**QP Code: 321006** **Reg. No……**

# Third Semester B. Pharm Degree Regular/Supplementary Examinations May 2025

## Pharmaceutical Organic Chemistry - II

# (2017 Scheme)

**Time: 3 Hours** **Max. Marks: 75**

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw table/diagrams/flow charts wherever necessary***

**Essays** **(2x10=20)**

1. a) Outline the general reaction mechanism of Aromatic Electrophilic Substitution (AES) reaction.
   b) Explain the influence of substituents on the reaction orientation. (4+6)
2. Outline Haworth synthesis and any four chemical reactions of anthracene.

**Short Notes** **(7x5=35)**

3. Why benzene is aromatic. Explain based on Huckel's concept.
4. Give a note on diazotization reaction along with their synthetic uses.
5. Explain acidic behavior of phenols with illustrations.
6. Explain the principle and chemical significance of saponification value determination.
7. Give a note on hydrogenation and hydrolysis of fats.
8. Explain the following
   a) Rancidity of oil
   b) Drying of oil
   c) Acid value
9. Write a note on Baeyer's strain theory

**Answer Briefly** **(10x2=20)**

10. Outline Friedel-Crafts acylation.
11. Give the structure and uses of
    a) Benzene hexachloride (BHC)
    b) Chloramine
12. Aromatic amines are basic. Explain. Why.
13. Draw the structure and list the medicinal uses of cresol and resorcinol.
14. Explain the significance of iodine value in the quality analysis of oils and fats.
15. Explain the pharmaceutical importance of fatty acids.
16. Draw the structure of phenanthrene and give any two medicinal importance of phenanthrene derivatives
17. Give two important reactions of naphthalene.
18. Outline the chemical synthesis of cyclobutane.
19. State Sachse-Mohr theory.

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## Third Semester B. Pharm Degree Regular/Supplementary Examinations May 2025

## Physical Pharmaceutics I

# (2017 Scheme)

**Time: 3 Hours** **Max. Marks: 75**

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers.***
- ***Draw diagrams wherever necessary***

**Essays** **(2x10=20)**

1. With a neat, labelled diagram discuss phenol-water solubility curve.
2. Discuss microscopic method of particle size distribution with its benefits and limitations.

**Short Notes** **(7x5=35)**

3. Mention five limitations of Nernst distribution law.
4. Explain different types of porosities in a powder.
5. Explain the principle of eutectic mixture with an example.
6. How is optical rotation measured.
7. Explain any one method of analysis for determining stoichiometric ratio.
8. Explain the principle involved in the determination of pH of a solution using an electrometric method.
9. Derive a buffer equation for an acid buffer with suitable example.

**Answer Briefly** **(10x2=20)**

10. Mention the applications of solvates in pharmacy.
11. Define refractive index.
12. Enlist the factors influencing drug – protein binding.
13. Explain adsorption.
14. What is a sandwich compound.
15. Sorensen's pH scale.
16. Define solubility and mention any two ways to express the same.
17. Explain the importance of vapour pressure in pharmacy.
18. Define a buffer solution. Give one example.
19. Differentiate between iso-osmotic and isotonic solutions.

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**QP Code: 323006** **Reg. No…….**

**Third Semester B. Pharm Degree Regular/Supplementary Examinations May 2025**

**Pharmaceutical Microbiology**

# (2017 Scheme)

**Time: 3 Hours** **Max. Marks: 75**

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw table/diagrams/flow charts wherever necessary***

**Essays** **(2x10=20)**

1. Describe the various methods used for the isolation of pure culture. Write a note on total and viable count.
2. Discuss the various techniques used for the cultivation of viruses, and their applications.

**Short Notes** **(7x5=35)**

3. Elaborate on the sexual reproduction of fungi.
4. Explain dark field microscopy and its application.
5. Write a note on principle and procedure of citrate utilization test.
6. Describe the design and working of laminar airflow with a neat diagram.
7. Explain the sources and types of microbial contaminants.
8. Describe the principle and procedure involved in sterilization using hot air oven.
9. Explain the factors affecting disinfectant action.

**Answer Briefly** **(10x2=20)**

10. How do viruses replicate within a host cell.
11. Name and briefly describe three major branches of microbiology.
12. What is the primary purpose of simple staining in bacterial identification.
13. Write any two chemical indicators in monitoring sterilization processes.
14. What are the key steps involved in assessing the efficacy of a new antibiotic.
15. Describe the main types of antiseptics and their common uses.
16. List two raw materials commonly used in culture media for bacterial growth.
17. Differentiate Lag phase and Log Phase.
18. Explain about class 100 and class 1000 area.
19. What is Fluid Thioglycollate Media. Explain its application.

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**QP Code: 324006** **Reg. No……**

# Third Semester B. Pharm Degree Regular/Supplementary Examinations May 2025
## Pharmaceutical Engineering
# (2017 Scheme)

**Time: 3 Hours** **Max. Marks: 75**

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw table/diagrams/flow charts wherever necessary***

**Essays** **(2x10=20)**

1. Explain the principle, working, construction, uses, merits and demerits of Ball mill
2. Define corrosion. Explain the factors influencing corrosion. Write briefly on theories of corrosion.

**Short Notes** **(7x5=35)**

3. State Bernoulli's theorem and write its applications
4. Illustrate about Differential manometer with a neat diagram
5. Differentiate between distillation and other heat process
6. Explain the principle and working of climbing film evaporator
7. Explain the principle, working and construction of spray dryer
8. Compare the working between Twin shell blender and Double cone blender.
9. Relate the process of filter leaf and with its mechanism

**Answer Briefly** **(10x2=20)**

10. List out the objectives of Centrifugation
11. Explain the importance of stainless steel in pharmaceutical industry
12. Write the principle and working of forced circulation evaporator
13. Differentiate the mechanism of solid and liquid mixing
14. Discuss the uses of Super centrifuge
15. State Fourier's law
16. Explain rate of drying curve
17. Uses of air separator
18. Factors affecting filtration
19. Write briefly on filter aids

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