Code No: E12160/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy (NON-CBCS) 2/4 II-Semester (Backlog) Examination, May 2023

Subject: Pharmaceutical Biochemistry

Time: 3 Hours **Max. Marks: 70**

Note: Answer any five questions. All questions carry equal marks.

(5 x 14 = 70 Marks)

1. (a) Write about energy rich compound and reduction potential.
   (b) Briefly describe about the active transport mechanism.

2. (a) Write the production of ATP and its significance.
   (b) Explain the mechanism of active transport.

3. (a) Explain the mechanism action of enzyme and its inhibition.
   (b) What are coenzymes? Give the example and explain their significance.

4. (a) Describe about TCA cycle.
   (b) Explain the mechanism of glycogenolysis.

5. (a) Discuss the metabolism of β oxidation.
   (b) Write a note on Phospholipids and Sphingolipids.

6. (a) Explain the biosynthesis of cholesterol.
   (b) Write the biosynthesis of unsaturated fatty acids and explain it.

7. (a) Write about biosynthesis of DNA.
   (b) Discuss the biosynthesis of Purines.

8. (a) Explain the salient features of biosynthesis of RNA.
   (b) Write about the mechanism of protein synthesis and its regulation.

9. (a) Write the principle involved in the quantitative estimation of SGOT and SGPT.
   (b) Write a brief note on product inhibition and feedback inhibition.

10. (a) Write the principle involved in the quantitative estimation of bile pigments and albumin in urine.
    (b) Write the role of Cyclic AMP in enzyme activation.

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Code No: E-12161/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy (NON-CBCS) 2/4 II Semester (Backlog) Examination, May 2023

Subject: Pharmaceutical Engineering-II

Time: 3 Hours **Max. Marks: 70**

Note: Answer any five questions. All questions carry equal marks.

(5 x 14 = 70 Marks)

1. (a) Discuss the construction, working and application of colloid mill with diagram.
   (b) With the help of neat diagram explain the principle, construction, working of Cyclone separators.

2. (a) With the help of a neat diagram, explain the design and operation of podbielniak extractor with applications.
   (b) Explain the construction and working of Rotocel extractor.

3. (a) Explain the theory, equipment and applications of molecular distillation.
   (b) Describe the construction and working of forced circulation evaporator.

4. (a) Explain energy and mass transfer relationships during evaporation.
   (b) Write the theory involved in azeotropic distillation and mention the construction and working of distillation under reduced pressure.

5. (a) Explain the stages involved in drying rate curve.
   (b) Give a note on Miers super saturation theory and its limitations.

6. (a) Explain the construction and working of Krystal crystallizer.
   (b) Write the construction, working and application of fluidized bed dryer.

7. (a) What is mixing index? Write the construction and working of zigzag mixer.
   (b) Classify Ion exchange resins with examples. Mention their principles and applications.

8. (a) Write the construction and working principle of triple roller mill.
   (b) Describe the types of mixing impellers and it's applications.

9. (a) What is automatic process control and mention their applications.
   (b) Describe the measurement techniques for process variables such as pressure and vacuum.

10. Describe the factors effecting strength of granules and strength of tablets.

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Code No. E-12163/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy (NON-CBCS) 2/4 II-Semester (Backlog) Examination, May 2023

Subject: Environmental Studies

Time: 3 Hours **Max. Marks: 70**

Note: Answer any five questions. All questions carry equal marks.

(5 x 14 = 70 Marks)

1. Discuss the mineral, forest, land and energy resources, their benefits to society and their misutilization.

2. Write detailed notes on the following
   (i) Conservation and protection of natural resources.
   (ii) Structure and concepts of Ecosystems.

3. Explain the following
   (i) Threats to biodiversity.
   (ii) Medicinal and economic value of biodiversity.

4. Write notes on the following
   (i) Endangered and Endemic species.
   (ii) Hotspots – Mega diversity nation.

5. Discuss the causes, effects and control measures of air pollution.

6. (a) Explain the following with details. (i) Sanitation and public health. ii) Climate change.
   (b) Discuss the causes of nuclear hazards and explain the remedial measures for their control.

7. (a) Write about floods and its effects.
   (b) Explain rain water harvesting and water shed management.

