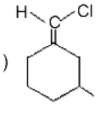
Name :
Code :

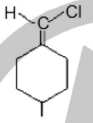
JEE - CHEMISTRY

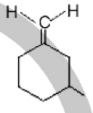
Time :
Date :

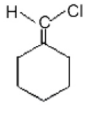
Chemistry Paper

1. Which of the following compound will show geometrical Isomerism?

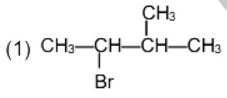
(1) 

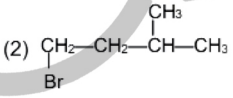
(2) 

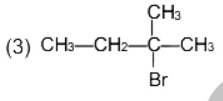
(3) 

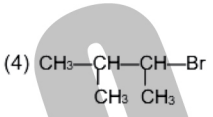
(4) 

2. $CH_2 = CH - \underset{\displaystyle CH_3}{\overset{\displaystyle CH_3}{\underset{|}{\overset{|}{C}}}}H - CH_3 \xrightarrow{HBr} (Product)$

(1) 

(2) 

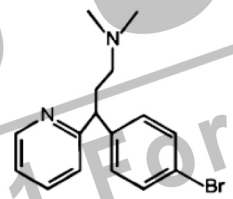
(3) 

(4) 

3. Which is not a condensation polymer ?

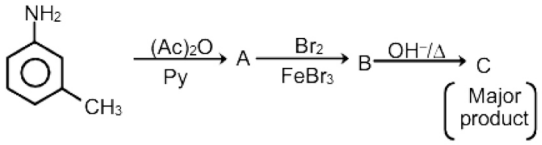
(1) Nylon-6 (2) Nylon-6,6 (3) Buna-N (4) Bakelite

4. What is the use of Brampheniramine ?

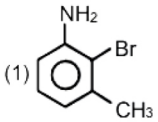


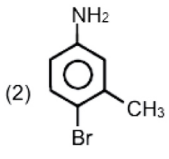
Brompheniramine

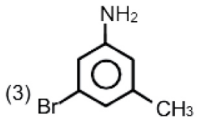
(1) Antidepressant (2) Antihistamines.
(3) Aniseptic (4) Analgesic

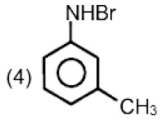
5. 

Product 'C' will be:

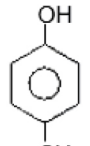
(1) 

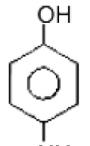
(2) 

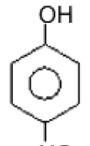
(3) 

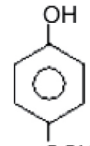
(4) 

6. Which is the correct order of Boiling point of given compounds ?

(i) 

(ii) 

(iii) 

(iv) 

(1) (ii) > (iii) > (iv) > (i)
(2) (ii) > (i) > (iv) > (iii)
(3) (i) > (iii) > (iv) > (ii)
(4) (i) > (iii) > (ii) > (iv)

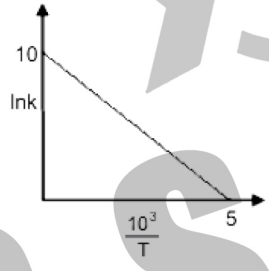
7. Total number cf chiral carbon atoms present in sucrase is _____.

8. The minimum distance between the center of two octahedral voids in FCC lattice in terms of edge length is:

(1) a (2) $\frac{a}{2}$ (3) $\frac{a}{\sqrt{2}}$ (4) $\sqrt{2}a$

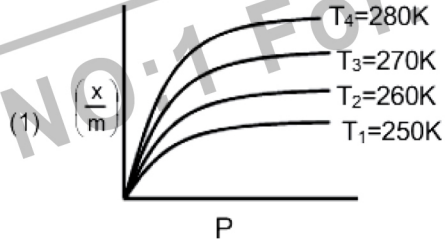
9. Which of the following statement is correct regarding probability density (except infinity)
(1) For 2p can not be zera
(2) For 3p can be zera
(3) For 15 can be zero
(4) For 2s never be zero

