Gurudas College

Department of Chemistry

Internal Assessment 2020

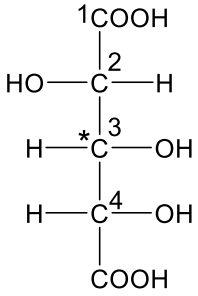
SEM-I

Paper CC-1-2 and 1B

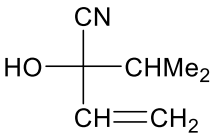
Date-03.03.2021 F.M.- 10

Answer any ten questions. (1x10=10)

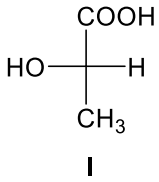
1. Draw the Newman projection formula of Mesotartaric acid in the anti-form.
2. Designate the marked center (C-3) of the following compound as stereogenic/nonstereogenic, chirotopic/achirotopic.



3. Assign R/S descriptor of the following molecule.



4. Define nonclassical carbocation.
5. Which of the following compounds is optically active and why?



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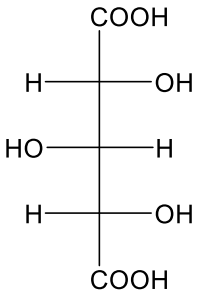
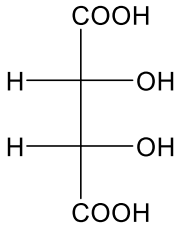


II



III

6. Define collision flux.

7. Write down the three dimensional velocity distribution equation of a gas.

8. Write down the mathematical expression of most probable speed of a gas molecule.

9. What does impact mean?

10. Write down the mathematical form of molar heat capacity of a gas at constant volume.

11. Write down the unit of rate constant for a second order reaction.

12. Draw the rate verses concentration of reactant plot for a first order reaction.

13. Give an example of Pseudo-first order reaction.

14. In a single plot show approximate variation of concentration of [A], [B], [C] with time for the following consecutive reaction, $A \rightarrow B \rightarrow C$.

15. Give the dimension of coefficient of viscosity.