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Question Paper Code: 41725

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2016

Second Semester

Computer Science and Engineering

14UME205 – BASIC CIVIL AND MECHANICAL ENGINEERING

(Common to EEE, ECE, EIE, ICE, MECH and IT)

(Regulation 2014)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 1 = 10 Marks)

1. The first reading from a level station is
(a) fore sight (b) intermediate sight (c) back sight (d) any sight
2. For ensuring quality of concrete, use
(a) Single sized aggregate (b) Coarse aggregate
(c) Two sized aggregate (d) Graded aggregate
3. The members which support covering material of a sloping roof are
(a) rafters (b) purlins (c) battens (d) struts
4. Ratio of stress to strain is
(a) Poisson's ratio (b) Young's Modulus
(c) Bulk Modulus (d) Modulus of elasticity
5. The function of the boiler is
(a) to expand the steam (b) to heat the feed water
(c) to generate the steam at desired pressure (d) to compress the steam

6. An impulse turbine is used for
(a) Low head of water (b) High head of water
(c) Medium head of water (d) High discharge
7. In internal combustion engine the essential four operations are carried out in the following sequence
(a) Suction, exhaust, power and compression
(b) Suction, compression, power and exhaust
(c) Suction, power, exhaust and compression
(d) Suction, compression, exhaust and power
8. A device used for increase the temperature of saturated steam without raising pressure is called
(a) Fusible Plug (b) Stop valve
(c) Blow off cock (d) Super heater
9. In a vapor-compression refrigeration system, the abrupt reduction of pressure takes place in the
(a) compressor (b) condenser (c) throttle valve (d) evaporator
10. A refrigerant uses in vapour absorption refrigerator is
(a) Water (b) Ammonia
(c) Aqua- ammonia (d) Freon

PART - B (5 x 2 = 10 Marks)

11. Write the principle of surveying.
12. Define landscaping.
13. State the functions of air pre heater and condenser.
14. What do you understand by scavenging?
15. Define “ton of refrigeration”.

PART - C (5 x 16 = 80 Marks)

16. (a) State the properties and uses of sand, cement, concrete and steel sections. (16)

Or

(b) Discuss the properties and types of bricks and cement concrete. (16)

17. (a) Discuss in detail about the different types of foundations. (16)

Or

(b) What are the different types of bridges and explain briefly. (16)

18. (a) (i) Explain with neat sketch the working principle of centrifugal pump. (10)

(ii) Write the classification of turbines (6)

Or

(b) Explain the working method of a steam power plant with a neat sketch and mention its merits and demerits. (16)

19. (a) Explain the construction and working principle of any one of the boiler with neat sketches. (16)

Or

(b) (i) Differentiate the Petrol engine and Diesel engine. (8)

(ii) Write briefly about the fuel supply system used in S.I engine. (8)

20. (a) Explain with a neat sketch the construction and working of vapour compression refrigeration system. (16)

Or

(b) With a neat sketch, explain in detail the working of a window type room air conditioner. (16)
