Register Number: ……

B.TECH. DEGREE EXAMINATIONS: NOV/DEC 2010

Third Semester

TEXTILE TECHNOLOGY

MEC201: Basics of Civil and Mechanical Engineering

Time: Three Hours **Maximum Marks: 100**

Answer ALL Questions:-

PART A (10 x 1 = 10 Marks)

1. Abrasive resistance of stone is found from
   a) Smith Test b) Hardness test
   c) Impact test d) Attrition test
2. The composition of ordinary cement is ----------
   a) Lime (Cao)- 3 to 8%,slica (SiO_2) -3 to 5% b) Lime (Cao)- 17 to 25%,slica (SiO_2) -60 to 70%
   c) Lime (Cao)- 60 to 70%,slica (SiO_2) -17 to 25% d) Lime (Cao)- 3 to 5%,slica (SiO_2) -3 to 8%
3. The main advantage of providing ---- in addition in columns is to provide extra strength
   a) main reinforcement b) spiral ties
   c) lateral ties d) longitudinal ties
4. The art that involves the decoration of the outdoor terrain is called as
   a) Interior designing b) Landscaping
   c) Designing d) Planning
5. Reactor designed for propulsion applications are designed for
   a) Natural uranium b) Enriched uranium
   c) Pure uranium d) Any type of uranium
6. It is required to produce large amount of steam at low pressure. which boiler should be used?
   a) Pulverized fuel fired boiler b) Cochran boiler
   c) Lancashire boiler d) Stoker fired boiler

7. The working cycle in case of four stroke engine is completed in the following number of revolutions of crankshaft

a) 1/2 b) 1

c) 2 d) 4

8. In a centrifugal pump casing ,the flow of water leaving the impeller, is

a) Rectilinear flow b) Radial flow

c) Free vortex motion d) Forced vortex

9. In vapour compression cycle ,the condition of refrigerant is saturated

a) After passing through the condenser b) Before passing through condenser

c) After passing through the expansion or throttle valve d) Before entering the expansion valve

10. The boiling point of ammonia is

(A) -100° (B) -50°

(C) -33.3° (D) 33.3°

PART B (10 x 2 = 20 Marks)

11. What is surveying?
12. State the tests carried out on cement.
13. When the pile foundation is preferred?
14. What is the difference between pier and abutment in bridge?
15. What is the purpose of economizer used in steam power plant?
16. Write down the working principle of nuclear power plant.
17. Define scavenging.
18. Which engine will develop more power? Why?
19. What is the function of condenser in refrigerating systems?
20. Why ammonia is preferred in absorption systems?

PART C (5 x 14 = 70 Marks)

21. a) Explain in detail about the determination of areas by surveying.

(OR)

b) List out the types of cement and the various test carried out on ordinary Portland cement.

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

(OR)

b) How the dams are classified? Explain in detail the construction of gravity dam and earth dam.

23. a) With the help of a neat sketch, explain the working of a Steam Power plant. (10)

(OR)

b) With neat sketch describe construction and working of LA Mont boiler.

24. a) Describe the working of two stroke *engine*. Illustrate using line diagrams.

(OR)

b) (i) With neat sketch, explain the construction and working of a centrifugal pump. (10)

(ii) Compare a reciprocating pump and the centrifugal pump. (4)

25. a) Draw the sketch of vapour compression refrigeration unit. List out the components and their functions.

(OR)

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

****