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SUMMATIVE ASSESSMENT – TERM II, 2026–27

CHEMISTRY – ANSWER KEY (English Medium)

SET 1

Standard: IX **Time: 1½ Hours**

Total Score: 40

Scores for each part are shown in brackets. Accept any other correct answer or explanation.

Q. No.	Answer / Scoring indicators	Score
1	c) HCl	1
2	a) Both are true and the reason explains the statement.	1
3	b) ii and iii are correct	1
4	b) i – y, ii – z, iii – x	1
5	a) HCl: 3.16 − 2.20 = 0.96 → polar covalent bond (1) b) NaCl: 3.16 − 0.93 = 2.23 (more than 1.7) → ionic bond (1)	2
6 A	a) Diagram: O at the centre sharing one electron pair with each H atom (H:O:H) with two more pairs on O (1) b) 2 lone pairs (1)	2
6 B	a) Diagram: three shared electron pairs between the two N atoms and one lone pair on each N (1) b) Triple covalent bond (1)	2
7	a) S in H_2SO_4: 2(+1) + x + 4(−2) = 0 → x = +6 (1) b) Cr in $K_2Cr_2O_7$: 2(+1) + 2x + 7(−2) = 0 → x = +6 (1)	2
8 A	a) Zinc (Zn) (1) b) $Zn \rightarrow Zn^{2+} + 2e^-$ (1)	2
8 B	a) Oxygen (O_2) (1) b) It increases from 0 to +2 (magnesium is oxidised) (1)	2
9	a) Temperature (1) b) At low temperature the particles have less kinetic energy, so effective collisions are fewer and the reactions that spoil milk slow down (1)	2
10	Mass of solution = 15 + 135 = 150 g (1) Mass percentage = (15 ÷ 150) × 100 = 10% (1)	2
11	a) Group 1, Period 3 (1) b) XCl (1)	2
12	a) Curve Q. It rises more steeply, because the powder has more surface area and reacts faster (1) b) The acid or marble is used up and the reaction stops; no more CO_2 is formed (1) c) Increasing the concentration of the acid / raising the temperature (any one) (1)	3
13	a) Saturated (1) b) 110 − 32 = 78 g (1) c) The solubility of a solid increases as temperature increases (1)	3
14 A	a) +3 (1) b) Fe_2O_3 (iron oxide) (1) c) Carbon monoxide (CO) (1)	3
14 B	a) Oxidation is the loss of electrons (1) b) Oxidation: $Na \rightarrow Na^+ + e^-$ (1); Reduction: $Cl_2 + 2e^- \rightarrow 2Cl^-$ (1)	3
15	a) It acts as a catalyst and increases the rate of decomposition (1) b) No. A catalyst remains chemically unchanged at the end of the reaction; the same	3

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	mass can be recovered (1) c) Vanadium pentoxide (V_2O_5) (1)	
16	a) Diagram: C at the centre sharing one electron pair with each of four H atoms (1) b) Four (1) c) The forces of attraction between covalent molecules are weak, so little energy is needed to separate them (1)	3
17 A	a) (20 ÷ 100) × 100 = 20% (1) b) (0.002 ÷ 1000) × 10^6 = 2 ppm (1) c) The amount of solute is very small, and ppm expresses such small concentrations conveniently (1)	3
17 B	a) Salt solution (1) b) Tyndall effect (1) c) Muddy water; its particles are large (suspension) and are trapped by the filter paper (1)	3
18 A	a) P: 2, 8, 1; Q: 2, 8, 7 (1) b) P and Q; PQ (1) c) RQ_4 (1) d) Covalent bond (1)	4
18 B	a) Sulphur formed in the reaction is a precipitate that makes the solution opaque (1) b) As temperature increases, the rate increases (time taken decreases) (1) c) At higher temperature particles have more kinetic energy, so the number of effective collisions per second increases (1) d) About 10 s (1)	4

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