

PURUS-II: APRIL MAY 2010 (Semester Pattern)
SUBJECT: HOSPITAL PHARMACY

Day: **Thursday**
Date: **13-05-2010**

Time: **10:00 AM TO 1:00 P.M.**
Max marks: 80.

N.B:

- 1) **Q. NO. 1 and 5 are COMPULSORY.** Solve any **TWO** questions from the remaining
- 2) Answer to both the sections should be written in **SEPARATE** answer books.
- 3) Figures to the **RIGHT** indicate full marks.

SECTION-I

- Q.1** Solve any **FIVE** of the following: **(10)**
- a) Enumerate various health care institutions in India.
 - b) Give the constitution of ASHP
 - c) Enlist the different departments in hospital.
 - d) Show schematically organization of hospital.
 - e) State the constitution of P & T committee.
 - f) Enumerate various duties of non technical staff in pharmacy.
 - g) Explain adverse drug reactions giving suitable examples.
- Q.2** a) Discuss in detail the purpose and various functions of P & T Committee in relation to safety and selection of the drug **(08)**
- b) Give a detailed account of formation of the hospital pharmacy **(07)**
- Q3** a) Discuss in detail the organization, location and layout of Hospital Pharmacy **(10)**
- b) Write a note on Hiring of Pharmacist **(05)**
- Q4** Write notes on (**ANY THREE**) **(15)**
- a) Automatic stop orders for dangerous drugs
 - b) Role of Pharmacist in Drug defect
 - c) Duties of pharmacist as drug informationist
 - d) Charting of Pharmacy organization

P.T.O

SECTION-II

- Q.5** Solve any **FIVE** of the following: (10)
- a) Define inventory and Inventory management
 - b) Draw a neat diagram of CSSD in 50 bedded hospital
 - c) What are the license requirement for pharmacist in Radiopharmacy
 - d) Enumerate various sterilization techniques.
 - e) List the significance of lead time in inventory management
 - F) Define patient non compliance
 - g) Give two examples of incompatibilities in IV admixture programme.
- Q.6** a) What is chemotoxicity? Discuss the role of pharmacist as oncology pharmacist. (08)
- b) Discuss various techniques to overcome patient noncompliance (07)
- Q.7** Discuss in detail the distribution of charged and non charged drugs to in patients & ambulatory patients. (15)
- Q.8** Write notes on (**ANY THREE**) (15)
- a) Inventory control techniques
 - b) Location & layout of central sterile supply departments
 - c) Responsibilities of pharmacist in with or without isotope pharmacy,
 - d) Distribution of unit dose packaging in hospital.
 - e) Dosimetry of radiopharmaceuticals.

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PURUS – II (SEMESTER PATTERN): APRIL / MAY 2010
SUBJECT: PHARMACEUTICAL BIOCHEMISTRY - I

Day : Thursday
Date : 06-05-2010

Time: 10:00 AM TO 1:00 PM
Max. Marks: 80.

N.B.:

- 1) **Q. No. 1 and Q.No. 5 are COMPULSORY.** Out of the remaining questions solve any **TWO** questions from each section.
- 2) Figures to right indicate **FULL** marks.
- 3) Answers to both sections should be written in the **SEPARATE** answer book.

SECTION-I

- Q.1** Answer the following: [10]
- a) What is Isoelectric point?
 - b) What is membrane potential?
 - c) What is Sanger's Reagent for N-terminal determination?
 - d) What is Trypsine?
 - e) What are "PUFA"? Give nutritional importance.
- Q.2**
- a) What is electrophoresis? Explain electroendosmosis. [04]
 - b) Discuss different factors affecting rate of enzyme catalyzed reaction. [06]
 - c) What are marker enzymes? Give their importance. [05]
- Q.3**
- a) What is secondary structure of protein? Explain in detail. [07]
 - b) Give structure for amino acid tryptophan, histidine, arginine and prolin. [08]
- Q.4** Write short notes on: [15]
- a) HPLC and Protein separation
 - b) Coenzymes
 - c) Passive diffusion
 - d) Essential amino acids
 - e) Isoenzyme

