

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





Code No. : 4415

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



Code No. : 4414

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

(This paper contains 2 pages)



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





- IV. a) i) Discuss about environment and value education. 4
ii) Explain the effects of human activities on the quality of environment. 10

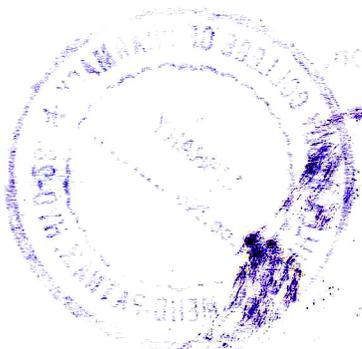
OR

- 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

OR

- b) i) Write about Ecolabelling. 4
ii) Explain the negative and positive impacts of EIA. 10





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FACULTY OF TECHNOLOGY

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

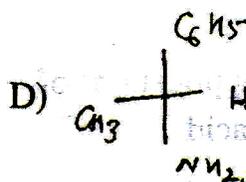
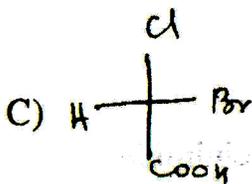
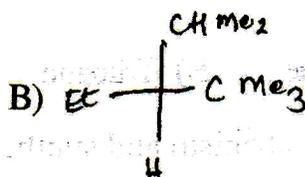
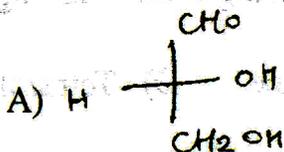
PHARMACEUTICAL ORGANIC CHEMISTRY - II

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. 8
2. a) i) Explain optical isomerism considering tartaric acid as an example. 8
ii) Assign the absolute configuration for following structures. 6



OR





- 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
A) Oxazole B) Pyrazole 8
- 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