

**B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, APRIL 2016****Fourth Semester****Core Course—BASIC ORGANIC CHEMISTRY—I**

(Common for B.Sc. Chemistry Model I, II, B.Sc. Petrochemicals and B.Sc. Chemistry Environment and Water Management)

[2013 Admission onwards]

Time : Three Hours

Maximum Marks : 60

**Section A**

*Answer all questions.  
Each question carries 1 mark.*

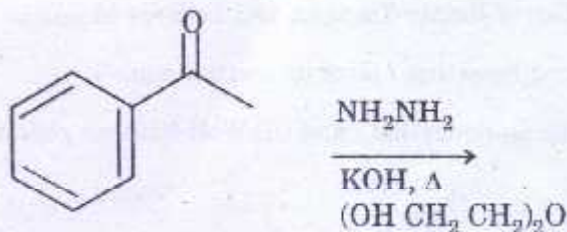
1. Give the structure of resorcinol.
2. What is the basis of Zeisel's method ?
3. What is Benedict's reagent ?
4. What is the product formed in the reaction,  $\text{CH}=\text{CH} \xrightarrow[\text{H}_2\text{O}]{\text{HCN}}$
5. How is urethane prepared ?
6. What is Grignard reagent ?
7. Give one synthetic use of malonic ester.
8. Name the isomeric form of anthracene.

(8 × 1 = 8)

**Section B**

*Answer any six questions.  
Each question carries 2 marks.*

9. Explain Iodoform test.
10. What is the reaction of glycol with periodic acid ? Explain with equation.
11. Predict the product and explain :



Turn over

12. Explain demmensen reduction with suitable example.
13. Explain any *two* reaction for distinguishing aldehydes and ketones.
14. Explain the HVZ reaction.
15. Explain the reason why carboxylic acids are stronger than alcohols even though they are weaker than the common mineral acids.
16. Give one method for the preparation of anthranilic acid. Write equations.
17. Point out one synthetic applications of cyanoacetic ester with equation.
18. Give *one* method for the preparation of thiourea.

(6 × 2 = 12)

### Section C

*Answer any four questions.*

*Each question carries 4 marks.*

19. Explain Pincot pinacolone rearrangement with mechanism.
20. Write a note on claisen rearrangement.
21. Briefly explain the preparation and uses of benzene-sulphonic acid.
22. Explain the basicity of guanidine.
23. Discuss the reaction of an epoxide with Grignard reagent and  $\text{CH}_3\text{OH}$  with equations.
24. Write a note on the structure of carboxylate ion.

(4 × 4 = 16)

### Section D

*Answer any two questions.*

*Each question carries 12 marks.*

25. (a) Explain the preparation and uses of ; (i) Picric acid (ii) Catechol (iii) resorcinol ; and (iv) quinol.  
(b) Give the mechanism of Reiner-Tienann and Lederer Mannase reaction.
26. (a) What is Benzoin condensation ? Give its mechanism.  
(b) Explain : (i) Perkin condensation ; and (ii) Wolf-Kishner reduction.



27. (a) Explain the effect of substituents on the acidity of aromatic carboxylic acids.
- (b) Briefly describe ; (i) Mechanism of decarboxylation ; (ii) Importance of acid chlorides.
28. (a) How will you prepare the following ?
- (i) Anthranilic acid from naphthalene.
  - (ii) Acrylic acid from acetylene.
  - (iii) Oxalic acid.
- (b) What is the action of heat on the following ?
- (i) Oxalic acid.
  - (ii) Maleic acid.
  - (iii) Adipic acid.

(2 × 12 = 24)