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Question Paper Code : 40216

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2024.

Second Semester

Electrical and Electronics Engineering

BE 3255 – BASIC CIVIL AND MECHANICAL ENGINEERING

(Common to : Electronics and Instrumentation Engineering/Environmental Engineering/Instrumentation and control Engineering)

(Regulations 2021)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — ($10 \times 2 = 20$ marks)

1. Define "Floor Space index".
2. Tell few sub disciplines in Mechanical Engineering.
3. Mention the uses of bricks.
4. List any two modern building materials.
5. Define the term "shallow foundation"
6. Identify the function of Lintel.
7. Mention the materials used in internal combustion engine.
8. Identify the major components of diesel engine.
9. Tell the different types of refrigerator.
10. Mention the various components of an AC system.

PART B — ($5 \times 13 = 65$ marks)

11. (a) Explain various branches of Civil Engineering. (13)

Or

- (b) Identify the contributions of Mechanical Engineering to the welfare of Society. (13)

12. (a) Narrate the properties and uses of clay bricks. (13)

Or

- (b) (i) Identify application of different types water proofing materials. (6)
(ii) Explain how a timber is identified for its quality. (7)

13. (a) Draw the cross section of a load bearing wall and identify the various components. (13)

Or

- (b) (i) Explain the techniques used for rain water harvesting. (7)
(ii) Enlighten how a building can be made green. (6)

14. (a) (i) Explain the working principles of petrol and diesel engines. (7)
(ii) Illustrate the safety practices to be followed by an industry. (6)

Or

- (b) Illustrate the different types of pumps. (13)

15. (a) Draw a layout of typical domestic refrigerator and illustrate the features of the same. (13)

Or

- (b) Explain the different types of AC system with their suitability. (13)

PART C — (1 × 15 = 15 marks)

16. (a) Suggest the choice of a various building materials for the construction of building associated with green concept. (15)

Or

- (b) Identify by the choice of a A.C. system for a larger building and explain the features of the same. (15)