Code No.: 7013

FACULTY OF TECHNOLOGY
B.Pharmacy II Year II Semester (Main) Examination, June 2010
PHARMACEUTICAL BIOCHEMISTRY

Time: 3 Hours] [Max. Marks: 70

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

1. a) i) Discuss the biochemical organization of a eucaryotic cell and write a note on sub-cellular organelles. **10**

   ii) Write short notes on energy rich compounds. **4**

   OR

   b) i) Discuss in detail on the transport processes across a cell membrane. **10**

   ii) Write a note on ATP formation and its biological significance. **4**

2. a) i) What are enzymes ? Discuss the IUB nomenclature and classification of enzymes with suitable examples. **8**

   ii) Discuss briefly the specificity and mechanism of action of enzymes. **6**

   OR

   b) i) Sketch the pentose phosphate pathway and explain its physiological significance. **10**

   ii) Write short notes on glyoxylate cycle. **4**

3. a) i) Sketch the complete oxidation of one molecule of palmitic acid in a mitochondrion and indicate the energy yield in this process. **10**

   ii) Explain the synthesis of ketone bodies. **4**

   OR

   b) i) Discuss the biosynthesis of long chain saturated fatty acids and write a note on the regulation of this phenomenon. **8**

   ii) Sketch the biosynthesis of lecithin. **6**

4. a) i) Write an essay on the electron transport chain and oxidative phosphorylation. **10**

ii) Sketch the formation of uric acid. **4**

OR

b) i) Write an essay on the mechanism of protein biosynthesis and its regulation. **10**

ii) Write short notes on inborn errors in metabolism. **4**

5. a) i) Sketch the principle involved in the quantitative estimation of SGPT and SGOT and glucose in blood. **8**

ii) Explain the clinical significance on the blood levels of albumin-globulin ratio and creatinine. **6**

OR

b) i) Explain the product inhibition, feed back inhibition and cyclic AMP role in enzyme activation. **8**

ii) Discuss briefly on the mechanism of enzyme repression and induction. **6**

22/6/2010 - P-IV-0/C

Code No. : 7015

FACULTY OF TECHNOLOGY

B. Pharmacy II Year (II Semester) (Main) Examination, June 2010

PHARMACOGNOSY – I

Time: 3 Hours] [Max. Marks: 70

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

I. a) i) Write a note on storage of crude drugs. **8**

ii) Discuss the collection of crude drugs. **6**

OR

b) i) Discuss the advantages and disadvantages of cultivation of medicinal and aromatic plants. **6**

ii) Write informative notes on Auxins and Gibberellins. **8**

II. a) i) Discuss the grafting and mutant strain techniques used for biogenetic studies of plant metabolites. **8**

ii) Write the biogenetic scheme for Tyrosine. **6**

OR

b) i) Discuss various methods of tracer studies. **10**

ii) Describe the biogenetic pathway for diterpenes. **4**

III. a) i) Define "adulteration of crude drugs". Discuss the different types of adulterants found in market to adulterate crude drugs. **10**

ii) Write informative notes on Lycopodium spore method. **4**

OR

b) i) Discuss chemical method of evaluation of crude drugs. **10**

ii) Write a brief note on deterioration of crude drugs by non-living factors. **4**

IV. a) i) Describe 'Agar' under a suitable pharmacognostic scheme. **10**

ii) State biological source, chemical constituents, a test for identification and uses of Arjuna bark. **4**

OR

b) i) Mention one example for each of fats, drying oils, non-drying oils and semidrying oils obtained from vegetable sources and write their biological sources and uses. **10**

ii) Write a brief note on Alginates. **4**

V. a) i) Write pharmacognostic notes on : **10**

i) Wool and

ii) Cod liver oil.

ii) Write informative notes on Pancreatin. **4**

OR

b) i) Give an account of collection and processing of : **8**

i) Cotton and

ii) Papain for the market.

ii) Write biological source, chemical constituents and uses of : **6**

i) Cantharides and

ii) Musk.

Code No. : 7014

FACULTY OF TECHNOLOGY
B. Pharmacy II Year II Semester (Main) Examination, June 2010
PHARMACEUTICAL ENGINEERING – II

Time : 3 Hours] [Max. Marks: 70

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

1. a) i) Describe the construction, working and application of ball mills in pharmaceutical industry. **9**

   ii) Distinguish between sedimentation and elutriation. State their principles and applications. **5**

   OR

   b) i) Explain the mechanism of leaching of crude drugs. **5**

   ii) With the help of a neat diagram, explain the design and operation of a Podbielniak extractor. **9**

2. a) i) Explain Duhring's rule. What are Duhring lines ? How they are useful in evaporation ? **5**

   ii) What is capacity of an evaporator ? Explain the material and heat balance equations in a simple effect evaporator. **5**

   iii) What is the effect of presence of air in steam on rate of evaporator ? **4**

   OR

   b) i) State and explain Raoult's law. **4**

   ii) With a neat line diagram, explain the principle of a continuous rectification column. **5**

   iii) What method of distillation would you employ for removal of free fatty acids from fixed oils ? Give reasons for using such a distillation method. **5**

