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Question Paper Code: 52708

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

Second Semester

Mechanical Engineering

15UME208 - BASIC CIVIL AND MECHANICAL ENGINEERING

(Common to Electrical and Electronics Engineering)

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. In a mortar, the binding material is CO1- R
(a) Cement (b) Sand (c) Cinder (d) Surkhi
2. A gate cap is fitted with a CO1- R
(a) Level (b) Chain (c) Prismatic Compass (d) Cross staff
3. A beam which is fixed at one end and free at the other end is called CO2- R
(a) Fixed beam (b) Cantilever beam
(c) Overhanging beam (d) Continuous beam
4. The foundations are placed below ground level to increase _____ CO2- R
(a) Strength (b) Workability (c) Stability of structure (d) All of the above
5. Which one of the following is not a renewable source of energy? CO3- R
(a) Solar (b) Wind (c) Oil (d) Tidal
6. In a centrifugal pump, the liquid enters _____ of the impeller. CO3- R
(a) At the centre (b) At the bottom (c) At the top (d) Both (b) and (c)
7. The air fuel ratio of a petrol engine is governed by CO4- R
(a) Fuel pump (b) Governor (c) Carburettor (d) Injector

8. The thermal efficiency of a petrol engine is _____ as compared to the diesel engine. CO4- R
- (a) Same (b) Less (a) More (b) None of these
9. The purpose of duct in an air conditioning system is CO5- R
- (a) Air cooling (b) Air cleaning (c) Air drying (d) Air distribution
10. The moisture in the refrigerant is removed by CO5- R
- (a) Evaporator (b) Safety relief valve (c) Expansion valve (d) Driers

PART – B (5 x 2= 10 Marks)

11. Outline the significance of surveying. CO1- R
12. List the types of roofs used in buildings. CO2- R
13. State the advantages of thermal power plants. CO3- R
14. Compare two stroke and four stroke engine. CO4- U
15. Define coefficient of performance for refrigerator. CO5-R

PART – C (5 x 16= 80 Marks)

16. (a) Explain the working principle of dumpy level with neat sketch. CO1-U (16)
- Or
- (b) Describe the different types of cement. Explain their properties and uses. CO1-U (16)
17. (a) List out the different types of bond in brick wall and explain any three in detail. CO2-U (16)
- Or
- (b) What are the types of foundation? Write down the requirements of good foundation. CO2-U (16)
18. (a) Explain working principle of diesel engine power plant with neat sketch. CO3- U (16)
- Or
- (b) Illustrate the working principle of centrifugal pump with neat sketch. CO3-U (16)

19. (a) Describe the construction and working of two state petrol engine with neat sketch. CO4-U (16)
- Or
- (b) Discuss the working principle of four stroke petrol engine with neat sketch. CO4-U (16)
20. (a) Explain the operation of any one type of refrigeration system with the schematic line diagram. CO5- U (16)
- Or
- (b) Explain window air conditioner with a neat diagram. CO5- U (16)

