468 Register No.: [ ]

April 2018

Time – Three hours
(Maximum Marks: 75)

[N.B: (1) Q.No. 8 in PART – A and Q.No. 16 in PART – B are compulsory. Answer any FOUR questions from the remaining in each PART – A and PART – B

(2) Answer division (a) or division (b) of each question in PART – C.

(3) Each question carries 2 marks in PART – A, 3 marks in Part – B and 10 marks in PART – C.]

PART – A

1. State Ohm's law.
2. Why starter is necessary in DC motor?
3. Write the emf equation of a transformer.
4. What is group drive?
5. What are inverters?
6. State the applications of LCD.
7. What is sensor?
8. State the methods of speed control of three phase induction motor.

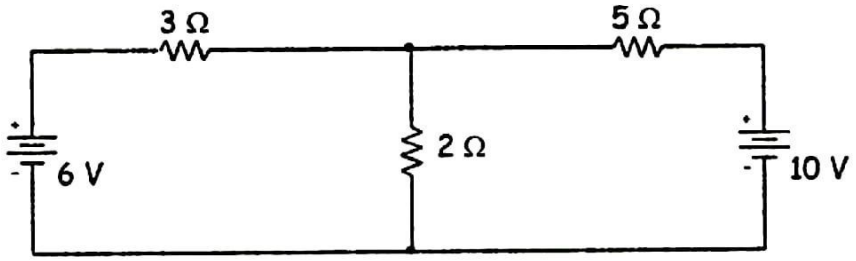
PART – B

9. State the losses in transformer.
10. Write the relation between line voltage and phase voltage, line current and phase current in star and delta connected system.
11. State any three applications of PMDC.
12. What is meant by earthing?
13. What is rectifier? What are the types of rectifiers?
14. What is the need of fuse?
15. What is meant by relay?
16. What is the total resistance of two 5Ω resistors connected in series and in parallel?

[Turn over.....

PART – C

17. (a) Find the value of current flowing through 2Ω in the following circuit.



(Or)

(b) Explain the principle of operation of a DC motor.

18. (a) Explain the working of squirrel cage three phase induction motor.

(Or)

(b) Explain the construction and operation of DOL starter.

19. (a) Explain the construction and applications of permanent magnet servo motor.

(Or)

(b) Explain the working of single stepping stepper motor drive.

20. (a) Explain the working of bridge rectifier with input and output waveforms.

(Or)

(b) With block diagram, explain SMPS.

21. (a) Draw the neat diagram of oil circuit breaker and explain its working.

(Or)

(b) Draw the block diagram of PLC and explain each block.
