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Total Number of Pages : 02

B. Pharm.
BP404T

4th Semester Regular / Back Examination: 2021-22

PHARMACOLOGY- I
BRANCH(S): B.Pharma

Time : 3 Hour
Max Marks: 75
Q.Code: J594

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 Answer the following questions :

(2 × 10)

- Define Agonist and Antagonist with examples.
- Define Bioavailability and write its significance.
- Define the term drug dependence and drug addiction.
- Define plasma half-life ($t_{1/2}$) and write its significance.
- Write different factors governing for the choice of route of drug administration.
- Write the mechanism of action of Salbutamol.
- What is SSRIs?
- Define synergism with examples.
- Write the mechanism of action of Salbutamol.
- Name two drugs used in glaucoma.

Part-II

Q2 Focused-Short Answer Type Questions- (Answer Any Seven)

(5 × 7)

- Describe the different routes of drug administration with their advantages and disadvantages.
- Write the differences in pharmacological actions of Anti-cholinesterase and Anti-cholinergic drugs.
- Describe the pharmacology of Beta adrenergic blockers.
- Describe the pharmacology of Local anesthetics.
- Describe the pharmacology of skeletal muscle relaxants.
- Classify the antiepileptic drugs with examples. Write the mechanism of action of phenytoin.
- Classify antidepressants. Write the pharmacological actions of Tricyclic antidepressants.
- Write note on CNS stimulants.
- Write note on Plasma protein binding.



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B.Pharm
BP405T

4th Semester Regular / Back Examination: 2021-22
PHARMACOGNOSY & PHYTOCHEMISTRY-I

BRANCH: B.Pharma

Time : 3 Hour

Max Marks : 75

Q.Code: J674

Answer Question No.1 (Part-1) which is compulsory, any seven 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 × 10)
- a) Define Pharmacognosy.
 - b) Write the biological source and uses of Chaulmoogra oil.
 - c) What is stomatal index?
 - d) What is mutation?
 - e) Define secondary metabolites.
 - f) Write the applications of Auxin.
 - g) Write the biological source and chemical constituents of Acacia.
 - h) Define Glycosides.
 - i) Write the biological source and uses of Tragacanth.
 - j) Define Foreign organic Matter.

Part-II

- Q2 Focused-Short Answer Type Questions- (Answer Any Seven) (5 × 7)
- a) Lycopodium spore method.
 - b) Ash value.
 - c) Write a note on Edible vaccines.
 - d) Write the general chemical tests of alkaloids.
 - e) Give a note on Resins.
 - f) Define and write the principle of Ayurveda.
 - g) Explain about natural allergens with suitable examples.
 - h) Write the pharmacognostical profile of cotton.
 - i) Give a note on marine drugs.

Part-III

- Q3 Long Answer Type Questions (Answer Any Two) (10)
- Q4 Describe the various factors affecting cultivation of medicinal plant. (10)
- Q5 Define adulteration of crude drugs and Explain about different types of adulterants with suitable examples. (10)
- Q6 What is plant tissue culture? Write about types of cultures, Nutritional requirements and applications of plant tissue culture in pharmacognosy. (10)



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B.Pharma
15PH404

4th Semester Back Examination: 2021 - 2022

COMPUTER APPLICATION

BRANCH(S): B. Pharma

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Time : 3 Hour

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Max Marks : 100

Q.Code : J593

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.

- Q1 290 290 290 290 290 290 290 290 290 290
- Part-I** (2 × 10)
- Answer the following questions:
- Distinguish between RAM and ROM.
 - Represent the decimal value 127 in octal and hexadecimal number system.
 - Find 2's complement of the binary number 10010101.
 - Write different classes of application software.
 - What do you mean by formatting a storage device?
 - Write any two applications of computer in pharmacy.
 - Distinguish between variable and constant in JAVA.
 - Citing an example write the syntax of declaring a 2-D array in JAVA.
 - Give an example of switch-case statement in JAVA.
 - Write the name of some important websites related to pharmaceutical information.

- Q2 290 290 290 290 290 290 290 290 290 290
- Part-II** (6 × 8)
- Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)
- Discuss the use of computer in pharmaceutical research and development.
 - State and explain various storage maintenance task in operating system.
 - Explain the hardware architecture of a computer.
 - Distinguish between machine level language and high-level language.
 - Write a Java Program to find whether a string or number is palindrome or not.
 - Write a JAVA program to check if the given number is Prime.
 - Write the procedure of running JAVA program in BlueJ.
 - Discuss various decision-making statements available in JAVA.
 - Explain the Exception handling mechanism in JAVA.
 - Write a JAVA program to sort the elements of a 1-D array.
 - Distinguish between LAN, MAN and WAN.
 - State and explain different modes of data transmission.

