

Quadrant IV – Assessment (Module –wise)

Programme: T.Y.B.Sc.(Chemistry)

Subject: Chemistry

Paper Code: CHC 107

Paper Title: Core Course Organic Chemistry

Unit: 01- Aromaticity, Aromatic hydrocarbons and Reactivity

Module Name: Deactivating groups

Module No: 08

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➤ Choose the correct alternative from the following:-

1) Identify the electron-withdrawing group from the following:

- a) $-\text{CH}_3$
- b) $-\text{NH}_2$
- c) $-\text{SO}_3\text{H}$
- d) $-\text{OCH}_3$

2) Identify which compound will be less reactive towards electrophilic aromatic substitution reaction:

- a) Methylbenzene
- b) Chlorobenzene
- c) Methoxybenzene
- d) Nitrobenzene

3) Identify which of the following is a meta director:

- a) $-\text{CN}$
- b) $-\text{CH}_3$
- c) $-\text{OC}_2\text{H}_5$
- d) $-\text{NHR}$

4) Which of the following compounds is the least reactive towards electrophilic aromatic substitution reaction?

- a) Benzene
- b) Phenol
- c) Ethylbenzene
- d) Benzaldehyde

➤ Answer the following questions: -

- 1) Name any two strongly deactivating groups.
- 2) Name any two weakly deactivating groups.
- 3) What are deactivating groups?
- 4) Why is the nitro group a meta director?
- 5) Why is $-\text{COOH}$ a deactivating group?
- 6) Write the following deactivating groups in order of increasing deactivating strength: $-\text{CN}$, SO_3H , $-\text{Cl}$, $-\text{CHO}$
- 7) Why $-\text{Cl}$ is categorized under a weakly deactivating group?

➤ Complete the following reactions: -