SECTION-I

- Q.5** Answer the following: [10]
- a) What is induce fit model of active site?
 - b) What is thermal denaturation?
 - c) How concentration of enzymes is expressed?
 - d) What is peptide bond?
 - e) What is K_m ?
- Q.6**
- a) State Michaelis Menten Equation of enzyme catalysis and explain V_{max} . [06]
 - b) How energy is produced in biological system? [04]
 - c) Explain quaternary structure of protein. [05]
- Q.7**
- a) Differentiate α helix and β pleated secondary structure of proteins. [04]
 - b) What are antimetabolites? Give two examples. [04]
 - c) What are allosteric enzymes? Give their importance. [07]
- Q.8** Write short notes on: [15]
- a) Paper chromatography

PURUS -II (SEMESTER PATTERN): APRIL / MAY 2010
SUBJECT: HUMAN ANATOMY & PHYSIOLOGY - II

Day : Saturday
Date : 15-05-2010

Time: 10:00 AM TO 1:00 PM
Max. Marks: 80.

N.B.:

- 1) **Q.No.1 and Q.No. 5 are COMPULSORY.** Out of remaining questions attempt **ANY TWO** questions from each section.
- 2) Answers to both the sections should be written in **SEPARATE** answer books.
- 3) Figures to the right indicate **FULL** marks.

SECTION - I

- Q.1** Answer **ANY FIVE** of the following: [10]
- a) What is an iris?
 - b) What is tinnitus?
 - c) What is conjunctivitis?
 - d) Name the hormones of adrenal cortex.
 - e) What is glaucoma?
 - f) Name the meninges.
- Q.2** a) Describe the structures of nephron with a neat labeled diagram. [08]
b) Discuss the physiology of posterior pituitary gland. [07]
- Q.3** a) Describe the physiology of male reproductive system. [08]
b) Describe the functions of different parts of the brain. [07]
- Q.4** Write short notes on **ANY THREE** of the following: [15]
- a) Ovary
 - b) Neuromuscular junction
 - c) Reflex arc
 - d) Renin angiotensin system

SECTION - II

- Q.5** Answer **ANY FIVE** of the following: [10]
- a) Mention five endocrine glands with their functions in short.
 - b) Mention stages of menstrual cycle.
 - c) Name cranial nerves.
 - d) Mention functions of parathyroid gland.
 - e) Name parts of male reproductive system.
 - f) Mention disorders of female reproductive system.
- Q.6** a) Draw a labeled diagram of eye. [08]
b) Explain the role of insulin in human body. [07]
- Q.7** a) Explain the physiology of micturation. [08]
b) Describe the process of Oogenesis. [07]
- Q.8** Write short notes on **ANY THREE** of the following: [15]
- a) Physiology of hearing
 - b) Thermo regulation
 - c) Neurotransmission

PURUS - III (SEMESTER PATTERN) : APRIL/MAY - 2010

SUBJECT : PHARMACEUTICAL CHEMISTRY IV
(ORGANIC)

Day : Wednesday
Date : 05-05-2010

Time : 2:00 PM TO 5:00 PM.
Max. Marks : 80

N.B.

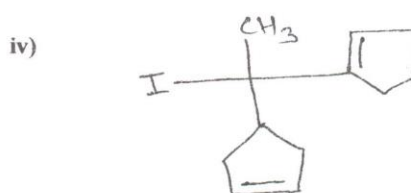
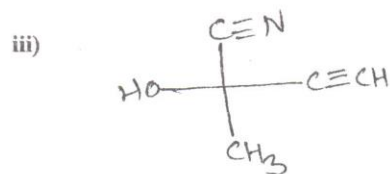
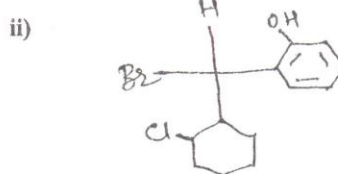
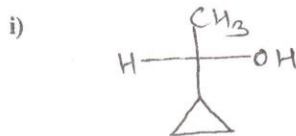
- 1) Q.No. 1 and Q.No. 5 are **COMPULSORY**. Out of the remaining attempt any **TWO** questions from Section - I and any **TWO** question from Section-II.
- 2) Answers to both the section should be written in **SEPARATE** answer book.
- 3) Figures to the right indicate **FULL** marks.

