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Question Paper Code : X 20659

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2020

Second Semester

Electrical and Electronics Engineering

GE 6251 – BASIC CIVIL AND MECHANICAL ENGINEERING

(Common to : Electronics and Instrumentation Engineering/Instrumentation and Control Engineering)
(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. Differentiate a plan and a map.
2. Mention the classification of surveying.
3. Give the composition, weight and dimensions of a common good brick.
4. Define modern landscaping.
5. List each two merits and demerits of nuclear power plant.
6. What is meant by centrifugal pump ?
7. List all the four process of a four stroke engine.
8. State the types of boilers.
9. Draw the layout of a domestic refrigerator.
10. What is the main difference between window A/C and split A/C ?

PART – B

(5×16=80 Marks)

11. a) Write a short note on :

- i) The principle of surveying (6)
- ii) Surveying instruments arrows, pegs and plumb bobs (6)
- iii) Merits and demerits of chain surveying. (4)

(OR)



b) Brief the following :

i) properties of stone, strength and hardness (6)

ii) siliceous rocks and argillaceous rocks (6)

iii) tests on stones. (4)

12. a) i) Explain the requirements to be fulfilled for an energy efficient building, in planning. (8)

ii) List the advantages and disadvantages of brick masonry over stone masonry. (8)

(OR)

b) i) Give the detailed classification of bridges inclusive of life, span and loading. (8)

ii) Elaborate the factors to be considered in the selection of site for a Dam. (8)

13. a) Draw the layout of a diesel power plant, explain its working principle. List the merits and demerits.

(OR)

b) With a neat sketch, explain the construction and working principle of single acting reciprocating pump. State its merits and demerits. (16)

14. a) i) Explain with a neat sketch the working of four stroke petrol engine. (8)

ii) Differentiate between two stroke and four stroke engines. (8)

(OR)

b) Explain with a neat sketch, the construction and working principle of a high pressure water tube boiler. (16)

15. a) With a neat layout briefly explain the construction and working principle of a vapour compression refrigeration system.

(OR)

b) Draw the neat diagram of a window air conditioner and explain its working. And state its merits and demerits.
