



Semester & Branch: II – Electrical & Electronics Engineering
Subject Code & Name: GE6251 – Basic Civil and Mechanical Engineering
Question Bank

PART-A

UNIT-1- Surveying and Civil Engineering Materials

1. What is concrete.
2. What is meant by observation in geodetic surveying?
3. What are the classified of bricks?
4. What are the qualities of good bricks.
5. State any two types of cement and concrete?
6. What is the principle of surveying?
7. How are bricks classified?
8. What is meant by surveying and leveling?
9. What are the raw materials required to manufacture the cement?
10. Write the arithmetic equation used in rise and fall method of leveling.
11. What are the constituent materials of bricks?
12. Define mortar which is used in construction works.

UNIT-2-Building Components and Structures

13. List the types of dams.
14. List the types of bridges.
15. What is back bearing? How concrete is designed by grades?
16. Define safe bearing capacity of soil.
17. What are the objectives of foundation?
18. Define elasticity.
19. What are necessities of bridges?
20. Name any types of bridges based on the materials of construction site.
21. What is poisson's ratio?
22. Define stress and strain.
23. List the different types of foundation used for building.
24. Define plastering. List the types of plasters.
25. What is known as gravity dam?
26. List any objectives of foundation.

UNIT-3-Power Plant Engineering

27. Name the different types of power plants.
28. Give the advantages and disadvantages of wind energy.
29. Give the function of the condenser in a steam power plant?
30. What are the essential Equipment of a steam power plant?
31. List out the advantages of nuclear power plants?

32. List the advantages of a hydro electrical power plant.
33. Mention the few advantages of gas turbines.
34. What is the function of moderator in a nuclear power plant?
35. Define 'suction head' in a centrifugal pump.
36. Define centrifugal pumps.
37. Define slip in reciprocating pump operation.
38. Mention the function of control rod in nuclear power plant.
39. State the advantages of tidal power plant.
40. What is purpose of lubrication in an I.C engine?

UNIT-4-I C Engines

41. Give the main components of a petrol engine?
42. What is the function of a spark plug?
43. Mention the application of the I.C engines.
44. List out the limitations of two stroke engines.
45. What do you meant by scavenging process in a two stroke engine?
46. What is the purpose of a fusible plug in a boiler?
47. What is meant by carburetion?
48. Define 'stroke length' of an IC engine.
49. State the function of an air preheater?
50. How the boilers are classified?
51. What is welding?
52. Differentiate between petrol engine and diesel engine.
53. Define IC engine and EC engine.
54. What is the function of a steam boiler and important components?

UNIT-5-Refrigeration and Air Conditioning System

55. Define the term (Ton of refrigeration) 'TR'.
56. Define relative humidity.
57. Give the application of air conditioning system.
58. List out a few refrigerants in common use.
59. Define air conditioning?
60. Define: COP.
61. Give some properties of a good refrigerant.
62. Name any two methods of refrigeration.
63. Mention types of air conditioning.
64. What is refrigerant?
65. List out a few refrigerants in common use.
66. Differentiate between vapour compression and vapour absorption refrigeration system.
67. Second law of thermodynamics.

PART-B

UNIT-1- Surveying and Civil Engineering Materials

1. Explain the principles of surveying.
2. List the uses of the following construction materials.
 - a) Bricks
 - b) stones
 - c) cement concrete, and
 - d) steel sections.
3. Define the following.
 - a) Datum surface
 - b) Elevation
 - c) Bench mark
 - d) Vertical angle
 - e) Simple levelling
 - f) Differential leveling
4. State the trapezoidal rule and Simpson's rule. What is the limitation of Simpson's rule.
5. Explain the properties of cement and concrete.

UNIT-2-Building Components and Structures

6. Explain different types of foundation with neat sketch.
7. Describe briefly the methods for improving the bearing capacity of soils.
8. Explain the different types of bonds in brick masonry normally adopted.
9. Give the classification of bridges based on superstructure.
10. Explain the different types of arch dams, and purpose of dam?
11. What is a floor? What are the materials normally used for the construction of floor?

UNIT-3-Power Plant Engineering

12. Sketch the layout of a steam power plant and explain the each circuits
13. Explain with a neat sketch of a diesel power plant.
14. Explain with neat diagram the working principle of hydraulic power plant.
15. Explain the working principle of nuclear power plant?
16. Explain the working principle of single acting reciprocating pump.

UNIT-4-I C Engines

17. Explain the parts of an I.C engines.
18. Explain the working principle of two stroke petrol engine with a neat sketch.
19. Explain the working principle of four stroke petrol engine with a neat sketch.
20. Explain the working principle of four stroke diesel engine with a neat sketch.
21. Compare petrol and diesel engine.
22. With the help of a neat sketch explain the working of a fire tube boiler. List out the difference between a fire tube and water tube boiler.

UNIT-5-Refrigeration and Air Conditioning System

23. With a simple circuit diagram explain the working of a vapour compression.
24. With a neat sketch explain the layout of a window room air conditioning.
25. Explain with a neat sketch of split type room air conditioner.
26. Explain the principle and working of vapour absorption refrigeration system.
27. Explain the working principle of a domestic refrigerator.