8. Explain the following:
   (i) Urbanization
   (ii) Green revolution
   (iii) Nuclear accidents and bioterrorism.

9. Write short notes on the following:
   (i) Right to information act
   (ii) Wild life protection Act.
   (iii) Hazardous waste rules.

10. Explain the following:
    (i) Kyoto convention
    (ii) Eco Audit and Eco labelling
    (iii) ISO 14000

Code No: E-12162/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 2/4 II-Semester (NON-CBCS) (Backlog) Examination, April / May 2023

Subject: Pharmacognosy- I

Time: 3 Hours **Max. Marks: 70**

Note: Answer any five questions. All questions carry equal marks.

1. (a) Explain the classification of crude drugs.
   (b) Give systematic description of a crude drug.

2. (a) Discuss the applications of plant hormones.
   (b) Write notes different endogenous factors effecting cultivation.

3. (a) Write notes on precursor product sequence and competitive feeding techniques used in tracing biosynthetic pathways.
   (b) Brief out shikimic acid pathway.

4. Discuss carbohydrate synthesis pathways.

5. (a) What is adulteration? Write about different types of adulteration.
   (b) Explain Lycopodium spore method of quantitative evaluation of crude drugs.

6. (a) Write about microscopic evaluation of crude drugs.
   (b) Write notes on moisture content determination.

7. Write Biological source, chemical constituents and uses of Acacia, Isabgol, Castor oil and Beeswax.

8. Write Biological source, chemical constituents and uses of Agar, Neem oil, Carnauba wax oil and Myrobalan.

9. (a) Give pharmacognostic details of Wool.
   (b) Write biological source, chemical constituents and uses of Honey.

10. Write Biological source, chemical constituents and uses of Cotton, Bentonite, Cod liver oil and Gelatin.

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Code No.D-12061/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 2/4 II Semester (NON-CBCS) (Backlog) Examination, November 2022

Subject: Environmental Studies

Time: 3 Hours **Max. Marks: 70Marks**

Note: ***Answer any five questions. All questions carry equal marks.***

1 a) Write an essay on equitable use of all resources for sustainable development with examples.
b) Write about Forest and land resources.

2 Write detailed notes on the following.
(a) Conservation of natural resources.
(b) Concepts and functions of ecosystems.

3. Write a detailed essay on biodiversity, its types, functions and its distribution with classical examples.

4. Write detailed information on the following:
(a) Consumptive and productive use of biodiversity.
(b) Hot spots and levels of biodiversity.

5. Explain the following with details. (i) Sanitation and public health. ii) Climate change.

6. Discuss the causes of nuclear hazards and explain the remedial measures for their control.

7. Write notes on the following:
(a) Waste minimatization and products from social wastes.
(b) Drinking water problems, sanitization, public health and control measures.

8. Explain the following:
(a) Waste land reclamation
(b) Earthquakes and cyclone
(c) Nuclear accidents and bioterrorism.

9 Write short notes on the following
(a) Eco audit and Eco labeling.
(b) Environment protection Act.
(c) Environmental Impact Assessment.
(d) Municipal solid waste rules.

10 Write short notes on the following:
(a) Environmental Management Plant.
(b) ISO 14000
(c) Wild life protection Act.
(d) Hazardous waste rules.

Code No: E-12060/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 2/4 II - Semester (NON-CBCS) (Backlog) Examination, November 2022

Subject: Pharmacognosy- I

Time: 3 Hours **Max. Marks: 70**

Note: Answer any five questions. All questions carry equal marks.

1. (a) Explain the classification of crude drugs.
   (b) Give the advantages and disadvantages of cultivation of crude drugs.

2. (a) Discuss the applications of plant hormones.
   (b) Write notes on different exogenous factors effecting cultivation.

3. Explain about different techniques employed in the study of biosynthetic pathways.

4. Discuss shikimic acid pathway in detail.

5. (a) What is adulteration? Give informative notes on it.
   (b) Explain about microscopic evaluation of crude drugs with suitable examples.

6. (a) Write about organoleptic evaluation of crude drugs.
   (b) Write about chemical evaluation of crude drugs.

7. Write Biological source, chemical constituents and uses of Agar, Starch, Castor oil and Beeswax.

8. Write Biological source, chemical constituents and uses of Tragacanth, Neem oil, Theobroma oil and Amla.

9. (a) Give pharmacognostic details of cotton.
   (b) Write biological source, chemical constituents and uses of Honey.

