QP Code: 321006 **Reg. No…….**

Third Semester B. Pharm Degree Regular/Supplementary Examinations October 2022

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. Explain the effect of substituents on the reactivity and orientation in benzene.
2. Discuss the stability of cycloalkanes on the basis of Baeyer's strain theory. Add a note on its limitations.

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

3. Write the reactions of cyclobutane
4. Explain the mechanism involved in the nitration of benzene
5. Explain Haworth synthesis of naphthalene. Write any three reactions of naphthalene
6. What is iodine value. Write the principle involved in the estimation of iodine value
7. How are aryl diazonium salts formed. Write any three applications of aryl diazonium salts
8. Explain the effect of substituents on the acidity of phenols
9. Write any two methods of preparation and any three reactions of aromatic amines

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

10. Friedal Craft's alkylation reaction. What is its limitation
11. Define resonance energy
12. Write the structure and use of (a) cresol (b) saccharin
13. Write the structure and use of any two medicinal compounds containing phenanthrene nucleus
14. Reimer Tiemann reaction
15. What are fused polynuclear hydrocarbons. Give examples
16. Reichert Meissl number
17. Write any two electrophilic substitution reactions of phenols
18. Sache-Mohr theory
19. Calculate the angle strain for (a) Cyclobutane (b) Cyclopentane

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QP Code: 322006 **Reg. No…….**

Third Semester B. Pharm Degree Regular/Supplementary Examinations October 2022

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. Explain the different methods for the determination of average particle size and particle size distribution. Explain in detail about the sieving technique.
2. Explain the various factors affecting the solubility of gases in liquids.

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

3. Summarize the solubility of partially miscible liquids.
4. Glassy state.
5. Explain in short about eutectic mixture.
6. Explain micromeretics. Write its application in pharmaceutical sciences.
7. Elaborate about hydrogen bonded complexes.
8. Demonstrate any two methods for the determination of true density.
9. Buffer capacity.

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

10. Define the term Buffer.
11. What are the various factors influencing the pH of buffer solution.
12. Draw a neat label diagram of one component system.
13. Critical point.
14. Enlist the scientific ways of expressing particle size distribution.
15. Particle number.
16. Classify the metal ion coordination complexes.
17. What are clathrates.
18. Define Raoult's law.
19. The terms used for expressing solubility.

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QP Code: 323006 **Reg. No……**

Third Semester B. Pharm Degree Regular/Supplementary Examinations October 2022

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 exercised for the identification of bacteria.
2. Detail the methods of evaluation of disinfectants

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

3. Moist heat sterilization
4. Explain the culture media used in animal cell culture
5. Microbiological assay of vitamins.
6. Explain the types of microbial spoilage for pharmaceutical products
7. Enumeration of bacteria
8. Physical factors affecting microbial growth
9. Factors affecting disinfection

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

10. Chemical monitors of sterilization
11. Differentiate bacteria and viruses
12. Principle of phase-contrast microscope
13. Methods for cultivation of viruses.
14. Applications of radiation sterilization
15. Clean area classification
16. Differentiate prokaryotes and eukaryotes
17. Lytic cycle of viral multiplication
18. IMViC biochemical tests
19. Biological indicators used in the validation of sterilization

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QP Code: 324006 **Reg. No……**

Third Semester B. Pharm Degree Regular/Supplementary Examinations October 2022

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. State and derive Bernoulli's theorem. Give its applications in pharmacy.
2. Describe the construction and working of Plate and frame filter press with neat diagram.

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

3. Explain the construction and working of Air separator with neat diagram.
4. Write about heat interchangers for heat transfer.
5. Explain the construction and working of climbing film evaporator with neat diagram.
6. Describe the drying rate curve.
7. Fractional distillation.
8. Explain screw conveyors with neat diagram.
9. Theories of corrosion.

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

10. Manometers
11. Mechanisms of size separation
12. Define black body and grey body
13. Applications of spray dryer
14. Design of V-cone blender
15. Applications of distillation
16. Filter leaf
17. Enlist factors affecting corrosion
18. Types of stainless steel
19. Define bound and unbound water.

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