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B.Pharmacy III Semester (PCI) (Main) Examination Dec/Jan 2024-25

Subject: PHYSICAL PHARMACEUTICS-I & BP302T

Time: 3 Hours

Max.Marks: 75

PART- A

Note: Answer ALL questions

(10 x 2 = 20 Marks)

Q.No.	Question	CO	BL
1	What are saturated and super saturated solutions?	1	1
2	What is Gibb's phase rule? Explain the terms.	1	1
3	What is meant by dielectric constant? Give its applications.	1	1
4	What is polymorphism? give examples.	1	1
5	Define surface tension. Give the units.	6	1
6	Define surface free energy. Give its applications in pharmacy.	6	1
7	Give the impact of protein binding on drug distribution.	5	1
8	What is complex compound? Classify them.	5	1
9	Define buffer capacity. Give the expression.	4	1
10	Write the applications of buffers in pharmacy.	4	2

PART B

Note: Answer any TWO questions

(2 x 10 = 20 Marks)

Q.No.	Question	CO	BL
11	Discuss the factors influencing the solubility of solids in liquids.	1	4
12	Explain capillary rise method for the determination of surface tension. & Illustrate with a neat labeled diagram.	6	2
13	What is meant by pH of a solution? Explain pH determination by electrometric method.	4	2

PART C

Note: Answer any SEVEN questions

(7 x 5 = 35 Marks)

Q.No.	Question	CO	BL
14	What is critical solution temperature? Give its applications.	1	2
15	What is distribution law? Give its applications.	1	3
16	Describe the principle, construction and working of Abbe's refractometer.	6	2
17	Explain principle and method of liquefaction of gases by Linde's process.	1	3
18	What is spreading coefficient? How do you analyze it?	6	2
19	What are surface active agents? Give the pharmaceutical applications.	3	1
20	Write briefly about channel lattice type complexes.	5	4
21	Derive a buffer equation for an acid buffer with suitable example.	4	2
22	Explain method of continuous variation for analysis of complexes.	5	2



B.Pharmacy III Semester (PCI) (Main) Examination Dec/Jan 2024-25

Subject: PHARMACEUTICAL ORGANIC CHEMISTRY-II & BP301T

Time: 3 Hours

Max.Marks: 75

PART- A

Note: Answer ALL questions

(10 x 2 = 20 Marks)

Q.No.	Question	CO	BL
1	Explain molecular orbital picture of benzene.	1	2
2	Write the Structure and uses of Saccharin	1	1
3	Explain the stability of phenoxide ion based on resonance.	3	2
4	Explain the Qualitative tests, structure and uses of Cresols	3	2
5	Define acid value. Give its importance.	6	1
6	Define and classify fats	6	1
7	Explain why mono substitution in naphthalene is predominated by α -position rather β -position	5	2
8	Rephrase the structure and medicinal uses of Diphenyl Methane	4	1
9	Write a note on Coulson and Moffitt's modification	2	1
10	Explain any two reactions of Cyclopropane	2	2

PART B

Note: Answer any TWO questions

(2 x 10 = 20 Marks)

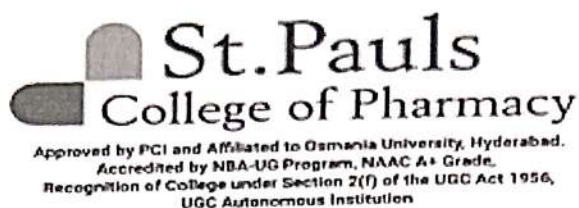
Q.No.	Question	CO	BL
11	Discuss Bayer's Strain and Sachse-Mohr theory with an example. (5+5)M	2	3
12	Discuss in detail about saponification value and iodine value along with their significance in analysis of fats and oils. (5+5)M	6	4
13	Write the electrophilic substitution, oxidation and reduction of anthracene? (4+3+3)M	5	2

PART C

Note: Answer any SEVEN questions

(7 x 5 = 35 Marks)

Q.No.	Question	CO	BL
14	Give the Structure and uses of DDT and BHC (2.5 + 2.5)M	1	2
15	Write the important electrophilic substitution reactions of benzene	1	1
16	Explain the effect of substituents on basicity of aromatic amines.	3	2
17	Explain the effect of substituents on acidity of aromatic acids.	3	2
18	List out the types of fattyacids with examples. (3+2)M	6	1
19	Give the principle and significance of Reichert Meissl value determination. (3+2) M	6	2
20	Write the medicinal uses of derivatives of Phenanthrene and triphenylmethane (2.5+2.5)M	4,5	2
21	Explain briefly about Electrophilic substitution reactions of naphthalene.	5	2
22	Explain Friedel craft acylation.	1	2



