

ADICHUNCHANAGIRI UNIVERSITY

B.Pharmacy III Semester Examination – August 2021

TIME: 3 Hours

MAX.MARKS: 75

SUB: Pharmaceutical Organic Chemistry II

QP CODE: 11321

- Instructions:**
1. Your answer should be specific to the questions asked.
 2. Write the same question numbers as they appear in this question paper.
 3. Write Legibly.
 4. Draw neat labelled diagrams wherever necessary.

Long Essay (Answer any Two)

2X10=20

1. Discuss the structure and orbital picture theory of benzene. Write a brief note on analytical and synthetic evidence of benzene.
2. Explain Aromatic amine with its classification. Discuss the basicity and effect of substituent of basicity of amine
3. Explain polynuclear hydrocarbon with example. Write any three synthesis of naphthalene and anthracene.

Short Essay (Answer any Seven)

7X5=35

4. Write a note on Huckel rule
5. Discuss briefly about iodine value and acid value with example
6. Write the significance and principle in the determination of ester value
7. Write any four reactions of each of following compounds
a) Napthalene b) Anthracene
8. Briefly describe about Sachse mohrs theory
9. Write the different reactions of cyclobutane
10. Give a note on Riechert Meissel value
11. Define and write the classification of aromatic amines
12. Write the structure and uses of DDT, Saccharin and BHC

Short Answers (Answer All the questions)

10X2=20

13. Write a note on aromatic character of benzene
14. Give a note on halogenations of naphthalene
15. Write any three qualitative tests for phenol
16. Illustrate the addition reaction of cyclopropane and cycobutane
17. Write the structure and uses of any two phenolic derivative
18. Write the preparation of fat and oil.
19. Define saponification value
20. Write the medicinal uses of diphenylmethane and their derivatives
21. Write the stability of cyclo compounds
22. Give a note on polynuclear hydrocarbon

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MAX.MARKS: 75

SUB: Physical Pharmaceutics - I

QP CODE: 11322

- Instructions:**
1. Your answer should be specific to the questions asked.
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 3. Write Legibly.
 4. Draw neat labelled diagrams wherever necessary.

Long Essay (Answer any Two)

2X10=20

1. Define azeotropic mixtures. With the help of neat diagram explain in detail fractional distillation process.
2. Define surface tension. Explain the principle involved in determination of surface tension by capillary rise method. Give its limitations.
3. Define optical rotation. Discuss in detail principle and working of polarimeter

Short Essay (Answer any Seven)

7X5=35

4. Explain Werner's postulates with the help of a suitable example.
5. What are buffers? Deduce buffer equation for weak acid and its salt with a strong base.
6. Define HLB and explain Griffin's scale.
7. Explain the various application of complexation in pharmacy with examples.
8. Write a note on method of determination of pH.
9. Explain the phenomena of wetting and detergency.
10. Define solubility. Explain mechanism of solute-solvent interaction.
11. Write a note on aerosols.
12. Define and derive Raoult's law. Write its applications.

Short Answers (Answer All the questions)

10X2=20

13. Define diffusion. Enumerate types of diffusion.
14. What is Sandwich complex?
15. What are partially miscible liquids? Give examples.
16. Give BET equation.
17. Define Isotonic and paratonic solutions.
18. What is chelating agent? Give its uses.
19. Define vapour pressure.
20. Give reason for adjusting pH of a dosage form.
21. Differentiate between ideal and non-ideal solutions with example.
22. Define amphiphile. Give its applications.

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TIME: 3 Hours

MAX.MARKS: 75

SUB: Pharmaceutical Microbiology

QP CODE: 11323

- Instructions:**
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 2. Write the same question numbers as they appear in this question paper.
 3. Write Legibly.
 4. Draw neat labelled diagrams wherever necessary.

Long Essay (Answer any Two)

2X10=20

1. Discuss the morphology of virus and explain the techniques used for cultivation of virus
2. Explain the construction principle, procedure, applications and demerits of sterilization using hot air oven
3. Describe bacterial growth curve. Add a note on physical factors affecting growth of bacteria

Short Essay (Answer any Seven)

7X5=35

4. Explain the methods for cultivation of anaerobic bacteria
5. Classify bacteria on the basis of oxygen, pH and temperature requirements.
6. Differentiate between dry heat sterilization and moist heat sterilization
7. Mention methods used for identification of bacteria. Explain any two biochemical tests used for identification of bacteria.
8. Describe methods of reproduction in fungi.
9. Describe the steps involved in sterility testing add a note on its interpretation.
10. Write a note on air flow pattern in a clean room
11. Discuss microbial assay of vitamin B₁₂
12. Discuss the factors affecting microbial spoilage

Short Answers (Answer All the questions)

10X2=20

13. Explain Selective media
14. Differentiate between Total count and Viable count
15. Explain cold sterilization
16. Define D value Z value
17. Difference between virus and bacteria
18. Black fluids and white fluids
19. Write a note on MIC
20. Write a note on Laminar air flow
21. How formulation components effect preservative efficacy
22. Applications of hybridoma technology

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TIME: 3 Hours

MAX.MARKS: 75

SUB: Pharmaceutical Engineering
QP CODE: 11324

- Instructions:**
1. Your answer should be specific to the questions asked.
 2. Write the same question numbers as they appear in this question paper.
 3. Write Legibly.
 4. Draw neat labelled diagrams wherever necessary.

Long Essay (Answer any Two)

2X10=20

1. What are monometers? Explain the principle, construction, working, uses advantages and disadvantages of orifice meter.
2. Define "Evaporation". Classify evaporators. Write the principle and construction of long tube evaporators
3. Define "Equilibrium moisture content". Explain principle, construction, working, advantages, disadvantages and uses of fluidized bed drier.

Short Essay (Answer any Seven)

7X5=35

4. Write any four objective of material handling systems. Explain the principle and construction of Screw conveyor.
5. Explain the principle and construction of filter leaf.
6. Write the various methods to combat corrosion.
7. Define centrifugation. Write the construction and working of super centrifuge?
8. Describe Fourier's law of conduction through a metal wall and derive an equation for the same.
9. Write the Principle and construction of the drier works on sublimation.
10. Explain the principle construction of Bag filter.
11. Write the various mechanisms of size reduction. Add note on Rittingers law and Bonds law.
12. Write the principle involved in simple distillation.

Short Answers (Answer All the questions)

10X2=20

13. What is Reynolds' number. Write its equation .
14. Write any four advantages of multiple effect evaporator over single effect evaporator.
15. Define Bernoulli's theorem.
16. Write the importance of Plastic as packaging material.
17. Give the applications of protective linings and coatings with respect to corrosion control.
18. Define sieve number and Nominal aperture size.
19. What are filter aids. How it improves filtration.
20. Justify the selection of filtration equipment for the slurry containing 1% solids.
21. Write any four advantages of Vacuum distillation over simple distillation?
22. Define bound water and unbound water.