10. Write Biological source, chemical constituents and uses of Silk, Kaolin, Cod liver oil and Papain.

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Code No: E-12059/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 2/4 II-Semester (NON-CBCS) (Backlog) Examination, November 2022

Subject: Pharmaceuticals Engineering - II

Time: 3 Hours **Max. Marks: 70Marks**

Note: Answer any five questions. All questions carry equal marks.

1 a) Discuss the construction, working and application of fluid energy mill with diagram.
   b) With the help of neat diagram explain the principle, construction, working of bag filters.

2 a) With the help of a neat diagram, explain the design and operation of podbielniak extractor with applications.
   b) Write the construction and working principle of hammer mill.

3 a) Explain the theory, equipment and applications of molecular distillation.
   b) Explain the principle, construction and applications of climbing film evaporator.

4 a) Explain the construction, working and application of dryers used for slurries with neat sketch.
   b) Write the theory involved in azeotropic distillation and mention the construction and working of distillation under reduced pressure.

5 a) Explain the construction, working and application of freeze dryer.
   b) Explain the construction, working and application of Swenson Walker crystallizer.

6 a) Discuss the theory and principle of drying and its importance.
   b) Write the construction, working and application of fluidized bed dryer.

7 a) Describe the factors influencing selection of mixer.
   b) Explain the types of ion exchange process along with the applications in pharmacy.

8 a) Write the construction and working principle of triple roller mill.
   b) Describe the types of mixing impellers and it's applications.

9 a) What are forces involved during compaction and mention their measurement techniques.
   b) Write the importance of Huckle plots in tablet compression.

10 a) Describe the effect of pressure on relative volume during compaction process.
   b) Explain the concepts of adhesion and cohesion of particles and its significance in compaction.

Code No. E- 12058/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 2/4 II Semester (NON-CBCS) (Backlog) Examination, November 2022

Subject: Pharmaceutical Biochemistry

Time: 3 Hours **Max. Marks: 70 Marks**

Note: ***Answer any five questions.*** **(5 x 14 = 70 Marks)**

1. a) Write the biochemical organization of cell with a neat diagram.
   b) Write about: (i) Free energy (ii) Reduction potential (iii) Energy rich compounds.

2. a) Classify Enzymes with examples and write about activator and deactivator of enzymes.
   b) Explain the clinical applications of enzymes and co enzymes.

3. a) Write a note on β oxidation and Explain the regulation of fatty acid oxidation.
   b) Write about synthesis of ketone bodies.

4. a) Explain the metabolic disorders of Carbohydrate metabolism.
   b) Discuss the biosynthesis of Pyrimidine nucleotides.

5. a) Discuss the different laboratory investigations used to assess liver function.
   b) Explain the Qualitative tests used to detect the abnormal constituents of urine.

6. a) Discuss in detail various transport processes across cell membrane.
   b) Describe the mechanism of active transport.

7. a) Discuss about citric acid cycle.
   b) Write about Pentose phosphate cycle.

8. a) Explain the metabolism of Cholesterol.
   b) Write a note on Phospholipids.

9. a) Describe the de novo biosynthesis of purines.
   b) Write the enzymes involved in biological oxidation.

10. Describe the principles and methods involved in the Quantitative analysis of the following blood constituents. (i) Glucose (ii) Urea (iii) Creatinine

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Code No: E- 12057/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 2/4 II-Semester (NON-CBCS) (Backlog) Examination, November 2022

Subject: Pharmaceutical Organic Chemistry - II

Time: 3 Hours **Max. Marks: 70**

Note: Answer any five questions. All questions carry equal marks.

(5 x 14 = 70 Marks)

1. a) Explain the mechanism of Nitration and Sulphonation in Benzene.
   b) Explain the Nucleophillic substitution in Halobenzenes.

2. a) Write in detail about Conformational isomerism with examples.
   b) What is racemic modification? How do you resolute racemic modification.

