

Student Name: \_\_\_\_\_ Roll No: \_\_\_\_\_

1. What is the percentage of sulphuric acid in electrolyte used for lead-acid batteries?
- A) 40%                      B) 27%  
C) 12%                      D) 25%
2. Which battery is used for cellular phones?
- A) Lithium ion              B) Nickel ion  
C) Sodium sulphur        D) Zinc chloride
3. What is the rated output voltage of a silver oxide cell?
- A) 4.0 VDC                B) 1.0 VDC  
C) 2.5 VDC                D) 1.5 VDC
4. Which device is used to test the fully charged condition of a lead acid battery cell?
- A) Hydrometer              B) Multimeter  
C) DC voltmeter          D) High rate discharge tester
5. Which electrolyte is used in maintenance free lead acid batteries?
- A) Sodium electrolyte      B) Gelled electrolyte  
C) Potassium electrolyte   D) Ceramic electrolyte
6. Which space is used to design circuit in schematic editor of the Tina software?
- A) Circuit work space      B) Components groups space  
C) Components type space D) File operation space
7. Which energy is converted by the battery to produce electricity?
- A) Electrical energy into light energy    B) Mechanical energy into electrical energy  
C) Chemical energy into electrical energy   D) Electrical energy into mechanical energy
8. Which rechargeable cell is designed with conductive polymer?
- A) Plastic cell                B) Nickel metal hydride cell  
C) Gelled electrolyte lead acid cell        D) Lead acid cell
9. What is the name of the pair of metal strips used in battery cell?
- A) Electrolyte                B) Cathode  
C) Electrodes                D) Carbon rod
10. How the circuit schematic drawn using the simulation software is tested?
- A) Using analysis menu      B) Using virtual oscilloscope  
C) Using multimeter        D) Using external oscilloscope
11. What is the name of the process to maintain the recommended level of electrolyte in lead-acid battery cell?
- A) Charging the cell        B) Topping up  
C) Recharging                D) Cycling of the cell
12. How batteries are classified?
- A) Cylindrical cells and rectangular cells    B) Dry cells and alkaline cells  
C) Button cells and lithium cells            D) Primary cells and secondary cells
13. What is the rated voltage of a single cell in lead acid battery?
- A) 2.0 V                      B) 12 V  
C) 2.2 V                      D) 1.5 V
14. What is the effect on a secondary cell supplying current to the load?
- A) Discharging              B) Unloading  
C) Charging                 D) Leaking
15. What is the lowest voltage level of discharging the lead-acid battery?
- A) 1.2 V                      B) 1.5 V  
C) 1.7 V                      D) 1.85 V
16. Which electrolyte is used in lead-acid battery?
- A) Potassium hydroxide solution            B) Zinc chloride  
C) Alkaline solution                            D) Sulphuric acid
17. Which material is used for negative terminal of alkaline manganese dioxide batteries?

- A) Lithium
- C) Zinc

- B) Cadmium
- D) Nickel hydroxide

- A) 60%
- C) 0.15

- B) 25%
- D) 40%

18. Which battery is made from non-toxic materials?

- A) Lithium polymer (Li-Poly)
- C) Nickel cadmium (Nicad)
- B) Nickel metal hydride (NiMH)
- D) Lithium ion (Li-Ion)

19. How batteries are classified based on their working?

- A) Cylindrical cells and rectangular cells
- C) Dry cells and alkaline cells
- B) Button cells and lithium cells
- D) Primary cells and secondary cells

20. Which method is adopted to charge a car battery with voltage rating of 2.3 V per cell?

- A) Constant voltage charging method
- C) Trickle charging method
- B) Float charging method
- D) Constant current charging method

21. Why the load testing is done on the lead-acid battery?

- A) Measure the rated output voltage
- C) Test I<sup>2</sup>R power loss in the battery cell
- B) Verify the rated power delivery
- D) Test the dimensional accuracy

22. What is the range of current rating of lead acid batteries used in automobiles?

- A) 2.5 to 4.5 Amp
- C) 10 to 25 Amp
- B) 100 to 400 Amp
- D) 5 to 10 Amp

23. Which is the additional percentage of power delivered by the lithium Ion compared to NiMH battery?

24. What is the electrolyte level maintained above the top of the plates in lead acid battery cells?

- A) 10 mm to 15 mm
- C) 5 mm to 8 mm
- B) 2 mm to 4 mm
- D) 16 mm to 25 mm

25. What is the total voltage of six 1.5 V cells, connected in series?

- A) 9 VDC
- C) 12 VDC
- B) 6 VDC
- D) 3 VDC

26. What is the use of battery analyzers with rapid-test program?

- A) Test the load current delivered
- C) Test the charging current of battery
- B) Test the battery life
- D) Indicate the health condition of battery

27. What is the colour of positive electrode in fully charged lead acid battery?

- A) Reddish brown
- C) Red colour
- B) Grey colour
- D) Spongy grey colour

28. What is the specific gravity of concentrated sulphuric acid?

- A) 1.245
- C) 1.945
- B) 1.835
- D) 1.175

29. What is the unit of electric charge?

- A) Ampere
- C) Coulomb
- B) Volts
- D) Hertz