

Code No.: 6513

## FACULTY OF PHARMACY

B.Pharmacy II Year II Semester (Supplementary) Examination,  
November/December 2011

## PHARMACEUTICAL BIO-CHEMISTRY

Time : 3 Hours]

[Max. Marks : 70

*Answer all questions.  
All questions carry equal marks.*

1. (a) Explain the terms: reduction potential and free energy constant. 6
- (b) Briefly describe about the active transport mechanism. 8

Or

- (c) Describe the mechanism of passive transport across the cell membrane. 8
- (d) Write about the fluid mosaic model of bio membrane structure and its significance. 6
2. (a) Define enzyme and classify them. 6
- (b) Write a brief note on TCA cycle and its significance. 8

Or

- (c) Write the biosynthesis of pentose phosphate pathway. 6
- (d) Explain the mechanism of glycogenolysis. 8
3. (a) Discuss the metabolism of beta oxidation. 6
- (b) Write a note on ketone bodies and discuss their biosynthesis. 8

Or

- (c) Explain the biosynthesis of cholesterol. 6
- (d) Sketch the biosynthesis of saturated fatty acids and explain it. 8
4. (a) Explain the formation of uric acid cycle. 6
- (b) Explain electron transport and biological oxidation. 8

Or

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- (c) Explain the silent features of biosynthesis of RNA. 6
- (d) Write about the application RDNA technology. 8
- 5. (a) Write the principle involved in quantitative estimation of SGPT and SGOT. 6
- (b) Write a brief note on product inhibition and feed back inhibition. 8

Or

- (c) Write the principle involved in the quantitative estimation of ketone bodies and glucose in urine. 6
  - (d) What is the role of cyclic AMP in enzyme activation 8
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**FACULTY OF PHARMACY**

**B. Pharmacy II Year II Semester (Supplementary) Examination,  
November/December 2011**

**PHARMACOGNOSY - I**

Time : 3 Hours]

[Max. Marks : 70

*Answer all questions.  
All questions carry equal marks.*

1. (a) Write about good storage protection of crude drugs.
- (b) Discuss the effect of altitude, temperature and Hybridization on concentration of drug constituents with examples.
- (c) Give the advantages of cultivation. 3+8+3

Or

- (d) Explain the effect of season and time of collection on quality of active principles.
- (e) Write a informative note on Mutation and auxins. 6+8
2. (a) Explain the scheme of Tryptophan Biosynthesis.
- (b) Write a note on autoradiography. 10+4

Or

- (c) Explain the schemes of cholesterol biosynthesis.
- (d) Write a note on Scintillation counters. 10+4
3. (a) Explain the measures to prevent the investition of micro organisms, spores and eggs.
- (b) Write a note on Biological evaluation.
- (c) Write a note on micrometers. 5+7+2

Or

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- (d) Write about Adulteration and Types of adulteration.
- (e) Effect of moisture content and methods of determination. 8+7
4. (a) What are Lipids, classify and give chemical properties?
- (b) Mention the source, constituents and uses of castor oil, Agar and Carnaubawa. 5+9

Or

- (c) Write a note on Olginates.
- (d) Give the specific chemical tests to Agar, Arjuna and Acacia.
- (e) Write about Analytical parameters of oils and fats. 4+3+7
5. (a) What are proteins and enzymes? Classify and give specific identification tests.
- (b) Give the morphological and histological differences between cotton, silk and wool.
- (c) Write biological source and uses of cantharides and cochineal. 6+4+4

Or

- (d) Write the biological source, chemical constituents and uses of shark liver oil; musk and Hemp.
- (e) Give an account on preparation and processing of Honey and Jute. 8+6
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**FACULTY OF PHARMACY**

**B. Pharmacy II Year II Semester (Supplementary) Examination,  
November/December 2011**

**ENVIRONMENTAL STUDIES**

Time : 3 Hours]

[Max. Marks : 70

*Answer all questions.  
All questions carry equal marks.*

1. (a) Discuss in detail various natural resources and explain their uses and exploitation. 10
- (b) Discuss and explain the theory and practice of sustainability. 4
- Or
- (c) Explain briefly about sustainable life styles. 7
- (d) Write a note on safety, security of natural resources. 7
2. (a) What is types and levels of biodiversity? Explain with examples. 7
- (b) Explain briefly about hot spots and threats to biodiversity. 7
- Or
- (c) Explain the following:
  - (i) Consumptive and productive use of biodiversity. 5
  - (ii) Endangered and Endemic Species. 5
  - (iii) Distribution of bio diversity. 4
3. (a) Write a note on nuclear hazards and their control. 5
- (b) Explain briefly about sanitation and public health. 5
- (c) Define and explain climate change. 4

Or

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(d) Write notes on the following:

