

The capacity of cell measured in..

BATTERIES

- The current flow through electrolyte is due to the movement of
 - Electrons
 - Protons
 - Holes
 - Ions
- The mass of material deposited over an electrode is
 - Proportional to voltage
 - Proportional to time only
 - Proportional to current only
 - Proportional to quantity of electricity and electro-chemical equivalent.
- Electrolysis not applicable in the process of
 - Electroplating
 - Purification of metals.
 - Photography
 - None
- For all substances

Chemical equivalent	Electro chemical equivalent
1) 96500 coulombs	2) 9650 coulombs
3) 965 coulombs	4) 96.5 coulombs
- Which laws find application in electrolysis?
 - coulombs laws
 - Van Allen's laws
 - Faraday's laws
 - Ohm's laws
- Electro chemical equivalent is usually expressed in
 - Milligrams/volt
 - Milligrams/kVA
 - Milligrams/kW
 - Milligrams/coulomb
- Sulphuric acid is
 - monovalent negative ion
 - bivalent negative ion
 - trivalent negative ion
 - monovalent positive ion
- The electrode for a battery must be
 - a good conductor of electricity
 - a bad conductor of electricity
 - a semi-conductor
 - an insulator
- Which of the following is not a primary cell?
 - Carbon-Zinc
 - Silver-Oxide
 - Silver-Zinc
 - Nickel-cadmium
- The back emf of the dry cell of the battery is about
 - 1 volts
 - 2 volts
 - 1.5 volts
 - 2.5 volts
- The voltage of primary cell depends on
 - area of the plate
 - distance between the plates
 - electrolyte and type of plates
 - thickness of the plate
- The positive electrode of dry cell is made of
 - Copper
 - Carbon
 - Zinc
 - Sulphur
- The internal resistance of a dry cell is of the order of
 - 0.2Ω to 0.4 Ω
 - 1 to 1.5 Ω
 - 2 to 5 Ω
 - 1 to 15Ω
- Which cell has the reversible chemical reaction?
 - lead acid
 - mercury acid
 - carbon-zinc
 - silver oxide
- Cells are connected in parallel to
 - increase the voltage output
 - increases the internal resistance
 - decreases the current capacity
 - increase the current capacity
- When n cells of each e.m.f. E volts and internal resistance of r ohms are connected in series. The current 'I' through an external resistance R ohms is given by

1) $i = \frac{nE}{R + nr}$	2) $i = \frac{E}{R + \frac{r}{n}}$
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- $i = \frac{nE}{r + nR}$
 $i = \frac{E}{R + r}$
- The plates of a lead-acid battery are made of
 - Rolled Zinc-Copper alloy
 - Antimonial lead alloy
 - Perforated nickel cadmium alloy
 - Perforated nickel cadmium alloy
- In a lead acid battery, container is made of
 - Moulded hard rubber
 - Vulcanised rubber
 - Celluloid
 - Any of the above
- The purpose of vent plugs in a lead acid battery are
 - To prevent escape of electrolyte
 - To allow free exit of gases
 - To take hydrometer readings
 - All of the above
- Active materials of a lead-acid cell are
 - Lead peroxide
 - Sponge lead
 - Dilute sulphuric acid
 - All of these
- The colour of positive plate of a fully charged lead-acid cell is
 - Deep chocolate brown
 - Light-brown
 - Light grey
 - Dark grey
- In a lead-acid cell hydrogen is liberated at
 - Negative plate
 - Positive plate
 - Both negative and positive plate
 - None of the plates
- In lead-acid cell, PbSO₄ formed during
 - Charging only
 - Discharging only
 - Both during charging as well as discharging
 - Neither during charging nor discharging
- Internal resistance of a battery comprises the resistance of
 - Separators, plates and electrolyte
 - Container, plates and active material
 - Metallic plates, active material and electrolyte
 - Metallic plates, container and separators
- The e.m.f. of a lead acid cell should not be allowed to fall below
 - 1.8 volts
 - 2.2 volts
 - 2 volts
 - 2.4 volts
- The capacity of cell measured in
 - Watt
 - Kwh
 - Ampere-hour
 - Volt.
- The quantity efficiency of a lead-acid battery is in between
 - 90-95 percent
 - 72-78 percent
 - 60-65 percent
 - 10-15 percent

