

Student Name:		Roll No:	Date: / /
سوچ بدلیں، معاشرہ بدلیں	Class 1st Year	Ch#1	مثبت سوچیں، خوش رہیں
T- Marks - 40	Subject: Chemistry	Time: 45 - M	Obtained Marks:
Objective Type			
Q#1	Encircle the Correct Option		10X1=10

1. The phenomenon of isotopy was discovered by :

- a** Heisenberg **b** Dirac **c** Soddy **d** Aristotle

2. At present above different isotopes occur in nature.

- a** 300 **b** 40 **c** 290 **d** 280

3. Tin has ___ isotopes :

- a** 11 **b** 9 **c** 8 **d** 6

4. Average atomic mass of neon is :

- a** 20.24 amu **b** 20.18 amu **c** 20.18 amu **d** None

5. Molecular mass of sucrose.

- a** 180 g **b** 280 g **c** 98 g **d** 342 g

6. Calculate the gram atom in 0.1g of Na .

- a** 3.4×10^{-3} **b** 4.3×10^{-4} **c** 4.9×10^{-4} **d** None

7. In 0.1 moles of H_2SO_4 there are total negative charges :

- a** 0.2 Na **b** 0.1 Na **c** 0.01 Na **d** None

8. Oxygen has ___ isotopes :

- a** 1 **b** 2 **c** 3 **d** 6

9. In gaseous state the distance between molecular is ___ times greater than their diameter :

- a** 500 **b** 200 **c** 300 **d** 100

10. Calculate the numbers of moles of 14g of KOH ?

- a** 0.25 **b** 0.15 **c** 0.75 **d** 1.00

Q # 2

Short Questions

10 × 2 = 20

1. What is stoichiometry ?
2. What is actual and theoretical yield ?
3. What do you know about isotopes ?
4. What is Avogadro's numbers ?
5. Why actual yield is less than theoretical yield?
6. Calculate moles of Cl atom in 0.22g $C_2H_4Cl_2$?
7. Calculate moles of oxygen atom in 9g of $Mg(NO_3)_2$?
8. Calculate mass in grams of 2.74 moles of $KMnO_4$?
9. A well known ideal gas is enclosed in a container having volume 500 cm^3 at S.T.P it's mass comes out to be 0.72g . What is the molar mass of gas .

10. What do you know about molar volume.

Q # 3

Long Questions

2 X 5 = 10

1. Explain limiting reactant .
2. A sample of 0.600 moles of metal M reacts completely with excess of Fluorine to form 46.8g of MF_2 .
 - a) How many moles of F are present in the sample of MF_2 that forms ? b) which element is represented by symbol M?

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T- Marks - 40	Subject: Chemistry	Time: 45 - M	Obtained Marks:
Objective Type			
Q#1	Encircle the Correct Option		10X1=10

1. Solvent extraction is an equilibrium process and follows :

- | | | | |
|-----------------------------|-------------------------------------|---------------------------|---------------|
| a Law of mass action | b Law of conservation energy | c Distribution law | d None |
|-----------------------------|-------------------------------------|---------------------------|---------------|

2. Examples of sublimation is / are :

- | | | | |
|-----------------|-------------------|-----------------------|--------------|
| a Iodine | b NH_4Cl | c Benzoic acid | d All |
|-----------------|-------------------|-----------------------|--------------|

3. Process used frequently to purify a solid :

- | | | | |
|--------------------------|----------------------|---------------|---------------|
| a Crystallization | b Sublimation | c Both | d None |
|--------------------------|----------------------|---------------|---------------|

4. Most common examples of solvent extraction :

- | | | | |
|-----------------------------|---------------------------|---------------|---------------|
| a Alcohol extraction | b Ether extraction | c Both | d None |
|-----------------------------|---------------------------|---------------|---------------|

5. The component with small value of K remains in :

- | | | | |
|---------------------------|-----------------------|---------------|---------------|
| a Stationary phase | b Mobile phase | c Both | d None |
|---------------------------|-----------------------|---------------|---------------|

