

DELHI PUBLIC SCHOOL, DURGAPUR
REVISION SHEET FOR BLOCK TEST 1, 2018-19
CLASS XII, SUBJECT: CHEMISTRY

- Q1. a) Write the steps for the reaction mechanism of acid catalyst hydration of ethene.
b) Give one chemical test to distinguish between
i. Chlorobenzene and Benzyl Chloride
ii. Methyl alcohol and Ethyl alcohol

- Q2. Carry out the following organic conversions mentioning reaction conditions:
a) Toluene to Benzyl alcohol
b) Propene to 1-propanol
c) Benzene to Acetophenone
d) Chlorobenzene to phenol
e) Aniline to Chlorobenzene

Q3. State reasons:

- a) Dipole moment of Chlorobenzene is lower than Cyclohexyl chloride
b) Alkyl halides though polar, are immiscible in water.
c) Grignard reagent should be prepared in anhydrous conditions.

- Q4. a) The treatment of alkyl halides with aqueous KOH leads to the formation of alcohols while with alcoholic KOH, alkenes are the major products. Explain

b) What is an ambident nucleophile? Give one example of it.

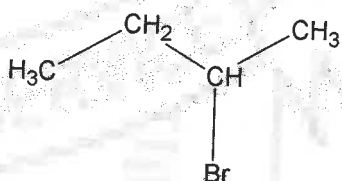
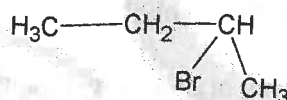
a) Write the equations for the preparation of 1-iodobutane from
i) 1-butanol ii) but-1-ene

Q5 Define the following terms:

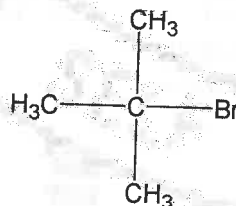
a) Anomers b) Inversion of Cane sugar c) Walden inversion d) Mutarotation



OR



OR



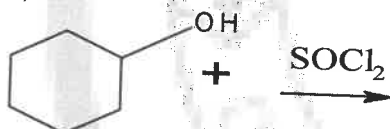
b)

Which alkyl halide will undergo $\text{S}_\text{N}2$ mechanism and why?

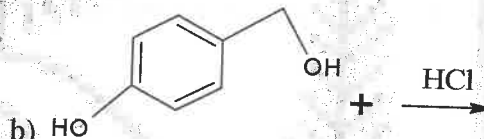
Q6.

Draw the structures of the major monohaloproducs in each case.

a)



b)



Q7. Which of the following compounds would undergo Aldol condensation or Cannizaro's reaction from the given list below? Write the structures of the products obtained in each case.

i) Methanal

ii) 2-methyl pentanal

iii) Benzaldehyde

iv) Benzophenone

v) Cyclohexanone

vi) Butan-1-ol

vii) 2,2 Dimethyl butanal

Q8. Assign reasons:

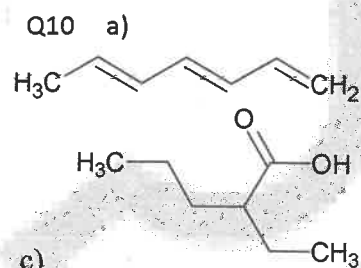
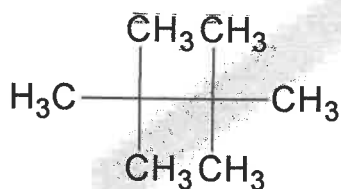
a) Primary amines have higher boiling points than tertiary amines.

b) During esterification reaction, in presence of an acid catalyst, the ester and the water should be removed as soon as it is formed.

