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Course: B.Pharm
Sub_Code: BP301T

Total Number of Pages : 02

3rd Semester Regular/Back Examination: 2022-23
PHARMACEUTICAL ORGANIC CHEMISTRY II
BRANCH(S): B.Pharma

Time : 3 Hour
Max Marks : 75
Q.Code : L697

Answer Question No.1 (Part-1) which is compulsory, any Seven from Part-II and any two from Part-III.

The figures in the right hand margin indicate marks.

- Part-I**
- Q1** Answer the following questions : (2 x 10)
- What is drying of oil?
 - What is Reichert- Meissl value?
 - Write the structure and uses of DDT and BHC.
 - Write any two Qualitative tests for Phenol.
 - Give an account on Huckel's rule of aromaticity.
 - Which one is more acidic Salicylic acid and Nitro benzoic acid?
 - What do you mean Rancidity of oils?
 - Brief out on reduction reaction of phenanthrene.
 - Explain why the Electron donating group acts as an ortho para director?
 - Difference between an oil and fat.

- Part-II**
- Q2** Focused-Short Answer Type Questions- (Answer Any Seven) (5 x 7)
- Explain the Friedel crafts alkylation of benzene.
 - Discuss two different methods of synthesis of Anthracene.
 - Write a note on Sachse Mohr's theory.
 - Write a note on diazonium salts.
 - Brief out on the hydrolysis and hydrogenation of fats and oils.
 - Give any five chemical reactions of Benzoic acid.
 - Explain any two reactions of each of Cyclopropane and Cyclobutane.
 - Brief out the tests to differentiate primary, secondary and tertiary amines.
 - Define Saponification value. Give the principle involved in the determination of Saponification value and give its significance.

- Part-III**
- Long Answer Type Questions (Answer Any Two)**
- Q3** Discuss the reaction & mechanism of Aromatic electrophilic substitution reactions. Give account on Nitration & Halogenations of Benzene. (10)



- Q4 Explain the stability of cyclo alkanes on the basis of Bayer strain theory and brief out its limitations.
- Q5 Define & classify Polynuclear hydrocarbons. Enumerate the synthesis and reactions of naphthalene.
- Q6 Outline any two preparations and three reactions of Phenol. Explain the acidity of Phenol.

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Course: B.Pharm
Sub_Code: BP302T

3rd Semester Regular/Back Examination: 2022-23
SUBJECT: Physical Pharmaceutics-I
BRANCH(S): Pharmacy

Time : 3 Hour

Max Marks : 75

Q.Code : L698

Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from Part-III.

The figures in the right hand margin indicate marks.

Part-I

(2 x 10)

Q1 Answer the following questions :

- Define the term solubility.
- Differentiate between ideal and real solution.
- State polymorphism and its application.
- Write down the Henderson-Hasselbalch equation for weak acid and weak base.
- What is HLB? Write any two importance of HLB.
- Define surface active agents with suitable example.
- Explain about sublimation.
- What is Sorensen's pH scale?
- Mention the physicochemical properties of the drug molecules.
- Differentiate between surface and interfacial tension.

Part-II

Q2 Focused-Short Answer Type Questions- (Answer Any Seven)

(5 x 7)

- Write notes on "Liquid Crystal" and glassy state.
- Write a detailed note on spreading coefficient.
- What is buffer? Write about the determination of buffer capacity.
- Describe the diffusion principles in biological systems
- What is BET equation? Write different types of isotherms.
- Narrate basic principle of aerosol.
- Define refractive index. Explain any one procedure to determine it.
- What are Chelates? write its usefulness in pharmacy
- Classify the drug Complexation

Part-III

Long Answer Type Questions (Answer Any Two)

Q3 Discuss in detail of Raoult's law and its deviations.

