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
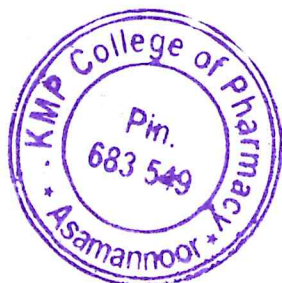
****

PRINCIPAL
KMP College of Pharmacy

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.

****

PRINCIPAL
KMP College of Pharmacy

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 growth factors
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. Capsule staining.
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
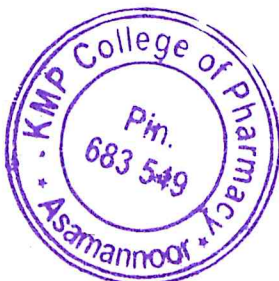
****

PRINCIPAL
KMP College of Pharmacy

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.

****

PRINCIPAL
KMP College of Pharmacy

QP Code: 422006   Reg. No...........................

Fourth Semester B.Pharm Degree Supplementary Examinations
November 2022
Medicinal Chemistry - 1

(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. Elaborate the following physicochemical properties in relation to biological activities with suitable examples. • Hydrogen bonding • Geometrical Isomerism.
2. Discuss structural activity relationship of phenothiazine's and write synthesis of Chlorpromazine hydrochloride.

Short Notes   (7x5=35)

3. Classify antipsychotic drugs and write mechanism of action of phenytoin and risperidone.
4. Summarize biosynthesis of acetylcholine.
5. Describe the factors affecting drug Metabolism with suitable examples.
6. Write the mechanism of action and synthesis of mefenamic acid.
7. Outline structural activity relationship of morphine analogues.
8. Write the synthesis and mechanism of action of propranolol.
9. Draw structure and uses of • Naphazoline • Haloperidol • Pentobarbital
   • Promazine • Trimethadione

Answer Briefly   (10x2=20)

10. Classify general anesthetics.
11. Mention any four cholinergic blocking agents.
12. Mechanism of action and chemical structure of indomethacin.
13. Define Hypnotic and sedatives and give one example.
14. Bioisosterism.
15. Draw two structures of benzodiazepines.
16. Synthesis of ethosuximide
17. Write two structures of narcotic analgesic agent.
18. Relate any two β adrenergic agonists and antagonists.
19. Mechanism of action and uses of valproic acid.

****

PRINCIPAL
KMP College of Pharmacy

Fourth Semester B.Pharm Degree Supplementary Examinations November 2022
Physical Pharmaceutics 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 diagrams wherever necessary*

Essays   **(2x10=20)**

1. Define order of reaction. Derive an equation for rate and half life for zero and first order reaction.
2. Define colloids. Give its types. Explain optical properties of colloids.

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

3. Discuss pseudo plastic flow behaviour
4. Give the working principle of cup and bob viscometer with a labeled diagram
5. Explain flocculated and deflocculated suspensions
6. Rheology in • Emulsions   • Suspensions
7. State and explain Langmuir adsorption isotherm
8. Derive an equation for spreading coefficient. What is its significance
9. Protection of drugs against oxidation

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

10. Name two instruments used to measure surface tension
11. Plastic deformation
12. Write the application of HLB
13. Gold number
14. Phase inversion.
15. Stokes law
16. Arrhenius equation
17. Multiple emulsions
18. Apparent zero order reaction
19. Thixotropy

****

Fourth Semester B.Pharm Degree Supplementary Examinations
November 2022
Pharmacology 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. Classify parasympatholytics with examples. Describe the pharmacological actions and mention the therapeutic uses of atropine.
2. Classify opioid analgesics with examples. Describe the mechanism of action and pharmacological actions of morphine.

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

3. Describe phase II reactions of drug metabolism with examples.
4. Describe the signal transduction mechanisms of G-protein coupled receptors.
5. Describe the design of phase III clinical trials.
6. Describe the neuro humoral transmission in the adrenergic nervous system.
7. Compare and contrast anesthetic ether and halothane.
8. Mention various drugs used in Parkinson's disease and describe the pharmacology of any one of them.
9. Describe gabaminergic transmission.

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

10. Define agonist and antagonist with one example.
11. What is idiosyncrasy.
12. Define teratogenicity with examples.
13. What is the rationale in combining adrenaline with lignocaine.
14. Name two centrally acting muscle relaxants.
15. What is the rationale for the use of disulfiram.
16. Mention the therapeutic uses and toxicities of imipramine.
17. Define drug tolerance with an example.
18. Name two drugs useful in grandmal epilepsy.
19. Define median lethal dose.

****

Fourth Semester B.Pharm Degree Supplementary Examinations
November 2022
Pharmacognosy and Phytochemistry 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. Enumerate the different methods of classification of crude drugs of natural origin. Explain the morphological and chemical classification.
2. Write the definition, classification, properties and general chemical tests for the identification of alkaloids.

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

3. Explain the physical evaluation of crude drugs.
4. Lycopodium spore method.
5. Plant hormones and its applications.
6. Write the principle involved in the siddha system of medicine.
7. Define and classify volatile oils with suitable examples.
8. Describe the biological source, chemical constituents and uses of cannabis and colchicum.
9. Write the source and method of preparation of castor oil.

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

10. Different sources of crude drugs.
11. Merits and demerits of taxonomical classification of crude drugs.
12. Enumerate the different factors influencing cultivation of medicinal plants.
13. Define mutation and polyploidy.
14. Define edible vaccines.
15. Chemical test for the identification of O glycosides.
16. Biological source and uses of jute.
17. Fiehe's test.
18. Source and therapeutic uses of Chaulmoogra oil.
19. Name any four anticancer drugs from marine source.

****
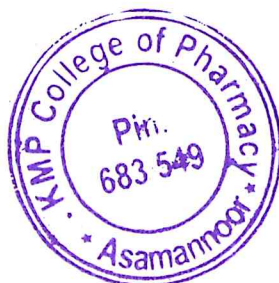
PRINCIPAL
KMP College of Pharmacy

QP Code: 421006   Reg. No..........................

Fourth Semester B.Pharm Degree Supplementary Examinations
November 2022
Pharmaceutical Organic Chemistry III

(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 stereochemistry of biphenyls and conditions for optical activity.
2. Discuss the reaction, mechanism and applications of Clemmenson reduction and Dakin reaction.

Short Notes   (7x5=35)

3. Basicity of pyrrole and compare its basicity with pyridine.
4. Give the synthesis and reactions of indole.
5. What are stereospecific and stereoselective reactions, explain with suitable examples.
6. Define racemic modification. Explain any three methods for the resolution of racemic modification.
7. Explain the aromaticity of pyrrole, thiophene and furan.
8. Explain the various conformational isomers in cyclohexane.
9. Write the synthesis and reactions of acridine.

Answer Briefly   (10x2=20)

10. Mention the synthetic importance of lithium aluminium hydride.
11. Write the resonance structures of thiophene.
12. Define meso compound with example.
13. Define Fischer projection formula.
14. Write the structure and medicinal uses of pyrazole derivative.
15. Define D and L system of nomenclature.
16. Give the reduction reaction for Furan.
17. Define R and S configuration with example.
18. Write the structure and medicinal uses of purine derivative.
19. Define geometrical isomerism.
****

PRINCIPAL
KMP College of Pharmacy