Q9. Arrange the following as directed:

a) $\text{C}_2\text{H}_5\text{NH}_2$, $\text{C}_6\text{H}_5\text{NHCH}_3$, $(\text{C}_2\text{H}_5)_2\text{NH}$, $\text{C}_6\text{H}_5\text{NH}_2$ (decreasing order of pK_b value)

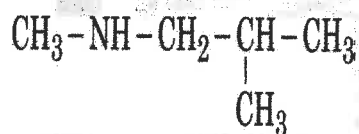
b) CCl_3COOH , CF_3COOH , CH_3COOH , CHF_2COOH (increasing order of acidic strength)



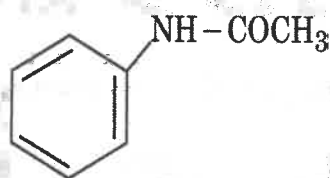
b)

c)

d) $\text{C}_3\text{H}_7\text{COO.C}_2\text{H}_5$ e) $\text{CH}_3\text{O.CH}_2\text{CH}_3$

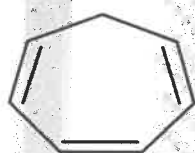


f)



g)

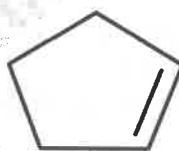
Q11. Give the IUPAC names of the above structures.



(A)



(B)



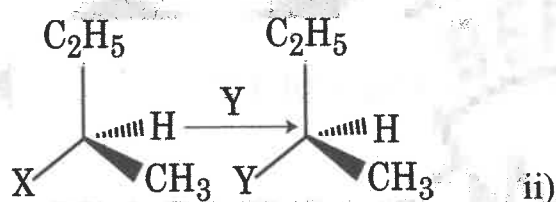
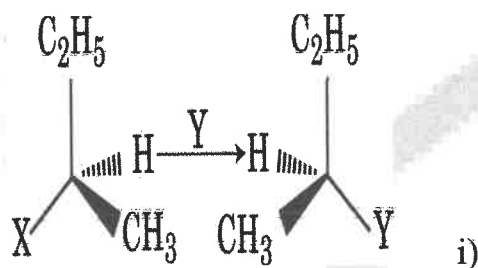
(C)

Q12. Arrange the following structures in the decreasing order of stability.

Q13. Write short notes (with examples and equations) of :

- | | | |
|----------------------------|--|-----------------------------------|
| 1) Saytzeff's rule | 2) Anti Markonikoff's rule | 3) Fittig reaction |
| 4) Finkelstein reaction | 5) Wolff Kishner reduction | 6) Stephen's reduction |
| 7) Rosenmund reduction | 8) Hoffman's Ammonolysis | 9) Hoffman's bromamide |
| 10) degradation reaction | 11) Friedel Crafts acylation | 12) Wurtz reaction |
| 13) Aldol condensation | 14) Gatterman Koch reaction | 15) Sandmeyer's reaction |
| 16) Gatterman's reaction | 17) Cannizzaro's reaction and Cross cannizzaro's reaction. | |
| 18) Reimer Tieman reaction | 19) Carbylamine reaction | 20) Kolbe's reaction |
| 21) Clemmenson's reaction | 22) HVZ reaction | 23) Gabriel phthalimide synthesis |

Q14. Which of the following below is $\text{S}_\text{N}1$ reaction and why?



Q15. What is Zwitter ion?

Q16. What are reducing sugars? Give two examples

Q17. Give the monomers of the following:

- a) Buna-N b) Buna-S c) PHVB d) Nylon 6 e) Nylon 6,6 f) Dacron g) PTFE
 h) PAN i) Bakelite j) Melamine-formaldehyde k) Glyptal

Q18. Identify the following polymers as Homopolymers/Co-polymers/Addition/condensation

- a) Nylon 6 b) Glyptal c) Styrene d) PAN e) Polyester f) Bakelite

Q19. Dimethylamine is more basic than trimethylamine in aqueous phase. Why?

Q20. An organic compound contains 69.77% carbon, 11.63% hydrogen and the rest oxygen.

The molecular mass of the compound is 86. It does not reduce Tollen's reagent but forms an addition compound with NaHSO_3 and gives positive iodoform test. On vigorous oxidation it gives Ethanoic and Propanoic acids. Write the possible structure of the compound.

Q21. Draw structures of the following:

- a) semicarbazone of cyclobutanone. b) Cyclopropanone oxime.

SYLLABUS FOR BLOCK TEST-1: 2ND VOL, FULL ORGANIC