

5th Semester Regular / Back Examination 2018-19

MEDICINAL CHEMISTRY-I

BRANCH : B.Pharma

Time : 3 Hours

Max Marks : 100

Q.CODE : E197

Answer Question No.1 (Part-1) which is compulsory, any EIGHT from Part-II and any TWO from Part-III.

The figures in the right hand margin indicate marks.

Part- I

(2×10)

Q1 Short answer type Questions (Answer All-10)

- Define the term 'Parachor'.
- What do you mean by Taft's steric substituent constant?
- Mention postulates of Hansch analysis.
- Draw the structure of pyridine containing antitubercular drug.
- Mention the structure and chemical name of Mebendazole.
- Define diagnostic agents with examples.
- What are prostaglandins?
- Mention physiological role of Histamine.
- Draw the structure of one solanaceous alkaloids.
- Mention the structure and chemical name of two non selective β -receptor blockers.

Part- II

Q2 Focused-Short Answer Type Questions- (Answer Any EIGHT out of TWELVE)

- Discuss stereochemical features of drug receptor interaction. (6)
- Write SAR of directly acting muscarinic agonist. Outline the synthesis, mode of action and uses of one cholinesterase inhibitor. (3+3)
- Write a note on neuro muscular blocking agent. (6)
- Outline the synthesis of the following : (3×2)
Diphenhydramine, Promethazine, Ranitidine
- What do you mean by eicosanoids? discuss about their biosynthesis. What are the physiological role of eicosanoids? (4+2)
- Classify NSAIDs. Outline the synthesis and uses of Ibuprofen and Diclofenac. (2+4)
- Outline the synthesis, mechanism of action and uses of following anti TB drugs: (3×2)
Isoniazid, Ethambutol, Pyrazinamide.
- Classify antiamoebic drugs with example. Discuss synthesis and mechanism of action of Metronidazole and Diloxamide furoate. (2+4)
- Discuss the chemical classification of anthelmintic drugs, mentioning structure in each class. Outline the synthesis of Niclosamide. (4+2)
- Discuss SAR of thiazide diuretics. Outline synthesis, mechanism of action and uses of following drugs: Acetazolamide, Furosemide. (2+4)
- Write a comprehensive account on electronic parameters utilized in QSAR. (6)
- Write down the SAR of Salicylates. Mention the mechanism of action and uses of Aspirin. (6)

Part-III

- Q3** Define QSAR. Explain Hansch analysis and Free Wilson model.
- Q4** Discuss the SAR and mechanism of action of sympathomimetic drugs. Outline synthesis of following drugs: Salbutamol, Propranolol.
- Q5** Outline synthesis, mechanism of action and uses of following drugs: Thiabendazole, Propylidone, Mepyramine, Prazocine.
- Q6** Write on β -adrenergic blockers used in hypertension.

5th Semester Regular / Back Examination 2018-19
PHARMACEUTICS-II(PHARMACEUTICAL TECHNOLOGY - I)

BRANCH : B.Pharma

Time : 3 Hours

Max Marks : 100

Q.CODE : E071

Answer Question No.1 which is compulsory, any EIGHT from part-II and any TWO from part-III.

The figures in the right hand margin indicate marks.

PART-I**(2 x 10)**

Q1 Answer the following questions :

- Write various steps of sugar coating.
- Define polymorphisms.
- Define common ion effect.
- What is organoleptic property of liquid formulation?
- What is displacement value? Write its application.
- Differentiate between creams and ointments.
- Define capsule and write its merit.
- What is emulsifying agent? Write two examples of natural emulsifying agent.
- Define enteric coating tablet. Name two examples of enteric coating polymers.
- Differentiate among glidant, lubricant and antiadherent with suitable examples.

PART-II**(8x6)****Q2**

Focused-short Answer Type Questions-(Answer any EIGHT out of TWELVE)

- Write briefly about manufacturing defects of tablet.
- Define ointment. Write any two methods of preparation of ointment.
- Write about different tests forevaluation of type of emulsion.
- Write down the various stability tests of suspension.
- Explain briefly about different additives used in tablet formulation.
- Explain pH solubility profile.
- Describe stability tests of emulsion.
- Explain mechanisms of drug permeation in semisolid dosages form.
- Differentiate between hard gelatin and soft gelatin capsule.
- Give a short note on evaluation tests of cream.
- Define compressibility. How flow properties of powders or granules are classified?
- Discusson film coating tablet. Give examples of film coating polymers.

PART-III**Q3**

Long Answer Type Questions(Answer any TWO out of FOUR)

Define suppository. Discuss in detail about suppositories bases along with examples and method of preparation.

(16)**Q4**

What is tablet? Explain various methods of preparation and evaluation of tablet.

(16)**Q5**

Describe different parameters used for pre-formulation studies.

(16)**Q6**

Define capsule. Write different material used for production of hard gelatin capsule. Explain quality control and storage of capsule.

