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Total Number of Pages: 02

B.PHARM
PH.7.1.

7th Semester Regular / Back Examination 2015-16
Pharmaceutics-VI

(Bio-Pharmaceutics & Pharmacokinetics)

BRANCH: B.Pharm

Time: 3 Hours

Max marks: 70

Q.CODE: T102

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 are the peroral routes of absorption?
 - b) Give the Mathematical Expression of Fick's first law of diffusion.
 - c) Lipophilic drugs can easily cross the BBB. True or False. Justify.
 - d) What is volume of distribution and write its significance?
 - e) What is AUC? How it is determined?
 - f) Differentiate the Zero and 1st Order drug absorption process.
 - g) What is GFR? Name any two substances used to determination of it.
 - h) Write about the Open and Closed compartment model.
 - i) What is the Pharmaceutical importance of Bioavailability?
 - j) What is the role of Microsomal enzyme in drug disposition?
- Q2** a) What is BCS classification; write its significance in absorption process. **(5)**
b) What is renal clearance? Write the mechanism of renal clearance. **(5)**
- Q3** a) What is 'P-gp', how it relates to drug transportation. **(5)**
b) Write drug uptake mechanism of Insulin **(5)**
- Q4** What is drug protein binding and its significance? Explain schematically the effect of reversible drug protein binding on distribution and elimination. Write the significance of HSA. **(10)**

- Q5** a) Define and explain pH partition hypothesis (5)
b) Prove $t_{1/2} = 0.693/K$ (5)
- Q6** a) Explain different stages of Plasma drug concentration-time profile of a drug following oral route of administration. (5)
b) Differentiate between Active and passive drug absorption. (5)
- Q7** a) Write about determination of absorption rate constant by method of residual. (5)
b) Derive expression for plasma drug concentration and various pharmacokinetic parameters in case of one compartment open model with IV administration. (5)
- Q8** Write short notes on any two: (5 x 2)
a) Clearance ratio
b) Xenobiotics
c) MRT
d) Cross over study design

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B.PHARM
PH.7.2

7th Semester Regular / Back Examination 2015-16

PHARMACOLOGY – III

BRANCH: Pharmacy

Time: 3 Hours

Max marks: 70

Q.CODE: T181

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) Name two agents from second generation cephalosporin
 - b) What are the uses of Cotrimoxazole.
 - c) Enumerate any two natural products antibiotics used in cancer chemotherapy.
 - d) Give two examples of oral hypoglycemic agents
 - e) Write the mechanism of action of INH and Rifampicin
 - f) Write the full form of HRT? And enumerate two benefits of HRT.
 - g) What is Zollinger-Ellison syndrome?
 - h) What are adverse drug reactions? enumerate the types of ADR.
 - i) What are anabolic steroids and write any two uses of anabolic steroids.
 - j) Name any two immunosuppressants.
- Q2** a) Write in details on mechanism of proton pump inhibitors. (5)
b) Write pharmacological action adverse effect and uses of H₂ antagonists (5)
- Q3** a) Define diabetes mellitus? Write in details about the regulation of insulin secretion (5)
b) Classify anti-diabetic drugs. Write the mechanism of action of insulin (5)
- Q4** Classify Anti-tubercular agents? (10)
Discuss briefly about the treatment of Tuberculosis.
- Q5** a) Write the adverse effects of Penicillins and Tetracyclines (5)
b) Write the mechanism of action and uses of Erythromycin (5)
- Q6** a) Define poison? Write the general principles of treatment of Organophosphorous poisoning. (5)
b) Explain the mechanism of adverse drug reaction with suitable examples (5)
- Q7** a) Write in details about the steps involved in synthesis, storage and release of Thyroid hormones. (5)
b) Classify antithyroid drugs. Write the mechanism of action of thioamides (goitrogens). (5)
- Q8** Write short notes on any two: (5 x 2)
- a) MDT of leprosy
 - b) Anthelmintics
 - c) Atropine poisoning
 - d) Progesterone

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B.PHARM
PH.7.3

7th Semester Regular / Back Examination 2015-16
PHARMACEUTICAL CHEMISTRY - VII
(Medicinal Chemistry – III)

BRANCH: Pharmacy

Time: 3 Hours

Max marks: 70

Q.CODE: T332

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) Name the principal organs and enzymes responsible for the metabolism of xenobiotics.
 - b) Define mutual prodrugs with suitable examples.
 - c) Name the methods for the metabolic activations of bioprecursor prodrugs.
 - d) Discuss the mechanism of action of sulfonamides.
 - e) Outline the synthesis and uses of chloramphenicol.
 - f) Discuss the mechanism of action of azole antifungals.
 - g) Outline the synthesis and uses of metronidazole.
 - h) Outline the synthesis, mechanism of action and uses of isoniazid.
 - i) Discuss the uses of propylidone and sodium diatrizoate.
 - j) Discuss the physiologic functions and uses of thyroxine.
- Q2** a) Discuss briefly the different types of drug metabolism with suitable examples. **(5)**
- b) Describe in detail phase-II reactions. **(5)**
- Q3** a) Define neoplasm and classify antineoplastic agents with suitable examples. **(5)**
- b) Discuss briefly the mechanism of action of alkylating agents with suitable examples. Outline the synthesis and uses of chlorambucil and busulfan. **(5)**
- Q4** What are β -lactam antibiotics? Discuss the mechanism of action and SAR of penicillins. Outline the synthesis and uses of ampicillin. **(10)**
- Q5** a) Define and classify antimalarials with suitable examples. **(5)**
- b) Outline the synthesis of chloroquine and pyrimethamine. **(5)**