(10)



- Q4 What is universal gas law, derive it. (10)
- Q5 Enlist the methods used to measure the surface and interfacial tensions. Explain any one in detail. (10)
- Q6 Explain the kinetic of drug-protein binding. Write down its significance. (10)

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B. Pharm
BP303T

3rd Semester Regular/Back Examination: 2022-23
SUBJECT : PHARMACEUTICAL MICROBIOLOGY
BRANCH: B. Pharma

Time : 3 Hour

Max Marks : 75

Q. Code : L699

Answer Question No.1 (Part-1) which is compulsory, any seven from Part-II and any two from Part-III.

The figures in the right hand margin indicate marks.

Part-I

(2 x 10)

Q1 Answer the following questions :

- Discuss about the nutritional requirements for bacteria.
- Why for pour plate method is carried out in pharmaceutical microbiology?
- Mention the various components of nutrient broth.
- Draw a neat flow diagram of aseptic area.
- Differentiate between antiseptics and disinfectants.
- Name any four Gram positive and Gram negative bacteria.
- Write down the various steps involved in 'assessment of a new antibiotic'.
- Define HEPA and mention its efficiency.
- Give few examples of preservatives used in pharmacy.
- Name four different methods for quantitative measurement of bacterial growth.

Part-II

(5 x 7)

Q2 Focused-Short Answer Type Questions- (Answer Any Seven)
Discuss briefly on the followings :

- Bacterial growth curve.
- Sterility indicators used in pharmacy.
- Gram's staining.
- Identification of bacteria using IMVIC tests.
- Classify clean area according to ISO guideline.
- Differentiate between light and Electron microscopy.
- Classification and mode of action of various types disinfectants.
- Factors influencing disinfection.
- Replication of virus.

Part-III

Long Answer Type Questions (Answer Any Two)

- Q3** Define sterilization. Discuss in details about the principle, procedure, merits, demerits and applications of physical method of sterilization. **(10)**
- Q4** Discuss briefly about the principles and various methods of microbiological assay for antibiotics. **(10)**
- Q5** Differentiate between prokaryotes and eukaryotes using various features of them. **(10)**
- Q6** What is cell culture and mention its importance? Explain in details about the general procedure for cell culture. **(10)**

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3rd Semester Regular/Back Examination: 2022-23
SUBJECT: PHARMACEUTICAL ENGINEERING
BRANCH: B.Pharma

Time : 3 Hour

Max Marks : 75

Q. Code : L700

Answer Question No.1 (Part-1) which is compulsory, any seven from Part-II and any
from Part-III.

The figures in the right hand margin indicate marks.

Part-I

Q1

Answer the following questions :

- Differentiate between drying and evaporation.
- Discuss about azeotropic mixtures with example.
- Define thermal conductivity. Mention its SI unit.
- Differentiate between laminar and turbulent flow.
- What is the difference between sedimentation and elutriation?
- Explain the principle behind centrifugal separation.
- What is Reynolds number and how is it dimensionless?
- What are filter aids? Give two examples.
- What are the different types of glasses used in pharmaceutical industries?
- What are 'Grey bodies'? How do they radiate heat?

(2 x 14)

Part-II

Q2

Focused-Short Answer Type Questions- (Answer Any Seven)

- Enumerate the differences between orifice and venturimeter.
- Describe bag filter and what is its use in pharmaceutical industry?
- Explain various factors influencing evaporation.
- Explain principle, construction and uses of planetary mixer.
- Describe construction and working of ball mill.
- How multiple effect evaporators are more economical?
- What kind of energy losses a fluid experiences during its flow through a pipe?
- What are the differences between simple and fractional distillation?
- What are the drawbacks and remedies of vortex formation?

(5 x 14)

Part-III

Long Answer Type Questions (Answer Any Two)

- Q3 With the neat sketch, describe principle, construction, working, advantages and disadvantages of rotary drum filter. (10)
- Q4 Describe the principle, construction, working, advantages and disadvantages of multi-pass heater. (10)
- Q5 Write in detail on principle, construction, working, advantages and disadvantages of freeze dryer. (10)
- Q6 What is corrosion? Mention its types. How can it be prevented? (10)