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Total Number of Pages: 01 **B.PHARM**
PH.3.1

3rd Semester Regular / Back Examination 2015-16
Pharmaceutics-II (Phy. Pharm-I)
BRANCH: B.Pharma
Time: 3 Hours
Max marks: 70
Q.CODE: T175

Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

Q1 Answer the following questions: **(2 x 10)**

a) What is partition coefficient? Write its application in pharmacy.
b) Differentiate between ideal solution and real solution.
c) Write the application of buffers in pharmacy.
d) Define polymorphism, give suitable examples.
e) What are propellants? Give any two examples.
f) Define surface free energy, write its application.
g) Define spreading coefficient.
h) Define and classify HLB value.
i) What are adsorbents? Give two examples.
j) Discuss eutectic mixtures with examples.

Q2 Explain the glassy and crystalline states of matter with examples. **(10)**

Q3 **a)** What is thermodynamics? **(2)**
b) Explain first and second law of thermodynamics. **(8)**

Q4 **a)** What are buffered isotonic solutions? **(2)**
b) Discuss the methods of isotonicity adjustment. **(8)**

Q5 Explain briefly the electrical double layer and electrokinetic potential concept at the interface. **(10)**

Q6 **a)** State and explain BET equation. **(5)**
b) Write its application in pharmacy. **(5)**

Q7 Write notes on:
a) Phase rule **(5)**
b) Debye Huckel theory **(5)**

Q8 What are colligative properties? Write notes on boiling point elevation and osmotic pressure. **(2+8)**

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B.PHARM
PH 3.10

3rd Semester Regular / Back Examination 2015-16
ENVIRONMENTAL SCIENCE
BRANCH: Pharmacy
Time: 3 Hours
Max marks: 70
Q.CODE: T267

Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

Q1 Answer the following questions: **(2 x 10)**

a) Define Biotic and Abiotic components.
b) Differentiate between BOD and COD.
c) Distinguish between Food Chain and Food web.
d) What is F/M ratio?
e) Define screening and skimming.
f) Define Life cycle assessment.
g) What are biomedical wastes? Name some biomedical waste.
h) Define the term Ecology.
i) Write the three 'R's of Waste Minimization.
j) Differentiate between incineration and pyrolysis.

Q2 Discuss the different stages of waste water treatment process and explain the activated sludge treatment process with the help of a flow diagram. **(5+5)**

Q3 Classify the waste reduction techniques with suitable examples. What are the benefits of a Waste minimization programme? **(10)**

Q4 What is ecosystem and briefly explain the air cycle and water cycle. **(10)**

Q5 What is the aim and objective of EIA? Write down the methods commonly used for selecting projects for EIA. **(10)**

Q6 Write notes on any two: **(5 x 2)**

a) Green house effect
b) Water quality parameters
c) Precipitation

Q7 What is noise? Describe the methods for measuring noise and outline various noise control methods. **(10)**

Q8 Write short notes on any two: **(2.5 x 4)**

a) Water balance
b) Criteria pollutants
c) Infiltration
d) Acid rain

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B.PHARM
PH.3.3

3rd Semester Regular / Back Examination 2015-16
BASIC ENGINEERING-I (UNIT OPERATIONS)

BRANCH: BPharm

Time: 3 Hours

Max Marks: 70

Q.CODE: T383

Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

Q1 Answer the following questions: **(2 x 10)**

a) Define Fourier's Law and write its significance.
b) What is Equilibrium Moisture Content and write its application.
c) Ball mill is useful for size reduction of fibrous material, True or False, Justify.
d) What are different modes of motion in size separation?
e) How vortex formation can be minimized during mixing of two liquids?
f) Distinguish between clarification and filtration.
g) Define Raoult's Law and write its significance.
h) Write advantages of size reduction of substances.
i) What is overall heat transfer co-efficient? What is its significance?
j) What is filter media? Give some examples.

Q2 **a)** Explain the principle, construction and advantages of Filter Press. **(5)**
b) Write various factors affecting filtration. **(5)**

Q3 **a)** Explain the construction, working and advantages of Tray Dryer. **(5)**
b) Write the principle, construction and uses of Fluid Bed Dryer. **(5)**

Q4 Write the principle, construction, working, uses, advantages and disadvantages of Fluid Energy Mill. **(10)**

Q5 **a)** Explain the principle, construction and applications of steam distillation apparatus. **(5)**
b) How Mc Cab – Thiel method applicable for calculation of number of theoretical plate? **(5)**

Q6 **a)** Explain various factors influencing evaporation. **(5)**
b) Describe about the construction, working and applications of multiple effect evaporator. **(5)**

Q7 **a)** Explain principle, construction and uses of planetary mixer. **(5)**
b) Explain construction, working principle and advantages of multi pass heat exchanger. **(5)**

Q8 **Write short notes on any two:** **(5 x 2)**

a) Filter aid.
b) Cyclone separator.
c) Azeotropic distillation.
d) Silverson mixer (Emulsifier).

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PH.3.5

3rd Semester Regular / Back Examination 2015-16
PAHAMA CHEMISTRY-III (ORGANISATIONAL CHEMISTRY-II)

BRANCH: B.Pharm

Time: 3 Hours

Max marks: 70

Q.CODE: T551

Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

Q1 Answer the following questions: **(2 x 10)**

a) What is internal compensation?
b) Explain metamerism with example.
c) How Rosenmund reduction reaction is employed in preparation of aldehydes.
d) Write the four different types of carboxylic acid derivatives with example.
e) Define Huckel's rule of aromaticity with example.
f) Explain why phenol is acidic in nature.
g) Write example of any two alkylation reagents with their structure.
h) What do you mean by benzyne and how it produced?
i) What do you mean by steriospecific reaction?
j) Write the structure and IUPAC nomenclature of an optically active amino acid with molecular formula $C_3H_7O_2N$.

