

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. Which of the following is used to close or break the circuit?
 - (a) bulb
 - (b) switch
 - (c) wire
 - (d) electric bell
 - ii. Which of the following is a two terminal semiconductor device?
 - (a) diode
 - (b) triode
 - (c) translator
 - (d) integrated circuit
 - iii. In a four band resistor, the fourth represents the
 - (a) digit
 - (b) multimeter
 - (c) tolerance
 - (d) colour code
 - iv. Which of the following is associated with skill development at scale with speed and standard?
 - (a) National Solar Mission
 - (b) Green India Mission
 - (c) Swachh Bharat Abhiyan
 - (d) National Policy on Skill Development and Entrepreneurship
 - v. Which of the following cable uses light for transmission?
 - (a) coaxial cable
 - (b) optics fiber cable
 - (c) PVC cable
 - (d) XLPE cable
 - vi. ESD stands for
 - (a) electrostatic display
 - (b) electrostatic display
 - (c) electrostatic discharge
 - (d) electrostatic discharge
 - vii. Which of the following is used as wire conductor?
 - (a) lug
 - (b) screw driver
 - (c) stripper
 - (d) hammer
 - viii. What does an upright body posture convey or show?
 - (a) shyness
 - (b) fear
 - (c) intelligence
 - (d) confidence
 - ix. Which of the following equipment have a discharge nozzle?
 - (a) control panel
 - (b) fire extinguisher
 - (c) MCB
 - (d) switch

- x. In electromechanical assembly, PLC stands for
 - (a) programmable lever control
 - (b) programmable logic control
 - (c) protected lever component
 - (d) project logic cable

Answer the following questions in one word or one sentence:

- 2. What is the unit of electrical current? 1
- 3. Draw the electrical symbol for variable resistor. 1
- 4. What is the average resistance of human body? 1
- 5. Mention any four factors which effect cable selection. 1
- 6. What is a team? 1
- 7. Write any two common word processing applications. 1
- 8. What is the use of a cap, usually made of metal that is used to shield cables from external damages and prevent the terminals from splitting? 1
- 9. What is crimping? 1

Answer the following questions in 20-50 words:

- 10. Who is an entrepreneur? Mention one type of business activity. 1+1=2
- 11. What is soldering? What is the purpose of soldering? 1+1=2
- 12. What is semi-conductor? Write the two types of semiconductor material. 1+1=2
- 13. Mention any two variables that affect the ground resistance of a ground system. 2
- 14. What is electrocution? Write any two harms an electric current can cause. 2
- 15. Write any two differences between PVC and XLPE power cables. 2
- 16. Name any two types of crimping tools and state the use of any one of them. 2
- 17. Write the two methods for manually reading and identifying the value of resistors. 2

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

- 18. Explain the two types of electricity. 4
- 19. What is personal hygiene? Mention three importance of personal hygiene. 1+3=4
- 20. Mention any four precautions to be followed to avoid electrical hazards. 4
- 21. Explain the following: (i) a combination pliers (ii) wire stripper 2+2=4
- 22. What is electrostatic discharge? Mention any two causes of electrostatic discharge. 2+2=4
- 23. Name any two types of cable joints. Explain any one with the help of a diagram. 1+3=4