- (i) Environmental problems and solutions. 5
- (ii) Causes and remedies for soil pollution. 5
- (iii) Solid waste management. 4

4. (a) Discuss briefly the following:

- (i) Industrialization and Green Revolution. 5
- (ii) Social problems and solutions. 6
- (iii) Rain Water Harvesting. 2

Or

(b) Write short notes on the following:

- (i) Bio Terrorism.
- (ii) Tsunami 2 x 3
- (iii) Waste land reclamation.
- (iv) Nuclear accidents. 2 x 4

5. (a) Write briefly about EMP 5

(b) Explain Eco Audit Eco Labelling 6

(c) Discuss MSW Rules. 3

Or

(d) Write notes on the following:

- (i) Stockholm Convention - Outcome 7
  - (ii) Kyoto protocol - regulations. 7
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B.Pharmacy II Year II Semester (Supplementary) Examination,  
November/December 2011

PHARMACEUTICAL ORGANIC CHEMISTRY - II

Time : 3 Hours]

[Max. Marks : 70

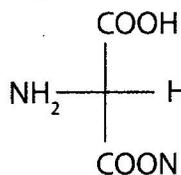
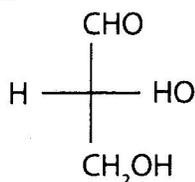
Answer all questions.  
All questions carry equal marks.

1. (a) (i) Write the methods of preparation and important chemical reactions of anthracene. 7  
(ii) Explain the mechanism of Electrophilic substitution reactions. 7

Or

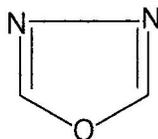
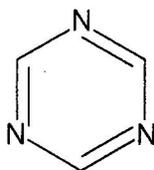
- (b) (i) Explain in detail effect on substitution reactions of mono substituted aromatic compounds. 8  
(ii) How halobenzene undergo substitution reaction explain. 6

2. (a) (i) Explain with examples the R and S sequence rules to assign R and S absolute configuration. 10  
(ii) Assign absolute configuration to following structures. 4

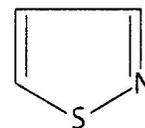
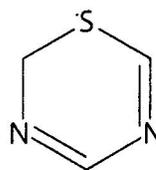


Or

- (b) (i) Explain relative configuration of optical active compounds. 6  
(ii) Define with examples. (a) Enantiomers (b) Diastereomers. Explain briefly plane of symmetry. 8
3. (a) (i) Outline two methods of preparations of pyrrole and thiophene. 8  
(ii) Name the following heterocyclic compounds. 6



Or



[P.T.O.]

- (b) (i) Outline methods of preparation and important reactions of 8  
(a) Quinoline (b) Isoquinoline
- (ii) Explain different positions for substitution reactions in pyridine also highlight how to prepare 4-nitropyridine from pyridine. 6
4. (a) (i) Discuss any two methods of preparation of pyrimidine and phenothiazine. 8  
(ii) Describe two methods of preparation some reactions of isoxazole. 6
- Or
- (b) (i) Write the ring structure and medicinal uses of compounds bearing.  
(a) Benzofuran (b) Benzopyran (c) Phenazine (d) Tetrazole 8
- (ii) Out line one method of preparation for  
(a) Pyrazole (b) Benzopyran (c) Diazine 6
5. (a) (i) Mention the reaction mechanism of  
(a) Fries migration (b) Arndt - Eistert synthesis. 10
- (ii) Write important applications of  
(a) Sodium periodate (b) Selenium oxide. 4
- Or
- (b) (i) Explain mechanism of  
(a) Mpv reduction (b) Birch reduction 8
- (ii) Mention with reactions important applications of  
(a) Lithium Aluminium hydride (b) LTA 6
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B. Pharmacy II Year II Semester (Main) Examination, April/May 2011

PHARMACEUTICAL BIOCHEMISTRY

Time : 3 Hours]

[Max. Marks : 70

Answer all questions.  
All questions carry equal marks.

1. (a) (i) Draw a neat diagram of an animal cell, label the parts and add a note on its biochemical organization. 8  
(ii) Sketch the salient features of active transport across the cell membrane with a suitable example. 6
- Or
- (b) (i) Explain the concept of free energy in biology and how do you determine the free energy change in a biochemical reaction from equilibrium constant? 8  
(ii) Sketch the production of ATP and explain its biological significance. 6
2. (a) (i) Discuss the IUB-nomenclature and classification of enzymes with suitable examples and explain briefly on the mechanism of enzyme action. 8  
(ii) Explain the salient features of gluconeogenesis and its regulation. 6
- Or
- (b) (i) Discuss the TCA-cycle its regulation and energy yield in it. 8  
(ii) Sketch the clinical applications of enzymes and isozymes. 6
3. (a) (i) Discuss the mechanism of beta-oxidation of a molecule of palmitic acid, its regulation and energy yield in it. 8  
(ii) Sketch the biosynthesis of Ketone bodies. 6
- Or
- (b) (i) Sketch the denovo synthesis of a molecule of palmitic acid and how is it regulated. 8  
(ii) Outline the biosynthesis of cholesterol. 6

[P.T.O.]

