

Reg. No. :

Question Paper Code : 11007

B.E./B.Tech. DEGREE EXAMINATION, JUNE 2011.

Common to B.E./B.Tech./EEE/ECE/CSE/IT/BIO-MED/E & IICE

Second Semester

185204 — BASIC CIVIL AND MECHANICAL ENGINEERING

(Regulation 2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Give the classification of surveying based on the instruments used.
2. What are the constituents of brick?
3. Define bearing capacity of soil and safe bearing capacity of soil.
4. Give the sketch of the basic cross-sectional profile of a rigid dam.
5. What are the advantages and disadvantages of nuclear power plant?
6. What is the suction head of a centrifugal pump?
7. Compare petrol and diesel engine (4 points).
8. List the strokes that constitutes a four stroke engine.
9. How is the unit of refrigeration called and defined?
10. What are the needs for comfort air conditioning?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the differential levelling with a neat sketch. (8)
(ii) What are the different forms of steel sections used in structural works? Also state their specific applications. (8)

Or

- (b) (i) State the rules that are followed to calculate the area. Explain any one rule in detail. (8)
(ii) What are the different forms of building stones? Also give the characteristics of a good building stone. (8)
12. (a) (i) Explain the stepped footing foundation with a neat sketch. Also explain how width and depth of footing are calculated? (8)
(ii) List the objectives of plastering. Give the name of different types of plasters. Also state the common defects that occur in plastering. (8)

Or

- (b) (i) What is roof? Explain the constructional features of R.C.C. roofs. (8)
(ii) Give the name of the three different types of earth dams. Explain with sketch any one of its kind. (8)
13. (a) Describe the working of steam power plant with neat line diagram. (16)

Or

- (b) (i) Explain the working of gas turbine power plant. Also state the advantages of gas turbine power plant. (8)
(ii) What is the principle of working of reciprocating pump? Explain with a neat sketch. (8)
14. (a) Describe the different cycle of operations of two stroke petrol engine with neat sketches. (16)

Or

- (b) (i) What is carburettor? State the functions of the carburettor. (6)
(ii) Give the sketch of 4-stroke IC engine to show the various components of it and indicate the parts. Explain each of them. (10)

15. (a) (i) Explain the working of vapour compression refrigeration system with a suitable sketch. (8)
- (ii) Show the arrangement of split type air conditioning system with a neat sketch. (8)

Or

- (b) (i) State the desirable properties of an ideal refrigerant. Give the name of atleast six refrigerants. (8)
- (ii) Describe the working of window type air conditioner with a neat sketch. (8)

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