Register Number:……………………..

B.TECH DEGREE EXAMINATIONS: DEC 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. Abrasive resistance of stone is found from

    a) Smith test   b) Hardness test

    c) Impact test   d) Attrition test

2. 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

3. The foundation which consists of rolled steel joints placed in single or double tiers with spaces filled up with concrete, is known as

    a) Pile foundation   b) Grillage foundation

    c) Pier foundation   d) Raft foundation

4. The art that involves the decoration of the outdoor terrain is called as

    a) Interior designing   b) Landscaping

    c) Designing   d) Planning

5. G.I Sheet is--------

    a) Breakable and sheets cannot be made thin   b) Breakable and sheets can be made thin

    c) Non-breakable and sheets can be made thin   d) Non-breakable and sheets cannot be made thin

6. Reactor designed for propulsion applications are designed for

    a) Natural uranium   b) Enriched uranium

    c) Pure uranium   d) Any type of uranium

7. The air-fuel ratio in petrol engines is controlled by

    a) Controlling valve opening/closing   b) Governing

    c) Injection   d) Carburetion

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. Component which is placed between dam and turbine in hydro power plant is,

    a) Draft tube   b) Transformer

    c) Surge tank   d) Tail race

10. The boiling point of ammonia is

    a) $-100°$ b) $-33.3°$

    c) $33.3°$ d) $-50°$

PART B (10 x 2 = 20 Marks)

11. Define leveling.
12. How do you select steel for construction of a building?
13. Define stress and strain.
14. Write the merits and demerits of steam power plant.
15. What is hammering effect?
16. List the components of diesel engine.
17. Define ton of refrigeration.
18. List out the chemical composition of ordinary cement.
19. Write the merits of air conditioning system.
20. Define Latent heat.

PART C (5 x 14 = 70 Marks)

21. a) (i) List out the types of bridges and dams with constructional parameters.   (7)

          (ii) Explain in detail about the determination of areas by surveying.   (7)

(OR)

   b) (i) Explain the principles of surveying. Give the classification of surveys and   (10) illustrative examples.

      (ii) Brief about steel selection to buildings.   (4)

22. a) (i) Enumerate different types of foundation you would recommend under different (10)
situation and soil conditions explain them briefly.

   (ii) Explain in detail about flooring and plastering. (4)

(OR)

   b) (i) Compare the brick masonry and stone masonry. (7)

   (ii) Explain the internal and external forces of building structures in detail. (7)

23. a) (i) With the help of a neat sketch, explain the working of a hydro-electric power (10)
plant.

   (ii) List out the advantages of hydro-electric power plant. (4)

(OR)

   b) (i) With neat sketch, describe construction and working of thermal boiler. (7)

   (ii) With a neat sketch, explain the construction and working of nuclear power plant. (7)

24. a) (i) Describe with neat sketch the working principle of two-stroke petrol engine. (7)

   (ii) Compare the differences between four stroke cycle and two stroke cycle engine. (7)

(OR)

   b) (i) With neat sketch, explain the construction and working of a centrifugal pump. (7)

   (ii) Compare a reciprocating pump and the centrifugal pump. (7)

25. a) (i) Draw the sketch of vapor absorption system. List out the components and their (10)
functions.

   (ii) Draw the sketch of vapor compression system. (4)

(OR)

   b) (i) Write short notes on window and split air conditioner. (7)

   (ii) Explain the terminology of refrigeration and air conditioning system. (7)

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