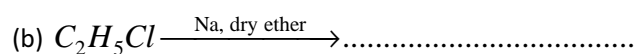
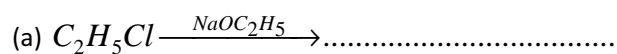


SECTION - A

I. Answer all the following: 10 × 2 = 20

1. Calculate the number of particles present in a fcc crystal structure.
2. What are octahedral holes? How are they formed?
3. Write the systematic names of the following.
 (a) $K[Ag(CN)_2]$ (b) $[Co(NH_3)_3(Cl)_3]$
4. What is PHBV? How it is useful to man?
5. What are lipids? Give one example.
6. What are vitamins? Give one example.
7. Define antiseptics. Give examples.
8. How is paracetamol prepared? Give its equation.
9. What is chloropicrin? How is it formed from chloroform? Give its equation.
10. Complete the following reactions:



SECTION - B

II. Answer any six of the following : 6 × 4 = 24

11. Define molarity. Calculate the molarity of 10.6% $\left(\frac{W}{V}\right) Na_2CO_3$ solution.
12. State and explain Faraday's laws of electrolysis.
13. Explain the Lewis acid – base theory with suitable examples.
14. Write any four differences between physical adsorption and chemical adsorption.

15. State Hess's law of constant heat summation and explain it with an example.
16. Draw a neat diagram of a blast furnace and label it neatly.
17. Explain how superphosphate of lime is manufactured.
18. Write the important postulates of Werner's theory of complex compounds.

SECTION - C

III. Answer any two of the following: 2 × 8 = 16

19. State LeChaterlier's principle, apply the same to the equilibrium.



20. (a) How is bleaching powder prepared industrially ?

(b) Give the reasons of ozone with the following and give equations.

- (i) Hg (ii) SO_2 (iii) H_2O_2 (iv) PbS

21. Write any two methods of the preparation of aniline.

What happens when aniline is treated with the following ? Give equations.

(i) HCl

(ii) CH_3COCl

(iii) $CHCl_3 + Alc.KOH$

(iv) $NaNO_2 + HCl$