REV-01 BPH/92/31/36 2023/12

SET В

Full Marks: 75

B. PHARM. THIRD SEMESTER PHARMACEUTICAL ORGANIC CHEMISTRY-II BP301T

Duration: 3 hrs.

[USE OMR FOR OBJECTIVE PART]

PART-A: Objective

Time: 30 min.

Marks: 20

 $1 \times 20 = 20$

Choose the correct answer from the following:

a. Br2/CCl4

1. To prepare mono substituted cycloalkane which reagents is used b. Cl2/CCl4

c. UV light/CCl4

d. HBr

Which among these is the simplest example for polynuclear hydrocarbon??

a. Pyrene

b. Dibenzoanthracene

c. Naphthalene

d. Benzacephenanthyrlene

Which one of the following is act as a meta orienting group?

a. CH

b. OH

c. CHO

Which of the following is true for the basicity of amines?

a. Alkylamines are generally less basic than arylamines because N is sp hybridised.

b. Arylamines are generally more basic than alkylamines due to aryl group.

c. Arylamines are generally less basic than alkylamines due todelocalisation of lone pair of electrons in the benzene ring.

d. Alkylamines are generally less basic than arylamines because lone pair of electrons on N in the arylamines are not delocalised in the benzene ring.

Which one of the following is act as a ortho-para orienting group?

a. COOH

b. NO2

c. OH

d. CN

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Which of the following is the molecular formula of palmitic acid?

a. C₁₃H₂₇COOH

b. C₁₇H₃₅COOH

c. C₁₅H₃₁COOH

d. C₁₇H₂₉COOH

Which of the following is an unsaturated fatty acid

a. Stearic acid

b. Palmitic acid

c. Oleic acid

d. All of these

Carboxylic acid of alcohol can be converted into primary alcohol by

a. Oxidation using KMNO4

b. Reduction using LiAlH₄

c. Hydrolysis using NaOH

d. Ester formation

| 9. | Carbonation of Grignard reagent leads to t a. Alkyl halide c. Aldehyde | he synthesis of b. Carboxylic acid d. Ketone | |
|-----|---|--|--|
| 10. | Effect of the para-CH3 group on the acidity a. Increase c. No effect | y of benzoic acid b. Decrease d. Strongly increase | |
| 11. | Carboxylic acid is more acidic than alcoho a. Intermolecular hydrogen bonding c. None | I and phenol due tob. Formation of diammersd. Resonance stabilization of their conjugated base | |
| 12. | In an organic reaction as a product if you g then which of the following reaction may a. Nitration of benzene c. Friedel crafts alkylation | you get toluene (an alkylbenzene) from benzene may happened? b. Sulphonation of benzene d. Friedel crafts acylation | |
| 13. | Naphthalene on oxidation with CrO ₃ /CH a. 1,2-Naphthoquinone c. 1,4-naphthoquinone | aOOH gives b. 1,3-naphthoquinone d. No reaction | |
| 14. | When an atom loses or donates its electronatom in this condition? a. Positive c. Both | n due to resonance which sign arise on that b. Negative d. Delta negative | |
| 15. | Which one of the following is act as a new a. K*c. SO3 | cleophile b. CN- d. None of the above | |
| 16. | Which one of the following is act as an eld a. N02* c. CI | ectrophile b. H2O d. All of these | |
| 17. | Which one is more electronegative a. F c. N | b. O d. C | |
| 18. | Phenols are derivative of- a. Benzene c. Alkynes | b. Alkanesd. Alkenese jogir | |
| 19 | Electron withdrawing substituents?a. Stabilise the phenoxide ion and increase the acidity of phenol.c. Stabilise the phenoxide ion and neutralise the acidity of phenol | b. Stabilise the phenoxide ion and decrease the acidity of phenold. None of above. | |
| 20 | Phenol is less acidic than a. Ethanol c. p-nitrophenol | b. p-methoxyphenold. Both a and b | |
| | | 2 USTM/COE/R-01 | |

PART-B: Descriptive

Time: 2 hrs. 30 min. Marks: 35 [Answer any seven (7) questions] 5 Explain the following key terms with example (reactions) a) Hydrolysis of fat. b) Hydrogenation of fat. 2. Write the synthetic uses of Aryl-di-azonium salt. 5 5 Write the reactions with mechanisms about Friedel crafts alkylation? What is the limitations of it? 4. Explain briefly - Resonance of benzene 5 5 5. Write the structure and uses of phenol, cresols andnaphthols. Mention any two qualitative test for phenol. Explain bayer strain theory with limitations. 5 6. 5 7. Explain a) Acid value b) Saponification value c) Ester value 5 Write notes on polynuclear hydrocarbon with example and classification of polynuclear hydrocarbon? 5 What is Coulson and Moffitt's modification in cycloalkane and Sachse Mohr's theory?

(PART-C: Long type questions)

[Answer any two (2) questions]

| | 3 | |
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| 1. | Give brief notes on structure of amine. Explain the Methods of preparation of amine. Write the basicity of amine with their effect on substituents. | 10 |
| 2. | Write the reactions with mechanisms a. Nitration of benzene b. Sulphonation of benzene c. Halogenation of benzene | 10 |
| 3. | Write the structure and three uses a. Saccharine b. DDT c. BHC d. Chloramine | 10 |