

2022

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 to ensure 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 total load in a circuit should not exceed
 - (a) 800 watt
 - (b) 900 watt
 - (c) 1000 watt
 - (d) 1100 watt
- ii. Which electrolyte is used in a storage cell?
 - (a) acetic acid
 - (b) nitric acid
 - (c) citric acid
 - (d) sulphuric acid
- iii. How many diodes is/are used in a bridge rectifier?
 - (a) one
 - (b) two
 - (c) three
 - (d) four
- iv. Which type of switch is used in staircase wiring?
 - (a) one way
 - (b) two way
 - (c) three way
 - (d) four way
- v. Which of the following battery is used in emergency light?
 - (a) nickel cadmium battery
 - (b) nickel metal hydride battery
 - (c) lithium battery
 - (d) lead acid battery
- vi. Water heater works on the principle of?
 - (a) Juole's law
 - (b) Ohm's law
 - (c) Ampere's law
 - (d) Boyle's law
- vii. Electric geyser is used to get
 - (a) pure water
 - (b) hot water
 - (c) distill water
 - (d) cold water
- viii. Which of the following is from a renewable source?
 - (a) petrol
 - (b) coal
 - (c) wood
 - (d) hydro
- ix. Which of the following is also known as frequency oscillating circuit?
 - (a) open circuit
 - (b) closed circuit
 - (c) parallel circuit
 - (d) inverter circuit
- x. Which of the following is used to test circuit bell?
 - (a) multimeter
 - (b) voltmeter
 - (c) series yerst lamp
 - (d) tester

Answer the following questions in one word or one sentence:

- 2. Name any two types of transformers according to its application. 1
- 3. What is the role of a battery? 1
- 4. Mention any two cell composition of batteries. 1
- 5. What is a transformer? 1
- 6. Name the types of earthing. 1
- 7. What is the function of bearings in electric motor? 1
- 8. Mention any two skills to succeed in life. 1
- 9. What is a step down transformer? 1

Answer the following questions in 20-50 words:

- 10. Write any two applications of solar cell. 2
- 11. What are single phase motors? Name any two domestic appliances where single phase motors are used. 2
- 12. What is MCB? Name any two principles of operation of an MCB. 2
- 13. Why is a regulated DC power supply needed in electronic devices? 2
- 14. Name any four types of single phase motors. 2
- 15. What is computer hardware? Write any two examples. 2
- 16. Name any two wire joints and write their uses. 2
- 17. Distinguish between self employment and wage employment. 2

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

- 18. State the working principle of transformer. 4
- 19. Explain briefly full wave rectifier with positive half cycle circuit diagram. 4
- 20. Name any four parts of electric iron and write their functions. 2+2=4
- 21. Differentiate between electrical choke and electronic choke. Write two advantages of choke. 2+2=4
- 22. Write any four precautions to be taken while using induction cooker. 4
- 23. Explain in brief any four common barriers effecting communication. 4
