Code No. 1072

FACULTY OF PHARMACY

B. Pharmacy 2/4 II – Semester (Suppl.) Examination, November 2017

Subject : Pharmaceutical Biochemistry

Time : 3 hours **Max. Marks : 70**

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

1 a) Write the biochemical organization of cell organelle. 9
b) Discuss the passive transport across the cell membrane. 5

OR

c) Explain the production of ATP and its biological significance. 8
d) Define 3 x 2 = 6
i) Reduction potential
ii) Energy rich compounds
iii) Equilibrium constant

2 a) Write the HMP shunt pathway and its significance. 9
b) Discuss Kinetics, mechanism and inhibition of enzymes. 5

OR

Explain the following :
c) Glycolysis 7
d) TCA cycle 7

3 a) Discuss the cholesterol metabolism. 8
b) Explain the oxidation or unsaturated fatty acids. 6

OR

Write about :
c) Beta oxidation of lipids
d) Biosynthesis or fatty acids

4 Write short notes on :
a) Electron transport and biological oxidation. 8
b) Nitrogen balance 6

OR

c) DNA repair mechanism 8
d) Metabolism 6

5 Discuss the qualitative and quantitative analysis of blood for
a) Urea b) Albumin c) Glucose 5+5+4

OR

Write the qualitative and quantitative analysis of urine for
a) bile pigments and albumin b) glucose c) Ketone bodies 6+4+4

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Code No. 1075

FACULTY OF PHARMACY

B. Pharmacy 2/4 II – Semester (Suppl.) Examination, November 2017

Subject : Environmental Studies

Time : 3 hours **Max. Marks : 70**

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

1 a) What is safety, security and over exploitation of natural resources? 7
b) State and explain the conservation of natural resources. 7

OR

c) What are the benefits of water and energy resources? Explain with examples. 7
d) State and explain sustainable theory and practice. 7

2 a) Explain the following :
i) Genetic and species diversity in ecosystem 7
ii) Medical and economic value of biodiversity 7

OR

b) Discus the following :
i) Biodiversity and environmental protection 7
ii) Bio-geo graphical classification of India 7

3 a) Write a detailed note on solid and hazardous waste management with examples. 10
b) Write briefly on noise pollution. 4

OR

c) What is recycle, reuse and cost-benefit analysis? 7
d) Explain development of value added product. 7

4 a) Explain the following :
i) Social problems related to poverty, energy, food and health. 7
ii) Disaster management with case studies 7

OR

b) Write notes on the following :
i) Water conservation and rain water harvesting 7
ii) Management of floods, cyclone and earth quakes 7

5 a) Explain the following :
i) ISO 14000 7
ii) Environmental management plan 7

OR

b) Write notes on the following :
i) Enforcement of environmental regulations 7
ii) Forest Conservation Act 7

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Code No. 1073

FACULTY OF PHARMACY

B. Pharmacy 2/4 II – Semester (Suppl.) Examination, November 2017

Subject : Pharmaceutical Engineering - II

Time : 3 hours **Max. Marks : 70**

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

1 a) Describe the factors affecting selection of extraction process. 6
b) Explain the construction, working and applications of Podbielniak extractor. 8

OR

c) Discuss particle size distribution and its importance. 7
d) Explain the construction, working and importance of bag filter. 7

2 a) Describe the construction of sieve plate and packed towers used in fractional distillation. 7
b) Describe the principles of separation of binary mixtures by rectification. 7

OR

c) Explain the construction and working of vacuum distillation unit. 6
d) Describe the advantages, drawbacks, construction and working of short tube evaporator. 8

3 a) What is Mier's super saturation theory and mention its limitations? 6
b) Write the construction and working of Krystal crystallizer. 8

OR

c) Discuss the theory and principle of drying and its importance. 6
d) Write the construction and working of spray dryer. 8

4 a) What is mixing index and classify mixing equipment? 7
b) Describe any one equipment used for semisolid mixing. 7

OR

c) Explain equipment subsystems and working principle of Silverson Emulsifier. 7
d) Describe the characteristics, application and limitations of impellers. 7

5 a) Explain feedback and feed forward mechanisms in automatic process control. 6
b) Describe the measurement of process variables such as temperature and pressure. 8

