

Code No. : 4413

**FACULTY OF TECHNOLOGY**

**B. Pharmacy II Year II Semester (Suppl.) Examination, Nov./Dec. 2010**

**PHARMACEUTICAL BIOCHEMISTRY**

Time : 3 Hours]

[Max. Marks : 70

**Note :** 1) Answer all questions.

2) All questions carry equal marks.

1. a) How do you determine reduction potential of a reaction? Explain in detail. 7

b) Write a note on ATP production and its biological significance. 7

OR

c) Enumerate the different transport processes across a cell membrane. 10

d) Write a note on free energy concept. 4

2. a) Enumerate the different factors affecting the rate of an enzyme catalyzed reaction. 10

b) Write short notes on coenzymes. 4

OR

c) Discuss the oxidation of a molecule of acetate in a mitochondrion and explain the energy yield in this process. 10

d) Write short notes on glycogenolysis. 4

3. a) Explain the mechanism of beta-oxidation of long chain fatty acids. 8

b) Outline the biosynthesis of cholesterol. 6

OR

c) Discuss the biosynthesis of unsaturated long chain fatty acids. 8

d) Sketch the biosynthesis of phospholipids. 6

(This paper contains 2 pages)





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4. a) Sketch the salient features of biosynthesis of DNA and explain the physiological role of DNA. 10

b) Write a note on recombinant DNA. 4

OR

c) Discuss the mechanism of protein biosynthesis. 8

d) Sketch the biosynthesis of pyrimidine nucleotides. 6

5. a) Explain the principle involved in the quantitative estimation of Glucose, Albumin and Ketone bodies in urine. 10

b) Explain the role of cyclic AMP in enzyme activation. 4

OR

c) Sketch the principle in the quantitative estimation of SGPT and SGPT in blood and comment on the levels of these enzymes in blood. 10

d) Outline the mechanism of enzyme repression and induction. 4

OR

1. Discuss the oxidation of a molecule of acetate to a molecule of acetyl-CoA and explain the energy yield in this process.

2. Write short notes on Glyoxysomes.

3. Explain the mechanism of beta-oxidation of long chain fatty acids.

4. Outline the biosynthesis of cholesterol.

OR

1. Discuss the biosynthesis of unsaturated long chain fatty acids.

2. Sketch the biosynthesis of phospholipids.





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**FACULTY OF TECHNOLOGY**  
**B.Pharm. II Year II Semester (Supple.) Examination, Nov./Dec. 2010**  
**PHARMACOGNOSY – I**

Time : 3 Hours]

[Max. Marks : 70

**Note :** 1) Answer *all* questions.

2) All questions carry *equal* marks.

1. a) Describe the role played by the living and nonliving factors in the deterioration of crude drugs during storage. 8

b) By using suitable examples explain the methods of drying. 6

OR

c) Define the plant growth hormones. Discuss the role of plant growth hormones in enhancing the production of secondary metabolites. 8

d) Write about the attitude and soil factors which affect the cultivation of medicinal plants. 6

2. a) Explain the Shikimic acid pathway in the biogenesis of various secondary metabolites. 8

b) What are primary and secondary metabolites ? Mention the different metabolic pathways by which phytoconstituents are formed. 6

OR

c) Explain the following in the elucidation of biogenesis precursor product sequence, competitive feeding. 8

d) Write the biogenetic pathway of Lysergic acid. 6







3. a) What is evaluation ? Discuss with examples the Ash values, Extractives and solubility parameters.

8

b) Write the lycopodium spore method.

6

OR

c) Explain the importance of microscopic evaluation of powdered crude drugs.

8

d) Giving examples, differentiate briefly between qualitative and quantitative evaluation.

6

4. a) How is Agar produced from its source ? Give its constituents and uses.

8

b) Give an account of prepared lard.

6

OR

c) Write the source, method of preparation and uses of Castor oil, Olive oil.

8

d) Write a note on Starch.

6

5. a) Describe the method of collection, extraction and processing of Cod liver oil.

8

b) Write the source, constituents and test for purity of honey.

6

OR

c) Write a note on talc and Kaolin.

8

d) Write the chemical constituents and uses of musk and cochineal.

6





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**FACULTY OF TECHNOLOGY**

**B. Pharmacy II Year II Semester (Suppl.) Examination, December 2010**  
**PHARMACEUTICAL ENGINEERING – II**

Time : 3 Hours]

[Max. Marks : 70

**Note :** 1) Answer all questions.

2) All questions carry equal marks.

1. A) i) With a neat diagram, describe the construction and working of a squirrel cage disintegrator. 9

ii) How are standard screens designed ? What are the different types of standard screens ? 5

OR

B) i) What are the characteristics which must be assessed in the choice of a solvent for liquid-liquid extraction on the industrial scale ? 5

ii) With a neat sketch, explain the construction and working of a Rotocel extractor. 9

2. A) i) Give a diagram of a tripple effect evaporator and explain its working. 6

ii) Classify condensers and state their applications. 5

iii) What is boiling point elevation ? 3

OR

B) i) What is differential distillation ? State its application in pharmaceutical industry. 4

ii) Explain the principle of molecular distillation. 4

iii) Compare sieve plate and packed column distillation operations. 6



3. A) i) Explain why rate of drying cannot be increased by increasing the velocity of hot air during falling rate period of drying. 4
- ii) Discuss the factors that effect the formation and growth of crystals. 4
- iii) With a neat diagram, explain working principle of Swenson-Walker crystallizer. 6

