

Seat No. : _____

NG2-110

December-2015

M.Sc., Sem.-III

**CHE(O) 504 : Chemistry : Organic
(Industrial Chemistry)**

Time : 3 Hours]

[Max. Marks : 70

1. (a) Write a note on importance of “flow chart” in industry. 7

OR

Discuss the importance of patents in R & D.

- (b) Write a note on safety rules of fire and handling of hazardous chemicals. 7

OR

Write a note on “GLP” and “GMP”.

2. (a) Discuss the factors affecting on nitration reaction. Give importance of nitration for preparation of explosives. 7

OR

Write a brief note on factor affecting on amination. Discuss amination by reduction and ammonolysis.

- (b) Enlist various chlorinating agents. Give importance of chlorination for preparation of various intermediates. 7

OR

Discuss sulphonation of α -Naphthol, β -Naphthol and Naphthalene, and at various concentration of H_2SO_4 and temperature.

3. (a) Write a brief note on 12 principles of green chemistry. 7

OR

Discuss Michael and Diels-Alder reaction on the basis of green chemistry.

- (b) Write a note on O-alkylation and N-alkylation. 7
- OR**
- Discuss Witting-Horner and Wurtz reaction on the basis of green chemistry.
4. (a) Write a note on weedicides and fungicides. 7
- OR**
- Discuss various types of distillation.
- (b) Write a note on plant nutrients and plant hormones. 7
- OR**
- Discuss various types of filtration. 7
5. Answer the following : (Each carry **one** mark) 14
- (i) Reaction between water and NaOH is exothermic or endothermic ?
 - (ii) How will you separate aniline from mixture of aniline-benzaldehyde ?
 - (iii) What is extraction ?
 - (iv) Ammonia is mixed with water, is absorption or adsorption phenomenon ?
 - (v) Bromination of acetanilide at below 10°C will give ____ isomer as major product.
 - (vi) Define solid phase reaction.
 - (vii) Why direct fluorination by F₂ is difficult in organic compounds ?
 - (viii) Why grinding is required in industry ?
 - (ix) Which product will form if chlorination of Benzene is carried out by Cl₂ in presence of UV-light ?
 - (x) Which major isomer will form if F. C. alkylation of toluene is carried out by CH₃Cl in presence of AlCl₃ ?
 - (xi) Write criteria of solvent selection for crystallization.
 - (xii) What is pesticides ?
 - (xiii) Why acetic acid is used for bromination of acetanilide ?
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