OR

c) Describe the factors affecting strength of granules. 7
d) Explain the factors influencing strength of tablets. 7

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Code No. 1074

FACULTY OF PHARMACY

B. Pharmacy 2/4 II – Semester (Suppl.) Examination, November 2017

Subject : Pharmacognosy – I

Time : 3 hours **Max. Marks : 70**

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

1 a) Write about various exogenous and endogenous factors affecting the quality of crude drugs. 10
b) What are the plant hormones and write their applications? 4

OR

c) Write a notes on good storage practices. 6
d) Write the advantages and disadvantages of collection of crude drugs from wild plants. 8

2 a) Explain the Shikimic acid pathway. 14

OR

b) Write a note on :
i) Competitive feeding technique ii) Precursor-product sequence 7+7

3 a) Define drug Evaluation. Explain the morphological and microscopic evaluation.
b) Write the effect of moisture content and its determination. 9+5

OR

c) Write about the adulteration and methods to detect the adulteration with examples. 8
d) Describe the methods to prevent the infestation of medicinal plants with micro organisms. 6

4 a) Write the sources of chemical constituents and color reactions of agar, acacia and pale catechu. 7
b) Give an informative note on alginates and amla. 7

OR

c) Define and classify tannins. Give the sources and pharmaceutical importance of catechu.
d) Write the sources, constituents and uses of Chaulmoogroil, castor oil and Olive oil. 5+9

5 a) Write the source, preparation and uses of shark liver oil and cod liver oil. 8
b) Write the sources and chemical test for cotton, silk and wool. 6

OR

c) Give the source and uses of Cantherides, Musk and cochineal.
d) Write the preparation of papain and cod liver oil. 9+5

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Code No. 1071

FACULTY OF PHARMACY

B. Pharmacy 2/4 II – Semester (Suppl.) Examination, November 2017

Subject : Pharmaceutical Organic Chemistry-II

Time : 3 hours **Max. Marks : 70**

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

1 a) Explain the mechanism of Nitration and Halogenation in Benzene. 6

b) What are polynuclear aromatic compounds? Discuss in detail the reactions of Naphthalene. 8

OR

c) Explain in detail the effect of substituent on orientation of mono substituted aromatic compounds 8

d) Explain in detail 4n+2 rule and aromaticity. 6

2 a) Explain optical isomerism with examples. 6

b) Explain the following terms :
i) Plane polarized light ii) Diasteromers iii) Meso compounds
iv) Enantimers 8

OR

c) Write a brief note on conformational isomerism. 6

d) Explain sequence rules to determine R and S configuration. 8

3 a) Define Heterocyclic compounds and explain systematic nomenclature to name heterocyclic compounds with four examples. 6

b) Explain why electrophillic aromatic substitution takes place at 3rd position in pyridine. 4

c) Write the structure and specific uses of drug compounds containing
i) Pyrrole ii) Furan 4

OR

d) Discuss the electrophillic aromatic substitution reactions of thiophene. 8

e) Outline the method of preparation and important reactions of
i) Quinoline ii) Isoquinoline 6

4 a) Outline the method of preparation and important reactions of Benzimidazole. 8

b) Write the structure and specific uses of drug compounds containing
i) Thiazole ii) Diazine iii) Oxazole 6

OR

c) Outline the method of preparation and chemical reactions of Pyrazole. 8

d) Write the structure and specific uses of drug compounds containing
i) Triazole ii) Phenam iii) Cepham 6

5 a) Write two applications for each of the following :
i) LAH ii) Lead tetraacetate iii) N-Bromosucinamide 6

b) Describe Mechanism of following reactions :
i) Oppenneuroxidation ii) Birch reduction 8

OR

c) Describe mechanism of following reactions
i) Fries migration ii) MPV reduction 6

d) Write two applications for each of the following :
i) Sodium periodate ii) Seleniumoxide iii) Perchloric acid 6

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Code No. 4221

FACULTY OF PHARMACY

B. Pharmacy 2/4 II – Semester (Main) Examination, May 2017

Subject: Pharmacognosy –I

Time: 3 Hours **Max.Marks: 70**

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

1 a) Write the classification of crude drugs and their merits and demerits. 5
b) Describe the post harvesting techniques. 9