- Q3 290 290 290 290 290 290 290 290 290 290
- Part-III** (16)
- Only Long Answer Type Questions (Answer Any Two out of Four)
- What is an operating system? Explain in detail about different types of file manipulation and storage management in an operating system.

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B.Pharm 290
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4th Semester Back Examination: 2021-22

BIOCHEMISTRY

BRANCH(S): B.Pharma

Time : 3 Hour

Max Marks : 100

Q.Code : J512

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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 Answer the following questions :
- a) Define isoenzyme with examples. 290 290 290 290
 - b) Define glycogenesis.
 - c) What is detoxification.
 - d) What is denaturation and renaturation of proteins?
 - e) What is citric acid cycle?
 - f) Define glycosidic Linkage.
 - g) What is ketoacidosis?
 - h) Define energy rich compounds with examples.
 - i) What are cofactors? Give examples. 290 290 290 290
 - j) Define saturated and unsaturated fatty acid.

Part-II

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

- a) Define and explain cell division.
- b) Explain the structure and function of t-RNA.
- c) Write a brief note on enzyme activities in body. 290 290 290 290
- d) Differentiate enzyme and Co-enzyme.
- e) Explain glycogen storage disease.
- f) Write about gluconeogenesis and glycogenolysis.
- g) Explain briefly about pentose phosphate pathway .
- h) Explain the Amphibolic nature and energetics of TCA cycle.
- i) Write brief note on lipid metabolism.
- j) Explain the double helical structure of DNA. 290 290 290 290
- k) Explain how keton bodies are formed in human body.
- l) Explain the electron transport chain.

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Part-III

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

- Q3 Define and explain the glycolysis pathway in details and write it's energetics. (16)
- Q4 Explain the various reactions involved in citric acid cycle. (16)
- Q5 Write about the factors affecting enzyme action. Give a detail study on enzyme kinetics and its mechanism of action. (16)
- Q6 Explain the principle of biological oxidation and detoxification mechanism. (16)

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B.Pharm
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4th Semester Regular / Back Examination: 2021-22

PHYSICAL PHARMACEUTICS-II

BRANCH(S): B.Pharma

Time : 3 Hour

Max Marks : 75

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Q.Code : J513

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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 Answer the following questions : (2 × 10)
- Define Colloidal and Coarse dispersion.
 - Write Gold number with its Significance.
 - What is glidant? Write two suitable examples of it.
 - Define Rheology. Give any two applications
 - What is yield value? Write it's application.
 - What are Bulges and Spurs?
 - Differentiate between emulsions and suspensions
 - Describe carr's index
 - Define rate and order of a reaction
 - Zero order reactions are dependent upon the concentration of reactant. Comment.

Part-II

- Q2 Focused-Short Answer Type Questions- (Answer Any Seven) (5 × 7)
- State Edmundson's equation.
 - Give expressions for rate constant and half-life of first order reaction.
 - What is specific surface area? How is it measured by air permeability method
 - Explain porosity. Give it's applications in pharmacy.
 - Differentiate between flocculated and deflocculated suspensions.
 - Write HLB scale showing classification of surfactant function
 - Discuss plastic and pseudoplastic system of flow
 - Explain the principle of cup & bob viscometer
 - Explain kinetic properties of colloids

Part-III

- Q3 Long Answer Type Questions (Answer Any Two)
- 290 Define how shelf life of a medicinal product is determined 290 290 (10) 290
- Q4 What are colloids? Give example. Explain any four methods of preparation of different types of colloids. (10)
- Q5 Define Thixotropy, mention the basic mechanism and give its applications in pharmacy. (10)
- Q6 290 Explain in detail interfacial properties of suspended particles. (10) 290



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B.Pharm
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4th Semester Regular / Back Examination: 2021-22

MEDICINAL CHEMISTRY- I

BRANCH(S): B.Pharm

Time : 3 Hour

Max Marks : 75

Q.Code : J440

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.

- Q1** **Part-I** **(2 × 10)**
- Answer the following questions :
- What do you mean by future medicine?
 - Give two examples of non classical Bioisosters.
 - Define phase II reactions.
 - What is methylation?
 - Write the name of COMT and MOA.
 - Write down the use of dopamine.
 - Define adrenergic blockers.
 - Define cholinergic system and its functions.
 - Write two examples of synthetic amino-alcohol ester drugs.
 - Define the term sedative and hypnotics.

