

TED (10)-1004  
(REVISION—2010)

Reg. No. ....  
Signature .....

FIRST SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/  
TECHNOLOGY—MARCH, 2013

GENERAL ENGINEERING

[Time : 3 hours

(Maximum marks : 100)

Marks

PART—A

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

1. What is portland pozzolana cement ?
2. What is an I C engine ?
3. What is ELCB ?
4. What is a micro controller ?
5. What is CDMA ?

(5×2=10)

PART—B

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

1. What are the desirable qualities of a good brick ?
2. Explain Plain surveying and Geodetic surveying.
3. Draw the block diagram of the power transmission system used in Automobiles.
4. Write any six differences between Two stroke engine and Four stroke engine.
5. Draw the circuit of a single phase electrical installation system.
6. Draw the block diagram of a switch mode power supply.
7. Compare between OFF line UPS and ON line UPS.

(5×6=30)

PART—C

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

UNIT—I

- III (a) Explain different types of foundations. 10
- (b) What is torsteel ? What are the advantages of torsteel ? 5

OR

- IV The following consecutive readings were taken with a dumpy level along a chain line at a common interval of 15m. The first reading was at a chainage of 165m where the RL is 98.085. The instrument was shifted after the fourth and ninth readings.

3.150, 2.245, 1.125, 0.860, 3.125, 2.760, 1.835, 1.470, 1.965, 1.225, 2.390 and 3.035 m.

Draw out a page of level field book and enter the readings properly.

Calculate the RL of all the points by collimation system. 15

UNIT—II

- V (a) With the help of a block diagram explain the working of a steam power plant. 10

(b) What are the functions of the following components in power transmission system :

- |               |                      |                  |   |
|---------------|----------------------|------------------|---|
| (i) Clutch    | (iii) Gearbox        | (v) Differential |   |
| (ii) Flywheel | (iv) Propeller shaft |                  | 5 |

OR

- VI (a) With the help of a line diagram explain the working of a 4 stroke petrol engine. 10

(b) Draw the line diagram of a nuclear power plant. 5

UNIT—III

- VII (a) Prepare the monthly bill at the rate of ₹ 2 per unit for a domestic building with the following loads :

- |                                                     |    |
|-----------------------------------------------------|----|
| (i) 10 lamps of 40 W each working 6 hours a day.    |    |
| (ii) 5 fan of 60 W each working 10 hours a day.     |    |
| (iii) One 1000 W heater working 2 hours a day.      |    |
| (iv) One refrigerator 250 W working 15 hours a day. | 10 |

(b) Explain RMS value. 5

OR

- VIII (a) An AC series circuit consists of a 300 Ω resistor, a 7.95 μF capacitor and a 2.06H inductor. If the supply voltage is 250V at 50Hz, calculate :

- |                            |                  |    |
|----------------------------|------------------|----|
| (i) Inductive reactance.   | (iv) Current     |    |
| (ii) Capacitive reactance. | (v) Power factor |    |
| (iii) Total impedance.     |                  | 10 |

(b) Explain the importance of Earthing. 5

UNIT—IV

- IX (a) Compare the performance of LED and CFL light system. 8

(b) What is GSM ? Explain the advantages of GSM. 7

OR

- X (a) With a simple circuit, explain the operation of an inverter. 8

(b) Explain the different methods to manage E-waste effectively. 7