OR

c) Explain the effect of exogenous and endogenous factors which influence the chemical constituents during cultivation of medicinal plants. 14

2 a) Explain the Shikimic acid pathway. 14

OR

b) Write a note on:
i) Competitive feeding technique 7
ii) Precursor-Product sequence. 7

3 a) Write the importance and method of determination of:
i) Moisture content 5
ii) Foreign organic matter 3
iii) Stomatal index 3
iv) Crude fiber content 3

OR

b) Define the evaluation and explain the microscopic evaluation. 6
c) What is adulteration and write a note on types of adulteration. 8

4 a) Write the sources and chemical test for:
i) Agar 3
ii) Pale catechu 3
iii) Tragacanth 3
b) Write the source, chemical constituents and therapeutic uses of Amla. 5

OR

c) What are Tannins? Classify and give the color reactions. 5
d) Give an informative note on isabgol, linseed and castor oil. 9

5 a) Write the preparation and applications of Papain. 3
b) Give the microscopic and chemical difference of jute, cotton and Hemp fibers. 8
c) Write a note on Cochineal. 3

OR

d) Write the sources and test for silk and wool. 4
e) Write the sources, preparation, chemistry and uses of Cod liver oil. 6
f) Write the preparation of Gelatin. 4

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Code No. 4222

FACULTY OF PHARMACY

B. Pharmacy 2/4 II – Semester (Main) Examination, May 2017

Subject: Environmental Studies

Time: 3 Hours **Max.Marks: 70**

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

1 a) Discuss the structure, functions and characteristic features of ecosystems with sketch and examples. 9
b) Explain the conservation of natural resources. 5

OR

c) Write notes on the following:
i) Indicators for sustainable development 5
ii) Equitable use of resources 5
iii) Concepts of ecosystems. 4

2 a) Explain the following:
i) Species richness 3.5
ii) Indigenous knowledge 3.5
iii) Distribution of biodiversity 3.5
iv) Protection of Environment 3.5

OR

b) Discuss the following:
i) Bio-geographical classification 5
ii) Endangered and endemic species 5
iii) In situ conservation 4

3 a) Explain the local and global environmental problems, their causes, reasons and remedial measures with examples. 10
b) Discuss about sanitation and public health. 4

OR

c) Discuss the following with details:
i) Hazardous waste management 5
ii) Cost benefit analysis of a process 5
iii) Value added products from wastes 4

4 Explain the following:
a) Population growth and population explosion 5
b) Activities of humans and quality of environment 5
c) Value education 4

OR

d) Waste land reclamation 4
e) Fire and bioterrorism 4
f) Rain water harvesting 3
g) Disaster management 3

…2.

5	a)	Explain briefly about environment impact assessment.	5
	b)	Discuss eco audit and eco labelling.	5
	c)	Explain Right to Information Act	4
		OR	
	d)	Discuss the following:	
		i) Environmental Management Plan	4
		ii) Municipal Solid Waste rules	4
		iii) Stockholm and Rio-de-generio Conference	6

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Code No. 4220

FACULTY OF PHARMACY

B. Pharmacy 2/4 II-Semester (Main) Examination, April 2017

Subject : Pharmaceutical Engineering - II

Time : 3 Hours **Max. Marks: 70**

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

1 (a) Explain the procedure of determination of particle size and size distribution for pharmaceutical powders by sieve analysis. (7)
(b) Write the construction and working of Rotex screen and mention its advantages over other screening equipment. (7)

OR

(c) Compare and contrast cyclone separator and air separator with the help of diagrams. (7)
(d) Write the construction and working of Podbialniak extractor. (7)

2 (a) Explain the methodology of energy and mass balances during evaporation process. (7)
(b) Write the principle involved in distillation under reduced pressure along with the advantages and drawbacks. (7)

OR

(c) Explain theory and commercial equipment involved in steam distillation process. (7)
(d) Describe significance of sieve plate column and packed columns in rectification process with the help of diagrams. (7)

3 (a) Write the equipment and principle involved in spray drying process with help of diagrams. (7)
(b) Explain the Mier's super saturation theory. (4)
(c) Classify crystallization equipment. (3)

