Total No. of Printed Pages—4

HS/XII/V/EH/22

2022

ELECTRONICS AND HARDWARE

(Vocational Course)

(Installation Technician Computing Peripherals)

Full Marks : 30

Time : 1 hour

The figures in the margin indicate full marks for the questions

1. Choose the correct answer : 1×4=4

(a) Miniature circuit breaker is a small

(i) fuse

(ii) magnetic switch

(iii) electromagnetic switch

(iv) two-way switch

(b) A simple enclosed length of wire that has a low melting point is known as

(i) resistor

(ii) fuse

(iii) circuit breaker

(iv) thermistor

(c) SF_6 gas is transported in

(i) air cylinder

(ii) gas cylinder

(iii) liquid form in cylinder

(iv) solid form

(d) The technology behind AC motor speed consists of

(i) rectifier circuit

(ii) DC circuit

(iii) inverter unit

(iv) All of the above

2. Fill in the blanks : 1×4=4

(a) PLC stands for _____.

(b) The meter constant of single-phase energy meter is expressed in terms of _____.

(c) The voltage of 3-phase system is _____.

(d) _____ is used to control the RPM of motor.

3. Answer the following in *1* word or *1* sentence each (any *four*) : 1×4=4

(a) What is three-phase system?

(b) What is alternator?

(c) What are relays?

(d) What is the function of PT?

(e) What is distribution transformer?

4. Answer the following in *3* or *4* sentences each (any *three*) : 2×3=6

(a) What are contactors? Draw the circuit connection of motor using contactor.

(b) What is soft starter? Why is it needed?

(c) What are the two types of connection in three-phase system? Draw the circuit diagram of both types of connection.

(d) Differentiate between RCCB and ELCB.

(e) What is a circuit breaker? What are its types?

5. Answer the following essay-type questions (any *three*) : 4×3=12

(a) Draw the block diagram of solar power plant. Explain briefly the function of each of its components.

(b) Explain briefly the working of a transformer. Differentiate between single-phase and three-phase transformers with diagram.

(c) What is energy meter? Draw a diagram representing the construction of an energy meter. Briefly explain the working of energy meter.

(d) What is communication? Explain different methods of communication.

★ ★ ★