3. a) Write a note on Fischer indole synthesis.
   b) Discuss the Electrophillic aromatic substitution reactions of Pyridine

4. a) Outline the method of preparation and important reactions of Pyrazole.
   b) Write the structure and specific uses of drug compounds containing
      i) Phenam ii) Cepham iii) Oxazine

5. a) Write two applications for each of the following
      i) Selenium oxide ii) Lead tetra acetate iii) N-Bromosucinamide
   b) Describe mechanism of following reaction i) Oppenneur oxidation ii) MPV reduction

6. a) Explain acidity of phenols.
   b) Write the structure and electrophillic substitution reactions of Anthracene

7. a) Discuss cis- trans isomerism with examples.
   b) Define and explain Elements of symmetry

8. a) Write any two methods of synthesis of thiophene.
   b) Discuss the Oxidation reactions of Quinoline & Isoquinoline.
   c) Write the structure and specific uses of drug compounds containing i) Pyrrole ii) Furan

9. a) Outline the method of preparation and chemical reactions of Isoxazole.
   b) Write the structure and specific uses of drug compounds containing
      i) Thiazole ii) Diazine iii) Oxazole

10. a) Explain birch reduction and Arndt-Eistert synthesis.
    b) Mention two applications of LAH.

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Code No: D-8129/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 2/4 II Semester (NON-CBCS) (Backlog) Examination,

March / April 2022

Subject: Pharmaceutical Biochemistry

Time: 3 Hours **Max. Marks: 70Marks**

Note: Answer any five questions. All questions carry equal marks. (5 x 14 = 70 Marks)

1. a) Describe the mechanism of active transport.
   b) Explain the production of ATP and mention the biological significance of ATP.

2. a) Classify Enzymes with examples and write about activator and deactivator of enzymes.
   b) Discuss the Enzyme inhibition with suitable examples.

3. a) Write a short note on i) Essential fatty acids b) Synthesis of ketone bodies.
   b) Describe Cholesterol metabolism.

4. a) Discuss about formation of uric acid.
   b) Explain the following terms: i) Biological oxidation ii) Nitrogen balance iii) Electron transport

5. a) Explain the biosynthesis of DNA.
   b) Mention the various applications of recombinant DNA technology.

6. a) Explain the principle and method for qualitative and quantitative analysis of blood glucose.
   b) Describe the role of cyclic AMP in enzyme activation.

7. a) Discuss the passive transport across the cell membrane.
   b) Write the HMP shunt pathway and its significance.

8. Explain the following a) Glycolysis b) TCA cycle.

9. Write a short note on a) Nitrogen balance b) DNA repair mechanism and c) metabolism.

10. a) Discuss the qualitative and quantitative analysis of blood for i) Urea ii) Albumin iii) Glucose
    b) Write the qualitative and quantitative analysis of urine for i) bile pigments and albumin ii) Glucose iii) Ketone bodies.

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Code No.D-8132/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy II / IV II Semester (NON-CBCS) (Backlog) Examination, March / April 2022

Subject: Environmental Studies

Time: 3 Hours **Max. Marks: 70**

Note: *Answer any **Five** Questions. All Questions carry **Equal Marks**.*

(5 x 14 = 70 Marks)

1. a) Discuss about indicators for sustainable development with examples.
   b) Write about the mineral, forest, land and energy resources, their benefits to society and their misutilization.

2. Write detailed notes on the following
   (i) Conservation and protection of natural resources.
   (ii) Structure and concepts of Ecosystems.

3. Explain the following with details
   (i) Biodiversity and species richness
   (ii) Medicinal and economic value of biodiversity.

4. Write notes on the following
   (i) Endangered and Endemic species.
   (ii) Hotspots – Mega diversity nation.

5. a) Explain cost benefit analysis for a pharmaceutical process with details
   b) Write detailed notes on the following
      (i) Solid waste management and
      (ii) Urban waste management.

6. a) Explain the following with details.
   (i) Sanitation and public health.
   (ii) Climate change.
   b) Discuss the causes of nuclear hazards and explain the remedial measures for their control.

7. Write notes on the following:
   (i) Waste minimatization and products from social wastes.
   (ii) Drinking water problems, sanitization, public health and control measures.

8. Explain the following:
   (i) Waste land reclamation
   (ii) Earthquakes and cyclone
   (iii) Nuclear accidents and bioterrorism.

9. Write short notes on the following:
   (a) Environmental Management Plant.
   (b) ISO 14000
   (c) Wild life protection Act.
   (d) Hazardous waste rules.