- The open-circuit voltage of a full-charged lead-acid cell is voltage of about
 - 1.8 V
 - 2.0 V
 - 2.2 V
 - 2.4 V
- The capacity of a lead-acid cell does not depend on its
 - Temperature
 - Raise of charge
 - Specific gravity
 - All of the above
- The capacity of cell
 - Increases with the rise in temperature.
 - Decreases with the rise in temperature
 - Remains constant with the charge of temperature
 - None of the above
- The efficiency of nickel-iron cell is less than lead-acid cell due to its.
 - Lower e.m.f.
 - Smaller quantity of electrolyte used
 - Higher internal resistance
 - Compactness
- The e.m.f. of nickel iron cell should not be allowed to fall below
 - 1.15 volts
 - 1.2 volts
 - 1.3 volts
 - 1.4 volts
- A commonly used primary cell is a
 - Lead acid cell
 - Copper zinc cell
 - Dry cell
 - Lead sulphuric cell
- Battery's are rated in
 - KVA
 - KW
 - KVAR
 - Ampere-hours
- To measure the specific gravity in lead-acid battery which instrument is used
 - Cell discharge tester
 - Hydrometer
 - Hygrometer
 - All of the above
- The specific gravity of a fully charged cell is
 - 1.25
 - 1.2
 - 1.1
 - 1.28
- The terminal voltage of a lead-acid cell when fully charged is :
 - 2.25 volts
 - 2.70 volts
 - 3.00 volts
 - 4.25 volts
- Identify the correct statement :
 - Electrolyte density changes less in Ni-Fe cell compared to lead-acid cell
 - Electrolyte density in cells has no relation to internal resistance of the cell
 - Quantity efficiency in cells is the ratio of watt-hours of charge watt hours of discharge
 - Rapid charge and discharge does not cause backing in lead acid to cell
- A battery
 - Always absorbs power
 - Always delivers power
 - Can absorb or deliver power depending upon the circuit to which it is connected
 - Absorbs power when the internal resistance is non-zero but delivers power when the internal resistance is zero
- A storage cell in an automobiles has
 - Lead plates for both electrodes and HNO₃ for electrolyte
 - Lead for negative, zinc for positive electrode and H₂SO₄ as electrolyte.
 - Zinc for negative, Ni for positive electrode and H₂SO₄ are electrolyte
 - Lead for negative, PbO₂ for positive electrode and sulphuric acid as electrolyte
- The ampere-hour capacity of battery depends on
 - Thickness of the plates
 - Strength of the electrolyte
 - Distance between plates
 - Area of the plates
- Central thermal of a dry cell is said to be
 - Positive
 - Negative
 - Neutral
 - Charged
- The Internal resistance of a weston standard cell is of the order of



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- 1) 1Ω 2) 10Ω
- 3) 100Ω 4) 1000Ω
- The capacitance of a parallel plate capacitor is given by the formula.

1) $\frac{\epsilon_0 \epsilon_r d}{A}$	2) $\frac{d}{\epsilon_0 \epsilon_r A}$
3) $\frac{\epsilon_0 d}{A}$	4) $\frac{\epsilon_0 \epsilon_r A}{d}$
- A 12V lead-acid battery consists of
 - Three cells in series
 - Six cells in series
 - Three cells in parallel
 - Six cells in parallel
- When n cells of 'E' volts and internal resistance r ohms are connected in parallel, the strength of the current I through external resistance given by R is

1) $\frac{nE}{r + R}$	2) $\frac{E}{n + Rr}$
3) $\frac{E}{R + \frac{r}{n}}$	4) $\frac{E}{R + \frac{n}{r}}$
- One ampere-hour charge delivered by a secondary cell is equal to
 - 360 coulombs
 - 60 coulombs
 - 3600 coulombs
 - 1 coulomb
- The primary type of battery cell can be charged by
 - passing d.c. current through it
 - passing a.c. current through it
 - can not be charged at all
 - None
- Main difference between primary and secondary cells is that secondary cells
 - give higher voltage
 - absorb hydrogen
 - store electric energy
 - can be charged
- Cells are connected in series to
 - Increase the voltage output
 - decrease the internal resistance
 - increase the current capacity
 - decrease the voltage output

KEY

01-4	02-4	03-3	04-1	05-3
06-4	07-2	08-1	09-4	10-3
11-3	12-2	13-1	14-1	15-4
16-1	17-2	18-4	19-4	20-4
21-1	22-1	23-2	24-3	25-1
26-3	27-1	28-3	29-2	30-1
31-3	32-3	33-3	34-4	35-2
36-4	37-1	38-1	39-3	40-4
41-2	42-1	43-1	44-4	45-2
46-3	47-3	48-3	49-4	50-1

Who is the new president of Tunisia?