OR

- B) i) With neat diagram, discuss the working principle of Spraydrier and state its application. 7
- ii) Why gas film resistance is more important than liquid film resistance in gas absorption ? Explain. 4
- iii) What is the concept of mass transfer coefficient ? 3
4. A) i) Give the principle and working of the Silverson mixer-emulsifier. 6
- ii) Explain briefly the theory of mixing of solids. 5
- iii) Distinguish between emulsification and homogenization. 3

OR

- B) i) What is mixing ? With line diagrams, discuss different types of liquid mixing devices. 7
- ii) Explain the principles of Ion exchange operation. State its applications. 7
5. A) i) How forces distribute in power mass ? Explain mechanism and discuss the effect of pressure on its relative volume. 7
- ii) What do you understand by automatic process control and what are its advantages ? 7

OR

- B) i) Describe briefly the different devices available for measuring temperature. 8
- ii) Explain the terms on-off control, proportional control and pneumatic control. 6





Code No. : 4416

**FACULTY OF TECHNOLOGY**  
**B. Pharmacy II Year II Semester (Suppl.) Examination, Nov./Dec. 2010**  
**ENVIRONMENTAL STUDIES**

Time : 3 Hours]

[Max. Marks : 70

**Note : 1) Answer all questions.**

**2) All questions carry equal marks.**

I. a) i) Explain the components of Environment. 4

ii) What are natural resources and discuss the mineral resources and its conservation ? 10

OR

b) i) Mention about various types of Ecosystems. 4

ii) Describe the structure of eco system. 10

II. a) i) Explain genetic diversity. 4

ii) Discuss the magnitude and distribution of biodiversity. 10

OR

b) i) Explain Economic value of biodiversity. 4

ii) Discuss various threats to biodiversity. 10

III. a) i) Discuss eutrophication. 4

ii) Explain the causes and effects of water pollution. 10

OR

b) i) Explain Recycle and Reuse of wastes. 4

ii) Give an account of solid waste management. 10







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IV. a) i) Discuss about environment and value education.

4

ii) Explain the effects of human activities on the quality of environment.

10

OR

b) i) Write about floods and its effects.

4

ii) Explain rainwater harvesting and water-shed management.

10

V. a) i) Mention about hazardous waste rules.

4

ii) Discuss the salient features of the water (prevention and control of pollution) Act.

10

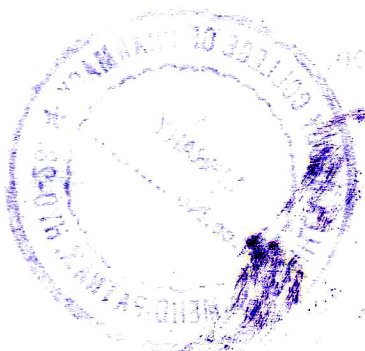
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b) i) Write about Ecolabelling.

4

ii) Explain the negative and positive impacts of EIA.

10





Code No. : 4412

**FACULTY OF TECHNOLOGY**

**B. Pharmacy II Year II Semester (Supple.) Examination, Nov./Dec. 2010**

**PHARMACEUTICAL ORGANIC CHEMISTRY – II**

Time : 3 Hours]

[Max. Marks : 70

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

1. a) i) Describe the mechanism of nitration and friedel craft methylation of benzene.

10

- ii) Write a note on nomenclature of aromatic compounds.

4

OR

- b) i) Write any two methods of preparation and chemical reactions of naphthalene and anthracene.

6

- ii) Explain in detail Huckel  $4n + 2$  rule and Aromaticity.

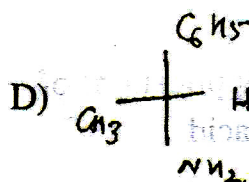
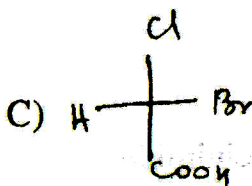
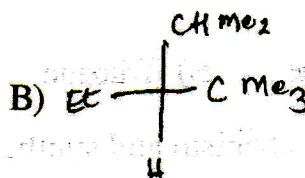
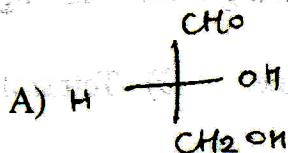
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2. a) i) Explain optical isomerism considering tartaric acid as an example.

8

- ii) Assign the absolute configuration for following structures.

6



OR







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b) i) What are relative and absolute configuration ? Explain the sequence rules to assign absolute configuration. 10

ii) Write a note on E and Z isomerism. 4

3. a) i) Write methods of preparation and reactions of

A) Quinoline B) Isoquinoline 10

ii) Write a note on nomenclature of hetero cyclic compounds. 4

OR

b) i) Write two methods of preparation for following hetero cyclic compounds.

A) Furan B) Pyrole C) Acridine D) Indole 8

ii) Write structure and medicinal uses of compounds bearings

A) Quinoline B) Isoquinoline C) Acridine 6

4. a) i) Write the synthesis and characteristic reactions of 8

A) Oxazole B) Pyrazole

ii) How do you prepare pyrimidine and phenothiazine ? 6

OR

b) i) Describe the significance of imidazole and benzimidazole in the synthesis of drugs. 6

ii) Write structure and specific uses of compounds having following ring structures.

A) Oxazine B) Triazine C) Cinnoline D) Tetrazole 8

5. a) Describe the mechanism and synthetic applications of

A) Beckmann rearrangement B) Hoffman rearrangement 14

OR

b) i) Write synthetic applications of

A) Perchloric acid B) N-Bromo succinimide 8

ii) Write a note on significance of reducing agents. 6