10. Explain the following:
    (i) EIA and EMP
    (ii) Eco Audit and Eco labelling

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Code No: D-8128/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 2/4 II - Semester (Non-CBCS)(Backlog) Examination,

February / March 2022

Subject: Pharmaceutical Organic Chemistry - II

Time: 3 Hours **Max. Marks: 70 Marks**

Note: Answer any five questions. All questions carry equal marks.

(5 x 14 = 70 Marks)

1. a) Explain the mechanism of Nitration and Halogenation in Benzene.
   b) What are Poly nuclear aromatic compounds? Discuss in detail the reactions of Naphthalene.

2. a) Write a brief note on Conformational isomerism.
   b) Explain sequence rules to determine R and S configuration.

3. a) Discuss the Electrophillic aromatic substitution reactions of thiophene.
   b) Outline the method of preparation and important reactions of
      i) Quinoline ii) Isoquinoline

4. a) Outline the method of preparation and important reactions of Benzimidazole.
   b) Write the structure and specific uses of drug compounds containing
      i) Thiazole ii) Diazine iii) Oxazole

5. a) Write two applications for each of the following
      i) LAH ii) Lead tetra acetate iii) N-Bromosucinamide
   b) Describe mechanism of following reaction i) Oppenneur oxidation
      ii) Birch reduction

6. a) Outline the method of preparation and chemical reactions of Pyrazole.
   b) Write the structure and specific uses of drug compounds containing
      i) Triazole ii) Phenam iii) Cepham

7. Explain in detail the Effect of substituent on orientation of mono substituted aromatic compounds.

8. a) Explain Optical isomerism with examples.
   b) Explain the following terms: i) Plane polarized light ii) Diastereomers
      iii) Meso structures

9. a) Describe mechanism of following reaction i) Fries migration ii) MPV reduction
   b) Write two applications for each of the following i) Sodium periodate
      ii) Selenium oxide

10. a) Define Heterocyclic compounds and Explain systematic nomenclature to name heterocyclic compounds with four examples
    b) Explain why Electrophillic aromatic substitution takes place at 3rdposition in Pyridine
    c) Write the structure and specific uses of drug compounds containing pyrrole and furan.

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Code No. D-8131/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 2/4 II Semester (Non-CBCS) (Backlog) Examination, March 2022

Subject: Pharmacognosy - I

Time: 3 Hours **Max. Marks: 70**

Note: Answer any five questions. All questions carry equal marks.

(5 x 14 = 70 Marks)

1 (a) Explain in detail about the different methods of classification of crude drugs.
(b) Write a note on the role of plant hormones in cultivation of medicinal plants.

2 (a) Define and classify the tannins. Discuss in detail about the applications of tannins.
(b) Give the colour reaction and pharmaceutical importance of tannins.

3 (a) What are plant fibers and give the pharmaceutical importance?
(b) Define pesticide and explain the role of pesticides in cultivation.

4 Write about (i) Lycopodium spores technique (ii) Leaf constants
(iii) Palisade Ratio (iv) Determination of foreign matter.

5 (a) Describe in detail about Isoprenoid biosynthesis.
(b) Write a note on secondary plant metabolites.

6 (a) Give the source, chemistry, uses and chemical tests of shark liver oil and Cod liver oil.
(b) Explain in detail about the systematic pharmaceutical study of following products: (i) Bees wax (ii) Honey.

7 (a) Define the terms adulteration and spurious drugs.
(b) Describe the methods of adulteration of crude drugs and their detection.

8 (a) Define fixed oils and write the physical and chemical properties of fixed oils.
(b) Describe the following tests and their significance
(i) Gold beaters skin test (ii) Gambier fluroscin test.

9 What are proteins and classify? Give the source, pharmaceutical significance and method of preparation of any two proteins.

10 (a) Explain the role of fertilizers in cultivation of medicinal plants.
(b) Write the biological sources, chemistry and uses of
(i) Isabgol (ii) Indian gooseberry (iii) Linseed.