- Q6** a) Define and classify anti-viral agents with suitable examples. Discuss briefly the pathogenic disease caused by retrovirus. (5)
- b) Outline the synthesis and mechanism of action of acyclovir and zidovudine. (5)
- Q7** a) Define and classify oral hypoglycemic agents with suitable examples. (5)
- b) Outline the synthesis and mechanism of action of phenformin and tolbutamide. (5)
- Q8** Write short notes on: (5 x 2)
- a) Heparin
- b) Antithyroid drugs

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B.PHARM

PH. 7.4

7th Semester Regular / Back Examination 2015-16
Pharmaceutical Analysis –III

BRANCH:

Time: 3 Hours

Max marks: 70

Q.CODE: T465

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 the term λ_{max} and Bathochromic shift.
 - b) What is R_f value and its importance.
 - c) What are the different types of Visualising agents used in TLC technique?
 - d) What is TMS and its applications in NMR.
 - e) What is self and chemical quenching in Fluorimetry?
 - f) Define parent and Base peak and its significance
 - g) Write down the working principle of PMT.
 - h) Differentiate between normal phase and RP-HPLC
 - i) What is finger print region and its importance.
 - j) Differentiate between Retention time and Retention volume and their uses in GC.
- Q2** a) Explain the principle of NMR Spectroscopy. **(5)**
b) What is Shielding and Deshielding proton? Write a short note on structural elucidation of a compound by NMR. **(5)**
- Q3** Describe the principle of Mass spectroscopy and different Ions produced during ionization. **(10)**
- Q4** Write down the principle and instrumentation of Gas chromatography. **(10)**
- Q5** a) Describe the principle of IR Spectroscopy. **(5)**
b) Give a brief note on different sample preparation techniques used in IR analysis. **(5)**
- Q6** a) Principle of Flame Photometry **(5)**
b) Qualitative and Quantitative analysis by HPLC **(5)**
- Q7** Describe the different steps involved in TLC method. How the Qualitative and Quantitative analysis performed by TLC? **(10)**
- Q8** Explain the principle and instrumentation of UV- spectrophotometer. **(10)**

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B.PHARM
PH.7.6

7th Semester Regular / Back Examination 2015-16
PHARMA BIOTECHNOLOGY

BRANCH: B.PHARM

Time: 3 Hours

Max marks: 70

Q.CODE: T566

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 natural acquired passive immunity?
 - b) Define haptens.
 - c) Define Humulin.
 - d) Define HAT medium.
 - e) What is tolerance?
 - f) Define hypersensitivity reaction.
 - g) Define the term batch fermentation.
 - h) Microorganism used for preparation of penicillin by fermentation.
 - i) Define the term genetic recombination.
 - j) What is Streptokinase?
- Q2** a) Define antigens and describe the factors affecting antigenicity. (5)
b) Describe about immunoglobulin G with detail structure. (5)
- Q3** a) Describe in detail about genetic code. (5)
b) Explain gene regulation by lac operon model. (5)
- Q4** Draw a labeled diagram and describe each part of an aerobic fermentor in detail. (10)
- Q5** a) Write down about Hybridoma technology for preparation of Monoclonal antibody. (5)
b) Describe different components of protein synthesis. (5)
- Q6** a) Describe different methods of enzyme immobilization. (5)
b) What is microbial biotransformation? Write its advantages. (5)

Q7 a) Explain the process involved in the isolation of penicillin. (5)

b) Write the characteristic properties of an ideal matrix used for enzyme immobilization. (5)

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

a) Foam plasma substitute.

b) PCR

c) PVP

d) The storage methods of whole human blood.

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B.PHARM
PH.E.7

7th Semester Regular / Back Examination 2015-16
HOSPITAL PHARMACY ADMINISTRATION

BRANCH: Pharmacy

Time: 3 Hours

Max Marks: 70

Q.CODE: T641

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) Enumerate different professional staff in hospital pharmacy
 - b) What is Hospital Formulary?
 - c) Enumerate few non-drug consumables
 - d) What is Cost centers?
 - e) Write about the discount given on purchase
 - f) What is ABC Analysis?
 - g) What do you mean by ICCU?
 - h) What is Drug Basket method?
 - i) Describe TPN
 - j) Write about commonly used storage conditions
- Q2** Define hospital pharmacy. Discuss the role of Hospital Pharmacy Department. **(2+8)**
- Q3** Define and classify drug dependence. Describe treatment for drug dependency. **(5+5)**
- Q4** Write in detail about various Drug distribution methods for in-patients with their merits and demerits. **(10)**
- Q5** Describe the detail procedure adopted for purchasing of pharmaceuticals. **(10)**
- Q6** Give the discussion about the following
- a) Procedures adopted for stock-taking **(5)**
 - b) Research & ethics committee **(5)**
- Q7** Write about the locations and provisions made for causality in a hospital. **(3+7)**
- Q8** Write short notes on: **(5 x 2)**
- a) Drug recall
 - b) IV additive service