

Roll No. _____

End Semester Examination (December 2024)

B. Pharm. – 3rd Semester

Subject Code: BP302T

Subject Name: PHYSICAL PHARMACEUTICS-I

Time: 3.00 Hour

Total Marks: 75

		Marks	CO	PO
Q.1	Attempt all Questions	20(10x2)		
a.	Define the state of matter.	2	1	2
b.	Write down the application of complexation.	2	4	4&6
c.	What do you understand by 'Inhalers'	2	2	4
d.	Write the name of the method used to measure Interfacial tension.	2	3	2&12
e.	Write the formula of ring detachment method.	2	3	4&12
f.	What is BAL in complexation	2	4	2,4&6
g.	What is Sorensen's pH scale?	2	5	2&12
h.	What is Gibbs free energy?	2	4	2&12
i.	What is molarity?	2	1	2
j.	Write an example of Aerosols.	2	2	4
Q.2	Attempt any Two Questions	20(2x10)		
a.	Write the methods used to measure Surface Tension	10	3	2,4&12
b.	What are the factors influencing solubility?	10	1	2&6
c.	Define all the determination methods of pH.	10	5	2&12
Q.3	Attempt any Seven Questions	35(7x5)		
a.	Write in brief about adsorption at solid surface.	5	3	4&6
b.	Define buffers and its applications.	5	5	2&4
c.	What is a eutectics mixture? Give an example of its application in pharmacy	5	2	4&12
d.	What is a Protein binding? Give an example of its application in pharmacy	5	4	6&12
e.	What are the factors influencing solubility	5	1	6&12
f.	What are the applications of Surfactants in pharmaceutical sciences with example?	5	3	2
g.	Write the solvent-solute interaction	5	1	2&4
h.	Explain boyle's law with examples.	5	1	2&4
i.	What is complexation?	5	4	2&12

Roll No. _____

End Semester Examination (December 2024)**B. Pharm. – 3rd Semester****Subject Code: BP301T****Subject Name: Pharmaceutical Organic Chemistry II****Time: 3.00 Hour****Total Marks: 75**

Q.No		Marks	CO	PO
Q.1	Attempt all Questions	20(10x2)		
a.	Which aromatic compound is commonly used as a precursor in the synthesis of saccharin?	2	1	2,4,6
b.	Naphthalene is a polycyclic aromatic hydrocarbon that is commonly used as a moth repellent. (True/False)	2	4	2,4,6
c.	The reaction of an alkyl halide with benzene in the presence of $AlCl_3$ is known as _____.	2	1	2,4,6
d.	What is the primary role of Friedel-Crafts acylation in organic synthesis?	2	1	2,4,6
e.	The presence of a hydroxyl group on the benzene ring increases the reactivity of phenols towards electrophilic substitution. (True/False)	2	2	2,4,6
f.	The _____ value of oils is used to measure the amount of fatty acids present in a given amount of fat or oil.	2	3	2,4,6
g.	What type of reaction does cyclopropane undergo due to its angle strain?	2	5	2,4,6
h.	The hydrogenation of oils increases the iodine value of the oil. (True/False)	2	3	2,4,6
i.	The compound _____ is formed when benzene undergoes halogenation in the presence of a catalyst like $FeCl_3$.	2	1	2,4,6
j.	Which theory explains the strain present in small cycloalkanes like cyclopropane?	2	5	2,4,6
Q.2	Attempt any Two Questions	20(2x10)		
a.	Write the methods of preparation and chemical properties of Phenanthrene.	10	4	2,4,6
b.	Write a detailed note on Analytical constants and their significance in the evaluation of Fats and oils.	10	3	2,4,6
c.	Give structure, preparation and properties and discuss basic strength of aniline.	10	2	2,4,6
Q.3	Attempt any Seven Questions	35(7x5)		
a.	Explain the effect of substituents on the reactivity and orientation of monosubstituted benzene compounds in electrophilic substitution reactions.	5	1	2,4,6
b.	Explain the structure and uses of phenol, cresols, resorcinol, and naphthols.	5	2	2,4,6
c.	Explain the synthetic applications of aryl diazonium salts and their importance in organic synthesis.	5	2	2,4,6
d.	Explain the concept of saponification and describe the process by which oils and fats are converted into soap.	5	3	2,4,6
e.	Discuss the structure of anthracene and its significance in medicinal chemistry.	5	4	2,4,6
f.	Discuss the concept of angle strain and torsional strain in cycloalkanes, with specific examples.	5	5	2,4,6
g.	Explain the mechanism of sulphonation of benzene and discuss its industrial applications.	5	1	2,4,6
h.	Discuss the qualitative tests used to distinguish between phenol, cresols, and resorcinol.	5	2	2,4,6
i.	Describe the synthesis and medicinal applications of triphenylmethane and its derivatives.	5	4	2,4,6

Roll No. _____

End Semester Examination (December 2024)**B. Pharm. – 3rd Semester****Subject Code: BP303T****Subject Name: Pharmaceutical Microbiology****Time: 3.00 Hour****Total Marks: 75**