6. Triiodide ion is soluble

- | | | | |
|------------------|----------------|-------------------|--------------|
| a CCl_4 | b Water | c $CHCl_3$ | d All |
|------------------|----------------|-------------------|--------------|

7. In partition chromatography the stationary phase is :

- | | | | |
|----------------|-----------------|--------------|-----------------|
| a Solid | b Liquid | c Gas | d Plasma |
|----------------|-----------------|--------------|-----------------|

8. The cooperative rates at which the solute move in paper chromatography depend on :

- | | | | |
|------------------------|----------------------|--------------------------------|---------------|
| a Size of paper | b Temperature | c R_f value of solute | d None |
|------------------------|----------------------|--------------------------------|---------------|

9. Common ways of paper chromatography are :

- | | | | |
|--------------------|---------------------|-----------------|--------------|
| a Ascending | b Descending | c Radial | d All |
|--------------------|---------------------|-----------------|--------------|

10. In sublimation substance is carried out in :

- | | | | |
|----------------------|-----------------|--------------|---------------|
| a Watch glass | b Funnel | c Jar | d None |
|----------------------|-----------------|--------------|---------------|

Q # 2

Short Questions

10 × 2 = 20

1. What do you know about sublimation .
2. Define partition law .

3. What is meant by distribution coefficient in chromatography .
4. Differentiate between adsorption and partition chromatography.
5. What do you know about chromatography.
6. Write some uses of chromatography.
7. In solvent extraction technique why repeated extraction using small portion of solvent are more efficient then using a single extraction but large volume of solvent.
8. What is retardation factor.
9. Write examples of sublimation.
10. How sublimation of carried out.

Q # 3

Long Questions

2 X 5 = 10

1. Explain solvent extraction.
2. Explain Chromatography.

Student Name:		Roll No:	Date: / /
سوچ بدلیں، معاشرہ بدلیں	Class 1st Year	Ch#3	مثبت سوچیں، خوش رہیں
T- Marks - 40	Subject: Chemistry	Time: 45 - M	Obtained Marks:
Objective Type			
Q#1	Encircle the Correct Option		10X1=10

1. The molecular have no attractive forces :

- a Solid b Liquid c Gas d None

2. ___ put forward kinetic molecular theory of gases :

- a Bernoulli b Clausius c Boltzmann's d None

3. Also studied the distribution energies among the gas molecular :

- a Bernoulli b Clausius c Boltzmann's d None

4. Current attempts have resulted temperature as low as :

- a $10^{-4}K$ b $10^{-5}K$ c $10^{-6} K$ d $10^{-7} k$

5. Plasma is estimated to constitute more then ___ % of visible universe :

- a 72% b 90 % c 99% d 99.9%

6. Sun is a million___ Km ball of plasma :

- a 2.5 b 3.5 c 4.5 d 1.5

7. Molar volume of CO_2 is maximum at :

- a STP b 127° & 1 atm c $0^{\circ}C$ and 2 atm d None

8. The product PV has SI unit of :

- a Nm b Nm^{-1} c Nm^{-2} d None

9. Is the most abundant form of matter in :

- a Solid b Liquid c Gas d Plasma

10. Number of molecular in 1dm^3 of water is close to :

a	$\frac{6.02 \times 10^{-3}}{22.4}$	b	$\frac{12.04 \times 10^{23}}{22.4}$	c	$55.6 \times 6.02 \times 10^{23}$	d	None
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Q # 2

Short Questions

10 × 2 = 20

1. Define Boyle law.
2. What do you know about isotherm.
3. What is Charles law.
4. Write quantitative definition of absolute zero.
5. What do you know about Celsius and kelvin scale.
6. Write SI units of general gas constant.
7. What is Avogadro's law.
8. Define Dalton law of partial pressure.
9. How is plasma formed.
10. Differentiate between natural and artificial plasma.

