Registration No : | | | | | | | | | |

Total Number of Pages : 01 **B.Pharm**
15PH501

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

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

a) Write various steps of sugar coating.
b) Define polymorphisms.
c) Define common ion effect.
d) What is organoleptic property of liquid formulation?
e) What is displacement value? Write its application.
f) Differentiate between creams and ointments.
g) Define capsule and write its merit.
h) What is emulsifying agent? Write two examples of natural emulsifying agent.
i) Define enteric coating tablet. Name two examples of enteric coating polymers.
j) Differentiate among glidant, lubricant and antiadherant with suitable examples.

PART-II

Q2 **Focused-short Answer Type Questions-(Answer any EIGHT out of TWELVE)** **(8x6)**

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

PART-III

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

Q3 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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Total Number of Pages : 02 **B.Pharm**
15PH502

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

Q1 **Short answer type Questions (Answer All-10)** **(2×10)**

a) Define the term 'Parachor'.
b) What do you mean by Taft's steric substituent constant?
c) Mention postulates of Hansch analysis.
d) Draw the structure of pyridine containing antitubercular drug.
e) Mention the structure and chemical name of Mebendazole.
f) Define diagnostic agents with examples.
g) What are prostaglandins?
h) Mention physiological role of Histamine.
i) Draw the structure of one solanaceous alkaloids.
j) 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)**

a) Discuss stereochemical features of drug receptor interaction. **(6)**
b) Write SAR of directly acting muscarinic agonist. Outline the synthesis, mode of action and uses of one cholinesterase inhibitor. **(3+3)**
c) Write a note on neuro muscular blocking agent. **(6)**
d) Outline the synthesis of the following : **(3×2)**
Diphenhydramine, Promethazine, Ranitidine
e) What do you mean by eicosanoids? discuss about their biosynthesis. What are the physiological role of eicosanoids? **(4+2)**
f) Classify NSAIDs. Outline the synthesis and uses of Ibuprofen and Diclofenac. **(2+4)**
g) Outline the synthesis, mechanism of action and uses of following anti TB drugs: Isoniazid, Ethambutol, Pyrazinamide. **(3×2)**
h) Classify antiamoebic drugs with example. Discuss synthesis and mechanism of action of Metronidazole and Diloxamide furoate. **(2+4)**
i) Discuss the chemical classification of anthelmintic drugs, mentioning structure in each class. Outline the synthesis of Niclosamide. **(4+2)**
j) Discuss SAR of thiazide diuretics. Outline synthesis, mechanism of action and uses of following drugs: Acetazolamide, Furosemide. **(2+4)**
k) Write a comprehensive account on electronic parameters utilized in QSAR. **(6)**
l) 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.	**(2+14)**
Q4	Discuss the SAR and mechanism of action of sympathomimetic drugs. Outline synthesis of following drugs: Salbutamol, Propanolol.	**(8+8)**
Q5	Outline synthesis, mechanism of action and uses of following drugs: Thiabendazole, Propyliodone, Mepyramine, Prazocine.	**(4x4)**
Q6	Write on β-adrenergic blockers used in hypertension.	**(16)**

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Total Number of Pages : 02 **B.Pharm**
15PH503

5th Semester Regular/Back Examination 2018-19
PHARM. ANALYSIS-II
BRANCH : B.Pharma
Time : 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

Q1 **Short Answer Type Questions (Answer All-10)** **(2 x 10)**

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

Part- II

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

a) Write a short note on Radio-immuno Assay.
b) Explain the principles involved in electrophoresis.
c) What is the principle involved in the conductometry? Explain molar conductivity.
d) What is the main difference in working principle of nephlometry and turbidimetry? Mention their applications.
e) How would you explain the presence of water in an 'analyte' usually reacts with Karl-Fischer reagent in a two step process?
f) Give the chemical reactions involved in the Karl-Fischer titration.
g) What is the diazotization reaction? How does it help in the assay of drugs? Explain.
h) What are the advantages of diazotization titrimetry? Mention the factors that affect diazotization titrimetry.
i) Explain the theory involved in potentiometry.
j) What are the different types of instruments used in potentiometry? Mention the applications of potentiometry.
k) Write short notes on Biamperometry and Rotating microelectrode.
l) 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)**

a) What is competitive antagonism?
b) With an example mention the target site for drug action.
c) Define volume of distribution.
d) Classify autonomic nervous system. Give some examples of transmitters of the autonomic nervous system.
e) Write the types of acetylcholine receptors.
f) What is the clinical significance of neuromascular blocking drug. Explain with suitable example.
g) What are the stages involve in general anaesthesia.
h) What is opoid receptor? Give some example of opoid receptor agonist and antagonist.
i) Write about the types of epilepsy.
j) Define blood brain barrier.

Part- II

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

a) Classify sympathomimetics with examples. How adrenaline is synthesized, released and are destroyed in the body.
b) Write a note on atropine poisonings and its treatment.
c) Write a short note on signal transduction mechanism.
d) Write the pharmacological effects and uses of α blockers.
e) Explain bioavailability and its significance.
f) Classify local anaesthetics. Write their characteristics and mechanism of action.
g) Explain the term teratogenicity, Idiosyncrasy and therapeutic index.
h) Explain biotransformation of drugs.
i) Discuss advantages and disadvantages of local route of drug administration.
j) Enlist the various factors affecting the renal excreation of drug. How pH and pK_a of drugs can affect the renal excretion.
k) Define drug antagonism. Discuss various types of drug antagonism with suitable examples.
l) 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)**

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Total Number of Pages : 02 **B.Pharm**
15PH505

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

Q1 Short Answer Type Questions (Answer All-10) **(2 x 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) Wooly 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 trypsine and papain.

c) Write down the biological sources, chemical constituents aand 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.	**(16)**
Q4	Explain schematically the biosynthesis of indole alkaloids, and steroidal glycosides.	**(8 + 8)**
Q5	Write down the biological sources, method of cultivation and collection, macroscopic, microscopic features, chemical constituents, uses and adulterants of Indian senna.	**(16)**
Q6	Write down the biological sources, chemical constituents and uses of sarsaparilla, quassia, cascara and psoralea.	**(4 x 4)**

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Total Number of Pages : 02 **B.Pharm**
15PH506

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

Q1 **Short Answer Type Questions (Answer All-10)** **(2 x 10)**

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

Part- II

Q2 **Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)** **(6 x 8)**

a) Differentiate between prokaryotes and eukaryotes.
b) What is bacterial staining? Write in brief the basic mechanism of Gram staining.
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.
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.
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)**