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Code No: D-8130/Non-CBCS

FACULTY OF PHARMACY

B. Pharmacy 2/4 II-Semester (Non-CBCS) (Backlog) Examination,

March / April 2022

Subject: Pharmaceuticals Engineering - II

Time: 3 Hours **Max. Marks: 70Marks**

Note: Answer any Five Questions. All Questions carry *Equal Marks.*
(5 x 14 = 70 Marks)

1. (a) Compare and contrast between edge and end runner mills along with diagrams.
   (b) Explain the factors affecting the choice of extraction process.

2. (a) Write the construction and working of continuous extraction equipment.
   (b) Discuss the construction, working and application of ball mill with diagram.

3. (a) Explain the theory, equipment and applications of molecular distillation.
   (b) Write the construction, advantages and disadvantages of steam jacketed kettle.

4. (a) Explain the concept of HETP.
   (b) Explain the theory, construction and working of steam distillation unit.

5. (a) Explain the construction, working and application of spray dryer.
   (b) Explain the construction, working and application of Swenson Walker crystallizer.

6. (a) Explain the caking of crystal and its prevention.
   (b) Write the construction, working and application of fluidized bed dryer.

7. (a) Write the construction and working of mixer for free flowing substances.
   (b) Classify ion exchange resins and mention their applications.

8. (a) Write the construction and working principle of triple roller mill.
   (b) Write the principle, construction and working of Zig-zag mixer.

9. (a) What are forces involved during compaction and mention their measurement techniques.
   (b) Describe the effect of pressure on relative volume during compaction process.

10. (a) Explain the techniques for level measurement.
    (b) Explain the concepts of adhesion and cohesion of particles and its significance in compaction.

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Code No: 12204 /Non-CBCS

FACULTY OF PHARMACY

B. Pharmacy 2/4 II-Semester (Non-CBCS)(Backlog) Examination, March 2021

Subject: Pharmaceutical Organic Chemistry – II

Time: 2 Hours **Max. Marks: 70**

Note: Answer any four questions. **(4x17½=70Marks)**

1 a) Explain the mechanism of Nitration and Sulphonation in Benzene.
b) Explain the Nucleophillic substitution in Halobenzenes

2 a) Explain acidity of phenols.
b) Write the structure and electrophillic substitution reactions of Anthracene.

3 a) Write in detail about Conformational isomerism with examples.
b) What is racemic modification? How do you resolute racemic modification.

4 a) Discuss cis- trans isomerism with examples.
b) Define and explain Elements of symmetry.

5 a) Write a note on Fischer indole synthesis.
b) Discuss the Electrophillic aromatic substitution reactions of Pyridine

6 a) Write any two methods of synthesis of thiophene.
b) Discuss the Oxidation reactions of Quinoline & Isoquinoline.
c) Write the structure and specific uses of drug compounds containing
i) Pyrrole ii) Furan

7 a) Outline the method of preparation and important reactions of Pyrazole.
b) Write the structure and specific uses of drug compounds containing
i) Phenam ii) Cepham iii) Oxazine

8 a) Outline the method of preparation and chemical reactions of Isoxazole.
b) Write the structure and specific uses of drug compounds containing
i) Thiazole ii) Diazine iii) Oxazole

9 a) Write two applications for each of the following
i) Selenium oxide ii) Lead tetra acetate iii) N-Bromosuccinimide
b) Describe mechanism of following reaction
i) Oppenneur oxidation ii) MPV reduction

10 a) Explain birch reduction and Arndt-Eistert synthesis.
b) Mention two applications of LAH.

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Code No. 12207 / Non-CBCS

FACULTY OF PHARMACY

B. Pharmacy 2/4 II-Semester (Non-CBCS)(Backlog) Examination, March 2021

Subject : Pharmacognosy – I

Time: 2 Hours **Max. Marks: 70**

Note: Answer any four questions. **(4 x $17^{1/2}$ = 70 Marks)**

1 (a) Describe the effect of exogenous and endogenous factors affect the cultivation of medicinal plants.
(b) List the plant hormones and discuss about Auxins.

2 (a) With suitable examples discuss the effect of season, time of collection and age of the plant on quality of medicinal plants cultivation.
(b) Give an informative note on good storage practices.

3 What are metabolic pathways? Explain in detail about Shikimic acid pathway.

4 (a) Describe the Isoprenoid biosynthesis and its importance.
(b) Write a note on precursor product sequence.