Q # 3

Long Questions

2 × 5 = 10

1. Define application of Dalton law of partial pressure.
2. Explain kinetic molecular theory of gases.

Student Name:	Roll No:	Date: / /
سوچ بدلیں، معاشرہ بدلیں	Class 1st Year	Ch#4
T- Marks - 40	Subject: Chemistry	Time: 45 - M
Objective Type		
Q#1	Encircle the Correct Option	10X1=10

1. Transition temperature of Sulphur is :

a	13.2°C	b	95.5°C	c	128°C	d	None
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2. In Crystal the angle is ___ between length b and c :

a	∞	b	β	c	r	d	S
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3. Co_3^{2-} is unit :

a	Tetrahedral	b	Linear	c	Triangle	d	None
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4. The carbohydrates like glucose contains group which is responsible for hydrogen bonding in them :

a	-OH	b	-H	c	CHO	d	COOH
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5. Graphite is an example of crystal system :

a	Tetragonal	b	Cubic	c	Monoclinic	d	Hexagonal
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6. Acetone and chloroform are soluble into each other due to :

a	Hydrogen bonding	b	Debye forces	c	London forces	d	None
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7. When water freezes H occupies % more space :

a	10%	b	99%	c	9%	d	1%
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8. Which of the following is a pseudo solid :

a CaF ₂	b Glass	c NaCl	d None
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9. The polarization of Noble gases down the group :

a Decrease	b Increase	c Remain same	d None
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10. Amorphous solid :

a Have sharp melting point	b Undergo clean cleavage when cut with knife	c Have perfect arrangements of atoms	d Can possess small region of orderly arrangements of atoms
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Q # 2

Short Questions

10 × 2 = 20

1. Define inter molecular forces .
2. What cure dipole induced dipole forces ?
3. What do you know about London forces ?
4. Why HF is weak acid as compared to HCl ?
5. Write some uses of liquid crystal .
6. Why ice float on water ?
7. Define anisotropy
8. Differentiate between isomorphism and polymorphism .
9. What is transition temperature.
10. What is Crystallattice .

Q # 3

Long Questions

2 X 5 = 10

1. Explain factors affecting London forces.
2. Define and explain seven crystal system.

Student Name:		Roll No:	Date: / /
سوچ بدلیں، معاشرہ بدلیں	Class 1st Year	Ch#5	مثبت سوچیں، خوش رہیں
T- Marks - 40	Subject: Chemistry	Time: 45 - M	Obtained Marks:
Objective Type			
Q#1	Encircle the Correct Option		10X1=10

1. The exact voltage required depends on the :

a Length of tube	b Pressure inside tube	c Both	d None
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2. Cathode rays can cause a chemical change because they have effect :

a Oxidizing	B Reducing	c Both	d None
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3. Cathode rays produce fluorescence in the stone :

a Yellow	B Red	c Green	d Brown
-----------------	--------------	----------------	----------------

4. Proton name suggested by :

a Bohr	B Chadwick	c Ruder ford	d None
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5. Anode positive rays produce flashes on plate :

a ZnS	B Znl	c CdS	d CdI
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6. Chadwick discovered in 1932 :

a Proton	B Neutron	c Electron	d Neutrino
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7. 1 kg of electron has coulombs of charge :

a 1.7588×10^{11}	B 9.1065×10^{-31}	c Both	d None
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8. A beam of alpha particles was directed onto a gold foil of thickness :

a 0.004cm	B 0.00004m	c 0.0000cm	d None
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9. Paschen series lies in region :

a Ultraviolet	B Visible	c Infra red	d All
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10. Dual nature of matter was extended by de broglie's :

a 1924	B 1927	c 1911	d 1923
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Q # 2

Short Questions

10 × 2 = 20

1. Differentiate between atomic emissions and atomic absorption spectrum.
2. What is hydrogen spectrum.
3. Write two defects of Bohr's atomic model.
4. What is Heisenberg uncertainty principle?
5. Define orbital.
6. What is spin quantum number?
7. Draw the shapes of d-orbitals.
8. What does azimuthal quantum number represent?
9. Define wave number and wavelength.
10. Write two postulates of Planck's quantum theory.