CURRENT AFFAIRS

- Assertion:** Indian Railways has installed the most advanced Electronic Interlocking System on the Grand Chord route
Reason: Grand Chord route connects Jammu & Kashmir to Kanyakumari
A) Both A and R are true and R is the correct explanation of A
B) Both A and R are true but R is not the correct explanation of A
C) A is true but R is false
D) A is false but R is true
- Assertion:** IIM Kozhikode and Mangalore Refineries and Petrochemicals Ltd. have announced a special drive Labelled as 'La Eve'
Reason: Both Organizations wants to support women entrepreneurs in the country
A) Both A and R are true and R is the correct explanation of A
B) Both A and R are true but R is not the correct explanation of A
C) A is true but R is false
D) A is false but R is true
- Which of the following state has decided to make government jobs out of bounds for people with more than 2 children?**
A) Uttar Pradesh B) Rajasthan
C) Assam D) Maharashtra
- Assertion:** The AYUSH ministry has signed an MoU with the Defence Ministry
Reason: Both Ministries wants to provide traditional medicine services at the armed forces' hospitals and dispensaries
A) Both A and R are true and R is the correct explanation of A
B) Both A and R are true but R is not the correct explanation of A
C) A is true but R is false
D) A is false but R is true
- Match the following persons and appointments?**
1. Ashok Malik
a. New CEO of the Unique Identification Authority of India
2. Godavarth Venkata Srinivas
b. Ambassador to the Republic of Cabo Verde
3. Pankaj Kumar
c. Policy Advisor in the External Affairs Ministry
A) 1-b, 2-a, 3-c B) 1-b, 2-c, 3-a
C) 1-a, 2-b, 3-c D) 1-c, 2-b, 3-a
- Observe the following?**
1. Sourav Ganguly is the 39th president of the Board of Control for Cricket in India
2. He is the second Indian to cross 10,000 runs in One Day Internationals, after Sachin Tendulkar
3. He is the third batsman to cross 10,000 runs in One day internationals
4. He is third Indian to cross 10,000 runs after Sachin and Rahul Dravid
Which of the above are true
A) 1, 4 B) 1, 2 C) 1, 2, 3 D) 1, 3, 4
- Assertion:** The Defence Research and Development (DRDO) has started work to produce hypersonic weapon missiles that travel at 5 times speed of sound

TRS wins Huzurnagar assembly seat

- ✓ The ruling Telangana Rashtra Samithi (TRS) won the Huzurnagar assembly by-election with a thumping margin of 43,358 votes. The Huzurnagar bye-election was necessitated after sitting MLA and Telangana Pradesh Congress Committee (TPCC) president N. Uttam Kumar Reddy resigned as he successfully contested and won from the Nalgonda parliamentary seat during the 2019 general elections.

Reason: Hypersonic weapons are specifically designed for increased survivability against modern ballistic missile defence systems

- A) Both A and R are true and R is the correct explanation of A
B) Both A and R are true but R is not the correct explanation of A
C) A is true but R is false
D) A is false but R is true
- Observe the following?**
1. In 2024, Olympics will be held in Paris
2. Previously Olympics were held in Paris, twice, i.e, in 1900 and 1924
3. After 2024 Paris will become the second city to host the Olympics three times, after London
4. After 2024 Paris will become the third city to host the Olympics three times, after London, Tokyo
Which of the above are correct
A) 1, 4 B) 1, 2 C) 1, 2, 4 D) 1, 2, 3
 - Assertion:** The Union Cabinet has approved the merger of telecom firms BSNL and MTNL as part of a revival package
Reason: Government has decided to do privatization of BSNL and MTNL
A) Both A and R are true and R is the correct explanation of A
B) Both A and R are true but R is not the correct explanation of A
C) A is true but R is false
D) A is false but R is true
 - Observe the following?**
1. The Indian Army (IA) is to conduct exercise codenamed 'Sindhu Sudarshan' for the year 2019 in the deserts of Rajasthan from November 29 to December 4, 2019
2. The Indian Army (IA) is to conduct exercise code named 'Sindhu Sudarshan' for the year 2019 in the Sunderbans delta of West Bengal from November 29 to December 4, 2019
3. The aim of this exercise is to evaluate the capability of the defence services in an integrated air-land battle
4. The exercise will showcase the synergy between the Indian Army and Air Force
Which of the above are true
A) 1, 3, 4 B) 2, 3, 4 C) 1, 4 D) 2, 3
 - Who among the following is the author of Ten Studies in Kashmir: History and Politics?**