- Q2** **Part-II** **(5 × 7)**
- Focused-Short Answer Type Questions- (Answer Any Seven)**
- Write down few examples of short acting barbiturates with their uses
 - Give the classification and use of antipsychotic drugs with examples.
 - What do you mean by tonic clonic seizures.
 - Give classification of anticonvulsant drugs with examples.
 - Write the mechanism of action of general anesthetics.
 - Write a brief note on Nalorphine and Naloxone.
 - Write the mechanism of action of NSAIDs.
 - Explain briefly about beta adrenergic blockers.
 - Write the factors affecting drug metabolism.

- Q3** **Part-III** **(10)**
- Long Answer Type Questions (Answer Any Two)**
- Explain the types of bondings involved in drug metabolism and specify importance of these bondings.
- Q4** **(10)**
- Explain various enzymes involved in drug metabolism and their importance.
- Q5** **(10)**
- Explain the mechanism of action and functions of Terbutaline, Salbutamol and Naphazoline.
- Q6** **(10)**
- Write the SAR of Anticholinergic drugs.



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B.Pharm
15PH402

4th Semester Back Examination: 2021-22

PHARM. ENGINEERING-II

BRANCH(S) : B.Pharma

Time : 3 Hour

Max Marks : 100

Q.Code : J441

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 Answer the following questions : (2×10)

- Write the Reynolds number formula.
- What is adiabatic saturation temperature?
- Write four valves name used for flow of liquids.
- What is the function of pump?
- State the function of compressor.
- Write basic components of belt conveyer.
- Write the steps of crystal formation from solution.
- Write advantages of steel as material of construction.
- State various industrial hazards.
- Define centrifugation and name one centrifuge.

Part-II

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

- Derive an equation for pressure difference for simple manometer.
- Write applications of humidity in Pharmacy.
- Write a short note on caking of crystals and its prevention.
- Write a short note on steel as a material of construction.
- Write the uses of humidity chart.
- Write theories of centrifugation.
- Write a short note on electrical hazards in Industry.
- Write super saturation theory for crystallization.
- Write a note on gate valve.
- Write various approaches for achieving dehumidification.
- Describe centrifugal pump.
- Write a note on accidental records.

Part-III

Q3 Only Long Answer Type Questions (Answer Any Two out of Four) Describe the principle, construction, working, uses, merits and demerits of perforated basket centrifuge. (16)

Q4 Write the principle, construction, working, applications, advantages and disadvantages of Screw conveyors. (16)



Q5 Write principle, construction, working, applications, advantages and disadvantages of belt conveyors. (16)

Q6 Describe the principle, construction, working, uses, merits and demerits of agitated batch crystallizer. (16)

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B.Pharm
BP401T

4th Semester Regular / Back Examination: 2021-22

PHARMACEUTICAL ORGANIC CHEMISTRY III

BRANCH(S): B. Pharma

Time: 3 Hour

Max Marks: 75

Q. Code: J366

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

The figures in the right-hand margin indicate marks.

- Part-I** (2 × 10)
- Q1 Answer the following questions:
- What is Atropisomers?
 - What is E-Z System of geometrical isomers?
 - Why Friedel crafts reaction is not possible on pyridine?
 - Differentiate between diastereomers and enantiomers.
 - Write the Structure and Medicinal use of Imidazole.
 - Write the Structure and Medicinal use of Purine.
 - What is the use of NaBH₄ and LiAlH₄?
 - Why Pyrole is weak base than pyridine
 - Describe the isomerism exhibited by maleic acid and fumaric acid.
 - What is the necessary condition for a compound to show optical isomerism?

- Part-II** (5 × 7)
- Q2 Focused-Short Answer Type Questions- (Answer Any Seven)
- Explain about asymmetric synthesis.
 - Write short note on preparation and chemical properties of Indole.
 - State and explain with structural mechanism - Electrophilic substitution reaction favour C2 position in Furan.
 - Write a Short Note on Geometric Isomerism.
 - Discuss the chemical properties of Imidazole.
 - Discuss the conformational isomerism in cyclohexane.
 - What is Stereospecific and Stereoselective reactions?
 - Write in brief note on chromatographic and biochemical methods used for resolution of racemic mixture.
 - Discuss the mechanism and synthetic applications of Beckmann rearrangement.

- Part-III**
- Q3 Long Answer Type Questions (Answer Any Two) (10)
- Q4 Explain R and S system of nomenclature with examples. Discuss the Sequence rule to assign configuration with example (10)
- Q4 Discuss the synthesis, chemical reaction and medicinal uses of Pyrazole. (10)

