond and Flemish Bond. (3)  
b) Draw the plan and elevation of one brick wall in English Bond. (3)

**Module V & VI**

*Answer any four full questions, each carries 7 marks.*

- 21 What is meant by seasoning of timber? Explain different methods of seasoning of timber. (7)
- 22 Write short notes on Particle Board & Hard Board. (7)
- 23 What are the various types of steel sections manufactured and marketed? Explain any three structural steel sections with neat sketch. (7)
- 24 a) What are the different types of floors? (4)  
b) What are the various Criteria for selecting Flooring materials? (3)
- 25 What are the advantages and disadvantages of Flat roofs? Explain any two types of flat roofs. (7)

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Course Code: BE101-01

Course Name: INTRODUCTION TO CIVIL ENGINEERING

Max. Marks: 100

Duration: 3 Hours

**PART A**

*Answer all questions, each carries 1 mark.*

|   |                                            | Marks |
|---|--------------------------------------------|-------|
| 1 | Define taxiway.                            | (1)   |
| 2 | What is meant by dressing of stone?        | (1)   |
| 3 | What are the ingredients of cement mortar? | (1)   |
| 4 | Define course in masonry.                  | (1)   |
| 5 | What is mild steel?                        | (1)   |
| 6 | Define gable roof.                         | (1)   |

**PART B**

*Answer all questions, each carries 5 marks.*

|    |                                                                                   |     |
|----|-----------------------------------------------------------------------------------|-----|
| 7  | What is a retaining wall? What are the different types?                           | (5) |
| 8  | Explain any two tests on tiles.                                                   | (5) |
| 9  | What are the various field tests to assign the quality of a given pack of cement? | (5) |
| 10 | Compare Brick masonry and stone masonry                                           | (5) |
| 11 | List the defects in timber due to improper seasoning and conversion.              | (5) |
| 12 | What are the different flooring material and its selection criteria?              | (5) |

**PART C**

**Module 1& II**

*Answer any three full questions, each carries 6 marks.*

|    |                                                                                       |     |
|----|---------------------------------------------------------------------------------------|-----|
| 13 | What are the selection criteria for a dam site?                                       | (6) |
| 14 | Write short notes on the following terms a) Plinth b) Lintel c) Sill<br>d) Foundation | (6) |
| 15 | Explain the important properties of good bricks.                                      | (6) |
| 16 | What is a quarry? Explain the different methods of quarrying.                         | (6) |

**Module III& IV**

*Answer any three full questions, each carries 6 marks.*

|    |                                                                                |     |
|----|--------------------------------------------------------------------------------|-----|
| 17 | Explain the desirable properties of aggregates with regards to shape, texture, | (6) |
|----|--------------------------------------------------------------------------------|-----|

- 18 What is meant by bulking of sand? What is the role of sand in cement mortar? (6)
- 19 Define the following in stone masonry. a) Quoin stone b) Through stone (6)  
c) Facing .
- 20 Draw the plan and elevation of 1-brick wall English Bond. (6)

**Module V& VI**

*Answer any four full questions, each carries 7 marks.*

- 21 Write short note on air seasoning and water seasoning. (7)
- 22 Distinguish between particle board and hard board. (7)
- 23 What are the various preservatives used in timber? Explain the method of (7)  
preservation by means of any three preservatives.
- 24 Sketch and explain any three structural steel sections. (7)
- 25 What are the different flooring materials and explain factors affecting the (7)  
choice of flooring materials.

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