Q2 Write short notes on

a) Different types of structural isomerism with example. **(5)**
b) Resolution of racemic mixture. **(5)**

Q3 Write notes on

a) Aldol condensation reaction **(5)**
b) Cannizzaro reaction **(5)**

Q4 What is active methylene group? Give example of two compounds containing active methylene group with structure. Write any one method of preparation and three chemical reactions of acid halides. **(1+2+1+6)**

Q5 What happens when **(2.5 x 4)**

a) Ammonium salts of carboxylic acid are heated.
b) Lithium aluminum hydride reacts with cyano benzene.
c) Phenol reacts with Nickel at 150^0-175^0C.
d) Benzene on oxidation with vanadium pentoxide at 500^0C

Q6 How benzene is prepared from n-hexane and from Ethyne. Write an account on substitution in monosubstituted benzene. **(2+8)**

Q7 Write short notes on

a) N-Bromosuccinimide **(5)**
b) Grignard reagent **(5)**

Q8 Write short notes on any two: **(5 x 2)**

a) Racemization
b) Geometrical isomerism in respect to their stability.
c) Diels-Alder reaction
d) Diazomethane

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B.PHARM
PH.3.7

3rd Semester Regular / Back Examination 2015-16
PHARMACOGNOSY- III
BRANCH: PHARMACY
Time: 3 Hours
Max Marks: 70
Q.CODE: T621

Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

Q1 Answer the following questions: **(2 x 10)**

a) Define secondary metabolites . What is their role in plants?

b) Name two plant growth regulators How do they influence the growth of plant organs?

c) Write the drugs under saponin glycosides. Write the biological source and uses of one such drug.

d) Write the names of poisonous plants in the family papaveraceae .

e) Write the source and uses of a proteolytic enzyme .

f) Write the test for identification of C-glycosides and manes of drugs consisting of these glycosides.

g) What phytoconstiuents are synthesized by Mevalonic acid pathway?.

h) What is meant by Totipotency ? Explain.

i) Write the chemical class of the drugs these belong.
i)Cascara ii) Dioscorea iii) Squill iv) Strophanthus

j) Name two cardiovascular drugs from marine origan and write their sources.

Q2 **a)** Write on the medicinal agents from marine sources having antimicrobial and Cytotoxic activity . **(5)**

b) What are poisonous plants? Write on the toxic constituents present in these plants. **(5)**

Q3 **a)** Write the types of plant tissue culture. What are the nutritional requirements for culture of plant tissues? **(5)**

b) Write the sources , method of preparation and uses of **(5)**
i) Papain ii) Diastase.

Q4 Name the plant drugs having cardioactive properties with their botanical sources . Write a detailed pharmacongnostic study of Digitals. **(10)**

Q5 **a)** What are the different species of senna. Write the identification features of senna. **(5)**

b) Write the Biological sources, Morphological characters, chemical constituents of Ginseng. **(5)**

Q6 **a)** Write the pathway to synthesize Aromatic amino acids. **(5)**

b) Write the pharmacognosy of Gentian in brief.. **(5)**

Q7 **a)** Write in brief the method of extraction & isolation of glycosides. **(5)**

b) Write on the bio synthesis of tropane alkaloids **(5)**

Q8 Write short notes on any two: **(5 x 2)**

a) Surface sterilization of explants in plant tissue culture.

b) Co-enzymes and their role in Biosynthesis of phyto-constituents.

c) Toxins from marine sources.

d) Determination of culture growth in plant tissue culture.

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PH.3.9

3rd Semester Regular / Back Examination 2015-16
PATHOPHYSIOLOGY OF COMMON DISEASES
BRANCH: B.PHARM
Time: 3 Hours
Max Marks: 70
Q.CODE: T682

Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

Q1 Answer the following questions: **(2 x 10)**

a) Define atherosclerosis.
b) Mention the terms autolysis and necrosis.
c) Write various signs of inflammation.
d) What is secondary hypertension?
e) Differentiate between hypertrophy and hyperplasia with examples.
f) Define the term stable angina.
g) Mention the clinical features of gout.
h) Write various causative agents of cancer.
i) Define causative agents of tuberculosis.
j) Write various types of Sexually Transmitted Disease.

Q2 Discuss the etiology and pathophysiology of reversible cell injury. **(2+8)**

Q3 Write short note on

a) Cellular events of inflammation. **(5)**
b) Mediators of inflammation. **(5)**

Q4 What is congestive heart failure? Write the etiology, pathophysiology, symptoms and complications of the disease. **(2+8)**

Q5 Discuss the etiology, pathophysiology, sign and symptoms of Rheumatoid arthritis. **(2+5+3)**

Q6 Write short note on

a) Depression and mania. **(5)**
b) Peptic ulcer. **(5)**

Q7 Define diabetes mellitus. Write the pathophysiology, sign and symptoms of diabetes mellitus. **(2+8)**

Q8 Give short note on the following: **(2.5 x 4)**

a) AIDS
b) Anaemia
c) Renal failure
d) Jaundice