



Sainath Education Trust's  
**Rajiv Gandhi College**  
of Arts, Commerce, & Science. Vashi Navi Mumbai.  
{Permanently Affiliated to University Of Mumbai}  
ACCREDITED BY NAAC, GRADE 'B'

---

Sample Multiple Choice Questions

Subject In- Charge :- Mrs. Priyanka Tushar More

Class :- T.Y.B.Sc. CHEMISTRY (6 UNITS)

Subject :- Physical Chemistry (USCH601)

Semester :- VI

Unit I

Topic Name :- Electrochemistry (15L)

Tafel equation is

- a)  $n = a + b \log i$
- b)  $n = a - b \log i$
- c)  $n = b - a \log i$
- d)  $n = b + a \log i$

**Ans:- a)  $n = a + b \log i$**

Overvoltage is given by

- a)  $n = E_d + E_r$
- b)  $n = E_d - E_r$
- c)  $n = E_d / E_r$
- d)  $n = E_r / E_d$

**Ans:- b)  $n = E_d - E_r$**

For Uni-bivalent electrolyte, the ionic strength is

- a)  $(\frac{1}{2}) m$
- b)  $m$
- c)  $2m$
- d)  $3m$

**Ans:- d)  $3m$**

As current density increases, overvoltage is-----.

- a) increases
- b) decreases
- c) remains constant
- d) not related with it

**Ans:- a) increases**

Concentration polarisation is eliminated by ---.

- a) stirring the electrolytic solution
- b) diluting the electrolytic solution
- c) decreasing the temperature of electrolytic solution
- d) increasing the concentration of electrolytic solution

**Ans:- a) stirring the electrolytic solution**

## Unit II

### Topic Name :- Polymers (15L)

Epoxy resins are ---- resins.

- a) Thermoplastic
- b) Antistatic agent
- c) Scavenger
- d) Thermosetting

**Ans:- d) Thermosetting**

Additives added to polymers to prevent static charges are called as

- a) Antistatic
- b) Antioxidant
- c) Scavenger
- d) Antibacterial

**Ans:- a) Antistatic**

Nylon is an example of

- a) Polyamide
- b) Polyester
- c) Polyglycol
- d) Polysaccharides

**Ans:- a) Polyamide**

Ratio of weight average to number average molecular weight is known as

- a) Degree of polymerisation
- b) Polydispersity Index
- c) Average molecular weight
- d) Number average molecular weight

**Ans:- b) Polydispersity Index**

Polysulphide sealants is an example of -----.

- a) Liquid resins
- b) Fibres
- c) Elastomers
- d) Plastics

**Ans:- a) Liquid resins**

### **Unit III**

#### **1<sup>st</sup> Topic Name :- Renewable energy resources (5L)**

Solar cells are based on ----- effect.

- a) Photoelectric
- b) Compton
- c) Photovoltaic
- d) photodynamic

**Ans:- c) Photovoltaic**

Range of energies possessed by electron in solid is called as

- a) Valence band
- b) Energy band
- c) Conduction band
- d) Non conduction band

**Ans:- b) Energy band**

LED is made up of

- a) Conductor
- b) Semi conductor
- c) Insulator
- d) refractor

**Ans:- b) Semi conductor**

For Silicon semiconductor, the forbidden energy band is

- a) 0.7 eV
- b) 0.9 eV
- c) 1.1 eV
- d) 1.2 eV

**Ans:- c) 1.1 eV**

Which of the following electrolyser is used in direct electrolysis technique-----.

- a) Tank electrolyser
- b) Filter – press electrolyser
- c) Bipolar electrolyser
- d) All of the given options

**Ans:- c) All of the given options**

### **2<sup>nd</sup> Topic Name :- Basic of Quantum chemistry (10L)**

Electron wave in an atom is

- a) Standing wave
- b) Transverse wave
- c) Electromagnetic wave
- d) Propagating wave

**Ans:- a) Standing wave**

Matter waves always travel with ----- the speed of light.

- a) Lesser speed than
- b) faster speed than
- c) same speed as
- d) not related with

**Ans :- a) Lesser speed than**

The wave function has ----- value.

- a) Positive
- b) Negative
- c) Positive or Negative
- d) zero

**Ans:- c) Positive or Negative**

Photo electric effect proposed by

- a) Einstein
- b) de-Broglie
- c) Schrodinger
- d) Plank's

**Ans :- a) Einstein**

The total energy operator of wave function  $\psi$  is called ----- operator.

- a) Linear
- b) Laplacian
- c) Hamiltonian
- d) Commutating

**Ans :- c) Hamiltonian**

### Unit IV

#### Topic Name :- NMR and ESR (15 L)

Spin number of  $^1_2H$  is

- a) 1
- b) 2
- c)  $\frac{1}{2}$
- d) 3

**Ans:- a) 1**

Basic unit of magnetic moment of electron is

- a) Bohr magneton
- b) Tesla
- c) Nuclear magneton
- d) Electronic magneton

**Ans:- a) Bohr magneton**

The transition of proton from low energy level to high energy level by the absorption of RF radiation is known as -----.

- a) relaxation of proton
- b) Flipping of proton
- c) Excitation of proton
- d) Moving of proton

**Ans:- b) Flipping of proton**

ESR spectrum is observed in ----- .

- a) radio frequency region
- b) microwave region
- c) visible region
- d) IR region

**Ans:- b) microwave region**

In ESR ----- possesses the spin angular momentum and orbital angular momentum.

- a) Proton
- b) electron
- c) neutron
- d) deuterons

**Ans:- b) electron**