
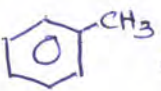


FIRST YEAR HIGHER SECONDARY IMPROVEMENT EXAMINATION JULY 2019

SUBJECT: CHEMISTRY

CODE. NO: FY 25




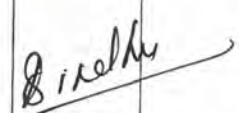
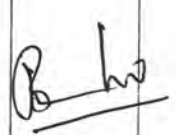

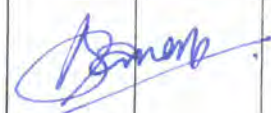

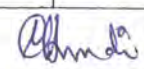
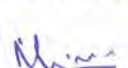
Qn No	Sub Qns	Answer Key/Value Points	Score	Total
1.		1 g H ₂ or H ₂ or c	1	7
2.		5f	1	
3.		Surface Tension	1	
4.		307 J/ positive/ q ± w	1	
5.		Slaked lime / Ca(OH) ₂ / Calcium Hydroxide	1	
6.		Lithium / Li { aqueous phase } (or) Cs → { in gaseous phase }	1	
7.		Dumas Method / Kjeldahl's method	1	
8.		Any one reason for deviation from ideal behaviour T, P conditions for ideal or real gases	2 2	2
9.	a)	Ununseptium / Tennessine / Uus / Ts	1	2
	b)	Similar outer electronic configuration / Same no of valence electrons	1	
10		Diborane / B ₂ H ₆ / (BH ₃) ₂ (or) Correct structure of diborane	2 2	2
11.		A - Benzene or  / C ₆ H ₆ B -  or Toluene or C ₆ H ₅ -CH ₃ or C ₇ H ₈	2 2	2

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
12.		$K_p = K_c(RT)^{\Delta n}$ Calculation of Δn Correct substitution with answer $K_p = 4.4 \times 10^{-4}$ (Just the answer)	1 1 1 1	2
13		Correct explanation (2x1) Correct structures (2x1)	2 2	2
14		But-2-ene Structure of But-2-ene Correct structure of <u>cis</u> or <u>trans</u> Isomers of But-2-ene	2 2 2	2
15.		a) Distorted tetrahedral or folded square or See-Saw Drawing the (or) correct structure b) H-bonding	1 1 1	2
16.		$KE = h[\nu - \nu_0]$ (or) $h\nu = h\nu_0 + \frac{1}{2} m v^2$ (or) $T_{\text{Energy}} = \text{Work function} + \text{Kin. Energy}$ Correct substitution Just Answer $19.9 \times 10^{-20} \text{ J}$	1 1 1	2
17.		(i) 3-ethyl-4-methyl hexane (ii) 5-oxoheptanoic acid	2 2	2
18.		Correct Equation $\rightarrow \Delta H^\circ = \sum_f H_f^\circ - \sum_r H_r^\circ$ - (2) Formation equations of CH_4 , CO_2 and H_2O - (2) Correct substitution (2) Just Answer = $-890.29 \text{ KJ mol}^{-1}$ 1	2 2 2	2

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
19.	a) } b) }	Effective nuclear charge - Decrease / Force of attraction decreases Nuclear charge increases / size of ion decreases / Explanation based on no of protons / Force of attraction increases	1 } 1 }	2
20		Lewis acid definition or example Lewis base definition or example	2 } 2 }	2
21	a) } b) }	Definition of smog One difference One method to control air pollution	1 } 2 } 1 }	3
22	a) } b) (i) } (ii) } (iii) } (iv) }	Any one reason (i) Baking soda - Antiseptic for skin infection (ii) Caustic soda - Purification of Bauxite (iii) Plaster of Paris - Dentistry (iv) Lime stone - Tooth paste	1 } 1 } 1 } 1 }	1 2
23	a) (i) } (ii) } (iii) } (iv) } (or) } b) }	(i) Pb (ii) Pb in PbO_2 or PbO_2 (iii) Pb in PbO_2 or PbO_2 (iv) Pb (or) Calculation of oxidation numbers for the atoms or ions in the given equation Correct definition Correct equation (or) Correct example	1 } 1 } 1 } 1 } 1 } 1 }	3

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
24.		Correct M.O. Diagram or M.O. Configuration Diamagnetic	2 } 1 }	3
25.		Correct substitution Correct calculation of mass of SO_3 Correct answer only 625g Limiting reagent - Definition Limiting reagent is SO_2 Calculation of number of moles of SO_2 and O_2	3 } 3 } 1 } 1 } 2 } $\frac{1}{2} + \frac{1}{2}$ }	3
26.		Statement (or) equation of wurtz rxn Statement (or) equation of Kharasch effect	3 } 3 }	3
27.		a) Definition or correct equation of pH Correct substitution Just the answer pH = 2.52 NaCl is salt of strong Acid and strong base } (or) Equation or No Hydrolysis } CuCl ₂ is salt of strong acid and weak base or Equation or undergoes hydrolysis }	2 } 2 } 1 } 1 } 1 }	3
28		a) Dalton's Law - Correct statement (or) } $P_{tot} = P_A + P_B + \dots + P_n$ (or) $P_{tot} = P_1 + P_2 + \dots + P_n$ } b) Correct Equation No. of moles calculation ($\frac{1}{2} \times 2$) Correct substitution Just correct answer = 56.025 bar	2 } 1 } 1 } 1 } 1 }	2 } 2 }

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
29.		a) Definition of amphoteric nature Correct equations each for } (2x1) acidic and basic } nature } $\text{H}_2\text{O} + \text{H}_2\text{O} \rightarrow \text{H}_3\text{O}^+ + \text{OH}^-$ b) 30% H_2O_2 (or) 1 ml H_2O_2 gives 100ml O_2 Peroxide (or)	2 2 2 1	3
30.		Three Observations 1x3 Three Conclusions 1x3 One Limitation	3 3 2	4
31.		Fullerene - one point (property, use, structure etc) Silicate - one point (" ")	2 2	4
32		a) Definition of spontaneous process } (or) $\Delta G = \text{Negative}$ }	2	4
		b) $\Delta G = \Delta H - T\Delta S$	2	
		Correct substitution	2	
		Correct answer alone = -1484.27 kJ/mol	1	
		Correct explanation for spontaneity } of the given reaction } $\Delta G = \text{Negative}$ }	2 2	
33		a) $\text{CH}_3^+ < \text{CH}_3-\text{CH}_2^+ < (\text{CH}_3)_2\text{CH}^+ < (\text{CH}_3)_3\text{C}^+$ Explanation with hyperconjugation	2 2	4
		b) correct definition or representation } of homolysis }	2	

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
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7.		Manoj. A. 157605 MRTM HSS, Edam, TVM		
8		Geetha Kumar C, 447298 GVHSS Kooduthy, Malappuram 9496171697		
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