KUMARAGURU college of technology
character is life

Register Number: ……..

B.TECH DEGREE EXAMINATIONS: JUNE 2015

(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. In chain surveying tie lines are primarily provided
   a) to avoid long offsets from chain lines b) to take offsets for detail survey
   c) to check the accuracy of the survey d) to increase the number of chain lines.
2. The minimum water content at which the soil retains its liquid state and also possesses a small shearing strength against flowing, is known
   a) liquid limit b) shrinkage limit
   c) plastic limit d) permeability limit.
3. The foundation in which a cantilever beam is provided to join two footings, is known as
   a) combined footing b) strap footing
   c) strip footing d) raft footing
4. The 9 cm x 9 cm side of a brick as seen in the wall face, is generally known as
   a) header b) front
   c) stretcher d) side
5. For the purpose of comparison, the steam generating capacity of a boiler is generally expressed in terms of
   a) equivalent evaporation b) steam pressure
   c) kg/hr d) thermal efficiency
6. A moderator generally used in nuclear power plants is
   a) graphite b) heavy water
   c) concrete d) graphite and concrete
7. A carburettor is used to supply
   a) petrol, air and lubricating oil b) air and diesel
   c) petrol and lubricating oil d) petrol and air

8. Centrifugal pump will start delivering liquid only when the pressure rise in the impeller is equal to the

a) kinetic head b) velocity head

c) monometric head d) static head

9. The optimum effective temperature for human comfort is

a) higher in winter than in summer b) lower in winter than in summer

c) same in winter and summer d) not dependent on season

10. Which of the following is not used as a refrigerant?

a) carbon dioxide b) ammonia

c) carbon monoxide d) sulphur dioxide

PART B (10 x 2 = 20 Marks)

11. List out two common mistakes made in chaining.
12. What is the composition of a Portland cement?
13. List out the 8 basic elements of an interior design.
14. Outline at least two essential requirements of a good foundation.
15. Name four materials that can be used as fuels in a nuclear power plant.
16. Compare boiler accessories and mountings by giving two differences.
17. Recall the four strokes of an IC engine in the order they occur.
18. With not more than two points write how reciprocating pumps are better than centrifugal pump.
19. Write four desirable properties of a refrigerant.
20. Define the term ‘ton of refrigeration’.

PART C (5 x 14 = 70 Marks)

21. a) Explain the principle of surveying and write chain and various types of tapes used in chain surveying.

(OR)

b) (i) Write down 6 advantages of RCC. (6)

(ii) With proper illustrations discuss on the manufacturing of bricks. (8)

22. a) What is meant by non-rigid dam? With simple sketches explain the construction of two major types of non-rigid dams.

(OR)

b) (i) What are the ways by which bearing capacity of the soil can be improved? (6)

(ii) List out 10 important points to be observed in supervising the construction of brick work. (8)

23. a) Illustrate the details of a diesel power plant and explain the working principle. Give four applications in which diesel power plant is useful.

(OR)

b) (i) Explain how the nuclear energy is obtained to produce electric power in a power plant? (6)

(ii) Compare and contrast thermal power plant with hydro-electric power plant. (8)

24. a) Demonstrate through diagrams the working of a petrol engine, that works on two stroke cycle, by showing various strokes taking place in order.

(OR)

b) (i) With diagrammatic illustrations explain the construction of a centrifugal pump. (6)

(ii) Distinguish four stroke petrol and diesel engines. (8)

25. a) State the requirements of comfort air-conditioning and explain the working of a window type air conditioner supported with neat sketch.

(OR)

b) What is refrigeration? With suitable line sketch, draw the construction of a vapour compression system and discuss how it works

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