

Roll No

**RE-APPEAR, EXAMINATION
DEC, 2024**



Course Code : BP301T Course Name: Pharmaceutical Organic Chemistry II
Programme Name: B.Pharm. III Max Marks : 75

K.R. MANGALAM UNIVERSITY
THE COMPLETE WORLD OF EDUCATION

Instructions: The question paper consists of 32 questions divided into three-part A, B and C. Attempt all questions from section-A comprises 20 MCQs, Any seven questions out of Nine from section-B and Any two questions out of three from section-C

Section-A (20 X 1 = 20 Marks)

Q1	Q1. All carbon atoms in Benzene are: a) sp hybridized b) sp^3 hybridized c) sp^2 hybridized d) None of these	CO3
Q2	Q2. In chlorination of benzene, $FeCl_3$ is used to generate a) Cl^- b) Cl^+ c) Cl_2 d) HCl	CO1
Q3	Q3. Ester of long chain of alcohols and long chain acids are classified as: a) Glycerides b) Fats c) Steroids d) Waxes	CO4
Q4	Q4. What distinguishes fats and oils from each other? a) The structure of the fatty acid produced on hydrolysis b) The rate of base-prompted hydrolysis c) Their melting points d) The presence of aromatic rings on the side-chain	CO4
Q5	Q5. The $-OH$ group deactivates the benzene ring towards electrophilic aromatic substitution. At which ring position is this deactivation least effective? a) Ortho b) Meta c) Para d) Ortho and para	CO2
Q6	Q6. Which acid is weaker than benzoic acid? a) <i>p</i> -Methylbenzoic acid b) <i>p</i> -Chlorobenzoic acid c) <i>p</i> -Nitrobenzoic acid d) <i>o</i> -Chlorobenzoic acid	CO2
Q7	Q7. Which of the following is strongest acid? a) Phenol b) Acetic acid c) Trichloroacetic acid d) Benzoic acid	CO1
Q8	Q8. When phenol is treated with neutral $FeCl_3$ solution, it develops a) Yellow colour b) Violet colour c) Green colour d) Nothing happens	CO1

Q9	Q9. Number of milligrams of KOH required to neutralize 1gm of fat is..... a) Saponification Number b) Acid number c) Iodine number d) Potassium number	CO1
Q10	Q10. Benzoyl chloride on basic hydrolysis (NaOH/H ₂ O) gives: a) Benzoic acid b) Methyl benzoate c) Sodium benzoate d) Ethyl benzoate	CO2
Q11	Q11. Which statement about the structure of benzene is not true? a) The two Kekulé structures of benzene are in equilibrium. b) The carbon bond length in benzene is greater than the carbon-carbon double bonds in aliphatic compounds. c) The molecular geometry of benzene is best described as planar. d) The stability of benzene ring is much greater than the stability of 1,3,5-Cycloheptatriene.	CO1
Q12	Q12. Naphthalene undergoes nitration with HNO ₃ /H ₂ SO ₄ at 60°C to give mainly a) 1-Nitronaphthalene b) 1,2-Dinitronaphthalene c) 2-Nitronaphthalene d) 1,5-Dinitronaphthalene	CO3
Q13	Q13. Which of the following statements is true: a) o-nitrobenzoic acid is more acidic than p-nitrophenol b) o-nitrobenzoic acid is less acidic than p-nitrophenol c) o-nitrobenzoic acid and p-nitrobenzoic acid have the same acid strength d) None of these statements is true	CO2
Q14	Q14. Sodium or potassium salts of fatty acids are called: a) Proteins b) Terpenes c) Carbohydrates d) Soaps	CO5
Q15	Q15. Fats and oils are: a) Monoesters of glycerol b) Diesters of glycerol c) Triesters of glycerol d) Diesters of glycerols	CO4
Q16	Q16. Which of the following is an electron-releasing group? a) -OCH ₃ b) -NO ₂ c) -Br d) -COOH	CO2
Q17	Q17. How many resonance structures are there for naphthalene? a) 5 b) 4 c) 3 d) 2	CO2
Q18	Q18. Which of the following statements is false about cyclohexane? a) It is a saturated cyclic hydrocarbon. b) All C-C-C bond angles are 109° 28'. c) It is very unstable, a strained compound. d) It can exist in two conformations which are designed as the boat-form and chair-form.	CO1
Q19	Q19. Aromatic amines are weaker bases than simple aliphatic amines because of a) The steric size of the alkyl group in aliphatic amines b) Resonance effect c) Transition state structures d) Inductive effect	CO1

Q20	Q20. How many resonating structure benzene have? a) 2 b) 3 c) 5 d) 7	CO1
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Section C (2 X 10 = 20 Marks)

1	Q1. What are aromatic acids. Explain the effect of substituents on acidity with method of preparation and chemical properties of benzoic acid	CO1
2	Q2. What are cycloalkanes? Write its chemical properties. Explain Bayer strain theory with limitations.	CO3
3	Q3. Explain the effects of substituents on the reactivity and orientation of monosubstituted benzene. Write a note on chemical properties of Benzene	CO2

Section B (7 X 5 = 35 Marks)

1	What is Huckel rule? Write the structure of the two compounds that follow this rule. Give uses of DDT and saccharin.	CO1
2	Write a note on Aromatic amine. Explain basicity of amines	CO2
3	Discuss qualitative test of Phenols and Amines	CO2
4	Write structure and medicinal uses of Naphthalene.	CO3
5	Explain physical and chemical properties of Fats and Oils	CO3
6	What are polynuclear aromatic hydrocarbons? Write classification.	CO4
7	Why alcohols are less acidic than Phenols. Explain with the help of resonance structure.	CO2
8	Write a note on saponification value and Acid value with its significance.	CO5
9	Write a note on Reichert Meissl (RM) value – significance and principle involved in their determination.	CO2