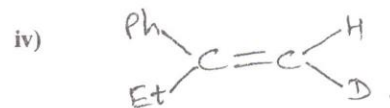
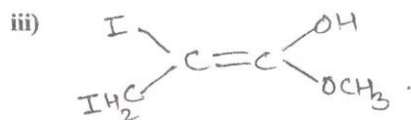
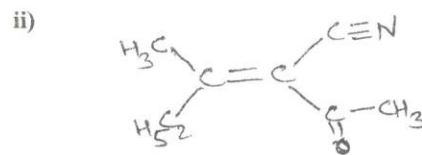
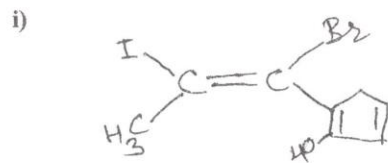
SECTION - I

Q.1 Answer any **FIVE** of the following: (10)

- a) How will you prove that in a Beckmann rearrangement the group that is anti to hydroxyl group in the ketoximes migrate?
- b) Sigmatropic rearrangement are reversible reactions. Oxy-cope rearrangement is a sigmatropic rearrangement however it is not reversible reaction. Explain.
- c) How relative configurations are assigned to optically active compounds? Explain with suitable examples.
- d) Write any two structures of the following compounds.
 - i) Erythro-Tartaric acid
 - ii) S-Lactic acid
 - iii) 2R-3R-dibromo butane
 - iv) L-Serine
- e) Why diastereomers possess different physical properties? Illustrate with suitable examples.
- f) What is asymmetric transformation?

Q.2 Assign R or S configuration to any three of the following compounds: (06)

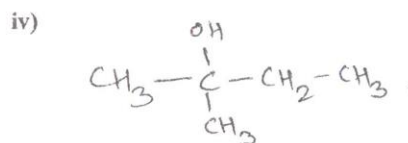
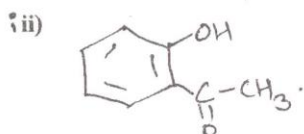
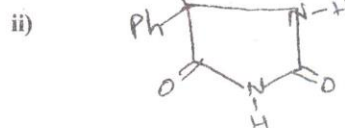




c) Write a short note on stereo selective and stereo specific reactions. (03)

Q.3 a) What are conformational isomers? Write different conformational isomers of 1,2-dimethyl cyclohexane. Carry out conformational analysis and comment upon their stabilities. (10)

b) Outline the synthesis of any two of the following compounds using suitable rearrangement reaction. (05)



Q.4 a) Discuss resolution of racemic mixtures using at least two methods. (06)

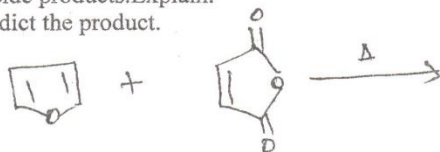
b) Write short note on any three of the following: (09)

- i) Sommelet rearrangement
- ii) Conformations of n-butane
- iii) Factors affecting the stability of compounds
- iv) Huckel rule of aromaticity.

