JEE MAIN 28 JANUARY 2025 SHIFT 2

CHEMISTRY QUESTION PAPER WITH ANSWER KEY

Q.No.	Questions	Answers
1	Consider the following oxides: V_2O_3 , V_2O_4, V_2O_5 Change in oxidation state of vanadium when amphoteric oxide reacts with acids to form VO_4+	2
2	Which has maximum oxidising power among the following	MnO_4-
3	Number of paramagnetic species among the following is O_2, O^{2+}, O^{2-} NO_2 , NO, CO	5
4	How many of the following molecules are polar? CH_4, CCl_4, CH_2CL_2 , H_2O, NH_3, H_2O_2, O_2F_2	5
5	Which of the following complex is paramagnetic	$\{NlCl_4\}^{2-}$
6	30 gm of HNO_3 is added to a solution to prepare 75% w/w solution having density 1.25 g/mL. Volume of solution is	32 mL
7		Both S-Iand S-II statements are correct
8	For an elementary reaction A + B → C + D When volume becomes 1/3rd, rate of reaction becomes	9 times
9	Match the following List-I with List-II. List-I: (A) $[COF_6]^{3-}$; (B) $[CO(NH_3)_6]^{3+}$; (C) $[NiCl_4]^{2-}$; (D) $[Ni(CN)_4]^{2-}$ List-II: (i) sp^3d^2; (ii) d^2sp^3; (iii) sp^3; (iv) dsp^2 Choose the correct answer from the options given below:	A (i), B (ii), C (iii), D (iv)
10	The correct name of I & II in the following process is: Solid $\xrightarrow{I}$ Vapours $\xrightarrow{II}$ Solid	I- Sublimation II-Deposition
11	Consider the following sequence of rection $CH_3-C\equiv CH \xrightarrow[CaCO_3]{H_2/Pd} A \xrightarrow[H_2O]{O_3/Zn} B + C$	B= CH_3CHPO C = HCHO
12	Which of the following biomolecules doesn't contain C_1-C_4 glycosidic linkage	Sucrose
13	Consider the following statements	Both Statements I

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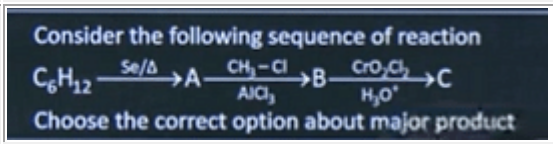
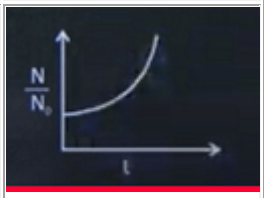
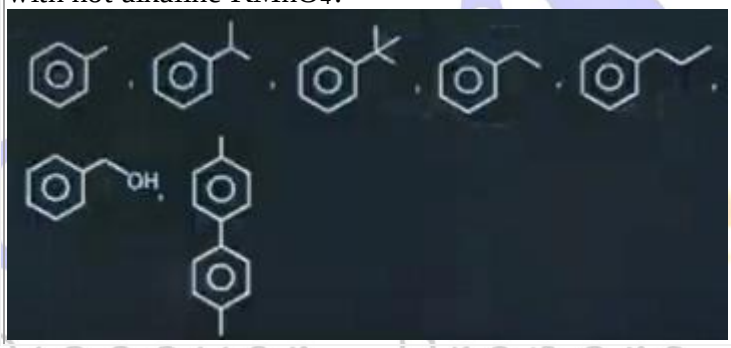
	Statement I: In law of octaves, elements were arranged in ascending order of their atomic numbers. Statement II: Lothar Meyer, plotted the physical properties against atomic weight. Choose the correct answer from the options given below.	and II are incorrect
14		'C' can give Tollen's test
15	Consider the following oxides V_2O_3 , V_2O_4, V_2O_5 Oxidation state of vanadium in amphoteric oxide is	+5
16	The bacterial life grows as per 1st order of kinetics.Which of the following graph is correct between N/N_0 and t?	
17	How many of the following will give Benzoic acid on reaction with hot alkaline $KMnO_4$? 	5
18	By passing current in 600 mL of NaCl solution pH increase to 12. Find current (i) if electrolysis occurs for 10 min/assume 100% efficiency	0.965

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