DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

End Semester Examination – Winter 2022

Date: 29/12/2022

Course	**: B. Pharmacy**	**Sem: III**	
Subject Name	**: Pharmaceutical Organic Chemistry-II**	**Subject Code:**	**BP301T**
Max Marks	**: 75**	**Duration**	**: 3 Hr.**

Instructions:

1. **All questions are compulsory**
2. **Draw Structres/ diagrams / figures wherever necessary**
3. **Figures to right indicate full marks**

Q. 1. Objective Type Questions (Answer all the questions) **(10 x 2) = 20**

i) Give Structure and uses of DDT.

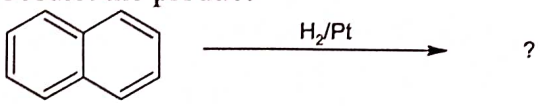
ii) Define Acid Value and give its significance.

iii) Write Structure and uses of Resorcinol.

iv) Write down qualitative test for phenol.

v) Write Huckle rule for aromaticity with suitable example.

vi) Predict the product



vii) Give any two reactions of benzoic acid.

viii) Discuss structure and medicinal uses of Naphthalene.

ix) Write any two methods for preparation of diphenylmethane.

x) Write down the structure and give numbering to the derivatives of naphthalene and Anthracene

Q. 2. Long Answers (Answer 2 out of 3) **(2 x 10) = 20**

i) Define fats and oils with example and give difference between them. Explain Hydrolysis, Hydrogenation and Rancidity reactions of fats.

ii) What are condensed polynuclear hydrocarbon. Write down Haworth synthesis of Anthracene and any two-chemical reaction of it. Draw the structure of derivatives of it along with uses.

iii) What is Friedel craft reaction. Explain in detail Friedel Crafts alkylation and acylation. Give its limitations.

Q. 3. Short Answers (Answer 7 out of 9) **(7 x 5) = 35**

i) What are activating & deactivating groups?

ii) Explain reaction and mechanism of nitration, halogenation and sulphonation in benzene.

iii) Write down about effect of substituents on acidity of phenol. Give synthetic uses of aryl diazonium salt.

iv) Give analytical and synthetic evidences in the derivation of structure of benzene.

v) Explain electrophilic substitution in diphenylmethane. Give its uses.

vi) Write Electrophilic substitution reaction of phenanthrene.

vii) Discuss Baeyer's Strain theory.

viii) Give reactions of cyclopropane and cyclobutane.

ix) Explain the basicity of aromatic amine

------END OF THE PAPER------

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

End Semester Examination – Winter 2022

Date: 13/02/2023

Course:	**Second Year B. Pharmacy**	**Sem:**	**III**
Subject Name:	**Physical Pharmaceutics I**	**Subject Code:**	**BP302T**
Max Marks:	**75**	**Duration:**	**3 Hr.**

Instructions:

1. **All questions are compulsory**
2. **Draw diagrams / figures wherever necessary**
3. **Figures to right indicate full marks**

Q. 1. Objective Type Questions (Answer all the questions) **(10 x 2) = 20**

i) Give any four ways to express solubility of a drug.

ii) Define critical solution temperature. Give its applications.

iii) Define – desublimation, polymorphism, vapour pressure, latent heat

iv) Differentiate crystalline and amorphous solid.

v) Why interfacial tension is less than surface tension?

vi) Explain HLB scale.

vii) Give pharmaceutical applications of complexation.

viii) Give importance of protein binding.

ix) Write buffer equation and buffer capacity.

x) Define isotonic solution and paratonic solution.

Q. 2. Long Answers (Answer 2 out of 3) **(2 x 10) = 20**

i) Write in detail about Raoult's law with help of following point,
a) statement of law, b) ideal solution and real solution,
c) positive deviation d) negative deviation

ii) Describe refractive index property of drug molecule. Explain various refractometers used to determine refractive index in detail.

iii) Describe in detail methods of analysis of complex.

Q. 3. Short Answers (Answer 7 out of 9) **(7 x 5) = 35**

i) Explain in detail various factors affecting solubility of gases in liquid.

ii) What is liquid crystal? Write its classification with properties of it. Give its applications.

iii) Define aerosol dosage form. Give its merit and demerits. Explain propellant used in aerosol.

iv) Explain spreading coefficient along with applications.

v) Describe in detail about capillary rise method for determination of surface

tension.

vi) Write in detail about factors affecting protein binding.

vii) Describe Sorensen's pH scale. Explain sodium chloride equivalent method for the adjustment of tonicity.

viii) Write a detail note on buffers.

ix) Write a note on adsorption isotherm for solid surface adsorption.

------END OF THE PAPER------

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

End Semester Examination – Winter 2022

Date:

Course:	**B. Pharmacy**	**Sem:**	III
Subject Name:	Pharmaceutical Engineering	**Subject Code:**	BP304T
Max Marks:	**75**	**Duration:**	**3 Hr.**

Instructions:

1. **All questions are compulsory**
2. **Draw diagrams / figures wherever necessary**
3. **Figures to right indicate full marks**

Q. 1. Objective Type Questions (Answer all the questions) **(10 x 2) = 20**

i) What is Reynold's number? Give its importance.

ii) What are heat exchangers. Give their types.

iii) Define evaporation. Classify evaporators.

iv) Give the applications of drying.

v) Describe the modes of size reduction.

vi) Differentiate between solid mixing and liquid mixing.

vii) Write the advantages and disadvantages of plastics as material of construction.

viii) Explain the term pitting corrosion and galvanic corrosion.

ix) Explain the mechanism of filtration.

x) State Fourier's law with equation.

Q. 2. Long Answers (Answer 2 out of 3) **(2 x 10) = 20**

i) Define Centrifugation. Classify centifuges with suitable examples. Discuss in detail on perforated basket centrifuge.

ii) Write the advantages of size reduction. Discuss the factors affecting selection of a mill for size reduction.

iii) Classify distillation. Explain the principle, construction, working and applications of molecular distillation.

Q. 3. Short Answers (Answer 7 out of 9) **(7 x 5) = 35**

i) Explain in detail about short tube evaporator.

ii) With the help of neat labelled diagram explain fluidised bed dryer.

iii) Write the theory of vortex formation and give its prevention methods.

iv) Discuss on the various modes of size separation.

v) What are filter aids? Why are the used. Enlist the filter aids used in pharmacy practice.

vi) Classify materials of construction. Discuss about various types of ferrous metals used.

vii) Describe the various modes of heat transfer with suitable examples.

viii) Explain the factors influencing mixing of solids. Write the principle of planteraty mixer

ix) Explain with the help of diagram the construction and working of a Hammer mill

------END OF THE PAPER------