



AUTUMN END SEMESTER EXAMINATION-2024 3rd Semester B.Pharm

PHARMACEUTICAL ORGANIC CHEMISTRY II BP 301

(For 2023 Admitted Batch)

Time: 3 Hours

Full Marks: 75

Answer Question No.1 (Part-A) is compulsory, any SEVEN from Part-B and any TWO from Part-C. The figures in the margin indicate full marks. All parts of a question should be answered at one place only.

PART-A

1. Objective Answer Type Questions (Answer All)

 $[2 \times 10]$

- (a) What is Friedel craft acylation reaction?
- (b) Why cyclopropane is most reactive in nature?
- (c) What is drying of oils?
 - (d) What is Sachse Mohr's theory?
 - (e) Why m-cresol is more acidic than o- & p-cresol?
 - (f) What is mesomeric effects?
 - (g) What is electrophilic substitution reaction?
- (h) Write the evinces for resonance structure of Benzene.
- (i) Write the structure and uses of phenanthrene.
- (j) Differentiated saturated and unsaturated fatty acids.

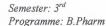
		PARI-B	
2.	2. Focused-Short Answer Type Questions-(Answer Any Seven)		$[5 \times 7]$
	(a)	Write the structure and uses of DDT and Cresol.	
	(b)	Write the effect of substituents on reactivity of mono substituted benzene compounds towards electrophilic substitution reaction with suitable examples.	
	(c)	Write a note on Fatty acids and write any 2 reactions.	

- Write various reactions of benzene with suitable (d) reaction examples.
- Write the effect of substituents on acidity of phenol (e) with suitable examples.
- Write various evidences with reaction examples for (f) establishing the structure of Benzene.
- Write a detail note on Haeckel theory of Aromaticity. (g)
- (h) Write a note on Saponification process saponification vale.
- Write a note on Bayer's stain theory for stability of (i) cycloalkanes.

PART-C

Long Answer Type Questions (Answer Any Two)

٥.	qualitative test for phenol.	[10]
4.	Write the effect of substituents on basicity of Aniline. Write the synthetic uses of aryl diazonium salt.	[10]
5.	Write the structure, uses, synthesis, and reactions of Naphthalene.	[10]





AUTUMN END SEMESTER EXAMINATION-2024 3rd Semester B.Pharm

PHYSICAL PHARMACEUTICS-I BP 302

(For 2023 Admitted Batch)

Time: 3 Hours

Full Marks: 75

Answer Question No.1 (Part-A) is compulsory, any SEVEN from Part-B and any TWO from Part-C. The figures in the margin indicate full marks. All parts of a question should be answered at one place only.

PART-A

1. Objective Answer Type Questions (Answer All)

 $[2 \times 10]$

- (a) What are binary solutions?
- (b) Write down the differences between cohesion and adhesion.
- (c) Define mole fraction.
- (d) List the different terms used with solvent specification to denote solubility.
- (e) What is eutectic mixture?
- (f) Mention two applications of protein binding.
- (g) Define parachor.
- (h) What is dipolemoment?
- (i) Write down BET equation for adsorption isotherm.
- (j) What is significance of MDI in aerosol-inhalers?

		PART-B	
2. Focused-Short Answ		used-Short Answer Type Questions-(Answer Any Seven)	$[5 \times 7]$
	(a)	List out different factors influencing solubility of drug with justification.	
	(b)	Write a short note on glassy states.	
	(c)	Classify complexation and write its applications.	
	(d)	What are the factors affecting protein binding of drugs?	

- (e) Discuss briefly about the different gas laws.
- (f) Write down the mechanism of solute solvent interactions.
- (g) Classify and describe tonicity.
- (h) Write a short note on spreading coefficient.
- (i) Present the applications of dissociation constant.

PART-C

Long Answer Type Questions (Answer Any Two)

3.	Discuss briefly about buffers with suitable examples.	[10]
4.	Derive Raoult's Law and explain its mathematical expression. Highlight its applications in Ideal and real solutions with deviations.	[10]
5.	What are the different methods used for measurement of surface and interfacial tension? Write in detail about two methods.	[10]
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AUTUMN END SEMESTER EXAMINATION-2024 3rd Semester B.Pharm

PHARMACEEUTICAL MICROBIOLOGY BP 303

(For 2023 Admitted Batch)

Time: 3 Hours

Full Marks: 75

Answer Question No.1 (Part-A) is compulsory, any SEVEN from Part-B and any TWO from Part-C.