- A) R.K.Dhruva Kumar
B) Kashi Nath Pandit
C) Vishwajit Roy
D) Sathyanath Malik

12. October 24th is celebrated as...

1. United Nations Day
 2. International Sustainable day
 3. World Development Information Day
 4. International Technology day
- Which of the above are correct**
A) 1, 3, 4 B) 1, 4 C) 1, 3 D) 1, 2, 3, 4

For All Competitive Exams

13. Observe the following?

1. Bollywood actress Deepika Padukone and Indian badminton player PV Sindhu were named the ambassadors for Bharat Ki Laxmi
2. Indian Badminton Player PV Sindhu and cricketer Mithali raj were named the ambassadors for Bharat Ki Laxmi
3. The aim of Bharat Ki Laxmi initiative is to celebrate the contribution & accomplishments of women of the nation for the public good

Which of the above are true
A) 2 B) 1 C) 2, 3 D) 1, 3

14. Assertion: The Government e-Marketplace (GeM) signed a memorandum of understanding (MoU) with Federal Bank

- Reason:** Government e-Marketplace (GeM) is a one stop portal to facilitate online procurement of common use Goods & Services required by various Government Departments / Organizations / PSU
A) Both A and R are true and R is the correct explanation of A
B) Both A and R are true but R is not the correct explanation of A
C) A is true but R is false
D) A is false but R is true

15. Observe the following?

1. J&K's Chenani-Nashri Tunnel has been renamed as Shyama Prasad Mukherjee Tunnel
2. J&K's Chenani-Nashri Tunnel has been renamed as Atal Bihari Vajpayee Tunnel
3. The 'Chenani-Nashri Highway Tunnel' is India's longest highway tunnel
4. The 'Chenani-Nashri Highway Tunnel' is Asia's longest bi-directional highway tunnel

Which of the above are true
A) 2, 3, 4 B) 1, 3 C) 1, 3, 4 D) 2, 3

16. Assertion: Indian Railways has launched 'one touch ATVM' at 42 suburban stations of Central Railway over Mumbai Suburban Network

- Reason:** Railways wants to reduce the waiting time of the passengers and allow passenger to avoid standing in long queues
A) Both A and R are true and R is the correct explanation of A
B) Both A and R are true but R is not the correct explanation of A
C) A is true but R is false
D) A is false but R is true

17. Observe the following?

1. 'Maharatna' status has been granted by

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- the Government to state-owned Hindustan Petroleum Corporation Limited and Power Grid Corporation of India Limited
2. 'Maharatna' status has been granted by the Government to state-owned Hindustan Petroleum Corporation Limited and Hindustan Machine tools
 3. With the elevatin of two companies as Maharatna Companies, now the number of Maharatna companies has gone to 10
 4. With the elevatin of two companies as Maharatna Companies, now the number of Maharatna companies has gone to 9

Which of the above are true

A) 2, 4 B) 1, 3 C) 1, 4 D) 2, 3

18. Karnataka has won the 2019-20 Vijay Hazare Trophy by defeating which of the following team in final?

- A) Telangana B) Maharashtra
C) Tamilnadu D) Andhra Pradesh

19. Assertion: The Central Board of Secondary Education and National Council for Educational Research and Training have launched an aptitude test 'Tamanna' for students studying 9th and 10th

- Reason:** CBSE wants to help students of Class 9 and 10 to make a better choice of subjects, eventually helping them in making an informed decision while choosing subjects in Class 11 and 12

- A) Both A and R are true and R is the correct explanation of A
B) Both A and R are true but R is not the correct explanation of A
C) A is true but R is false
D) A is false but R is true

20. Kais Saied is the new President of?

- A) Maldives B) Turkey
C) Zambia D) Tunisia

21. Sophie Wilmes is in news in recent times, which of the following is true about her?

- A) She is the first Female to lead the European Central bank
B) She is the first female to lead European Union
C) She is the first female Prime Minister of Belgium
D) She is the first female Prime Minister of Switzerland

ANSWERS

1-C	2-A	3-C	4-A	5-D	6-C
7-B	8-D	9-C	10-A	11-B	12-C
13-D	14-B	15-C	16-A	17-B	18-C
19-A	20-D	21-C			

India jumps to 63rd position in Ease of Doing Business rankings

- ✓ India jumped into the 63rd rank in the World Bank's latest Ease of Doing Business rankings, soaring 14 such a significant shift. New Zealand and Somalia retained their 1st and 190th spot respectively. The indicator measures the performance of countries across 10 different dimensions in the 12-month period ending May 1, 2019. From 2020, the World Bank has expanded its ease of doing business survey to 2 more cities: Bengaluru and Kolkata in addition to Delhi and Mumbai that are currently surveyed. The World Bank has decided to have four cities from every country with a population above 100 million.