|           | <br> | <br> |   |
|-----------|------|------|---|
| Reg. No.: |      |      | - |

# 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 — $(10 \times 2 = 20 \text{ marks})$

- 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?

### . PART B — $(5 \times 13 = 65 \text{ marks})$

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 — 
$$(1 \times 15 = 15 \text{ marks})$$

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.