(16)

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5th Semester Regular/Back Examination 2018-19PHARM. ANALYSIS-II
BRANCH : B.PharmaTime : 3 Hours
Max Marks : 100

Q.CODE : E281

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

Part-I

(2 x 10)

Q1

Short Answer Type Questions (Answer All-10)

- Name two reagents used for washing the precipitate in Gravimetric analysis.
- Define digestion of precipitate and surface adsorption.
- Which reference electrode is used in Amperometric titrations?
- Mention the factors that affect the Diazotization end point.
- Explain the concept of molar conductivity.
- Mention the applications of radio-immunoassay.
- What are the advantages and disadvantages of RIA?
- Define specific conductance and equivalent conductance.
- What are charging current and migration current?
- Write about the electrodes used in potentiometry.

Part-II

Q2

Focused-Short Answer Type Questions- (Answer Any EIGHT out of TWELVE) (6 x 8)

- Write a short note on Radio-immuno Assay.
- Explain the principles involved in electrophoresis.
- What is the principle involved in the conductometry? Explain molar conductivity.
- What is the main difference in working principle of nephelometry and turbidimetry? Mention their applications.
- How would you explain the presence of water in an 'analyte' usually reacts with Karl-Fischer reagent in a two step process?
- Give the chemical reactions involved in the Karl-Fischer titration.
- What is the diazotization reaction? How does it help in the assay of drugs? Explain.
- What are the advantages of diazotization titrimetry? Mention the factors that affect diazotization titrimetry.
- Explain the theory involved in potentiometry.
- What are the different types of instruments used in potentiometry? Mention the applications of potentiometry.
- Write short notes on Biamperometry and Rotating microelectrode.
- State the principle of Gravimetric analysis based on law of mass action. Define relative super saturation. Mention the mathematical expression.

Part-III

Long Answer Type Questions (Answer Any TWO out of FOUR)

- Q3 Explain the principles and procedure involved in Kjeldahl method of protein analysis. (16)
- Q4 What are the advantages of the DME? Compare the usefulness of the DME as a cathode and as an anode. What are the principle underlying Amperometric titrations? How are Amperometric titrations carried out? (16)
- Q5 Describe the steps involved in Gravimetric analysis. Write the advantages of this analytical procedure over Thermo-gravimetric analysis. (12+4)
- Q6 Define co-precipitation. What are the optimum conditions for precipitation? Enlist the various impurities obtained from co-precipitation. How can these be minimized? What are industrial applications of Gravimetric analysis? (2+3+3+3+5)



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Total Number of Pages : 02

B.Pharm
15PH504

5th Semester Regular/Back Examination 2018-19

PHARMACOLOGY-I

BRANCH : B.Pharma

Time : 3 Hours

Max Marks : 100

Q.CODE : E362

Answer Question No.1 (Part-1) which is compulsory, any EIGHT from Part-II and any TWO from Part-III.

The figures in the right hand margin indicate marks.

Part- I

Q1 Short Answer Type Questions (Answer All-10) (2×10)

- What is competitive antagonism?
- With an example mention the target site for drug action.
- Define volume of distribution.
- Classify autonomic nervous system. Give some examples of transmitters of the autonomic nervous system.
- Write the types of acetylcholine receptors.
- What is the clinical significance of neuromuscular blocking drug. Explain with suitable example.
- What are the stages involve in general anaesthesia.
- What is opoid receptor? Give some example of opoid receptor agonist and antagonist.
- Write about the types of epilepsy.
- Define blood brain barrier.

Part- II

Q2 Focused-Short Answer Type Questions- (Answer Any EIGHT out of TWELVE) (6×8)

- Classify sympathomimetics with examples. How adrenaline is synthesized, released and are destroyed in the body.
- Write a note on atropine poisonings and its treatment.
- Write a short note on signal transduction mechanism.
- Write the pharmacological effects and uses of α blockers.
- Explain bioavailability and its significance.
- Classify local anaesthetics. Write their characteristics and mechanism of action.
- Explain the term teratogenicity, Idiosyncrasy and therapeutic index.
- Explain biotransformation of drugs.
- Discuss advantages and disadvantages of local route of drug administration.
- Enlist the various factors affecting the renal excretion of drug. How pH and pK_a of drugs can affect the renal excretion.
- Define drug antagonism. Discuss various types of drug antagonism with suitable examples.
- What is Parkinson's disease? What are the therapeutic approaches to control Parkinsonism?

Part-III

Long Answer Type Questions (Answer Any TWO out of FOUR)

- Q3** What do you mean by pre anaesthetic medication? Mention the different drugs used as pre-anaesthetic medication. **(16)**
- Q4** Define and classify receptor. Write in details about G-Protein coupled receptor. **(16)**
- Q5** What do you understand by sedative and hypnotics? Write down the mode of action, side effect and therapeutic application of Benzodiazepine. **(16)**
- Q6** Write in details about various factors which modify drug action. **(16)**



5th Semester Regular/Back Examination 2018-19
PHARMACEUTICAL MICROBIOLOGY

BRANCH : B.Pharma

Time : 3 Hours

Max Marks: 100

Q.CODE : E540

Answer Question No.1 (Part-1) which is compulsory, any EIGHT from Part-II and any TWO from Part-III.