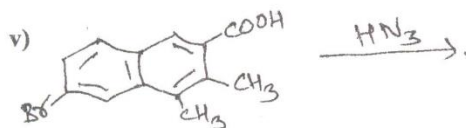
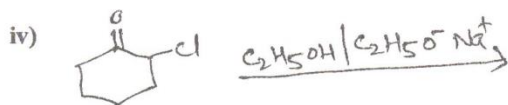
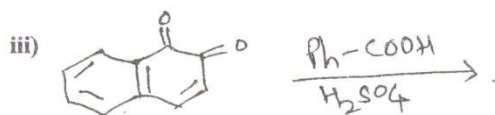
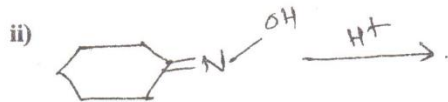
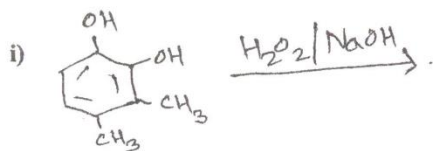
SECTION - II

Q.5 Answer any FIVE of the following: (10)

- a) Claisen rearrangement is an intramolecular rearrangement. Comment.
- b) Write LCAO for 1,3,5-hexatriene.
- c) Give the product when cis-2-butene is subjected to photochemical cyclo addition.
- d) What are bonding and antibonding molecular orbitals?
- e) Enlist rearrangement reactions involving isocyanates as a reaction intermediate.
- f) Hofmann rearrangement reactions are associated with urea derivatives as side products. Explain.
- g) Predict the product.



Q.6 Predict the product and discuss the mechanism of any three of the following reactions: (15)



Q.7 What are cyclo addition reactions? Discuss the following reactions using FMO and co-relation diagrams methods. (15)



Z - electron withdrawing group.

Q.8 a) Give methods of determination of configuration of geometrical isomers. (10)

PURUS-IV (SEMESTER PATTERN): APRIL/MAY- 2010
SUBJECT: PHARMACEUTICAL ENGINEERING-II

Day: *Wednesday*
Date: *12-05-2010*

Time: *2-00 P.M. To 5-00 P.M*
Max Marks: 80

N. B.

- 1) **Q.1 and Q.5** are **COMPULSORY**.
- 2) Solve any **TWO** questions from the remaining.
- 3) Use **SEPARATE** answer book for Section-I and Section-II.
- 2) Figures to the **RIGHT** indicate full marks.

SECTION-I

- Q.1** Solve **ANY FIVE** of the following (10)
- a) Enumerate various mechanisms of heat transfer.
 - b) Explain theory of evaporation.
 - c) How distillation differs from evaporation?
 - d) Give Ralieggh's equation with its significance.
 - e) Give principles of molacular distillation.
 - f) Draw a neat diagram of wiped film evaporator.
 - g) What are pan evaporators?
- Q.2** Discuss the material balance for continuous fractionation and write a note on Height equivalent to Theoretical Plate (HETP). (15)
- Q.3** Discuss the theory of evaporation and give the principle, working of multiple effect evaporators. (15)
- Q.4** Write notes on **ANY THREE** of the following. (15)
- a) Centrifugal evaporator
 - b) Heat transfer between fluid and solid boundry
 - c) Distillation of miscible liquids
 - d) Heat transfer by convection

SECTION II

- Q.5** Solve **ANY FIVE** of the following (10)
- a) Significance of drying.
 - b) Enumerate and describe different forms of crystals.
 - c) Enlist various methods for particle size enlargement.
 - d) Enlist the packaging materials for blister packages.
 - e) Give the functions of agitated tank crystalizers.
 - f) Classify various dryers.
 - g) Enumerate various controls in calendria evaporators.
- Q.6** Explain theory of drying. Discuss in detail the principle and working of fluidized bed dryer. (15)
- Q.7** Classify the crystalizers. Discuss the working of crystalizers based on the principle of cooling. (15)
- Q.8** Write **ANY THREE** of the following (15)
- a) Miers theory of supersaturation
 - b) Freeze dryer.
 - c) Significance of particle size enlargement
 - d) Strip packaging
- * * * * *