The figures in the margin indicate full marks.

All parts of a question should be answered at one place only.

PART-A

1. Objective Answer Type Questions (Answer All)

 $[2 \times 1.0]$

- (a) What is HEPA stands for? Write the applications of HEPA filter.
- (b) How tyndallization is different from pasteurization?
- (c) Write two functions of fungal hyphae.
- (d) Name two asexual methods of bacterial reproduction.
- (e) Name the scientist who is known as father of microbiology.
- (f) Define zone of inhibition.
- (g) Name the two bacteria which shows positive reaction towards acid fact staining.
- (h) What is HVAC system? How it is responsible for contamination of aseptic area?
- (i) Give two examples of cationic detergents that are used as preservatives.
- (j) Name the two protein that act as peplomers on virus surface.

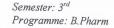
PART-B

 $[5 \times 7]$

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

Define bacterial growth curve. Write the different (a) phases of bacterial growth curve. Classify the bacterial medium. Write the common (b) ingredients that are used in the preparation of bacterial media Write the morphologic classification of fungus with (c) suitable examples. Define aseptic area. What are the different source of (d) contamination in an aseptic area? Write a note on viral hem agglutination test. (e) (f) How microbiology is beneficial for society? (g) What is phenol coefficient test? Write the procedure and principle of Chick-Martin test. Explain the different factors that modulate the (h) preservatives mode of action. Write the application of cell culture in pharmaceutical (i) industry. PART-C Long Answer Type Questions (Answer Any Two) 3. Write the characteristics of a good disinfectant. Explain [10] about the different physical methods of sterilization with suitable example. How sterility testing is important for pharmaceutical [10] products? Explain about the different sterility testing methods with result discussion. 5. Define microbiological assay. Discuss the diffusion method [10]

of antibiotic sensitive assays.





AUTUMN END SEMESTER EXAMINATION-2024 3rd Semester B.Pharm

PHARMACEUTICAL ENGINEERING BP 304

(For 2023 Admitted Batch)

Time: 3 Hours

Full Marks: 75

Answer Question No.1 (Part-A) is compulsory, any SEVEN from Part-B and any TWO from Part-C. The figures in the margin indicate full marks. All parts of a question should be answered at one place only.

PART-A

1. Objective Answer Type Questions (Answer All)

 $[2 \times 10]$

- (a) Define centrifugation. Write any two advantages of centrifugation.
- (b) Write the difference between thermosetting and thermoplastic polymers.
- (c) Write the names of the mechanisms of size reduction.
- (d) Write the names of different types of impellers used for liquid mixing.
- (e) What is a manometer? Classify different types of manometers.
- (f) Define Elutriation.
- (g) What are the disadvantages of vortex formation during mixing?
- (h) Write the difference between filter media and filter aid.
- (i) Define molecular distillation.
- (j) What are conveyors? Classify the conveyors used for material transportation in the pharma industry.

PART-B

2.	Foci	used-Short Answer Type Questions-(Answer Any Seven)	$[5 \times 7]$
	(a)	Write the difference between vacuum distillation and flash distillation.	
	(b)	What is FMC? Describe the FMC curve with a proper diagram to know the rate of drying process.	
	(c)	Write a short note on a non-perforated basket centrifuge.	
	(d)	Elaborate the mechanisms of size separation.	
	(e)	Write the difference between Evaporation and drying.	
	(f)	Classify mechanism of mixing of liquids in detail.	
	(g)	Describe Reyonolds number and its significance.	
	(h)	Define filtration. Describe different theories of filtration briefly.	
	(i)	Classify different types of glasses according to I.P. and with respect to chemical composition.	
		PART-C	
		Long Answer Type Questions (Answer Any Two)	
3.	pla	ssify different types of materials used for pharmaceutical nt construction. Write the details of construction, rking, advantages, disadvantages and uses of Pneumatic aveyor.	[10]
4.	T ' and trudural flow?		[10]
5.	De	scribe the mechanisms of drying. Elaborate construction,	[10]

working, advantages, disadvantages and uses of Spray dryer.
