

FOURTH YEAR PHARM. D : SUMMER - 2018
SUBJECT : BIOPHARMACEUTICS & PHARMACOKINETICS

Day : **Tuesday**
Date : **17/04/2018**

S-2018-4042

Time : **02.00 P.M. TO 05.00 P.M.**
Max. Marks : 70

N.B.

- 1) Q.1 and Q.5 are **COMPULSORY**. Out of the remaining questions solve any **TWO** questions from each section.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answer to both the sections should be written in **SEPARATE** answer book.

SECTION - I

- Q.1** a) Answer any **FOUR** questions: **(08)**
i) What is surface renewal theory?
ii) Enlist the different steps and reactions of biotransformation.
iii) What is placental barrier?
iv) Explain drug related factors affecting protein binding.
v) What is Biopharmaceutics drug disposition classification system?
b) Explain drug binding to Human Serum Albumin. **(03)**
- Q.2** Discuss Phase – I and Phase II reactions in drug metabolism. Explain in detail first-pass effect. **(12)**
- Q.3** a) Discuss an account of factors affecting drug absorption. **(07)**
b) Give an account of factors influencing renal clearance. **(05)**
- Q.4** Write short note on any **THREE**: **(12)**
a) Volume of distribution and its significance
b) Enterohepatic cycling
c) pH partition hypothesis and its significance in drug absorption
d) Concept of clearance

SECTION - II

- Q.5** a) Answer any **FOUR** of the following: **(08)**
i) What is AUC and trapezoidal rule?
ii) Give the disadvantages of compartment modeling.
iii) Explain elimination half-life.
iv) What is first order kinetics?
v) Define absolute and relative bioavailability.
b) If the plasma concentration of viomycin after i.v. bolus administration was found to be 10 and 55 mcg/ml at 2 and 4 hours respectively, assuming one compartment kinetics, calculate $t_{1/2}$ and C_0 . **(03)**
- Q.6** Explain in detail the mathematical treatment to obtain the pharmacokinetic parameters K_E and K_a following oral administration of a drug assuming one compartment open model and first order kinetics. **(12)**
- Q.7** a) Explain in detail in vitro drug dissolution testing methods. **(07)**
b) Discuss design of protocols and statistical treatment in bioequivalence testing. **(05)**
- Q.8** Write short note on any **THREE** of the following: **(12)**
a) Sigma minus method
b) Non-linear pharmacokinetics
c) Pharmacodynamic methods to determine BA
d) Methods of residuals

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FOURTH YEAR PHARM. D : SUMMER - 2018
SUBJECT : BIostatISTICS AND RESEARCH METHODOLOGY

Day : **Friday**
Date : **13/04/2018**

Time : **02.00 P.M. TO 05.00 PM**
Max. Marks : **70**

S-2018-4041

N. B. :

- 1) **Q.No.1 and Q. No.5 are COMPULSORY.** Out of the remaining questions attempt **Any TWO** from each section.
- 2) Answers to both the sections should be written in **SEPARATE** answer books.
- 3) Use of non-programmable electronic pocket calculator is **ALLOWED**.
- 4) Statistical tables and graph papers will be supplied at the examination centre.
- 5) Figures to the right indicate **FULL** marks.

SECTION - I

- Q.1 a)** Solve **Any FOUR** of the following : **(08)**
- i) What are case studies?
 - ii) What are observational studies?
 - iii) What are interventional studies?
 - iv) What is placebo?
 - v) Mention two uses of computers in Hospital Pharmacy.
 - vi) What is power of an investigation?
- b)** Differentiate between qualitative and quantitative data. **(03)**
- Q.2** How do you collect data in clinical trials? Explain with suitable examples. **(12)**
- Q.3** Differentiate between prospective and retrospective clinical research indicating advantages and disadvantages. **(12)**
- Q.4** Write short notes on **Any THREE** of the following : **(12)**
- a) Acute toxicity
 - b) Sample size
 - c) Confidence interval
 - d) Purpose of research

SECTION - II

- Q.5 a)** Solve **Any FOUR** of the following : **(08)**
- i) Explain the term Prevalence'.
 - ii) List any two statistical soft-wares with their uses.
 - iii) Compute Median and Mode for following :
 - iv) 35, 47, 36, 49, 47, 32, 44
 - v) Define the terms: Population, Sample.
 - vi) Write any two guidelines for making the classes/groups from the raw data.
- b)** Compute the Spearman's Rank correlation coefficient for the following : **(03)**
- Rank by A → 1, 2, 3, 4, 5, 6
Rank by B → 3, 2, 1, 5, 4, 6

P.T.O.