4. (a) (i) Write an essay on electron transport chain and oxidative phosphorylation. 8  
(ii) Sketch the biosynthesis of pyrimidines. 6
- Or
- (b) (i) Enumerate the salient features of DNA replication and its regulation. 8  
(ii) Explain the DNA repair mechanism. 6
5. (a) (i) Sketch the principles involved in the quantitative estimation of SGPT, SGPT and glucose in blood. 8  
(ii) Explain the feed back inhibition and feed back repression with suitable examples. 6
- Or
- (b) (i) Explain the role of cyclic AMP in enzyme activation, repression and induction with suitable examples. 8  
(ii) Sketch the principle in the quantitative estimation of bile pigments and albumin in urine. 6
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FACULTY OF PHARMACY

B. Pharmacy II Year II Semester (Main) Examination, April/May 2011

PHARMACOGNOSY - I

Time : 3 Hours]

[Max. Marks : 70

Answer **all** questions.

All questions carry equal marks.

- ✓ 1. (a) (i) What are Plant growth regulators? Discuss the importance of Gibberellin and Auxins in cultivation of medicinal plants.
- (ii) Explain the role of Polyploidy technique in cultivation of medicinal plants. 10+4

Or

- (b) (i) Describe the effect of season and time of collection of plant on quality of active principles with example.
- (ii) Explain the scope of Pharmacognosy with examples. 8+6

- ✓ 2. (a) (i) What are basic metabolic pathways and explain the carbohydrate synthesis & their role in the formation of different metabolites.
- (ii) Write a note on precursor-product sequence. 10+4

Or

- (b) (i) Explain the importance and application of Tracer technique in biosynthesis of Phytoconstituents.
- (ii) Define primary and secondary metabolites? Write the different metabolic pathways to obtain the Phyto-constituents. 6+8

- ✓ 3. (a) (i) What do you understand by evaluation of crude drugs? Describe giving examples the importance of chemical and biological evaluation.
- (ii) Write the importance of Lycopodium spore method in evaluation of crude drugs. 10+4

Or

- (b) (i) Discuss the effects of living factors in deterioration of crude drugs and give the preventive steps of same.

- ✓ (ii) Define leaf constants? Write the importance of leaf constant. 8+6

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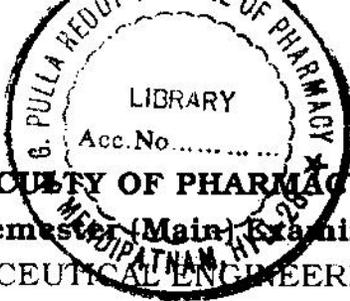
4. (a) (i) Write the source, morphology, chemical constituents and uses of Indian Psyllium.
- (ii) Write the source, method of preparation, Identification test and uses of sodium alginate. 6+8

Or

- (b) (i) Give the biological Source and family of following (A) Spermaceti (B) Lard (C) Beeswax (D) Carnauba.
- (ii) Write the source, method of preparation, chemical constituents, chemical test and uses of Castor oil. 4+10
5. (a) (i) What is Solidification point? Discuss the method of collection, extraction and processing of Cod liver oil.
- (ii) Write the microscopical characters and chemical tests for identification of wool and jute. 8+6

Or

- (b) (i) How absorbent cotton is prepared? What are its specification, chemical test and uses.
- (ii) Write a note on Kaolin. 8+6
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**FACTULTY OF PHARMACY**

**B. Pharmacy II Year II Semester (Main) Examination, April/May 2011**  
**PHARMACEUTICAL ENGINEERING - II**

Time : 3 Hours]

[Max. Marks : 70

*Answer all questions.*

*All questions carry equal marks.*

(a) (i) What are the difficulties encountered in reducing viscosity of slurry for its filtration. 7

(ii) Write advantages of evaporating still over evaporating pan. 7

Or

(b) (i) How does deflector assist vaporization in forced circulation evaporator? 7

(ii) Why are multiple evaporators also called as low energy evaporators? 7

(a) (i) What are different ways of heat transfer? 7

(ii) Discuss in detail process of freeze drying. 7

Or

(b) (i) Write application of desiccation. 7

(ii) What is difference between drying and desiccation. 7

(a) (i) Classify dryers on basis of heat transfer. 7

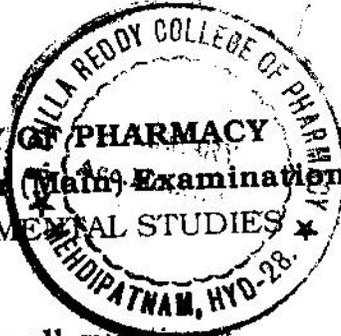
5. (a) (i) Discuss fabrication of ball mill fluid energy mill. 7
- (ii) Give examples of levigating agents used in pharmacy. 7