B.Pharmacy III Semester (PCI) (Main) Examination Dec/Jan 2024-25

Subject: Pharmaceutical Engineering & BP304T

Time: 3 Hours

Max.Marks: 75

PART- A

Note: Answer ALL questions

(10 x 2 = 20 Marks)

Q.No.	Question	CO	BL
1	Compare and contrast the advantages and disadvantages of pitot tube and rotameter.	1	2
2	Enumerate different modes of size separation.	1	2
3	Write formula to determine overall heat transfer coefficient by heat exchanger	2	3
4	What are the different modes of feed in multiple effect evaporator?	2	3
5	Define bound water and free moisture content.	3	1
6	Give the characteristics of mixing propellers.	3	2
7	Write the mechanism of filter aids.	4	3
8	Describe continuous centrifuges. Giving their advantages.	4	2
9	Enlist the theories of corrosion	6	1
10	Classify inorganic and organic non metals	5	1

PART B

Note: Answer any TWO questions

(2 x 10 = 20 Marks)

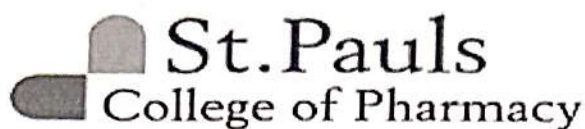
Q.No.	Question	CO	BL
11	Classify dryers? Describe in detail the constant rate and falling rate periods. Add a note on critical moisture content.	2	3
12	Describe the construction, working, applications of a multipass heater. Add a note on Stefan Boltzman equation.	3	2
13	Describe the columns used in Distillation process .	4	2

PART C

Note: Answer any SEVEN questions

(7 x 5 = 35 Marks)

Q.No.	Question	CO	BL
14	Explain the characteristics of different types of flow. Add a note on Reynolds number	1	2
15	Explain the working of a cyclone separator and its applications	1	2
16	Elaborate the concept of multiple effect evaporation. Give its significance.	2	2
17	Explain the principle and procedure of molecular distillation. Mention its applications?	2	2
18	Describe the principle with the help of a labelled diagram of fluidized bed dryer.	3	2
19	Describe the construction and working of the Silverson Emulsifier	3	2
20	Describe the construction and working of a cartridge and Seidtz filter.	4	2
21	Classify industrial centrifuges. Write construction and working of a perforated basket centrifuge.	4	2
22	Classify various types of corrosion and suggest the methods to overcome the corrosion.	6	2



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B.Pharmacy III Semester (PCI) (Main) Examination Dec/Jan 2024-25

Subject: Pharmaceutical Microbiology & BP303T

Time: 3 Hours

Max.Marks: 75

PART- A

Note: Answer ALL questions

(10 x 2 = 20 Marks)

Q.No.	Question	CO	BL
1	Mention the isolation methods of Pure culture	1	2
2	Write about i) Enrichment media ii) Differential media	1	2
3	Classify different staining techniques	2	4
4	Mention the sterility indicator for autoclave	2	2
5	Define antiseptic and disinfectant	5	5
6	What is the difference between yeast and mould	4	3
7	Define aseptic area	4	5
8	What is LAL test	3	5
9	Define microbial contamination	6	5
10	What is primary and transformed cell culture	6	2

PART B

Note: Answer any TWO questions

(2 x 10 = 20 Marks)

Q.No.	Question	CO	BL
11	With the help of a neat labeled diagram, explain the principle, construction, working and application of Autoclave. (2+2+3+3)M	1	4
12	Discuss morphology, classification and reproduction of Fungi (2+3+5)M	2	2
13	Discuss various types of animal cell culture. Write the procedure for isolation of cells for <i>in-vitro</i> culture (3+7)M	6	5

PART C

Note: Answer any SEVEN questions

(7 x 5 = 35 Marks)

Q.No.	Question	CO	BL
14	Explain ultra structure and morphological classification of bacteria (2+3)M	1	3
15	Discuss IMViC tests used for identification of bacteria	2	2
16	Write the principle, procedure and applications of Zeil-Neilson staining (2+3)M	2	4
17	Describe the procedure involved in the sterility testing of solids as per I.P.	4	2
18	Discuss various methods used for evaluation of disinfectants	5	2
19	What are the various air flow patterns in laminar flow equipments	4	3
20	Define microbial assay. Write in detail about microbial assay of antibiotics (1+4)M	4	2
21	Elobrate various factors affecting microbial spoilage	6	5
22	Write different sources of microbial contamination	6	1