- Q.6 a)** Compute the Median and Mode for following data in respect of the drug contents (in mL) in a bottle. **(06)**

Drug contents in mL	490-495	495-500	500-505	505-510	510-515	515-520
No. of bottles	10	16	22	9	6	3

- b)** Draw the Less than Ogive graph form the following data in respect of the body temperature of the patients in a hospital. **(06)**

Temp (in °F)	90-92	92-94	94-96	96-98	98-100	100-102	102-104
No. of patients	11	17	22	28	16	13	9

- Q.7 a)** If the heights of the soldiers in a battalion are normally distributed with the mean of 170 cm and the S.D. of 6 cm. what is the probability that the height of a randomly selected soldier is above 175 cm.? **(06)**

- b)** The probability that a senior citizen is suffering from B.P. is 0.25. If 8 senior citizens are checked what is the probability that at least 2 are suffering from B.P. **(06)**

- Q.8 a)** A manufacturer claims that the life of their product is 1500 hrs and the S.D. is 14 hrs. When 100 products are checked it showed the mean life as 1490 hrs. Could you justify the claims of the manufacturer? (Use 5 % L.O.S.) **(06)**

- b)** The pulse rates of the ladies and the gents in an organization are as below **(06)**

Ladies	73	74	69	79	75	76	77	71
Gents	71	75	72	80	73	77	75	73

Test using the sign test that the pulse rate of ladies and gents are significantly different (Use 5 % L.O.S.)

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FOURTH YEAR PHARM. D : SUMMER - 2018

SUBJECT: CLINICAL PHARMACY

Day: Wednesday

Time: 02.00 P.M. TO 05.00 PM

Date: 11/04/2018

Max. Marks: 70

S-2018-4040

N.B:

- 1) Q. NO.1 and Q.NO.5 are **COMPULSORY**. Out of remaining answer **ANY TWO**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answer to the both sections should be written in **SEPARATE** answer books.
- 4) Draw neat and labeled diagrams **WHEREVER** necessary.

SECTION-I

- Q.1** a) Answer **ANY FOUR** of the following: (08)
- i) What are the components of DTM?
 - ii) Define therapeutic drug monitoring.
 - iii) Expand following abbreviations- SGOT, LDH.
 - iv) Give normal value and significance of Sr. Creatinine.
 - v) Give normal value and significance of TSH.
 - vi) Give normal value and significance of Sr. Sodium.
- b) What are the objectives of DUE? (03)
- Q.2** Discuss the daily activities of clinical pharmacist. Explain ward round participation in detail. (12)
- Q.3** a) Explain the barriers for patient counseling. How to overcome the same. (07)
- b) Explain the indications and patients who require therapeutic drug monitoring. (05)
- Q.4** Write short notes on **ANY THREE**: (12)
- a) Cardiac enzymes and their significance
 - b) Hypokalemia
 - c) Pharmacist intervention.
 - d) DUE cycle.

SECTION-II

- Q.5** a) Answer **ANY FOUR** of the following: (08)
- i) Define MBC and MIC.
 - ii) Define residual volume and vital capacity.
 - iii) Expand following abbreviations- SGPT, GGTP.
 - iv) Mention the components of complete blood count.
 - v) Define poison information service.
 - vi) Name any four patient mediated medications errors.
- b) Write in brief about drug information resources. (03)
- Q.6** Explain in detail the organization of poison information center and procedure for answering a poison information query. (12)
- Q.7** a) Explain the procedure for answering drug information query. (07)
- b) Explain liver enzymes and their significance. (05)
- Q.8** Write short notes on **ANY THREE**: (12)
- a) Prevention of medication error.
 - b) Role of pharmacist in prevention of ADRs.
 - c) Naranjo's scale for ADR assessment.
 - d) Lung flow tests.

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FOURTH YEAR PHARM. D : SUMMER - 2018

SUBJECT : CLINICAL TOXICOLOGY

Day : **Thursday**
Date : **19/04/2018**

Time : **02.00 P.M. TO 05.00 PM**
Max. Marks : 70.

S-2018-4043

N.B.:

- 1) Q. No. 1 and Q. No. 5 are **COMPULSORY**.
- 2) Out of the remaining attempt any **TWO** questions from Section-I and any **TWO** questions from Section-II.
- 3) Answers to the two sections should be written in **SEPARATE** answer books.
- 4) Figures to the **RIGHT** indicate full marks.

