

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE, APRIL – 2021**

GENERAL ENGINEERING

[Maximum Marks: **100**]

[Time: **3 Hours**]

(PART-A)

(Maximum marks: 10)

I. (Answer *all* the questions in one or two sentences. Each question carries **2** marks)

1. List the physical properties of cement.
2. Name various types of masonry structure.
3. What is the use of clutch in a vehicle?
4. Define Ohm's Law.
5. Name two semiconductors used for colour LEDs. (5 x 2 = 10)

(PART-B)

(Maximum marks: 30)

II. (Answer any *five* of the following questions. Each question carries **6** marks)

1. List the different types of leaving.
2. Explain the characteristics of good brick.
3. Compare petrol engine and diesel engine.
4. Explain the advantages of steam Power Plant.
5. Write short note on the following
(a) Resistance (b) r.m.s value (c) power factor
6. Draw the block diagram of microcontroller.
7. With the help of a diagram explain working of full wave bridge rectifier. (5 x 6 = 30)

(PART-C)

(Maximum marks: 60)

(Answer *one* full question from each Unit. Each full question carries **15** marks)

UNIT – I

- III. (a) Explain different types of cement. (8)
(b) Write the essential requirements of a good foundation. (7)

OR

- IV. (a) Write properties of good sand. (7)
(b) Explain the instruments used in chain survey. (8)

UNIT – II

- V. (a) Explain the working of four stroke petrol engine. (8)
(b) Draw the block diagram of nuclear power plant and explain its working. (7)

OR

- VI. (a) With the help of diagram explain power transmission of a four wheel vehicle. (8)
(b) Explain the advantages and disadvantages of a Hydro electric power plant. (7)

UNIT- III

- VII. (a) A circuit consists of a resistor 12Ω , inductive reactance 10Ω and capacity reactance 19Ω connected in series across a 230V 50 Hz Supply. Calculate the power and power factor of the circuit. (8)
(b) Write short note on:
(i) MCB (ii) ELCB (7)

OR

- VIII. (a) Draw the block diagram showing the distribution of electrical energy from the supply main to the consumer point. (7)
(b) A resistance of 6Ω and an inductance of $0.05H$ are connected in series across a 240V, 50Hz supply. Calculate the current and power factor of the circuit. (8)

UNIT - IV

- IX. (a) State the features of CDMA technology. (8)
(b) With the help of a block diagram explain the working of Inverter. (7)

OR

- X. (a) What are the advantages of LED light? (8)
(b) Draw the circuit diagram of 5V DC regulated power supply. (7)
