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HS/XII/V/EH/21

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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 low melting point is known as

(i) resistor

(ii) fuse

(iii) circuit breaker

(iv) thermistor

(2)

(c) SF₆ 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 unit

(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)

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 an alternator?
- (c) What is relay?
- (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 is a contactor? Draw the circuit connection of motor using contactor.
- (b) What is soft starter? Why is it needed?
- (c) Explain with circuit diagram the two types of connection in three-phase system.
- (d) Differentiate between RCCB and ELCB.
- (e) What is circuit breaker? Give its types.

(4)

5. Answer the following essay-type questions (any *three*) :

4×3=12

- (a) Draw the block diagram of solar power energy and explain the working principle and function of each part.
- (b) What is transformer? Differentiate between single-phase and three-phase transformer.
- (c) Explain with diagram the working and construction of a current transformer.
- (d) What is communication? Explain the method of communication.

★ ★ ★