Registration No : | | | | | | | | | | |

Total Number of Pages : 02 **Course: B.Pharm**
Sub_Code: BP301T

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)**

a) What is drying of oil?
b) What is Reichert- Meissl value?
c) Write the structure and uses of DDT and BHC.
d) Write any two Qualitative tests for Phenol.
e) Give an account on Huckel's rule of aromaticity.
f) Which one is more acidic Salicylic acid and Nitro benzoic acid?
g) What do you mean Rancidity of oils?
h) Brief out on reduction reaction of phenanthrene.
i) Explain why the Electron donating group acts as an ortho para director?
j) Difference between an oil and fat.

Part-II

Q2 **Focused-Short Answer Type Questions- (Answer Any Seven)** **(5 × 7)**

a) Explain the Friedel crafts alkylation of benzene.
b) Discuss two different methods of synthesis of Anthracene.
c) Write a note on Sachse Mohr's theory.
d) Write a note on diazonium salts.
e) Brief out on the hydrolysis and hydrogenation of fats and oils.
f) Give any five chemical reactions of Benzoic acid.
g) Explain any two reactions of each of Cyclopropane and Cyclobutane.
h) Brief out the tests to differentiate primary, secondary and tertiary amines.
i) 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 electrophlic 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.	**(10)**
Q5	Define & classify Polynuclear hydrocarbons. Enumerate the synthesis and reactions of naphthalene.	**(10)**
Q6	Outline any two preparations and three reactions of Phenol. Explain the acidity of Phenol.	**(10)**

Registration No : | | | | | | | | | | |

Total Number of Pages : 02 **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

Q1 **Answer the following questions :** **(2 x 10)**

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

Part-II

Q2 **Focused-Short Answer Type Questions- (Answer Any Seven)** **(5 × 7)**

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

Part-III

Long Answer Type Questions (Answer Any Two)

Q3 Discuss in detail of Raoult's low 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)**

Registration No : | | | | | | | | | | |

Total Number of Pages : 02 **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

Q1 **Answer the following questions :** **(2 x 10)**

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

Part-II

Q2 **Focused-Short Answer Type Questions- (Answer Any Seven)** **(5 × 7)**
Discuss briefly on the followings :

a) Bacterial growth curve.
b) Sterility indicators used in pharmacy.
c) Gram's staining.
d) Identification of bacteria using IMVIC tests.
e) Classify clean area according to ISO guideline.
f) Differentiate between light and Electron microscopy.
g) Classification and mode of action of various types disinfectants.
h) Factors influencing disinfection.
i) 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)**

Registration No : | | | | | | | | | | |

Total Number of Pages : 02 **B.Pharm**
BP304T

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 two from Part-III.
The figures in the right hand margin indicate marks.

Part-I

Q1 **Answer the following questions :** **(2 x 10)**

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

Part-II

Q2 **Focused-Short Answer Type Questions- (Answer Any Seven)** **(5 × 7)**

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

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)**