Q # 3

Long Questions

2 × 5 = 10

1. Explain magnetic quantum number.
2. Explain derivation of energy of revolving electron in nth orbit.

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سوچ بدلیں، معاشرہ بدلیں	Class 1st Year	Ch#6	مثبت سوچیں، خوش رہیں
T- Marks - 40	Subject: Chemistry	Time: 45 - M	Obtained Marks:
Objective Type			
Q#1	Encircle the Correct Option		10X1=10

1. The atomic radius from left to right in the period :

a Decrease	b Increase	c Remain same	d None
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2. Ionic radius appeared to be an property :

a Multiplicative	b Associative	c Additive	d None
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3. Ionization energy is measure of stability of isolated atom :

a Quantitative	b Qualitative	c Both	d None
4. The ionization energies of group show abnormal trend :			
a 3,6	b 2,5,8	c 3,8	d 6,8
5. Highest electronegativity in periodic table is of :			
a Cl	b Cs	c H	d F
6. Electron affinity of chlorine is :			
a -341	b +341	c -349	d +349
7. NaCl has ___% ionic character :			
a 72%	b 92%	c 100%	d 0%
8. The geometry NF_3 is :			
a Bent	b Trigonalpyramidal	c Planer	d Linear
9. The bond angle between two H-S bond is :			
a 102°	b 105°	c 92°	d 109.5°
10. Number of bond in N_2 is :			
a 1 S and 2 _ ^	b 1 S and 3 _ ^	c 2 S and 2 _ ^	d None

Q # 2	Short Questions	10 × 2 = 20
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1. Draw molecular orbital diagrammeof helium He_2 ?
2. Define bond order .
3. What is ionic bond ?
4. Define hybridization.
5. Define covalent bond according to quantum mechanical approach.
6. Write postulate of VSEPR theory.
7. What is coordinate covalent bond.
8. Define electronegativity .
9. Define electron affinity with examples.
10. Why the radius of atom cannot determined with precision.

Q # 3	Long Questions	2 × 5 = 10
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1. Explain 'sp' hybridization with one examples.
2. Explain ionization energy along with examples and trend ?

Student Name:		Roll No:	Date: / /
سوچ بدلیں، معاشرہ بدلیں	Class 1st Year	Ch#7	مثبت سوچیں، خوش رہیں
T- Marks - 40	Subject: Chemistry	Time: 45 - M	Obtained Marks:
Objective Type			
Q#1	Encircle the Correct Option		10X1=10

1. Calorie is equivalent to :			
a	0.4184 J	b	41.84 J
		c	4.184 J
		d	None
2. The change in heat energy of a chemical reaction at constant temperature and pressure is called :			
a	Enthalpy change	b	Bond energy
		c	Internal energy
		d	None
3. $\Delta E = ?$			
a	qp	b	Qv
		c	qc
		d	None
4. For a given process the heat changes at constant pressure and at constant volume are related to each other :			
a	qp=qv	b	qp>qv
		c	qp<qv
		d	None
5. For the reaction $\text{NaOH} + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O}$ change in enthalpy is called :			
a	Heat of reaction	b	Heat of formation
		c	Heat of neutralization
		d	Heat of combustion
6. State function is property of a system :			
a	Microscopic	b	Macroscopic
		c	Both
		d	None
7. Heat of neutralization for $\text{NaOH} + \text{HCl}$?			
a	-14.8 kJ mol ⁻¹	b	+37.2 kJ mol ⁻¹
		c	-57.4 kJ mol ⁻¹
		d	None
8. $\text{C} + \text{O}_2 \rightarrow \text{CO}_2$ $\Delta H = ?$ The heat of combustion is :			
a	+218 kJ mol ⁻¹	b	-180 kJ mol ⁻¹
		c	-692 kJ mol ⁻¹
		d	-393 kJ mol ⁻¹
9. Specific heat of water :			
a	4.2	b	3.2
		c	1.2
		d	5.2
10. Pressure inside bomb calorimeter is about :			
a	30 atm	b	20 atm
		c	40 atm
		d	50 atm

Q # 2	Short Questions	10 × 2 = 20
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1. Define system and surrounding .
2. Define state function.
3. What is internal energy.
4. Define heat .
5. Define enthalpy of atomization.
6. What do you know about enthalpy of solution.
7. Define hess,slaw of heat summation.
8. Define heat of neutralization.
9. Derive $\Delta H = qp$?
10. Define enthalpy.

