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Name.....

Reg. No.....

**THIRD SEMESTER (CBCSS—UG) DEGREE EXAMINATION  
NOVEMBER 2022**

Chemistry, Industrial Chemistry, Polymer Chemistry

CHE 3C 03—ORGANIC CHEMISTRY

(2019 Admission onwards)

Time : Two Hours

Maximum : 60 Marks

**Section A (Short Answers)***Answer questions up to 20 marks.**Each question carries 2 marks.*

1. What are electrophiles ? Give two examples.
2. Among ethyl and isopropyl carbocation, which is more stable ? Why ?
3. What do you meant by chirality?
4. What are meso compounds ?
5. Using Huckel's rule predict the aromaticity of pyrrole.
6. Which is more acidic, phenol or *p*-nitrophenol ? Why ?
7. What is Sandmeyer reaction ?
8. How will you prepare amines from nitro compounds ?
9. Aniline is less basic than methyl amine. Why ?
10. What are nucleotides ?
11. What is vulcanisation ? What is its advantage ?
12. What are alkaloids ? Give examples.

(Ceiling of marks : 20)

**Section B (Short Answers)***Answer questions up to 30 marks.**Each question carries 5 marks.*

13. Discuss the optical isomerism in lactic acid and tartaric acid.
14. Explain the mechanism of Friedel Craft's alkylation of benzene.

**Turn over**

15. Discuss the molecular orbital description for the structure of benzene.
16. Discuss the mechanism of  $S_N1$  reaction of alkyl halides.
17. How phenolphthalein is prepared? What is its use?
18. Explain the preparation of methyl orange. What is its use?
19. What is Hofmann's carbylamine reaction?

(Ceiling of marks : 30)

**Section C (Essay)**

*Answer any **one** question.  
The question carries 10 marks.*

20. What are electron displacement effects? Using suitable examples, explain in detail these effects.
21. (a) Write notes on 1°, 2°, and 3° and quaternary structure of proteins.  
(b) What do you mean by denaturation of proteins?

(1 × 10 = 10 marks)