SECTION-I

- Q.1 a)** Attempt any **FOUR** of the following: **(08)**
- i) What are symptoms of Salicylate poisoning?
 - ii) What are approaches of supportive therapy in clinical toxicology?
 - iii) What is the mechanism of organophosphorous toxicity?
 - iv) What is the antidote for opiate toxicity?
 - v) What is the role of activated charcoal in treating toxicity?
- b)** How toxicity of acidic drugs can be treated? **(03)**
- Q.2** Describe in detail general principles involved in management of Poisoning. **(12)**
- Q.3 a)** Write about role of toxicokinetics in drug toxicity. **(07)**
- b)** What are harmful effects of Kerosene toxicity? **(05)**
- Q.4** Write short notes on **THREE** of the following: **(12)**
- a) Mushroom poisoning
 - b) Radiation poisoning
 - c) Pyrethroids
 - d) Clinical use of antidotes.

P.T.O.

SECTION-II

- Q.5 a)** Attempt any **FOUR** of the following: **(08)**
- i)** What is the treatment of Mushroom poisoning?
 - ii)** Write a note on classification of food poisoning.
 - iii)** Write a note on aflatoxin?
 - iv)** Give an account on toxicity associated with dependence on CNS depressants.
 - v)** What are constituents of snake venom?
- b)** Explain the treatment of scorpion bite. **(03)**
- Q.6** Describe in detail signs, symptoms, treatment and medico legal aspects of arsenic poisoning. **(12)**
- Q.7 a)** Explain the general management for snake bite. **(07)**
- b)** Describe the poisoning by Mycotoxins. **(05)**
- Q.8** Write short notes on **THREE** of the following: **(12)**
- a)** Clinical toxicology of Tobacco
 - b)** LSD poisoning
 - c)** Mercury poisoning
 - d)** Lead poisoning.

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FOURTH YEAR PHARM. D : SUMMER - 2018
SUBJECT : HOSPITAL PHARMACY

Day : **Monday**
Date : **09/04/2018**

Time : **02.00 P.M. TO 05.00 PM**
Max. Marks : 70

S-2018-4039

N. B. :

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

SECTION - I

- Q. 1** A) Answer **ANY FOUR** of the following: **(08)**
- i) What are the functions of hospital?
 - ii) Write a note on budget preparation in hospital pharmacy.
 - iii) Write down the salient features of ethical code for a hospital pharmacist.
 - iv) Enlist the members of PTC.
 - v) List out difference between hospital formulary and adopted formulary.
 - vi) Discuss role of pharmacist in infection control.
- B) Write a brief note on the format of a hospital formulary. **(03)**
- Q. 2** Explain the objectives, functions and policies of pharmacy and therapeutic committee. **(12)**
- Q. 3** a) Discuss about the roles and responsibilities of hospital pharmacist. **(07)**
- b) Discuss about composition and functions of research and ethics committee. **(05)**
- Q. 4** Write short notes on **ANY THREE** of the following: **(12)**
- a) News letter
 - b) Management of materials and finance in hospital
 - c) Standard Therapeutic Guidelines
 - d) Expense account

P. T. O.

SECTION - II

- Q. 5 A)** Answer **ANY FOUR** of the following: **(08)**
- i) Define lead time safety stock
 - ii) Write a method to identify the presence of pyrogen
 - iii) Write the formula for EOQ
 - iv) Explain Sterilization Cycle
 - v) What are objectives of CSSD?
 - vi) Define radio pharmaceuticals
- B)** Write a short note on Total Parenteral Nutrition **(03)**
- Q. 6** What are different methods of inventory control and explain the procedure followed in hospital purchases? **(12)**
- Q. 7 a)** What are different methods of continuous professional development and explain any of them? **(07)**
- b)** Short note on unit dose drug distribution system. **(05)**
- Q. 8** Write short notes on **ANY THREE** of the following: **(12)**
- a) Distribution of narcotic drugs
 - b) Floor stock method
 - c) Discuss advantages of individual prescription method
 - d) Labeling and handling of radiopharmaceuticals

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FOURTH YEAR PHARM. D : SUMMER - 2018

SUBJECT: PHARMACOTHERAPEUTICS-I + II

Day : **Friday**
Date : **20/04/2018** **S-2018-4044**

Time: **02.00 P.M. TO 05.00 PM**
Max. Marks: 70.

