

# Higher Secondary Second Year

## Basic Electrical Engineering

### Model Question Paper

TIME: 3.00 Hrs

MARKS: 90

#### PART A

ANSWER ALL QUESTIONS

15 X 1 = 15 MARKS

- The voltage of low-tension transformer is
  - 132 KV
  - 220 KV
  - 33 KV
  - 400 KV
- An incandescent lamp can be used in
  - AC supply
  - DC supply
  - Both AC and DC supply
  - No supply
- According to ----- induction stove will function.
  - Law of conservation of energy
  - Ohms law
  - Flemings rule
  - Faraday's law
- Velocity imparted by the impeller to the water is converted to pressure by the
  - Casing or volute
  - Stuffing box
  - Spindle
  - Gland box
- Which type of fan is used to release smokes and dust?
  - Ceiling fan
  - Table fan
  - Pedestal fan
  - Exhaust fan
- Which of the following will need the highest level of illumination?
  - Proof reading
  - Living rooms
  - Hospital wards
  - Railway platforms.
- The independent drives are used in
  - computers
  - vacuum cleaner
  - cranes
  - jet pump
- Tong testers are used because
  - it is possible to measure current flowing in a line without breaking the circuit.

- b) for accurate measurement of electrical quantities.
  - c) for accurate measurement of energy.
  - d) for accurate measurement of resistance.
9. The moving iron type instruments are suitable for
- a) DC measurements only
  - b) AC measurements only
  - c) DC/AC measurement
  - d) resistance measurement
10. Resistive transducers are used to measure
- a) displacement only
  - b) pressure only
  - c) displacement, pressure, force
  - d) force only
11. In which starter, the starting current is reduced to one – third value?
- a) Direct-On-Line starter
  - b) Star delta starter
  - c) Rotor resistance starter
  - d) Auto transformer starter
12. In which DC motor, the three point starter is used
- a) Shunt motor
  - b) Compound motor
  - c) Shunt and compound motor
  - d) Series motor
13. Which instrument is used to find faults in winding?
- a) Watt meter
  - b) Multi meter
  - c) Growler
  - d) Megger
14. The instrument used to measure the diameter of a conductor is
- a) Wire gauge plate
  - b) Feeler gauge
  - c) Dial gauge
  - d) Screw gauge
15. The lubrication is used
- a) to increase heat
  - b) to rotate without noise
  - c) to increase friction
  - d) for power loss

## PART B

**Answer any ten questions briefly  
(Question No.28 is compulsory)**

**10 X 3 = 30 Marks**

- 16. What are the uses of guarding?
- 17. What are the disadvantages of a fluorescent lamp?
- 18. What is the use of percolating tube in coffee percolator?
- 19. Write short notes on Oscillation mechanism in table fan
- 20. Define speed control methods.
- 21. What are the advantages and disadvantages of induction type wattmeter?

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| 22. What is the principle of operation of electrical transducers? | 26. What is the necessity of winding in motors?             |
| 23. Write short notes on electrical isolator.                     | 27. Write the importance of electrical machine maintenance. |
| 24. What are the draw backs of three point starter?               | 28. Draw and label the parts of Coffee Percolater.          |
| 25. What is the necessity of varnishing in winding?               |   |

### PART C

**Answer any five questions about one page    5 X 5 = 25 Marks**

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| 29. Write short notes on a carbon arc lamp.                   | 33. What are the factors to be considered for selection of transducers? |
| 30. Explain the pressure type geyser.                         | 34. Explain the symmetrical faults in detail?                           |
| 31. What are the types of electric drives?                    | 35. What are the properties of insulating materials?                    |
| 32. Explain the working principle of moving iron instruments. |   |

### PART D

**Answer all questions about two pages    2 X 10 = 20 Marks**

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| 36. Draw and explain the construction and working principle of an electric steam iron box. | 37. Explain the construction and operation of three point starter with a neat sketch. |
| (OR)   | (OR)  |
| Explain the construction and working principle of the centrifugal pump with neat diagram.  | With neat sketch, explain various types of DC armature winding.                       |