5 Write about:
(i) Drug deterioration by non-living factors (ii) Quantitative microscopic analysis

6 Write about:
(i) Lycopodium spore method (ii) Leaf constants (iii) Organoleptic evaluation

7 (a) What are fixed oil and fats? Write the chemical properties.
(b) Give biological source, chemistry and uses of:
(i) Castor oil (ii) Arjuna (iii) Agar-Agar

8 (a) Define and classify the tannins. Give the color reaction and pharmaceutical importance of tannins.
(d) Write the biological sources, chemistry and uses of
(i) Isabgol (ii) Linseed (iii) Black catechu

9 (a) What are plant fibers and give the pharmaceutical importance?
(b) What are proteins and classify? Give the source, pharmaceutical significance and method of preparation of any two proteins.

10 Write the biological source, chemistry method of preparation and pharmaceutical importance of
(i) Honey (ii) Cantherides (iii) Silk (iv) Cotton

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Code No. 13250/Non-CBCS

FACULTY OF PHARMACY

B. Pharmacy 2/4 II-Sem. (Non-CBCS) (Backlog) Examination, July 2019

Subject: Pharmaceutical Organic Chemistry - II

Time: 3 Hours **Max. Marks: 70**

Note: Answer all questions. All questions carry equal marks.

1. (a) Explain the mechanism of sulphonation and Friedel-crafts alkylation. 8
   (b) Explain in detail 4n+2 rule and aromaticity. 6

OR

2. (a) Add a note on Heats of hydrogenation. 6
   (b) Write the structure and electrophillic reactions of Napthalene. 8

3. (a) Explain in detail about Optical isomerism. 7
   (b) Explain Sequence rules to determine R and S configuration. 7

OR

4. (a) Explain in detail about Cis-Trans isomerism. 8
   (b) Define and explain Elements of symmetry. 6

5. (a) Discuss the method of preparation and electrophillic substitution reactions of Thiophene. 10
   (b) Write the structure and specific uses of drug compounds containing Pyridine and Indole. 4

OR

6. (a) Explain the reactions of Pyrrole. 8
   (b) Discuss the Oxidation reactions of Quinoline and Isoquinoline. 6

7. (a) Write any two method of preparations of Benzimidazole and Phenothiazine. 8
   (b) Write the structure and specific uses of drug compounds containing
   i) Phenam ii) Cepham iii) Triazole. 6

OR

8. (a) Write the method of preparation and reactions of Pyrazole. 8
   (b) Write the structure and specific uses of drug compounds containing
   i) Oxazine ii) Benzofuran iii) Tetrazole 6

9. (a) Describe the mechanism of the following reactions. 8
   i) fries migration ii) MPV reduction
   (b) Write two applications of Lithium aluminum hydride and Lead tetra acetate. 6

OR

10. (a) Write two applications of Selenium oxide and Perchloric acid. 6
    (b) Describe the mechanism of the following reactions. 8
    i) Beckmann rearrangement ii) Birch reduction.

Code No. 13254/Non-CBCS

FACULTY OF Pharmacy

B. Pharmacy 2/4 II-Semester (Non-CBCS) (Backlog) Examination, August 2019

Subject : Environmental Studies

Time : 3 Hours **Max. Marks: 70**

Note: Answer All questions, All Questions carry equal marks.

1 a) Write an essay on equitable use of all resources for sustainable development with examples. (7)
b) Discuss the structure and characteristic features of ecosystems. (7)

OR

2 Write detailed notes on the following.
(a) Conservation of natural resources. (7)
(b) Concepts and functions of ecosystems. (7)

3 a) Write a detailed essay on biodiversity, its types, functions and its distribution with classical examples. (9)
b) "Protection of Environment and sustainable development" – Explain. (5)

OR

4 Write detailed information on the following:
(a) Consumptive and productive use of biodiversity. (7)
(b) Hot spots and levels of biodiversity. (7)

5 a) Explain the following with details.
(i) Sanitation and public health. (7)
(ii) Climate change. (7)

OR

6 Write detailed notes on the following:
(a) Control measures for industrial wastes. (7)
(b) Recycle and Reuse. (7)

7 a) Write a detailed essay on various social issues in the human society and discuss the possible remedial measures. (10)
b) Write briefly on nuclear accidents and bio terrorism. (4)

OR

8 Explain the following with details.
(a) Water harvesting and water shed management. (7)
(b) Disaster management plan. (7)

9 Write short notes on the following: (3.5x4=14)
(a) Eco audit and Eco labeling.
(b) Environment protection Act.
(c) Environmental Impact Assessment.
(d) Municipal solid waste rules.

