

SECOND YEAR HIGHER SECONDARY EXAMINATION MARCH 2019

SUBJECT: CHEMISTRY

CODE. NO: SY 25

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
1.		Isoprene / 2-methyl-1,3-butadiene / Structure		
2.		NH ₃ / Ammonia		
3.		Hoffmann bromamide reaction / Hoffmann degradation / bromamide reaction		
4.		MnO ₂ / Mn ⁴⁺		
5.		Positive deviation		
6.		(c) / [Co(NH ₃) ₅ (NO ₂)]Cl ₂		
7.		One (1½ score for each correct answer, score not to exceed 7)		
8.		Correct equation / explanation Salicylic acid / Salicylaldehyde / Structure phenol	2 2 1	2
9.		Correct definition One application	2 2	2
10.		Benzoic acid / sodium benzoate / Benzyl alcohol or structure Cannizzaro reaction / disproportionation reaction	2 2	2
11.		Correct equation / explanation Iodoform / chloroform / bromoform or formula Related answer	2 2 1	2
12.		Meaning of step growth / chain growth / condensation / addition polymerisation	2	

(1/5)

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		Example of any one polymer	2	2
13.		$a = 2\sqrt{2} r$ / substitution definition / diagram of F.C.C No. of atoms in F.C.C = 4 Formula of density of unit cell Related answer	2 2 2 2 1	2
14.		Structure of H_3PO_2 Presence of P-H bond or correct explanation	2 2	2
15.		2-bromobutane $\xrightarrow{OH^-}$ (±) Butan-2-ol Correct explanation definition or characteristic of S_N1 reaction (1) d/l isomer or racemic mixture Related answer	2 2 2 2 2	2
16.		Explanation of w/o or o/w type One example of any type definition of emulsion	2 2 2	2
17.		$ \begin{array}{c} CH_3 \\ \\ CH_3 - C - OH \\ \\ CH_3 \end{array} $ or 2-methylpropan-2-ol Related answer	2 2	2
18.		Integrated rate equation of zero or first order reaction Zero / first / second order	2 2	2
19.		Hinsberg Test / Carbylamine reaction / Isocyanide Test / Sandmeyer reaction / diazotisation / Gatterman reaction / Dye test	2	2

(2/5)

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20.		$\text{CH}_3 - \underset{\text{CH}_3}{\overset{\text{CH}_3}{\text{C}}} - \text{OCH}_3 + \text{HI} \rightarrow \text{CH}_3 - \underset{\text{CH}_3}{\overset{\text{CH}_3}{\text{C}}} - \text{I} + \text{CH}_3\text{OH}$ Name or structure of one product related answer	2 2 1	2
21.		Definition of Zeta potential/electrophoresis/ electro osmosis	3	3
22.		$\log \frac{k_2}{k_1} = \frac{E_a}{2.303R} \left[\frac{T_2 - T_1}{T_1 T_2} \right]$ or $\log k = \log A - \frac{E_a}{2.303RT}$ or $k = A e^{-E_a/RT}$ Correct substitution Arrhenius equation (name only)	2 2 2 1 1	3
23.		A : $\text{CH}_3\text{COONH}_2$ B : CH_3COOH C : $\text{CH}_2 - \text{COOH}$ HVZ reaction^{Br} / Ammonolysis / Hydrolysis / dehydration	3 3 3 2	3
24.		Definition/example of Tranquilizer/ Analgesic Definition/example of one drug	3 3	3
25.		Two application or two properties of d/f block elements One application/property	3 1½	3

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26.		Open chain structure / ring structure of glucose / $C_6H_{12}O_6$ related answer	3 2	3
27.		$\Delta T_f \propto m \propto n \propto \frac{1}{M}$ $\Delta T_f = K_f \times m$ $\frac{\Delta T_{f1}}{\Delta T_{f2}} = \frac{M_2}{M_1}$ or $\Delta T_{f2} = \frac{\Delta T_{f1} \times M_1}{M_2}$ Correct substitution	2 2 2 1	3
28.		Mond's process Van Arkel process Explanation / Equations involved in Mond's process / Van Arkel process	2 2 3	3
29.		Definition of interhalogen compound Preparation / Example of interhalogen compound containing Fluorine	2 2	3
30.		$CH_3CH_2OH \longrightarrow CH_3CH_2Cl$ $CH_3CH_2Cl \xrightarrow{AgF} CH_3CH_2F$ $CH_3-CH_2-CH=CH_2 \xrightarrow{HBr/HX} CH_3-CH_2-\underset{\text{Br}}{\underset{ }{CH}}-CH_3$ $CH_3-CH_2-\underset{\text{Br}}{\underset{ }{CH}}-CH_3 \xrightarrow{alc. KOH} CH_3-CH=CH-CH_3$ Correct explanation of each step Related answer	2 2 2 2 2 2	4
31.		Diagram / explanation Equation of Anode / Cathode / Net reaction Definition / Application / Advantage of fuel cell	2 2 2	4

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32.		Correct definition of Point defect Definition of Metal excess/Metal deficiency F-Centre Explanation using zinc oxide or colour of alkali metal halide Related answer	2 3 2 3 2	4
33.		Diagram of splitting in Octahedral field Explanation using Δ_o & P or field strength of ligand. Splitting diagram of any crystal field. H_2O is a weak ligand CN^- is a strong ligand	4 4 2 2 2	4