N.B.:

- 1) Q. No. 1 and Q. No. 5 are **COMPULSORY**.
 - 2) Out of the remaining attempt any **TWO** questions from Section-I and any **TWO** Questions from Section-II.
 - 3) Answers to the two sections should be written in **SEPARATE** answer books.
 - 4) Figures to the **RIGHT** indicate full marks.
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SECTION-I

- Q.1 a)** Attempt any **FOUR** of the following: **(08)**
- i)** Differentiate between Pink-Puffers and Blue Bloaters.
 - ii)** Enlist various pulmonary function tests with their significance.
 - iii)** What is Diabetic Foot and its care?
 - iv)** Differentiate clinical presentation of Hyperthyroidism Vs. Hypothyroidism.
 - v)** Classify Antiarrhythmic.
 - vi)** Elaborate on various types of INSULIN.
- b)** Classify different types of Hypertension category. **(03)**
- Q.2** Explain in detail about Diabetes and its management of Diabetes. **(12)**
- Q.3 a)** Explain stepwise treatment for Asthma. **(07)**
- b)** Write about Oral contraceptives. **(05)**
- Q.4** Write short notes on **THREE** of the following: **(12)**
- a)** Bacterial conjunctivitis
 - b)** Rational drug use
 - c)** Geriatric prescribing guidelines
 - d)** Remodeling of Heart in CCF.

P.T.O.

SECTION-II

- Q.5 a)** Attempt any **FOUR** of the following: **(08)**
- i)** What is septicemia? How is it treated?
 - ii)** What is systemic lupus erythematosus? What is its cause?
 - iii)** What is cause of psoriasis?
 - iv)** Enlist four factors related to non-dialysis treatment of ARF.
 - v)** Name drugs used in chemotherapy of breast cancer.
 - vi)** Enlist nephrotoxic Drugs.
- b)** Name causes and drugs used to treat meningitis. **(03)**
- Q.6** Describe pathophysiology and treatment of HIV. How Tuberculosis and HIV are related. **(12)**
- Q.7 a)** What are causes and treatment of Spondylitis? **(07)**
- b)** Comment on pathophysiology and treatment of Gout. **(05)**
- Q.8** Write short notes on **THREE** of the following: **(12)**
- a)** Eczema
 - b)** Gastroenteritis
 - c)** Chronic renal failure
 - d)** Drug-induced renal disorders.

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FOURTH YEAR PHARM. D : SUMMER - 2018

SUBJECT: PHARMACOTHERAPEUTICS-III

Day: Friday

Date: 06/04/2018

Time: 02.00 P.M. TO 05.00 PM

Max Marks: 70

S-2018-4038

N.B:

- 1) Q.No.1 and Q.No.5 are **COMPULSORY**. Out of the remaining attempt any Questions **TWO** questions from each section.
- 2) Answers to both the sections should be written in **SEPARATE** answer book.
- 3) Draw neat labelled diagram **WHEREVER** necessary.
- 4) Figures to the **RIGHT** indicate FULL marks.

SECTION-I

- Q.1 A) Answer any **FOUR** of the following: (08)
- i) Enumerate the adverse effects of corticosteroids used in ulcerative colitis.
 - ii) Mention any three commonest drugs that are highly mostly reported for thrombocytopenia.
 - iii) Enlist the treatment goals for neuralgia due to herpes infection.
 - iv) Explain the role of iron and ascorbic acid in anemia.
 - v) Explain the role of heparin in ischemic stroke.
 - vi) Explain schilling test.
- B) Explain the four drug regimen in *Helicobacter pylori* infection. (03)
- Q.2 Discuss the pathophysiology, clinical manifestation of neurochemical basis and management of Parkinsonism. (12)
- Q.3 a) Explain the indication, mechanism, various formulations, and side-effects of antacids. (07)
- b) Describe the clinical presentations, diagnosis and management of hepatitis- A (05)
- Q.4 Write short notes on any **THREE** of the following: (12)
- i) Patient Counselling for analgesics
 - ii) Complex Partial Seizures
 - iii) Parenteral iron therapy
 - iv) Proton Pump Inhibitors (PPIs) in GERD

SECTION-II

- Q.5 A) Answer any **FOUR** of the following: (08)
- i) Name any two tricyclic antidepressants.
 - ii) Explain the indications of enoxaparin and state any two advantages.
 - iii) Mention four drug that induced agranulocytosis.
 - iv) Enlist two significance of Gamma Glutamyl transaminase (GGT) and SGPT in alcoholic liver disease.
 - v) What are the symptoms and signs of depression?
 - vi) What is absence seizure?
- B) Explain in brief the management of anemia in chronic renal failure. (03)
- Q.6 Explain etiology, clinical symptoms, diagnosis and pharmacotherapy of headaches. (12)
- Q.7 a) Define pernicious anemia and explain its management. (07)
- b) Explain the pharmacotherapy of partial seizures. (05)
- Q.8 Write short notes on any **THREE** of the following: (12)
- i) Complications of alcoholic liver disease (ALD).
 - ii) Fosphenytoin
 - iii) Parenteral nutrition in Inflammatory Bowel Disease
 - iv) SSRI's in depression