Q.No		Marks	CO	PO
Q.1	Attempt all Questions	20(10x2)		
a.	Define morphological classification of bacteria.	2	1	2
b.	Name any two-gram positive bacteria.	2	1	2
c.	What do you understand by the term bacterial growth?	2	1	2
d.	Analyze the statement: "Microscopy is an integral tool in microbiology," and provide your perspective.	2	1,2	2
e.	Define the term "preservation capacity" in the context of microbiological storage techniques.	2	4	2
f.	Elucidate the concept of F-value in thermal microbial inactivation processes.	2	1,3	2
g.	In context to microbiology, explain the term pure culture.	2	1	2
h.	Define generation time as a function of microbial growth.	2	1	2
i.	Name any one facultative aerobic bacterium.	2	1,2	2
j.	Describe chemotrophs in bacteria.	2	1,2	2
Q.2	Attempt any Two Questions	20(2x10)		
a.	Provide a detailed explanation of disinfectants, including their classification based on their mechanisms of action, supported by appropriate examples.	10	3	2
b.	Compare and contrast the structural and functional characteristics of prokaryotic and eukaryotic cells, emphasizing their differences in cellular organization	10	1,2	2
c.	Compare and contrast Transmission Electron Microscopy (TEM) and Scanning Electron Microscopy (SEM) in terms of their principles, imaging techniques, resolution, sample preparation, and applications.	10	1,2	2
Q.3	Attempt any Seven Questions	35(7x5)		
a.	Explain the characteristics of hypotonic, isotonic, and hypertonic solutions, highlighting their impact on cellular osmotic balance and physiological effects on cells.	5	1	2
b.	Design and describe the layout of an aseptic area, emphasizing the key zones, air filtration systems, and protocols to maintain sterility.	5	4	2
c.	Describe the cultivation methods for anaerobic bacteria.	5	1,2	2
d.	Discuss the classification of viruses	5	1	2
e.	Write a note on bacteriostatic and bactericidal actions with examples.	5	3	2
f.	Explain the principles and methods of microbiological assays for antibiotics.	5	5	2
g.	Write a note on phase-contrast microscopy.	5	1,2	2
h.	Discuss the general procedure for animal cell culture and its applications.	5	1	2
i.	Explain the principle, procedure, merits, and demerits of mechanical sterilization methods.	5	3	2

Roll No. _____

End Semester Theory Examination Dec 2024
B. Pharm 3rd semester

Subject Code: BP-304T

Subject Name: Pharmaceutical Engineering

Time: 3.00 Hour

Total Marks: 75

Q.No.		Marks	CO	PO
Q.1	Attempt all Questions	20(2*10)		
a.	For fixing the effective drying conditions, which processing factor is essential? a. Height b. Humidity c. Pressure d. Temperature		2	6
b.	Fluidised bed dryer has one of the following advantages? a. Attrition is not observed b. Entire material is continuously exposed to a heat source c. Fluffy mass is formed d. Humidity can be increased		2	7
c.	Which one of the following dryer is known as lyophilizer? a. Fluidised bed dryer b. Freeze dryer c. Spray dryer d. Vacuum dryer		2	7
d.	Which product is not dried by a spray dryer? a. Bacterial & viral cultures b. Fruit juice c. Lactose d. Serum		2	6
e.	Size classification is also known in one of the following terms. a. Size analysis b. Size distribution c. Size reduction d. Size separation		1	6
f.	Which one of the screens are used for size separation of big and heavy particles? a. Bar screens b. Bolting cloth sieves c. Punched plate screens d. Woven wire screens		1	6
g.	Which mill is preferred for wet grinding? a. Colloid mill b. Hammer mill c. Roller mill d. Rotary cutter mill		1	7
h.	Porcelain pieces are put into the distillation flask to avoid _____ a. Overheating b. Bumping of the solution c. Uniform boiling d. None		2	6
i.	Distillation does not involve in one of the following processes a. Evaporation b. Extraction c. Purification d. Separation		2	6
j.	Which mill includes a screen as an integral part of the size reduction? a. Ball mill b. Colloid mill c. Edge runner mill d. Hammer mill		1	7
Q.2	Attempt any Two Questions	20(2*10)		
a.	Explain the theory, construction, working and applications of centrifugal molecular distillation unit		1	7
b.	Describe the factors affecting corrosion and methods for prevention of corrosion.		3	6
c.	Explain the factors affecting drying. Write construction working, uses, merits and demerits of fluidized bed dryer.		1	6
Q.3	Attempt any Seven Questions	35(7*5)		
a.	Write principle and procedure of determining particle size by sieve shaker.		2	7
b.	Differentiate between forced circulation evaporator and climbing film evaporator.		2	7
c.	Write the construction and working of super centrifuge.		1	7
d.	Describe plastic and rubber as materials for plant construction along with their advantages and disadvantage.		3	6
e.	Describe equipment parts and working principle of spray drier.		5	7
f.	Write principle, advantages and limitations of climbing film evaporator.		2	6
g.	What is filter aid and filter media?		2	6
h.	Explain the multiple effect evaporator and its economy.		2	7
i.	Objective and application of pharmaceutical drying.		2	6
