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**Question Paper Code : 50199**

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 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 × 2 = 20 marks)

1. Define the term 'Carpet Area'.
2. Tell the different sub disciplines in Mechanical Engineering.
3. Classify the surveying based on the nature of field.
4. Mention the uses of timber in the Construction Industry.
5. Write short notes on 'Green Building'.
6. Tell few types of Dams.
7. Mention the different types of Reciprocating Pumps.
8. Tell any two personal protective equipments used in the Industries.
9. Define 'Vapour Absorption System'.
10. Mention the kind of air used in refrigerator.

PART B — (5 × 13 = 65 marks)

11. (a) Explain the roles of Structural and Geotechnical Engineering. (13)

Or

- (b) Explain the aspects of Thermal Engineering. (13)

12. (a) Distinguish between clay bricks and fly ash bricks and write the process of manufacturing for each. (13)

Or

- (b) Identify any two acoustical insulating materials and explain the composition and application of the same. (13)

13. (a) Explain any three types of bonds in brick work with a neat sketches. (13)

Or

- (b) Enlighten the requirements of a good roofing as well as good flooring. (13)

14. (a) Explain the safety rules to be monitored in a work place in an Industry. (13)

Or

- (b) Distinguish between boiler and turbine, based on concept and construction. (13)

15. (a) Explain the working principles of Split type Air conditioner with a neat sketch. (13)

Or

- (b) Illustrate the psychometric processes involved in Air conditioning. (13)

PART C — (1 × 15 = 15 marks)

16. (a) Suggest the choice of various modern materials for a proposed interior work for a textile show room and explain the applications of the same. (15)

Or

- (b) Enlighten the role of mechanical Engineering in a Industry. (15)