OR

10 Write short notes on the following:
(a) Environmental Management Plant.
(b) ISO 14000
(c) Wild life protection Act.
(d) Hazardous waste rules.

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Code No. 13253/Non-CBCS

FACULTY OF PHARMACY

B. Pharmacy 2/4 II-Sem. (Non-CBCS) (Backlog) Examination, July 2019

Subject: Pharmacognosy - I

Time: 3 Hours **Max. Marks: 70**

Note: Answer all questions. All questions carry equal marks.

1. (a) Discuss the role of plant hormones in cultivation of medicinal plants.
   (b) Write a note on Mutation. 10+4

OR

2. (a) Discuss the various stages subsequent to cultivation of crude drugs.
   (b) Describe the good storage practices. 9+5

3. (a) Write a note on autoradiography.
   (b) Describe in detail about Isoprenoid biosyntheis. 4+10

OR

4. (a) Describe the Shikmic acid pathway.
   (b) Write a note on competitive feeding technique. 10+4

5. (a) Define the terms adulteration and spurious drugs.
   (b) Describe the methods of adulteration of crude drugs and their detection. 4+10

OR

6. Write about
   i) Lycopodium spores technique ii) Leaf constants iii) Determination of foreign matter. 5+5+4

7. (a) Give the biological source of
   i) Indian psyllium ii) Indian Goose berry iii) Katha.
   (b) Describe the following tests and their significance
   i) Gold beaters skin test ii) Gambier fluroscin test.
   (c) Write the physical and chemical properties of fixed oils. 6+4+4

OR

8. (a) Define and classify the tannins. Describe applications of tannins,
   (b) Give the source and chemical structure of following Phytoconstituents
   i) Catechin ii) Chaulmogric acid iii) Arjunolone. 5+9

9. (a) What are plant fibers and give the sources, preparation and applications of cotton and Hemp fibers.
   (b) Give an informative note on Honey and cochineal. 7+7

OR

10. (a) Give the source of shark liver oil and Cod liver oil. Write the chemistry, uses and chemical test.
    (b) Give and informative note on Musk and cantharides. 7+7

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FACULTY OF PHARMACY

B. Pharmacy 2/4 II-Semester (Non-CBCS)(Backlog) Examination, July 2019

Subject : Pharmaceuticals Engineering - II

Time : 3 Hours **Max. Marks: 70**

Note: Answer all questions. All questions carry equal marks.

1 (a) How the particle size and its distribution of pharmaceutical powders are determined by sieving method? (8)
(b) Explain the construction, working and applications of Rotex screen. (6)

OR

(c) Compare and contrast between air separator and cyclone separator with the help of diagrams. (8)
(d) Write the construction and working principle of hammer mill. (6)

2 (a) Describe the factors influencing evaporation process. (7)
(b) Explain the theory, construction and working of steam distillation unit. (7)

OR

(c) Describe the energy and material balances in evaporation process. (6)
(d) Write the theory involved in azeotropic distillation and mention the construction and working of distillation under reduced pressure. (8)

3 (a) Write the importance of gas absorption and different types of Towers along with their packing. (6)
(b) Explain the construction, working and application of freeze dryer. (8)

OR

(c) Explain the caking of crystal and its prevention. (6)
(d) Explain the construction, working and application of Swenson Walker crystallizer. (8)

4 (a) Explain the construction, working and applications of triple roller mill. (7)
(b) Write the principle, construction and working of Zig-zag mixer. (7)

OR

(c) Explain the types of ion exchange process along with the applications in pharmacy. (7)
(d) Write about Vortex formation and its prevention techniques with the help of diagrams. (7)

5 (a) What are the applications and drawbacks of automatic process control? (4)
(b) Write the techniques for measurement of pressure and temperature. (10)

OR

(c) What are forces involved during compaction and mention their measurement techniques? (10)
(d) Write the importance of Huckle plots in tablet compression. (4)

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