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Question Paper Code : 80038

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2019.

Second Semester

Electrical and Electronics Engineering

BE 8252 — BASIC CIVIL AND MECHANICAL ENGINEERING

(Common to Electronics and Instrumentation Engineering/Environmental Engineering/Instrumentation and Control Engineering/Material Science and Engineering/Bio Technology/B.Tech. Food Technology/Pharmaceutical Technology)

(Regulation 2017)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Write the steps involved in the preparation of brick earth.
2. List the advantages of reinforced cement concrete.
3. State the reasons for foundation failure.
4. What are the reasons for carrying foundation below the ground level?
5. State the working principle of hydroelectric (hydel) power plant.
6. Differentiate centrifugal pump and reciprocating pump.
7. What is meant by scaling in the boiler? What is its effect?
8. Write short notes on crank case compression.
9. Define the following.
   (a) Dry bulb temperature
   (b) Wet bulb temperature.
10. What is meant by dry ice refrigeration?

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PART B — (5 × 13 = 65 marks)

11. (a) Explain briefly how bricks are manufactured.

Or

(b) What are the types of rocks? Explain briefly about (i) dressing of stones and (ii) quarrying of stones.

12. (a) What are the different types of beams? Explain them with neat diagram.

Or

(b) How the land is prepared before flooring? Explain any four types of flooring with neat examples.

13. (a) With a neat sketch explain the construction and working principle of Nuclear power plant. State its advantages and disadvantages.

Or

(b) With a neat sketch, explain the construction and working principle of a double acting reciprocating pump.

14. (a) List out the various boiler mountings. Explain with sketches.

Or

(b) Explain with a neat sketches the air cooling and water cooling system in IC engines.

15. (a) Differentiate vapour compression refrigeration system and vapour absorption refrigeration system.

Or

(b) Draw the neat sketch, briefly explain the function of indoor unit and outdoor unit of a split type air conditioner.

PART C — (1 × 15 = 15 marks)

16. (a) With a neat layout of thermal (steam) power plant, explain its construction and working principle. What are the major circuits in a thermal power plant? Explain briefly about them. List the advantages and disadvantages.

Or

(b) Define surveying. Explain the various measurements in surveying.

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