

2021

Electronics & Hardware (Vocational)

Total marks : 50

Time : 2 hours

General instructions :

- i) *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
- ii) *All questions are compulsory except Q. nos.18 to 23 where general option is given.*
- iii) *The question paper consists of 23 questions.*
- iv) *Marks allocated to every question are indicated against it.*

N.B: *Check that all pages of the question paper are complete as indicated on the top left side.*

1. **Choose the correct answer from the given alternatives:** **10x1=10**

- i. The heating element is made from
 - (a) Iron
 - (b) Copper
 - (c) Nichrome
 - (d) Nickel
- ii. It is an equipment used for finding out faults in electric bell.
 - (a) Series test lamp
 - (b) Parallel test lamp
 - (c) Tester
 - (d) Multimeter
- iii. The core of a transformer is made of
 - (a) Copper
 - (b) Silicon
 - (c) Silicon steel
 - (d) Aluminium
- iv. A fully charged lead acid battery cell has a specific gravity of
 - (a) 0.25
 - (b) 0.5
 - (c) 1.15
 - (d) 1.25
- v. Bridge rectifier circuit converts
 - (a) AC to AC supply
 - (b) DC to DC supply
 - (c) AC to DC supply
 - (d) DC to AC supply
- vi. The rating of MCB is normally
 - (a) 0.2 to 30 Amp
 - (b) 0.2 to 60 Amp
 - (c) 0.6 to 30 Amp
 - (d) 0.6 to 60 Amp
- vii. Which of the following is a type of non formal greeting?
 - (a) Hello
 - (b) Good morning
 - (c) What's up?
 - (d) Hi
- viii. Dressing and grooming are important because they help us to look
 - (a) smart
 - (b) intelligent
 - (c) wiser
 - (d) comfortable
- ix. To connect to the internet, the computer has to be connected to the
 - (a) Internet Society
 - (b) Internet Architecture
 - (c) Internet Service Provider
 - (d) Large Area Network
- x. What does conservation of energy mean?
 - (a) Using energy efficiently
 - (b) Banning the use of energy
 - (c) Promoting power plants
 - (d) Planting more trees

Answer the following questions in one word or one sentence:

- 2. What is immersion heater? 1
- 3. Which type of switch is used to operate the electric bell? 1
- 4. What is full wave rectifier? 1
- 5. What is an inverter? 1
- 6. What is an emergency light? 1
- 7. What is CFL? 1
- 8. What is an introduction? 1
- 9. What is internet? 1

Answer the following questions in 20-50 words:

- 10. Draw the circuit diagram of electric bell. 2
- 11. Write any two advantages of LED. 2
- 12. What is step-up transformer? 2
- 13. Name any two applications of DC power supply. 2
- 14. Write two uses of multimeter. 2
- 15. Write two advantages of solar cell. 2
- 16. Mention any two points of importance about personal hygiene. 2
- 17. Write any two characteristics of entrepreneurship. 2

Answer any four from the following questions in 60-100 words:

- 18. Explain the working principle of electric geyser. Write one application. 3+1=4
- 19. What is an auto-transformer? Explain the working of auto-transformer. 1+3=4
- 20. Explain the working principle of emergency light. Draw its block diagram. 2+2=4
- 21. Describe the working principles of single phase motors. 4
- 22. Explain any four types of wires. 4
- 23. Briefly explain the short circuit test of induction cooker or hot plate with diagram. 2+2=4
