Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 50652

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2017
Second Semester
Electrical and Electronics Engineering
GE6251 – BASIC CIVIL AND MECHANICAL ENGINEERING
(Common to Electronics and Instrumentation Engineering, Instrumentation and Control Engineering)
(Regulations 2013)

Time : Three Hours | Maximum : 100 Marks

Codes/Tables/Charts to be permitted, if any, may be indicated.

Answer ALL questions

PART – A (10×2=20 Marks)

1. State the advantages and disadvantages of chain surveying.
2. State the properties of cement concrete.
3. List the failures of foundation.
4. Write any 4 purposes of a dam.
5. Mention 2 merits and 2 demerits of a nuclear power plant.
6. State the principle of centrifugal pump under rotodynamic pumps.
7. Differentiate with any 2 points between Spark Ignition (SI) and Compression Ignition (CI) engines.
8. List the various boiler accessories.
9. Define Ton of Refrigeration.
10. What are the various properties of refrigerants ?

PART – B (5×16=80 Marks)

11. a) i) Explain with neat sketch prismatic compass and principles of compass surveying. (14)

ii) Differentiate Fore bearing and Back bearing. (2)

(OR)

b) i) What is RCC ? What is the advantage of RCC over a cement concrete ? (4)

ii) List the advantages of reinforced cement concrete. (2)

iii) Write short notes on light weight concrete. (2)

iv) What are the various classifications of mortar ? Explain. (4)

v) List the classification and uses of steel in construction. (4)

12. a) With a sketch explain various types of foundations. (16)

(OR)

b) Explain briefly about masonry with neat sketch. (16)

13. a) i) Explain the working principle of steam power plant with neat sketch. (10)

ii) Draw the layout of diesel power plant and indicate the parts. (6)

(OR)

b) i) Explain briefly the functions of the components of nuclear power plant. (10)

ii) Draw a neat block diagram of a nuclear power plant and indicate the parts. (6)

14. a) Differentiate between two stroke and four stroke engines. (16)

(OR)

b) Explain the construction and working of 4 stroke petrol engine with suitable sketch. (16)

15. a) Sketch the layout of window air conditioner and explain working principle, stating clearly the functions of major components with merits and demerits. (16)

(OR)

b) With a neat layout, briefly explain about the construction and working principle of a vapour absorption refrigeration system. (16)