

Register Number: .....

**B.TECH DEGREE EXAMINATIONS: APRIL/MAY 2014**

(Regulation 2009)

Third Semester

**TEXTILE TECHNOLOGY**

MEC201: Basics of Civil and Mechanical Engineering

**Time: Three Hours**

**Maximum Marks: 100**

**Answer all the Questions:-**

**PART A (10 x 1 = 10 Marks)**

1. The composition of ordinary cement is -----
  - a) Lime (Cao) - 3 to 8%,Slica (SiO2) -3 to 5%
  - b) Lime (Cao)- 17 to 25%,Slica (SiO2) - 60 to 70%
  - c) Lime (Cao)- 60 to 70%,Slica (SiO2) - 17 to 25%
  - d) Lime (Cao)- 3 to 5%,Slica (SiO2) -3 to 8%
2. Abrasive resistance of stone is found from
  - a) Smith Test
  - b) Hardness test
  - c) Impact test
  - d) Attrition test
3. The two criteria for the determination of allowable bearing capacity of a foundation are
  - a) Tensile failure and compression failure
  - b) Tensile failure and settlement
  - c) Bond failure and shear failure
  - d) Shear failure and settlement
4. The art that involves the decoration of the outdoor terrain is called as
  - a) Interior designing
  - b) Landscaping
  - c) Designing
  - d) Planning
5. Cochran boiler is -----
  - a) Horizontal fire tube boiler
  - b) Vertical water tube boiler
  - c) Vertical fire tube boiler
  - d) Horizontal water tube boiler
6. Reactor designed for propulsion applications are designed for
  - a) Natural uranium
  - b) Enriched uranium
  - c) Pure uranium
  - d) Any type of uranium
7. Fuels used in SI engines are rated by -----
  - a) Octane number
  - b) Cetane number
  - c) Methane number
  - d) Not rated

8. In a centrifugal pump casing, the flow of water leaving the impeller, is
  - a) Rectilinear flow
  - b) Free vortex motion
  - c) Radial flow
  - d) Forced vortex
9. The device used to cool the refrigerant in a vapor absorption system is a
  - a) Vacuum pump
  - b) Condenser
  - c) Vacuum condenser
  - d) Evaporator
10. For a small office room with the size of 2 m X 2 m the tons of refrigeration required for comfort cooling is
  - a) 1 TR
  - b) 0.75 TR
  - c) 1.5 TR
  - d) 0.4 TR

**PART B (10 x 2 = 20 Marks)**

11. State the principles of surveying
12. List out the tests carried out in cement.
13. Explain the various objectives and requirements of good foundation
14. What is the purpose of reinforced concrete?
15. Sketch the schematic layout of a Gas Turbine Power Plant.
16. Differentiate fire tube boiler and water tube boiler.
17. What do you understand by Scavenging?
18. Why priming is required for the Centrifugal Pump?
19. Define the terms. (i) C.O.P. (ii) Ton of Refrigeration.
20. Write few advantages of window room air conditioner.

**PART C (5 x 14 = 70 Marks)**

21. a) (i) Draw a neat sketch of a dumpy level and indicates its parts. (7)  
(ii) Explain how reciprocal leveling is carried out in case of obstruction. (7)

**(OR)**

- b) What are the different types of steel? Explain the properties and uses

22. a) Enumerate different types of foundation you would recommend under different situation and soil conditions explain them briefly.

**(OR)**

- b) (i) Explain briefly the different types of pitched roof coverings. (6)
- (ii) With help of neat sketch explain briefly about the gravity dam. (8)

23. a) Explain working principle of nuclear power plant with neat sketch. And states its advantages and disadvantages.

**(OR)**

- b) (i) Classify various types of power plants. (4)
- (ii) With neat sketch briefly explain the working principle and advantages of thermal power plant. (10)

24. a) Describe with neat sketch the working principle of two-stroke petrol engine. Also list out the differences between four stroke cycle and two stroke cycle engine.

**(OR)**

- b) With the help of suitable sketch, explain the working of a double acting reciprocating pump. What are the advantages of centrifugal pumps over reciprocating pumps?

25. a) With the help of flow diagram explain the principle of working of a vapour compression refrigeration system. Compare vapour absorption with vapour compression refrigeration system.

**(OR)**

- b) With neat sketch, explain the construction and working of a Window type air Conditioner.

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