

CBSE Class 12 Electrical Technology 2020 - Set 343



Question Paper

Conducted by the Central Board of Secondary Education (CBSE)

Time Allowed: 3 Hours

Maximum Marks: 60

General Instructions

- (i) This question paper consists of two parts viz. Section A: Employability Skills and Section B: Subject Skills.
- (ii) Section A: Employability Skills (10 Marks). Answer any 4 questions out of the given 6 questions of 1 mark each. Answer any 3 questions out of the given 5 questions of 2 marks each.
- (iii) Section B: Subject Skills (50 Marks). Answer any 10 questions out of the given 12 questions of 1 mark each. Answer any 5 questions from the given 7 questions of 2 marks each. Answer any 5 questions from the given 7 questions of 3 marks each. Answer any 3 questions from the given 5 questions of 5 marks each.
- (iv) This question paper contains 42 questions out of which 30 questions are to be answered.
- (v) All questions of a particular part/section must be attempted in the correct order.
- (vi) The maximum time allowed is 3 hours.

Section A

Answer any 4 questions out of the given 6 questions of 1 mark each. $1 \times 4 = 4$

1. My grandmother likes to _____
(hear/listen) to the radio.

2. Name any two factors which shape our personality.

3. How is music a source of motivation ?

4. What should we do to control pollution ?

5. What do you understand by the term 'Debate' ?

6. Where is menu bar located in an Openoffice impress window ?

Answer any 3 questions out of the given 5 questions of 2 marks each. $2 \times 3 = 6$

7. What are the tips to become an active listener ?

8. What are the sources of motivation ?

9. List some green jobs in the field of building construction.

10. How does a student develop in a special class ?

11. How can you close a presentation in a presentation software ?

Section B

Answer any 10 questions out of the given 12 questions of 1 mark each. $1 \times 10 = 10$

12. If power factor lags on a static load transformer then it

- (A) Takes more current (B) Takes less current
(C) Takes same current, less power (D) Takes less current, more power

13. In an RLC circuit, the parallel voltages across resistance, capacitance and inductance are 80 volt, 100 volt and 160 volt respectively. What is the net voltage of the circuit ?

- (A) 80 V (B) 100 V
(C) 140 V (D) 340 V

14. Which types of losses occur according to change in load ?

- (A) Hysteresis (B) Eddy
(C) Copper loss (D) Core loss

15. Name of liquid used in breather of a transformer is

- (A) Water (B) Salt
(C) Mineral (D) Silica gel

16. How will the speed control of a DC series motor be done ?

- (A) Shunt field regulator (B) Not with divider
(C) Reduction of flux (D) Increase in armature resistance

17. What will be the rotor frequency when an induction motor is switched on ?

- (A) 50 Hz (B) Equal to supply frequency
(C) Equal to slip frequency (D) 0

18. Which of the following motors has a high starting torque ?

- (A) Universal motor (B) Capacitor start motor
(C) Shaded pole motor (D) All of the above

19. Which instrument works only on DC supply ?

- (A) Moving iron type (B) Moving coil type
(C) Permanent magnet type (D) All of the above

20. Which is an integrated instrument in the following ?

- (A) Voltmeter (B) Wattmeter
(C) Energy meter (D) Power factor meter

21. To handle heavy equipment, the following are used :

- (A) Crane (B) Chain
(C) Pulley (D) All of the above

22. If the motor of a cooler fails to start, the cause may be :

- (A) Open circuit in the cord (B) No supply
(C) Open circuit in motor winding (D) All of the above

23. Thermostat control is used in :

- (A) Table heater (B) Ordinary electric iron
(C) Automatic electric geyser (D) All of the above

Answer any 5 questions from the given 7 questions of 2 marks each. $2 \times 5 = 10$

24. What do you mean by Lagging and Leading of power factor in an AC Circuit ?

25. What is a Transformer ? Explain its working principle in brief.

26. In which condition are some transformers connected in parallel ?

27. Write the names of any four AC single phase motors.

28. Write the working and use of thermostat.

29. What are the possible faults which occur in an Electric Geyser ?

30. Describe in brief the Schafer's method used for artificial respiration.

Answer any 5 questions from the given 7 questions of 3 marks each. $3 \times 5 = 15$

31. Explain safety measures, precautions, and applications of transformer.

32. Explain the construction and working of a DC motor.

33. Why is a starter necessary to start a three-phase AC motor ? Explain briefly.

34. With a diagram, explain the working of shaded pole motor.

35. With a diagram, explain Digital Ammeter.

36. Describe the construction and working of an Electric mixer.

37. Explain the testing process of a defective immersion rod with its diagram.

Answer any 3 questions from the given 5 questions of 5 marks each. $5 \times 3 = 15$

38. With a diagram explain the construction and working of a direct online motor starter.

39. With a diagram explain the working of a single-phase induction type energy meter.

40. With the help of a diagram, explain the construction and working of a Room Cooler.

41. Write types and applications of different types of DC motors.

42. With the help of a diagram, explain the construction and working of an Electric Geyser.

- End of Question Paper -