

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE, OCTOBER/NOVEMBER – 2019**

**GENERAL ENGINEERING**

[Maximum Marks: 100]

[Time: 3 Hours]

**PART-A**

[Maximum Marks: 10]

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

- I. 1. List the different types of foundations.  
2. Define IC engine  
3. State Ohm's law.  
4. Define E-waste.  
5. List any 2 applications of LED.

(5 x 2 = 10)

**PART-B**

[Maximum Marks: 30]

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

- II 1. Explain 6 constituents of cement and their properties.  
2. List out the functions of foundation.  
3. List any 6 classification of IC engine.  
4. Compare two stroke and four stroke engine (give any 6 points)  
5. Write short note on:  
(a) Impedance (b) Inductance  
6. Explain the working of LED.  
7. List the advantages of SMPS

(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 the instruments used in chain survey. (8)  
(b) Explain the different steps associated with the preparation of concrete. (7)

**OR**

- IV (a) Write the essential requirements of a good foundation. (9)  
(b) What are the operations involved in chain surveying. (6)

**UNIT - II**

- V (a) Explain the working of hydroelectric power plant with the help of a sketch. (9)  
(b) Compare diesel engine and petrol engine. (give 6 points) (6)

**OR**

- VI (a) With a neat sketch explain the working of a four stroke diesel engine. (9)  
(b) Explain the advantages and disadvantages of nuclear power plant (6)

**UNIT- III**

- VII (a) Draw an AC circuit containing resistance, Inductance and capacitance in series.  
Derive an expression to find the Impedance. (9)  
(b) Write a short note on:  
(i) RMS value (ii) MCB (6)

**OR**

- VIII (a) A resistance of  $3\Omega$ , an Inductance of 0.06 H and a capacitance of 90 microfarad are connected in series across 100V, 50 Hz supply. Calculate the current passing through the circuit. (9)  
(b) Explain lightning protection. (6)

**UNIT - IV**

- IX (a) Draw the block diagram of micro controller. (8)  
(b) Compare GSM and CDMA technology. (7)

**OR**

- X (a) Compare inverter and UPS (list any four points) (8)  
(b) List the advantages of SMD circuits. (7)

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