3. a) i) Explain the principle of fluidized bed drying and state its applications in pharmaceutical industry. **5**

   ii) Explain the terms bound moisture, unbound moisture and equilibrium moisture. **4**

   iii) Discuss Mier's super saturation theory and its limitations. **5**

   OR

b) i) With neat diagram, explain the working of Krystal crystallizer and state its application. 8

ii) Explain the concepts of flooding point and loading point in gas absorption tower. What is their significance in tower operation ? 6

4. a) i) What is disadvantage of formation of vortex in liquid mixing ? Suggest methods to eliminate it. 6

ii) Describe the construction, working and applications of Ointment mill. 8

OR

b) i) Discuss the mixing of viscous masses in pharmaceutical industry. Describe the kneading machine with neat diagram. 7

ii) Discuss different types of ion exchangers and state their applications. 7

5. a) i) How punch forces are measured ? Explain mechanism in transmitting forces through powders. 7

ii) Discuss factors effecting strength of granules and tablets. 7

OR

b) i) Explain open loop and closed loop control systems with block diagrams. Give few examples. 6

ii) Define set point, offset and controller gain. 4

iii) How the vacuum is measured ? State available apparatus to measure vacuum. 4

25/6/2010 - F.N. O/C

Code No. : 7016

FACULTY OF TECHNOLOGY
B.Pharm. II Year II Semester (Main) Examination, June 2010
ENVIRONMENTAL STUDIES

Time: 3 Hours] [Max. Marks: 70

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

I. a) i) Describe the importance of environmental studies. **4**

ii) Explain the impacts of agriculture on environment emphasising more on fertiliser and pesticide applications. **10**

OR

b) i) Explain the two basic steps to be taken for equitable use of resources for sustainable lifestyles. **4**

ii) Describe various eco-pyramids with suitable examples. **10**

II. a) i) Explain the consumptive and productive use of biodiversity. **4**

ii) Describe biodiversity at the global, national and local levels. **10**

OR

b) i) Explain the relevance of nanotechnology in environmental protection. **4**

ii) Explain and differentiate between biological reserves, national parks and wildlife sanctuaries. **10**

III. a) i) Explain the causes, effects and control measures of soil pollution. **10**

ii) Explain the Bhopal gas tragedy. **4**

OR

b) i) Explain the causes, effects and control measures for solid wastes. **10**

ii) Describe the mechanism of formation of ozone holes at the earth's poles. **4**

IV. a) i) Describe the effects of transportation on the quality of the environment. **10**

ii) How are earthquakes caused and what are its effects ? **4**

OR

b) i) Explain some strategies for conservation of water. **10**

ii) Discuss rehabilitation policy in the case of Sardar Sarovar Project. **4**

V. a) i) Discuss the salient features of the Air (Prevention and Control of Pollution) Act. **8**

ii) Discuss the environmental impact assessment of huge dams. **6**

OR

b) i) Explain in brief the environmental management plan. **10**

ii) Discuss the environmental impacts of construction of a building. **4**

Code No. 7012

FACULTY OF TECHNOLOGY
B.Pharmacy II Year II Semester (Main) Examination, June 2010
PHARMACEUTICAL ORGANIC CHEMISTRY – II

Time: 3 Hours] [Max. Marks: 70

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

1. a) i) What are polynuclear aromatic compounds ? Discuss in detail the reactions of Anthracene. **7**

   ii) Explain the following statements giving appropriate examples.
   (A) Nitrobenzene upon nitration gives meta nitro nitrobenzene, (B) The product of sulfonation of Naphthalene depends on the temperature. **7**

   OR

   b) i) Write a note on Nucleophilic substitution in Halo-benzenes. **7**

   ii) Describe the mechanism for Acylation and Nitration of benzene. **7**

2. a) i) Explain optical isomerism with examples. **6**

   ii) Explain the following terms (A) Plane polarised light, (B) Diostereomers, (C) Meso structures, (D) Enatiomer. **8**

   OR

   b) i) Write a note on conformational isomerism. **6**

   ii) Write the sequence rules to determine R and S configuration. **8**

3. a) i) Outline the method of preparation and two important reactions of the following (A) Quinoline, (B) Indole. **10**

   ii) Give two examples of medicinally important compounds representing each of the following heterocyclic systems (A) Furan, (B) Pyrrole. **4**

   OR

   b) i) Explain why electrophilic substitution takes place at '3' position in pyridine. **4**

   ii) Describe the any one method of preparation of quinoline and isoquinoline. **10**

4. a) i) Write the characteristic reactions of Imidazole and Thiazole. **6**

ii) Give any one method of preparation of (i) Pyrazine, (ii) Phenothiazine, (iii) Pyrazole, (iv) Pyrimidine. **8**

OR

b) i) Write the ring structure and nomenclature of following heterocyclic compounds (A) Oxazine, (B) Cinnoline, (C) Dioxane. **6**

ii) Discuss any two methods of preparation and reactions of Imidazole. **8**

5. a) i) Write two applications of **each** the following : **6**

(A) Lithium aluminium hydride, (B) LTA, (C) Perchloric acid.

ii) Describe the mechanism of following reaction : **8**

(A) Birch reduction, (B) Oppenneur oxidation.

OR

b) i) Write at least two synthetic reactions each for the following (A) NBS, (B) Selenium oxide, (C) Sodium periodate.

ii) Describe the mechanism of following reaction :

(A) MPV reduction, (B) Arnedt-Eistert synthesis.