Or

- (b) (i) Write merits and de-merits of edge runner mill. 7
- (ii) Explain rate of surface properties of solid on mixing. 7

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**FACULTY OF PHARMACY**  
**B.Pharmacy II Year II Semester (Main) Examination, April/May 2011**  
**ENVIRONMENTAL STUDIES**

Time : 3 Hours]

[Max. Marks : 70

Answer all questions.  
All questions carry equal marks.

1. (a) Write notes on the following :
  - (i) Conservation of natural resources. (7)
  - (ii) Ecosystem - Features and Functions. (7)

Or
- (b) Explain briefly the following :
  - (i) Concepts and characteristics of Ecosystems. (9)
  - (ii) Equitable use of resources. (5)
2. (a) Discuss the relevance of Nano-Technology and Bio-Technology in the protection of environment. (10)
- (b) What is Mega diversity nation? Explain. (4)

Or

- (c) Discuss the local, national and global levels of bio diversity! Give examples. (9)
- (d) Discuss genetic and species diversity. (5)
3. (a) What is waste minimization? Explain this concept wrt a manufacturing industry. (8)
- (b) Write about reduce - reuse - recycle. (6)

Or

- (c) Write notes on the following :
  - (i) Cost benefit analysis with reference to a pharmaceutical industry. (6)
  - (ii) Control measures for urban and industrial wastes. (4+4)

[P.T.O.

(a) Explain the following briefly:

- (i) Population Growth and Explosion. (5)
- (ii) Earth quakes and land slides. (5)
- (iii) Consumerism and waste products. (4)

Or

(b) Write notes on the following:

- (i) Disaster management plan. (5)
- (ii) Resettlement and Rehabilitation. (4)
- (iii) Water conservation and water shed management. (5)

(a) Write the role of regulatory bodies in monitoring and enforcement of regulations. (8)

(b) Write briefly on Right to information Act. (6)

Or

(c) Discuss briefly about EIA. (5)

(d) Explain about ISO 14000 and its relevance to environmental studies. (5)

(e) Discuss briefly about Hazardous waste rules. (4)

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**FACULTY OF PHARMACY**

**B. Pharmacy II Year II Semester (Main) Examination, April/May 2011**

**PHARMACEUTICAL ORGANIC CHEMISTRY - II**

Time : 3 Hours]

[Max. Marks : 70

*Answer all questions.  
All questions carry equal marks.*

1. (a) (i) What are polynuclear aromatic compounds? Discuss in detail the reactions of Napthalene. 4  
(ii) Explain the mechanism for Nitration and Halogenation of benzene. 4  
Or  
(b) (i) Discuss in detail the reactions of phenols. 8  
(ii) Write a note on Nucleophilic substitution in Halo-benzenes. 6
2. (a) (i) Write a brief note on conformational isomerism. 6  
(ii) Explain sequence rules to determine R and S configuration. 8  
Or  
(b) Explain optical Isomerism with examples. 6  
(c) Explain the following terms (i) Chirality (ii) Absolute configuration  
(iii) Diastereomers (iv) Enantiomer. 8
3. (a) (i) Describe the any one method of preparation of quinoline and Isoquinoline. 10  
(ii) Explain why electrophilic substitution takes place at 2 and 5 position in Furan. 4  
Or  
(b) (i) Discuss the reactions of Pyridine. 8  
(ii) Compare the aromaticity of pyrrole, thiophene & furan. 6
4. (a) (i) Discuss any two methods of preparation of thiazole and pyroazole. 10  
(ii) Write the structure and system of numbering of the following heterocycles with two examples of medicinally important compounds (A) Isoxazole  
(B) Cinnoline 4

Or

[P.T.O.

- (b) (i) Write the ring structure and nomenclature of following heterocyclic compounds. 6  
(A) Benzofuran (B) Dioxane (C) Tetrazole.
- (ii) Write any one method of preparation of following (a) Phenothiazine 8  
(B) Pyrimidine.
5. (a) (i) Write two applications of each of the following: 6  
(A) LTA (B) NBS (C) Selenium oxide
- (ii) Describe the mechanism of following reaction 8  
(A) Birch Reduction (B) MPV Reduction
- Or
- (b) (i) Write the two applications of each of the following: 6  
(A) Lithium Aluminium Hydride (B) Perchloric acid
- (ii) Describe the mechanism of following reaction 8  
(A) Oppenauer Oxidation (B) Fries migration.
-