

Diploma Board Examination – February 2022

Course: Diploma in Computer Engineering.

Subject : Basics Of Electrical And Electronics Engineering.

QP Code: 252

Time: 3 Hours

Sub Code: 4052310

Max. Marks: 100

*[N.B: (1) Answer all 10 Questions in PART A and each question carries 3 Marks.
(2) Answer division (a) or division (b) of each question in PART B and each question carries 14 marks.]*

PART – A

1. What is meant by 3 phase?
2. Write the uses of battery.
3. What is meant by earthing?
4. Write the applications of stepper motor.
5. State the applications of diode.
6. Define transistor and mention its types.
7. Define redundant groups.
8. Explain don't care condition with example.
9. Define toggling.
10. Explain read operation of shift registers.

PART – B

11. (a) (i) Explain in detail about the indications of fully charged cell.
(ii) Define cycle and frequency.

(Or)

- (b) (i) Explain with block diagram the working of OFF-Line UPS.
(ii) Explain the maintenance of UPS.

[Turn over.....]

12. (a) (i) Explain the construction of transformer.
(ii) State the advantages and disadvantages of auto transformer.

(Or)

- (b) (i) Explain the operations of DC servo motor.
(ii) Explain the types of earthing.

13. (a) (i) Explain the operation of LED with the diagram and waveform.
(ii) Draw the circuit diagram and waveforms of full wave rectifier.

(Or)

- (b) (i) Draw and explain the input and output characteristics of CE configuration.
(ii) Explain photo diode.

14. (a) (i) Explain quad loop and overlapping groups with examples.
(ii) How a octet loop reduces the Boolean expression in Karnaugh map?

(Or)

- (b) (i) Explain EX-OR, NOR logic gates with symbol, logic equation and truth table.
(ii) Explain the working of encoder circuit.

15. (a) (i) Draw the logic diagram of D flip-flop and explain its operation.
(ii) Draw the logic diagram and truth table of Parallel in-Parallel out shift register.

(Or)

- (b) (i) Explain the operation of 4 bit synchronous counter with the logic diagram.
(ii) Explain race condition in flip-flops.