Q # 3	Long Questions	2 × 5 = 10
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1. Explain born habercycle and give examples of NaCl ?
2. Explain bomb calorimeter

Student Name:	Roll No:	Date: / /
سوچ بدلیں، معاشرہ بدلیں	Class 1st Year	Ch#8

2. Benzoic acid is a weak monobasic acid ($K_a = 6.4 \times 10^{-5} \text{ moldm}^{-3}$). what is pH of a solution containing 7.2g of sodium benzoate in one dm^3 of 0.02 moldm^{-3} benzoic acid

Student Name:		Roll No:	Date: / /
سوچ بدلیں، معاشرہ بدلیں	Class 1st Year	Ch#9	مثبت سوچیں، خوش رہیں
T- Marks - 40	Subject: Chemistry	Time: 45 - M	Obtained Marks:
Objective Type			
Q#1	Encircle the Correct Option		10X1=10

1. An aqueous solution of ethanol in water may have vapour pressure :

- a** Equal to that of water **b** Equal to ethanol **c** Equal to propanol **d** More than water

2. Molal boiling point constant is ratio of elevation in boiling point to :

- a** Molarity **b** Molality **c** Mole fraction **d** None

3. When azeotropic mixture is distilled its remain constant :

- a** Composition **b** Temperature **c** Solubility **d** None

4. When KNO_3 dissolved in water temperature solution :

- a** Decrease **b** Increase **c** Remain constant **d** None

5. K_b for water :

- a** 0.052 **b** 0.00 **c** 0.52 **d** None

6. $\text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O}$ shows :

- a** Continuous solubility curves **b** Discontinuous solubility curves **c** Both **d** None

7. Solubility of CuSO_4 in water at 0°C is 100 g :

- a** 37.5 g **b** 14.66 g **c** 75 g **d** 14.3g

8. Solubility is expressed in terms of number of grams of solute in g solvent :

- a** 100 g **b** 10 g **c** 99g **d** 1000g

9. Relative lowering of vapour pressure is of temperature :

- a** Dependent **b** Independent **c** Both **d** None

10. Saturated solution of NaCl in water at 0°C contains g :

- a** 14.3 g **b** 37.5g **c** 75.4g **d** 100 g

Q # 2

Short Questions

10 × 2 = 20

1. What are ideal and non ideal solution.
2. Define fractional crystallization.
3. What conditions should be followed to observe colligative properties.
4. What is infinite dilution?
5. Define hydration energy of ions .
6. What is meant by heat of solution.

7. Write application of boiling point elevation and freezing point depression.
8. Why freezing point of solvent is lowered due to addition solute .
9. Differentiate between ideal & non-ideal solutions?
10. What are continuous and discontinue solubility curves.

Q # 3	Long Questions	2 X 5 = 10
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1. Define Roults law .
2. Explain measurement of boiling point elevation.

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سوچ بدلین، معاشرہ بدلین	Class 1st Year	Ch#10	مثبت سوچیں، خوش رہیں
T- Marks - 40	Subject: Chemistry	Time: 45 - M	Obtained Marks:
Objective Type			
Q#1	Encircle the Correct Option		10X1=10

1. Occurs at anode :			
a Oxidation	b Reduction	c Both	d None
2. Of salt bridge is not used between half cell , voltage :			
a Decrease rapidly	b Decrease slowly	c Drops to zero	d None
3. Oxidation potential of Zn is :			
a -0.76	b -0.34	c +0.76	d None
4. Which effects value of reduction potential :			
a Temperature	b Pressure	c Concentration	d All
5. Pure H ₂ gas at 1atm is continuously bubbled into :			
a 1M HCl solution	b 0-1M HCl solution	c Both	d None
6. Potential of SHE is :			
a 0.34	b 0.76	c 1	d Zero
7. Salt bridge contains aqueous solution of in gel :			
a NaCl	b CsCl	c MgCl ₂	d KCl
8. In dawn cell anode is made of :			
a Graphite	b Iron	c Titanium	d None
9. In dawn cell is obtained by products :			
a Na metal	b Cl ₂	c H ₂ O	d None
10. Oxidation of number oxygen in peroxides is :			
a +2	b -2	c -1	d +1