The figures in the right hand margin indicate marks.

Part-I

(2 x 10)

Short Answer Type Questions (Answer All-10)

- a) Give one example of Gram negative anaerobic bacteria. 290
- b) What is Dextran? 290
- c) Clostridium botulinum liberates _____ toxin. 290
- d) Define Pyrogen.
- e) What are dimorphic fungi?
- f) Define probiotics.
- g) Mention the function of sex pili.
- h) What are bacterial spores? 290
- i) Point out the pore size of membrane filter. 290
- j) Which strain is extensively used for the industrial production of benzyl penicillin? 290

Part-II

(6 x 8)

Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)

- a) Differentiate between prokaryotes and eukaryotes.
- b) What is bacterial staining? Write in brief the basic mechanism of Gram staining. 290
- c) What is Tyndallization? Tyndallization requires three successive days operation. Explain why?
- d) Differentiate between Gram positive and Gram negative bacteria.
- e) What is plasmid? Classify the different types of plasmid and state their functions.
- f) Write the beneficial role of microbes.
- g) Classify bacteria according to the arrangement of bacteria. 290
- h) Write about the clinical uses and one industrial producer organism of the following substances :
 - i) Cyanocobalamin
 - ii) Lactic acid.
- i) Write down the principle of Diffusion assay of antibiotic.
- j) Write a note on nutritional requirements of bacteria.
- k) Define bacterial mutation. Explain why deliberate mutation is required? Give example of few mutagens. 290
- l) Define sterile air. Write the importance of sterile air in pharma industry.

Part-III

Long Answer Type Questions (Answer Any Two out of Four)

- Q3** Define the term sterilization and sterility. What is non-thermal sterilization? Enlist some pharmaceuticals which are to be sterilized by filtration. Mention the specific media which are used for sterility testing as per I.P. guidelines. (16)
- Q4** Differentiate between bacteria and viruses. Write down the classification of viruses. (16)
- Q5** Briefly discuss the factors influencing disinfectant activity of antimicrobial agents. Define R.W. Coefficient along with its significance. (16)
- Q6** Discuss briefly the different methods of preservation of microbial cultures. Also state the specific advantages of each. (16)



5th Semester Regular / Back Examination 2018-19

PHARMACOGNOSY-III

BRANCH : B.Pharma

Time : 3 Hours

Max Marks : 100

Q.CODE : E471

Answer Question No.1 (Part-1) which is compulsory, any EIGHT from Part-II and any TWO from Part-III.

The figures in the right hand margin indicate marks.

Part- I

(2 x 10)

Q1 Short Answer Type Questions (Answer All-10)

- a) 6-BAP is a :
- i) Gibberalin
 - ii) Synthetic auxin
 - iii) Natural auxin
 - iv) Cytokinin
- b) *Panax notoginseng* represents :
- i) American
 - ii) Chinese
 - iii) Korea
 - iv) Japanese variety of ginseng.
- c) What is red squill?
- d) Write down the names of two common adulterants of digitalis.
- e) Distinguish between cardenolides and bufadienolides.
- f) Define probiotics with examples.
- g) *Digitalis lutea* is commonly known as
- i) Straw foxglove
 - ii) Woolly foxglove
 - iii) Egyptian foxglove
 - iv) Spanish foxglove
- h) What is Brontrager's test? How it differs from modified Brontrager's test.
- i) Write short note on aloe gel.
- j) Write down the botanical source of saffron.

Part- II

Q2 Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)

(6 x 8)

- a) Define the terms callus tissue and explants. Write down the significance of plant tissue culture in the field of Pharmacognosy.
- b) Write down the biological sources, preparation and uses of trypsin and papain.
- c) Write down the biological sources, chemical constituents and uses of gentian and senega.
- d) Explain Sta-Otto method of isolation of glycosides.
- e) Describe (with the help of neat sketch) the microscopic features of digitalis leaf.
- f) Write short notes on dietary supplements and health drinks.
- g) Write down the basic components of plant tissue culture medium.
- h) Define and classify plant tissue culture. What is totipotency?
- i) Schematically represent the biosynthesis of shikimic acid.
- j) Explain briefly the principle behind the radio-active tracer technique to investigate biosynthetic pathways.
- k) Describe the methods of cultivation and collection of dioscorea.
- l) Write a note on poisonous plants of India.

Part-III

Long Answer Type Questions (Answer Any Two out of Four)

- Q3 Give an account on novel medicinal agents from marine sources. (1)
- Q4 Explain schematically the biosynthesis of indole alkaloids, and steroidal glycosides. (8)
- Q5 Write down the biological sources, method of cultivation and collection, macroscopic, microscopic features, chemical constituents, uses and adulterants of Indian senna. (1)
- Q6 Write down the biological sources, chemical constituents and uses of sarsaparilla, quassia, cascara and psoralea. (4)

