

Assignment
CHE-301
Sem V 2017
Unit Test I

Unit-I

Questions for long answers:

- (1) Write down stereo-selective reaction with suitable example.
- (2) Write stereo specific reaction with suitable example OR Explain following reactions
(a) Addition reaction between 3-hexene with bromine (b) Addition reaction with 2-butene with bromine
- (3) 'Stereo selective reaction is not stereo specific reaction but stereo specific reaction is stereo selective'-explain it.

Question for short Answers;

- (1) Which stereo reaction gives racemic product?
- (2) Which stereo reaction gives fix product?
- (3) How many Chiral-'C' present in 2-3 pentadiol OR 2-3 dibromo pentane?
- (4) What is an asymmetric carbon atom? OR Define Chirality.

Unit-II (A)

Questions for long Answer:

- (1) Discuss the mechanism and synthetic application of the following.
 - (i) Al-isopropoxide
 - (ii) Lithium Aluminium hydride
 - (iii) Selenium Dioxide
 - (iv) Lead tetra acetate
 - (v) OsO₄

Questions for Short Answer:

1. Give any two use of this reagent Osmium Dioxide.
2. Give any two use of the SeO₂
3. Give any one application of Al-isopropoxide
4. Give the name of reagents for conversion of ketone to alcohol
5. Give any two use of the lead tetraacetate.

Unit-III (A) Nucleophilic substitution reactions at saturated Carbon :

Questions for long Answer: Write answer for the following question :

- (1) Discuss SN¹ or SN² reaction mechanism and their enthalpy diagramme.
- (2) Discuss Neo-pentyl effect.
- (3) Discuss Allylic- rearrangement.

- (4) Discuss solvent effect on SN^1 & SN^2 reaction mechanism.
- (5) Discuss SNi reaction mechanism.
- (6) Discuss Neighbouring group – participation.
- (7) Discuss E_1Cb reaction mechanism.
- (8) Discuss Substitution verses Elimination reaction.

Questions for Short Answer:

- (1) Define : Ambient Nucleophile with example.
- (2) Define : Polar – Solvent with example.
- (3) Which product is obtained when Neo-pentyl bromide heated with hot alcohol?
- (4) What is racemic product ?
- (5) Write reactivity order of halide ion towards SN^2 reaction.
- (6) Write reactivity order of Alkyl halide towards SN^1 reaction.

Unit-IV Carbohydrate:

Questions for long Answer:

1. What is carbohydrate? Give its classification and give examples of disaccharides.
2. Prove that Maltose contains two glucose units having pyranose ring.
3. Prove that $C_1—O—C_4$, α - linkage present in Maltose with reaction.
4. Prove that cellobiose contains two glucose units having pyranose ring.
5. Prove that $C_1—O—C_4$, β - linkage present in cellobiose with reaction.
6. Which two monosaccharide present in lactose and prove that both are having pyranose ring.
7. Prove that $C_1—O—C_4$, β - linkage present in lactose with reaction.
8. Which two monosaccharide present in sucrose and prove the ring type of these two monosaccharide.
9. Prove that sucrose contains glucose and fructose units possessing $C_1—O—C_2$ linkage.

Questions for Short Answer:

1. Which enzyme gives Maltose from starch on hydrolysis?
2. Maltose is made up of which monosaccharides?
3. Which glycosidic linkage present in Maltose?
4. Which type of ring present in monosaccharides of Maltose?
5. Molecular formula of Cellobiose?
6. Cellobiose is made up of which monosaccharides?
7. Which glycosidic linkage present in Cellobiose?
9. Which type of ring present in monosaccharides of Cellobiose?
10. Molecular formula of lactose?
11. Lactose is made up of which monosaccharides?
12. Which glycosidic linkage present in Lactose?
13. Which type of ring present in monosaccharides of lactose?
14. Molecular formula of Sucrose?
15. Sucrose is made up of which monosaccharides?
16. Which glycosidic linkage present in Sucrose?
17. Which type of ring present in monosaccharides of Sucrose?

