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II/IV B.PHARMACY (REG) DEGREE EXAMINATIONS, MAR/APR -2026**THIRD SEMESTER****PHARMACEUTICAL ORGANIC CHEMISTRY-II - THEORY**

Time: 3 Hours

Maximum :75Marks

SECTION -A**Answer any FIVE of the following Questions. 5 x 10 = 50 M**

01. Discuss Analytical, Synthetic and other evidences in the derivation of structure of Benzene.
02. Write a note on basicity of amines and effect of substituents on basicity.
03. Explain the significance and principle involved in the determination of Acid value and Ester value.
04. Enumerate the synthesis, reactions and medicinal uses of phenanthrene.
05. Give an account an Bayer's strain theory with its limitations.
06. Discuss the effect of substituents on reactivity and orientation of mono substituted benzene compounds towards electrophilic substitution reaction.
07. Write a note on Saponification and Rancidity of oils.

SECTION - B**Answer any FIVE of the following Questions. 5 x 5 = 25 M**

08. Write the structure and uses of Saccharin and DDT.
09. Give an account on acidity of phenols.
10. Briefly outline the important reactions of Benzoic acid.
11. Write a note on significance and principle involved in determination of Iodine value.
12. Write the structure and medicinal uses of Naphthalene and Triphenylmethane.
13. Give a short note on Sachse Mohr's Theory.
14. Briefly outline the reactions of cyclopropane.

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II/IV B.PHARMACY (REG) DEGREE EXAMINATIONS, MAR/APR- 2026**THIRD SEMESTER****PHYSICAL PHARMACEUTICS I - THEORY**

Time: 3 Hours

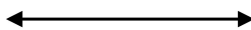
Maximum :75Marks

SECTION -A**Answer any FIVE of the following Questions.****5 x 10 = 50 M**

01. a) Explain the solubility of gas in liquids. (7M)
b) Write the mechanism of solute-solvent interactions. (3M)
02. Explain the methods to determine surface and interfacial tension.
03. Discuss briefly determination of pH by Calorimetric and electrometric method.
04. Define adsorption isotherm. Explain the freundlich and langmuir adsorption isotherm.
05. Explain briefly diffusion principles in biological system.
06. a) Write a note on kinetics of protein drug binding.
b) Explain the methods of analysis of complexes.
07. a) Write a note on buffer equation and buffer capacity.
b) Explain the methods to determine tonicity of solutions.

SECTION - B**Answer any FIVE of the following Questions.****5 x 5 = 25 M**

08. Write the pH titration and distribution method in complex analysis.
09. i) Describe the applications of buffers in biological system. (3M)
ii) Explain Henderson - Hasselbalch equation. (2M)
10. Explain critical solution temperature with suitable examples.
11. Define and classify complex. Write about organic molecular complex.
12. Explain the optical rotation determination with neat diagram.
13. Write a note on spreading coefficient and adsorption at solid interface.
14. Explain the concept complexation and drug action.



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II/IV B.PHARMACY (REG) DEGREE EXAMINATIONS, MAR/APR -2026

THIRD SEMESTER

PHARMACEUTICAL MICROBIOLOGY - THEORY

Time: 3 Hours

Maximum :75Marks

SECTION -A

Answer any FIVE of the following Questions.

5 x 10 = 50 M

01. Write a note on history of microbiology, its branches scope and its importance.
02. Explain the general procedure for cell culture, primary, established and transformed cell cultures.
03. What are different sources of contamination in aseptic area and methods of preservation and clean area classification.
04. Explain the sterility testing of ophthalmic products according to IP and USP.
05. Explain the Laminar air flow equipment with neat labeled diagram.
06. Explain the principle and methods of microbiological assay. Add a note on standardization of aminoacids.
07. Write in detail about staining techniques - simple, Gram's and acid fast staining.

SECTION - B

Answer any FIVE of the following Questions.

5 x 5 = 25 M

08. Write a brief note on sterility indicators.
09. Define and classify disinfectants and add a note on mode of action.
10. Explain evaluation of Bactericidal and Bacteriostatic.
11. What are different factors affecting the microbial spoilage of pharmaceutical products.
12. Explain the quantitative measurement of bacterial growth.
13. How do the efficiency of sterilization methods is evaluated.
14. Classification and cultivation of fungi and viruses.

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II/IV B.PHARMACY (REG) DEGREE EXAMINATIONS, MAR/APR -2026

THIRD SEMESTER

PHARMACEUTICAL ENGINEERING - THEORY

Time: 3 Hours

Maximum :75Marks

SECTION -A

Answer any FIVE of the following Questions. 5 x 10 = 50 M

01. State and derive Bernouli's theorem.
02. Explain principle & working of Fluid energy mill.
03. What is Fourier's law? Write in details?
04. Discuss the construction & working of Freeze dryer.
05. Write the Theories and Factors influncing filtration.
06. Describe objectives and applications of centrifugation and add a note on Merits & demerits of semicontinuous centrifuge.
07. Classify different metals used for construction of plant? Give examples of each class?

SECTION - B

Answer any FIVE of the following Questions. 5 x 5 = 25 M

08. Mention theories of corrosion.
09. Explain working of meta filter & cartridge filters.
10. Define mixing & add a note on construction of sigma blade mixer.
11. Write a short notes on rate of drying curve.
12. Outline the principle methodology of steam distillation.
13. Write merits & demerits of planetary mixer.
14. Discuss applications of pitot tube & venturi meter.