

Student Name: _____ Roll No: _____

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

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

2. How batteries are classified?

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

3. Which electrolyte is used in lead-acid battery?

- A) Alkaline solution B) Zinc chloride
C) Sulphuric acid D) Potassium hydroxide solution

4. 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

5. Which rechargeable cell is designed with conductive polymer?

- A) Nickel metal hydride cell B) Plastic cell
C) Gelled electrolyte lead acid cell D) Lead acid cell

6. Which device is used to test the fully charged condition of a lead acid battery cell?

- A) Multimeter B) Hydrometer
C) High rate discharge tester D) DC voltmeter

7. How batteries are classified based on their working?

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

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

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

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

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

10. Which energy is converted by the battery to produce electricity?

- A) Mechanical energy into electrical energy B) Chemical energy into electrical energy
C) Electrical energy into light energy D) Electrical energy into mechanical energy

11. 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

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

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

13. What is the percentage of sulphuric acid in electrolyte used for lead-acid batteries?

- A) 12% B) 27%
C) 25% D) 40%

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

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

15. What is the unit of electric charge?

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

16. What is the effect on a secondary cell supplying current to the load?

- A) Discharging B) Leaking

C) Charging

D) Unloading

A) 1.7 V

B) 1.2 V

C) 1.85 V

D) 1.5 V

17. What is the rated voltage of a single cell in lead acid battery?

A) 1.5 V

B) 2.2 V

C) 2.0 V

D) 12 V

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

A) Nickel cadmium (Nicad)

B) Lithium polymer (Li-Poly)

C) Nickel metal hydride (NiMH)

D) Lithium ion (Li-Ion)

19. What is the name of the process to maintain the recommended level of electrolyte in lead-acid battery cell?

A) Cycling of the cell

B) Charging the cell

C) Topping up

D) Recharging

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

A) 0.15

B) 25%

C) 40%

D) 60%

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

A) 1.945

B) 1.175

C) 1.835

D) 1.245

22. What is the rated output voltage of a silver oxide cell?

A) 4.0 VDC

B) 1.5 VDC

C) 2.5 VDC

D) 1.0 VDC

23. What is the lowest voltage level of discharging the lead-acid battery?

24. What is the name of the pair of metal strips used in battery cell?

A) Electrolyte

B) Cathode

C) Carbon rod

D) Electrodes

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

A) Measure the rated output voltage

B) Test the dimensional accuracy

C) Test I²R power loss in the battery cell

D) Verify the rated power delivery

26. Which material is used for negative terminal of alkaline manganese dioxide batteries?

A) Lithium

B) Zinc

C) Cadmium

D) Nickel hydroxide

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

A) 2.5 to 4.5 Amp

B) 10 to 25 Amp

C) 100 to 400 Amp

D) 5 to 10 Amp

28. Which battery is used for cellular phones?

A) Sodium sulphur

B) Nickel ion

C) Zinc chloride

D) Lithium ion

29. Which electrolyte is used in maintenance free lead acid batteries?

A) Gelled electrolyte

B) Sodium electrolyte

C) Ceramic electrolyte

D) Potassium electrolyte