



CHEMISTRY SSC-I

Inclusive Scheme of Studies 2024 (1200) Marks

SECTION – A (Marks 12)

Time allowed: 20 Minutes

Candidate Sign. _____

Invigilator Sign. _____

Answer Sheet No. _____

Version No.				
1	2	0	5	1

0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

ROLL NUMBER						

0	0	0	0	0	0	0
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

Deleting/overwriting is not allowed.
Do not use lead pencil.

Fill the relevant bubble against each question according to curriculum:

Question	A	B	C	D	A	B	C	D
1. Which state of matter is represented by air?	Solid	Liquid	Gas	Plasma	☐	☐	☐	☐
2. Diamond and graphite are allotropic forms of:	Oxygen	Carbon	Silicon	Sulfur	☐	☐	☐	☐
3. In the given reaction $2Na + Cl_2 \rightarrow 2NaCl$ sodium changes its oxidation state from 0 to +1, it is the process of:	Oxidation	Reduction	Elimination	Addition	☐	☐	☐	☐
4. A reaction that does not go to completion is called:	Irreversible	Endothermic	Reversible	Exothermic	☐	☐	☐	☐
5. When a base reacts with an ammonium salt, it produces:	Hydrogen	Carbon dioxide	Oxygen	Ammonia	☐	☐	☐	☐
6. The charge on an ion depends on the number of:	Neutrons	Protons	Valence electrons	Atomic mass	☐	☐	☐	☐
7. Which of the following relationships is INCORRECT regarding relative reactivity of Halogens for displacement reactions?	$F_2 > Cl_2$	$Br_2 > F_2$	$Br_2 > I_2$	$Cl_2 > Br_2$	☐	☐	☐	☐
8. The percentage of oxygen in clean, dry air is about:	21%	50%	78%	92%	☐	☐	☐	☐
9. Which factor increases water scarcity in Pakistan?	Population growth	Cloud formation	Wind speed	Soil erosion	☐	☐	☐	☐
10. The general formula of Carboxylic acids is:	$C_nH_{2n+2}COOH$	$C_nH_{2n}O_2$	$C_nH_{2n+1}COOH$	$C_nH_{2n}COOH$	☐	☐	☐	☐
11. Fish is a good source of:	Carbohydrate	Sugar	Protein	Glucose	☐	☐	☐	☐
12. Reduction of propyl chloride mainly produces:	Propene	Propane	Methane	Propyne	☐	☐	☐	☐

—1SA-I 26005 (D) —

SUPPLEMENTARY TABLE

Mass No	1	4	7	9	11	12	14	16	19	20	23	24	27	28	31	32	35.5	40	39	40
Symbol	H	He	Li	Be	B	C	N	O	F	Ne	Na	Mg	Al	Si	P	S	Cl	Ar	K	Ca
Atomic No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20



CHEMISTRY SSC-I

Inclusive Scheme of Studies 2024 (1200) Marks

Time allowed: 2:40 Hours

Total Marks Sections B and C: 48

SECTION – B (Marks 30)

Q. 2 Attempt the following parts.

(10 x 3 =30)

(i)	Identify the branch of chemistry that deals with given statements: a. According to Boyle's law when pressure on a gas is applied its volume reduces. b. Industries produce SO ₂ which cause acid rain. c. Our hair has a protein called Keratin which is essential for hair growth.	1+1 +1	OR	Differentiate between suspension and colloidal with one suitable example each.	1.5 + 1.5
(ii)	How do the 'energy' and 'distance' from the nucleus change as the shell number increases?	1.5 +	OR	Which type of reaction has a positive sign of enthalpy change? Give one example for that reaction.	1+2
(iii)	Which sub-atomic particle determines the atomic number of an element? What is the significance of atomic number?	1+2	OR	State the trend in melting point and density of Group I-A elements down the group.	1.5 +
(iv)	Justify the following statements: a. An atom is electrically neutral. b. An atom can convert into positive ion when it loses electron.	1.5 +	OR	What is meant by activation energy? How does a catalyst affect the activation energy of a reaction?	2+1
(v)	Find the mass of 0.5 moles of NaCl.	03	OR	Derive the chemical formula of the compound formed between: a. Mg ²⁺ and Cl ⁻ c. Ca ²⁺ and NO ₃ ⁻¹ b. Al ³⁺ and SO ₄ ⁻²	1x3
(vi)	CoCl ₂ ·6H ₂ O (pink solid) ⇌ CoCl ₂ (blue solid) + 6H ₂ O Describe the effect of addition of water on equilibrium in given reaction.	03	OR	Write the dissociation equations of sulfuric acid (H ₂ SO ₄) and sodium hydroxide (NaOH) in aqueous solution.	1.5 +
(vii)	An element has electronic configuration 2,8,7 (atomic number=17). Identify its period, group number and number of valence electrons.	1+1 +1	OR	Complete the given displacement reactions of Halogens if they are possible: a. Br ₂ + 2KI → c. I ₂ + 2KBr → b. F ₂ + 2KCl →	1x3
(viii)	Write benefits of dissolved oxygen and essential minerals found in water.	1.5 +	OR	Classify the following compounds as alcohol, ether and phenol: a. CH ₃ OCH ₂ CH ₃ c. C ₆ H ₅ OH b. CH ₃ OH	1+1 +1
(ix)	Why are Sedimentation and Chlorination used in water treatment?	1.5 +	OR	What is meant by 'homologous series' in organic chemistry? Why do members of a homologous series have similar chemical properties?	2+1
(x)	Why are alkanes called saturated hydrocarbons? Write their general formula to determine their molecular formula.	2+1	OR	What is meant by nutrition? Why is healthy eating important for the human body?	1+2

SECTION – C (Marks 18)

Note: Attempt the following questions.

(3x6=18)

Q.3	Differentiate between compounds, and mixtures with respect to: a. Composition b. Chemical bonding c. Separation methods	2+2 +2	OR	Explain the importance of lipids as biomolecules, by mentioning their specific sources and functions in the body. (any three each)	06
Q.4	Show the ionic bond formation of following by using electron dot-and-cross structures: a. NaF b. CaCl ₂	3+3	OR	An element Z is located below Magnesium in Group II-A: a. Predict its relative reactivity in comparison to Magnesium b. Compare its metallic character with Magnesium c. Compare its Ionization energy with Magnesium	2x3
Q.5	Write chemical reactions of HCl when it reacts with: a. Mg b. CaCO ₃ c. NaOH	2x3	OR	What are substitution reactions? Why alkanes show substitution reactions? Illustrate the monosubstituted product formed from Methane when it reacts with Cl ₂ .	2+2 +2

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Atomic No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20