SECTION I (CIVIL)

PART- A  (3x2=6)

i. What are the points to be observed while supervising the brick work?

ii. What do you mean by reinforced concrete?

iii. How are bridges classified according to the span?

PART-B  (3x8=24)

1. a) What are the uses of cement mortar?
   b) Describe the various types of cement specifying the applications of each.
   (OR)

2. a) Briefly explain about the properties of good stone that is to be used for construction.
   b) What are the tests conducted on bricks?

3. Explain in detail with a neat sketch the various components of buildings and their functions.
   (OR)

4. a) Write the classifications of soil.
   b) Describe the functions and various types of foundations.
   (OR)

5. a) Write the principles of surveying.
   b) Describe a typical chain with a neat sketch.
   (OR)

6. a) How roads can be classified according to location and function?
   b) What is meant by Rain Water Harvesting? Explain.
SECTION – II (MECHANICAL)

Answer ALL Questions

PART – A (3 x 2 = 6 marks)

i. How are IC Engines classified?

ii. What is the function of moderator?

iii. What is soldering?

PART – B (3 X 8 = 24 Marks)

1. With help of neat sketch, explain the working principle of four stroke diesel engine. Also, list out the merits and demerits of 2 stroke petrol engine.

(or)

2. a. What are the important features of Babcock and Wilcox boiler?

b. Write short notes on “Boiler Pressure Gauge” and “Safety Valve”.

3. a. Write advantages of hydroelectric power plant compared to that of steam power plant.

b. Describe briefly the working principle of nuclear power plant.

(or)

4. a. List out the merits and demerits of solar power plant.

b. Write the working principle of wind energy conversion system.

5. a. List down the name of moulding tools. Explain any two.

b. Detail the taper turning operation in a Lathe.

(or)

6. a. Write the important properties of moulding sand. Explain any two.

b. How is arc welding process carried out?