SET	A/B/C

INDIAN SCHOOL MUSCAT
FINAL EXAMINATION 2023
SUBJECT WITH SUBJECT CODE

CLASS: Max.Marks:

MARKING SCHEME			
SET	QN.NO	VALUE POINTS	MARKS SPLIT UP
A	1.	d	1
	2.	B	1
	3.	c	1
	4.	c	1
	5.	b	1
	6.	a	1
	7.	b	1
	8.	d	1
	9.	c	1
	10.	b	1
	11.	a	1
	12.	d	1
	13.	b	1
	14.	b	1
	15.	A	1
	16.	A	1
	17.	C	1

	18.	D	1
	19.	EF is CH_2Cl MF is $C_2H_4Cl_2$	1 1
	20.	LR H_2 27 g of H_2O formed ,5 g of O_2 is in excess	1 1
	21.	(a) Nitrogen has half-filled EC (b) Greater effective nuclear charge on Na^+ OR (a) Same order (b) Same order	½+ ½ 1 1 1
	22.	MO Electronic Configuration, diamagnetic, BO = 3 OR (a) Resonance and delocalization of pi electrons (b) Any one point of difference between BE and BDE	1 ½ ½ 1 1
	23.	$16Zn + 2NO_3^- + 10H^+ \rightarrow 8Zn^{2+} + N_2O + 5H_2O$	1+1
	24.	(a) Correct bond line structure (b) Correct order and reason	1 1
	25.	(a) 3-Ethylhex-3-ene (b) Yes aromatic ,$(4n+2)\pi$ electrons	1 1
	26.	$E = 4.97 \times 10^{-19}$ J KE = 0.972 eV (or) 1.55×10^{-19} J	1 1 1
	27.	Oxdn half Reduction half $2Cr(OH)_3 + IO_3^- + 4OH^- \rightarrow 2CrO_4^{2-} + 5H_2O + I^-$	1 1 1
	28.	(a) HBr/Peroxide (b) H_2O/Hg2+,H+ (c) Zn OR (a) CH≡CNa and NaC≡CNa (b) $CH_3C(CH_3)(OH)CH_3$ (c) $CH_2=CH_2$	1x3
	29.	Correct equations for Wurtz reaction Friedel crafts alkylation Kolbes electrolysis	1x3
	30.	(i) 18.4 M (ii) 0.0679 L (or) 67.9 mL	1 1/2 11/2

	31.	(a) 3p = 3+1 = 4 (b) 5p, 4f, 6d (c) i) $m_l = 0$, $l = 0$ ii) p subshell OR $\Delta x = 9.59 \times 10^{-10}$ m	1 1 1 1 2
	32.	(a) Correct configuration d block elements (b) Z = 39 (c) 104, Unnilquadium OR IE- A>C>B EGE- A>B>C	1 1 1+1 1 1
	33.	(a) NO_2^- -Correct structure (b) FC = Zero (or) +2 (c) Any correct example (d) i) trigonal bypyramidal ii) Square planar OR (a) any two examples for expanded octet (b) one point of difference between BMO and ANMO (c) any two conditions (d) Sp3,energy level diagram and orbital diagram	1 1 1 1 1 1 1 1 1+1
	34.	(a) I) Cyclohexene ii) propane-1,2-diol is formed iii) o and p chloroanisole (b) Ethyne>Ethene>Ethane -Difference in hybridization of C OR (a) Toluene,CH_3 is electron releasing (or) activating gp (b) But-1-yne will give white ppt with tollens reagent (c) Eclipsed & staggered conformations of ethane (d) 3-methylpent-2-ene	1 1 1 1+1 1+1 1 ½+½ 1
	35.	(a) Ether & Alcohol (b) 3-methylpent-3-en-2-ol (c) Correct structure (d) Definition of positive resonance effect Resonance structure of phenol	1 1 1 1 1
SET B			
	1.	b	1
	3.	d	1
	7.	d	

	8	c	
	10	a	
	14	a	
	26	(a) HBr/Markovnikovs addition (c) Fe/873K	
	27	(a) Decarboxylation (b) Wurtz reaction (c) Friedel crafts alkylation	
	35	a (iii) Benzenehexachloride (or) Hexachlorocyclohexane (or) Gammaxane	1
SET C	**2**	a	
	3	a	
	5	b	
	7	a	
	10	c	
	19	(a) 3-ethylpent-2-ene structure	1
	27	(b) $O_3/Zn/H_2O$ (c) $H_2O/Hg^{2+}/H^+$	1 1