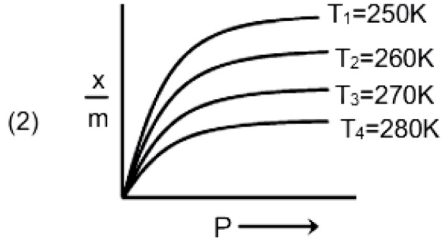
10. Using following graph find activation energy (in kJ)

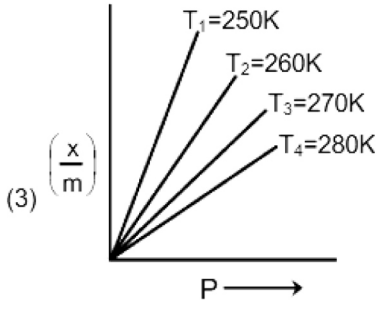


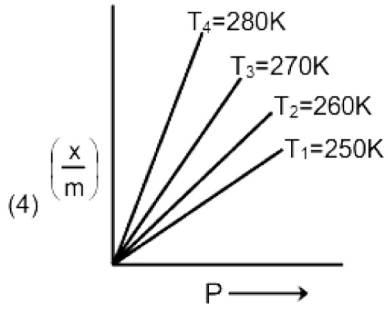
(1) R (2) $\frac{1}{R}$ (3) 2R (4) $\frac{2}{R}$

11. Which of the following graph between $\left(\frac{x}{m}\right)$ Vs P is correct ?

(1) 

(2) 

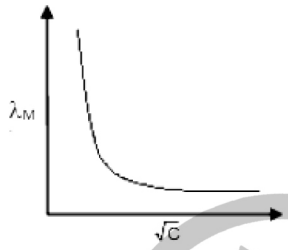
(3) 

(4) 

12. A diatomic gas expands adiabatically so that final density is 32 times the initial density. Final pressure becomes N times of initial pressure. The value of N is :

(1) 128 (2) $\frac{1}{32}$ (3) 32 (4) $\frac{1}{128}$

13. Fallowing graph is observed for which of the electrolytic solution.



(1) CH_3COOH (2) HCl (3) KNO_3 (4) NaCl

14. The products formed by reaction of ammonia with excess of Chlorine are :

(1) $NH_4Cl + HCl$ (2) $NCl_3 + N_2$ (3) $NCL_3 + HCL$ (4) $NH_4CL + N_2$

15. (A) = cis$[Co(en)_2Cl_2]^{\oplus}$ & (B) = trans$[Co(en)_2Cl_2]^{\oplus}$
Which of the above complexes is optically active?

(1) Only A (2) Only B (3) Both (4) None

16. Correct arrangement of following species in the increasing order of their size is:

$N^{3-}, O^{2-}, F^-, Na^+, Mg^{2+}, Al^{3+}$

(1) $Al^{3+}, Mg^{2+}, Na^+, F^-, O^{2-}, N^{3-}$ (2) $N^{3-}, O^{2-}, F^-, Na^+, Mg^{2+}, Al^{3+}$

(3) $Al^{3+}, Mg^{2+}, Na^+, N^{3-}, O^{2-}, F^-$ (4) $Na^+, Mg^{2+}, Al^{3+}, F^-, O^{2-}, N^{3-}$

17. Which of the following has maximum bond angle [consider C, N, O, S as central atom]

(1) H_2O (2) H_2S (3) NH_3 (4) CH_4

18. In pure form H_2O_2 is found as :

(1) Linear, Blue colour (2) Linear, Colourlass
(3) Planar, Blue colour (4) Non planar, Blue colour

19. Pure boran and silicon can be obtained by

(1) Electrolytic refining (2) Vapour phase refining
(3) Zone refining (4) Mond's process

20. 0.02 M $K_2Cr_2O_7$ is treated with 0.288 gram of Ferrous oxalate. How much volume (in mL) of $K_2Cr_2O_7$ is required?

21. For the reaction, $2A(g) \longrightarrow A_2(g)$

following data is obtained at 298 K. $\Delta U = -20kJ, \Delta S = -30J$ then find ΔG (in kJ).

22. For the reaction, $x + y \rightleftharpoons 2z$

initially 1 mol of x, 1.5 mole of y and 0.5 mole z are taken, then at equilibrium 1 mole of z is obtained]

If $k_{eq} = \frac{X}{15}$ then, find the value of 'X'.