

TED (10)–1004

(REVISION—2010)

Reg. No.

Signature

FIRST SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY
OCTOBER, 2013

GENERAL ENGINEERING
(Common except DCP and CABM)

[Time : 3 hours

(Maximum marks : 100)

PART—A

Marks

I Answer the following questions in one or two sentences. Each question carries 2 marks.

1. What is a total station ?
2. What is meant by a four stroke engine ?
3. What is meant by a polyphase system ?
4. What is meant by integrated circuit ?
5. What is meant by GSM ?

(5×2=10)

PART—B

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

1. What are the different types of cement ?
2. What is a Pile ? Distinguish between Friction Pile and Bearing Pile.
3. Write any six differences between petrol engine and diesel engine.
4. Draw the block diagram of a hydroelectric power plant.
5. Define the following terms pertaining to AC wave :
(i) Amplitude (iii) Phase
(ii) Frequency (iv) RMS value
6. Explain MCB and ELCB.
7. What are the advantages of LED light ?

(5×6=30)

PART—C

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

UNIT—I

III (a) Define the following terms with respect to chain surveying :

- | | | |
|------------------|-----------------|--------------|
| (i) Main station | (iii) Base line | (v) Chainage |
| (ii) Tie station | (iv) Offset | |

10

(b) Draw the elevation of a brick wall in English bond with four layers.

5

OR

- IV Following consecutive readings were taken on points 1 to 7 along a line :
0.785, 1.326, 2.538, 3.435, 1.367, 2.328, 1.234, 1.657
The instrument was shifted after fourth reading and the first reading was taken on a BM with RL = 100. Rule out a page of level book and work out the RL of all the points by applying collimation system. 15

UNIT—II

- V (a) With the help of a block diagram, explain working of a steam power plant. 10
(b) Draw the block diagram of the power transmission system used in Automobiles. 5

OR

- VI (a) With the help of a line diagram explain the working of a two stroke diesel engine. 10
(b) What are the advantages and disadvantages of nuclear power plant ? 5

UNIT—III

- VII (a) In a residential house, the following loads are connected :
1. 5 lamps of 60 W each working 8 hrs a day.
2. 6 fans of 60 W each working 10 hrs a day.
3. One 1000 W heater working 3 hrs a day.
4. 1 refrigerator 250 W working 8 hrs a day.
The cost of energy is ₹ 3 per unit, calculate the total energy consumption for a month of 30 days. 10
(b) Explain the importance of Earthing. 5

OR

- VIII (a) A resistance of 200Ω , an inductance of 2.06 H and a capacitance of $7.95\ \mu\text{F}$ are connected in series across 220 V, 50 Hz supply. Determine :
(i) Inductive reactance (iii) Impedance (v) Power factor
(ii) Capacitive reactance (iv) Total current 10
(b) List the major DC voltage sources. 5

UNIT—IV

- IX (a) With a block diagram, explain the Switch Mode Power Supply. 10
(b) Distinguish between Inverter and UPS. 5

OR

- X (a) State the features of CDMA technology. 8
(b) Suggest the methods to manage E-waste effectively. 7