OR

(d) Explain the importance of gas adsorption in pharmacy. (4)
(e) Describe the concepts of two phase flow through the packed tower used for gas adsorption. (5)
(f) Write the causes for caking of crystals and mention the prevention methods. (5)

4 (a) Write the factors influencing the selection of mixing equipment. (7)
(b) Write the principle and working of planetary mixer with the help of diagram. (7)

OR

(c) Write different types of impellers used for liquid-liquid mixing with diagrams. (7)
(d) Write the construction and working of any one equipment used for mixing of semisolids. (7)

5 (a) Explain the concepts of feedback and feed forward mechanisms in automatic process control. (6)
(b) Discuss the effect of temperature and pressure as process variables. (8)

OR

(c) Explain different forces distributed during compaction of tablets along with force measurement devices with help of diagram. (14)

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Code No. 4219

FACULTY OF PHARMACY

B. Pharmacy 2/4 II-Semester (Main) Examination, April 2017

Subject: Pharmaceutical Biochemistry

Time : 3 Hours **Max. Marks: 70**

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

1 (a) Describe the biochemical organization of cell. (9)
(b) Explain the positive transport across the cell membrane. (5)

OR

Write briefly on :
(c) Production of ATP and its biological significance (6)
(d) Free energy (4)
(e) Energy rich compounds (4)

2 (a) Define and classify the enzymes. (4)
(b) Write the clinical applications of enzymes. (4)
(c) Explain the Kreb cycle. (6)

OR

Explain the following:
(d) TCA cycle (7)
(e) Glycolysis (7)

3 (a) Discuss the β-Oxidation of fatty acids. (7)
(b) Describer the biosynthesis of fatty acids. (7)

OR

Write short notes on:
(c) Fate of dietary lipids (7)
(d) Synthesis of ketone bodies (7)

4 (a) Explain the metabolism of amino acids. (7)
(b) Write the biosynthesis of DNA. (7)

OR

Write briefly on:
(c) Recombinant DNA
(d) DNA Repair mechanism
(e) Nitrogen balance

5 Explain the principle and method for Qualitative and Quantitative analysis of blood for
(a) SGPT (b) Urea (c) Glucose

OR

Write the principle and procedure for urine analysis of
(d) Ketone bodies
(e) Bile salts
(f) Glucose

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Code No. 4218

FACULTY OF PHARMACY

B. Pharmacy 2/4 II-Semester (Main) Examination, April 2017

Subject : Pharmaceutical Organic Chemistry - II

Time : 3 Hours **Max. Marks: 70**

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

1 (a) Explain the mechanism of Nitration and sulphonation in Benzene. (6)
(b) Explain the Nucleophilic substitution in Halobenzenes. (8)

OR

(c) Explain acidity of phenols. (6)
(d) Write the structure and electrophillic substitution reactions of anthracene. (8)

2 (a) Write in detail about conformational isomerism with examples. (7)
(b) What is racemic modification? How do you resolute racemic modification. (7)

OR

(c) Discuss Cis-trans isomerism with examples. (7)
(d) Define and explain elements of symmetry. (7)

3 (a) Write a note on Fischer indole synthesis. (6)
(b) Discuss the electrophillic aromatic substitution reactions of pyridine. (8)

OR

(c) Write any two methods of synthesis of thiophene. (5)
(d) Discuss the oxidation reactions of quinoline and isoquinoline. (5)
(e) Write the structure and specific uses of drug compounds containing
(i) pyrrole (ii) Furan. (4)

4 (a) Outline the method of preparation and chemical reactions of pyrazole. (8)
(b) Write the structure and specific uses of drug compounds containing
(i) phenam (ii) cepham (iii) oxazine (6)

OR

(c) Outline the method of preparation and chemical reactions of Isoxazole. (8)
(d) Write the structure and specific uses of drug compounds containing
(i) Thiazole (ii) Diazine (iii) Oxazole (6)

5 (a) Write two applications for each of the following: (6)
(i) selenium oxide (ii) Lead tetra acetate (iii) N-Bromosucinamide
(b) Describe mechanism of following reaction. (8)
(i) Oppenneur oxidation (ii) MPV reduction

OR

(c) Explain Birch reduction and Arndt – Eistert synthesis. (10)
(d) Mention two applications of LAH. (4)

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