



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**

Code No. : 7013

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 - F-v-o/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



Code No. : 7015

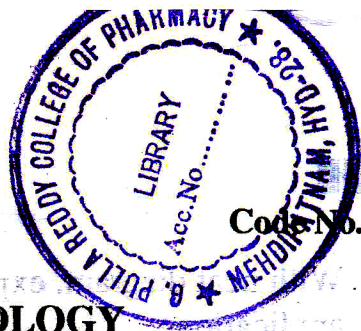
- IV. a) i) Describe 'Agar' under a suitable pharmacognostic scheme. 10
ii) State biological source, chemical constituents, a test for identification and uses of Arjuna bark. 4

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



Code No. 13014

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



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

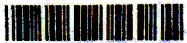
OR

- 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



Code No. 77016

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



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

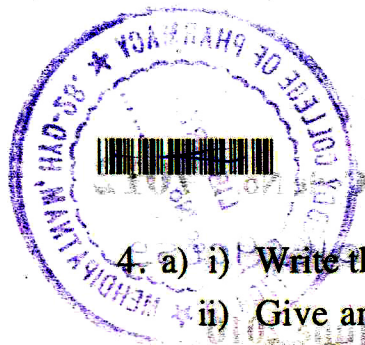
- b) i) Write a note on Nucleophilic substitution in Halo-benzenes. 7
- ii) Describe the mechanism for Acylation and Nitration of benzene. 7
2. a) i) Explain optical isomerism with examples. 6
- ii) Explain the following terms (A) Plane polarised light, (B) Diastereomers, (C) Meso structures, (D) Enantiomer. 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



Code No. : 1912

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) Oppenauer 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) Arndt-Eistert synthesis.