Q # 2	Short Questions	10 x2 = 20
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1. Write rules of assigning oxidation numbers.
2. Write oxidation numbers of Cl in KClO₄ ?
3. Differentiate between Metallic conduction and electrolytic conduction.

4. Define ionization.
5. Define electrolysis.
6. What is voltaic cell .
7. Write function of salt bridge.
8. What is SHE ?
9. Define. Ionization potential.
10. What is electrochemical series.

Q # 3

Long Questions

2 X 5 = 10

1. Write five application of electrochemical series.
2. Explain electrolytic process of industrial importance.

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T- Marks - 40	Subject: Chemistry	Time: 45 - M	Obtained Marks:
Objective Type			
Q#1	Encircle the Correct Option		10X1=10

1. Instantaneous and average rate become equal when time interval approaches to :

- | | | | |
|------------|------------|------------------|---------------|
| a 1 | b 0 | c Maximum | d None |
|------------|------------|------------------|---------------|

2. $2N_2O_5 \rightleftharpoons 2N_2O_4 + O_2$ order is :

- | | | | |
|------------|------------|------------|------------|
| a 1 | b 2 | c 3 | d 4 |
|------------|------------|------------|------------|

3. Photochemical reaction are usually :

- | | | | |
|--------------------------------|--------------------------------|--------------------------------|---------------|
| a 1 st order | b 2 nd order | c 3 rd order | d Zero |
|--------------------------------|--------------------------------|--------------------------------|---------------|

4. Half life period of N_2O_5 at 45°C is :

- | | | | |
|------------------|-----------------|------------------|-------------------|
| a 48 mint | b 24mint | c 36 mint | d 100 mint |
|------------------|-----------------|------------------|-------------------|

5. For endothermic reaction products are at energy level reactant :

- | | | | |
|----------------|-----------------|---------------|---------------|
| a Lower | b Higher | c Both | d None |
|----------------|-----------------|---------------|---------------|

6. Unit of slop in Arrheniusequation is :

- | | | | |
|-------------------|----------------|------------|---------------|
| a K^{-1} | b K^0 | c K | d None |
|-------------------|----------------|------------|---------------|

7. The rate of reaction as the reaction proceeds :

- | | | | |
|-------------------|-------------------|---------------|---------------|
| a Decrease | b Increase | c Same | d None |
|-------------------|-------------------|---------------|---------------|

8. Arrhenius equation can be used find out of reaction :

- | | | | |
|---------------|----------------|---------------|---------------|
| a Rate | b Order | c Both | d None |
|---------------|----------------|---------------|---------------|

9. Collision theory explain of reaction :

- | | | | |
|---------------|----------------|---------------|---------------|
| a Rate | b Order | c Both | d None |
|---------------|----------------|---------------|---------------|

10. Unit of rate of reaction is :

- | | | | |
|------------------------------|-------------------------------|---------------|---------------|
| a $Mol^{-1} dm^{-3}s$ | b $Mol dm^{-3} s^{-1}$ | c Both | d None |
|------------------------------|-------------------------------|---------------|---------------|

Q # 2

Short Questions

10 × 2 = 20

1. Define rate of reaction .
2. What is instantaneous rate and average rate .
3. Define order of reaction.
4. What do you know about half lifeperiod.
5. What is rate limiting step.
6. Write methods of large excess.
7. Order of reaction is an experimentally determined quantity why ?
8. What is reaction intermediate.
9. What is zero reaction .
10. Write methods to find order of reaction .

Q # 3

Long Questions

2 X 5 = 10

1. Define and explain energy of activation.
2. Explain Arrhenius equation.