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B.Pharm.  
BP602T

6<sup>th</sup> Semester Regular / Back Examination: 2021-22

PHARMACOLOGY- III

BRANCH(S): B.Pharm.

Time : 3 Hour

Max Marks: 75

Q.Code: J126

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 :
- a) Define Digestants and carminatives with examples.
  - b) Define COPD. Classify drugs used for COPD.
  - c) Discuss the MOA of H<sub>2</sub>-blockers.
  - d) What are prokinetics?
  - e) Write the MOA of Tetracycline.
  - f) Write the MOA of Fluoroquinolones.
  - g) What is Cotrimoxazole?
  - h) Define and classify antifungal drugs.
  - i) What is Nasal decongestant?
  - j) Define Teratogenicity.
- Q2** **Part-II** **(5×7)**  
Focused-Short Answer Type Questions- (Answer Any Seven)
- a) Anti-emetics
  - b) Respiratory stimulants
  - c) Chemotherapy of tuberculosis
  - d) Chemotherapy of STD
  - e) Expectorants and antitussives
  - f) Immunosuppressants
  - g) Organophosphate poisoning
  - h) Toxicity studies
  - i) Biological clock and their significance
- Q3** **Part-III** **(10)**  
Long Answer Type Questions (Answer Any Two)  
What is bronchial asthma. Classify drugs used in bronchial asthma. Write the Mechanism of action, pharmacological action, Adverse effects and uses of Theophylline.
- Q4** **(5)**  
Answer the following questions:  
a) Discuss the mechanism of gastric acid secretion and its regulation. **(5)**  
b) Discuss the mechanism of different drugs used for reduction of gastric acid secretion. **(5)**



**Q5** Define and classify antimicrobial agents. Write mechanism and adverse effect of beta-lactam antibiotics. (10)

**Q6** Write the mechanism and uses of the following drugs: (2.5 x 4)

- a) Methotrexate
- b) Acyclovir
- c) Azithromycin
- d) Trimethoprim

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B .Pharm.  
BP601T

6<sup>th</sup> Semester Regular / Back Examination: 2021-22

MEDICINAL CHEMISTRY-III

BRANCH(S): B Pharma

Time: 3 Hour

Max Marks : 75

Q.Code: J066

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.

- Q1** **Part-I**  
**Answer the following questions:** **(2×10)**
- a) Write the structure and MOA of Cephalosporins.
  - b) Define Antibiotics and classify it.
  - c) Write the structure and uses of Amphotericin- B
  - d) Define Prodrug and Write it's application.
  - e) Write the structure and MOA of Clotrimazole.
  - f) Define drug design and Write the importance of drug design.
  - g) Define antiviral drug and classify it with examples.
  - h) Write the synthesis of Mebendazole and write it's use.
  - i) Write the MOA and use of Rifampicin.
  - j) Write the importance of Tetracyclines.

- Q2** **Part-II**  
**Focused-Short Answer Type Questions- (Answer Any Seven)** **(5×7)**
- a) Classify Anti-Malarial agents with suitable examples. Outline the synthesis of Chloroquine.
  - b) Define Anti Protozoal agents, classify it and write the synthesis, MOA and uses of Metronidazole.
  - c) Briefly explain the various Approaches used in drug design.
  - d) Define the following parameter of QSAR.
    - I. Partition co- efficient
    - II. Hammett's electronic parameter
    - III. Tafts steric parameter
    - IV. Hansen analysis
  - e) Write the MOA and uses of following drugs:-
    - I. Azithromycin
    - II. Streptomycin
    - III. Ribavirin
    - IV. Ivermectin
  - f) Write the synthesis and MOA of Isoniazid
  - g) Write the SAR of Quinolones and Nalidixic acid.
  - h) Write about Pharmacophore Modeling and Docking technique.
  - i) Write the SAR and Importance of Penicilin and Tetracyclins.



**Part-III**

**Long Answer Type Questions (Answer Any Two)**

- Q3** Define and classify Antibiotics with suitable examples. Give the synthesis, MOA and importance of Penicilin and Cephalosporins. (10)
- Q4** Define, Urinary tract anti- infective agents and classify it with examples. Write the synthesis of Ciprofloxacin. (10)
- Q5** Define, Anthelmintics and classify it with examples. Write synthesis and MOA of diethylcarbamazine. (10)
- Q6** Explain, the various approaches used in drug design and give a brief note on Docking techniques. (10)



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B.Pharm  
BP605T

6<sup>th</sup> Semester Regular / Back Examination: 2021-22  
Pharmaceutical Biotechnology  
BRANCH(S): B.Pharma

Time : 3 Hour

Max Marks : 75

Q.Code : J287

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 transducers.
- b) Define Haptens.
- c) What are plasmids?
- d) Define Sparger.
- e) What is DNA Ligase?
- f) Define primers.
- g) Define mutation.
- h) Write two important characteristics of IgM.
- i) Define transduction.
- j) Define subunit vaccines.

Part-II

(5 × 7)

Q2

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

- a) Discuss in detail about Biosensors and its different parts.
- b) Discuss about Southern blotting technique.
- c) Define cloning vector? Discuss about an ideal vector with neat labeled diagram.
- d) Discuss briefly about biotransformation and write its advantages.
- e) Define immunoglobulins and discuss about typical structure of an immunoglobulin.
- f) Discuss in detail about downstreaming of penicillin after completion of fermentation.
- g) Define hypersensitivity reaction and write in detail about Type I hypersensitivity reaction.
- h) Discuss in detail about Fermentor and its different parts.
- i) Write about different types of mutation.

Part-III

Long Answer Type Questions (Answer Any Two)

- Q3 What is enzyme immobilization? Write its methods and applications (10)
- Q4 Write in detail about insulin production by genetic engineering technique. (10)
- Q5 Discuss hybridoma technology, Write its application for production of monoclonal antibody. (10)
- Q6 Write notes on :
  - a) Transformation (5)
  - b) Transduction (5)



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B.Pharm  
15PH604

6<sup>th</sup> Semester Back Examination: 2021-22

PHARMACOGNOSY-IV

BRANCH : B.Pharma

Time : 3 Hour

Max Marks : 100

Q.Code : J243

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 :
- Write the biological source of Nux-vomica.
  - Mention the name of two marketed formulations of Amla.
  - Write the botanical source and uses of Neem.
  - Specify the important chemical constituents of Brahmi.
  - Classify Ayurvedic preparations with examples.
  - What do you mean by Bhasmas ?
  - Give two examples of crude drugs, containing tropane alkaloids.
  - Write the chemical constituents and uses of Lahsun.
  - Write the biological source of Guggul.
  - Write the chemical constituents and uses of Arjuna.
- Q2** **Part-II** (6 × 8)
- Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)
- Write a note on production and utilization of Diosgenin.
  - Write the biological source, chemical constituents, uses and marketed formulations of Tulsi.
  - Illustrate the method of preparation of Bhasmas.
  - Explain about the principle of Thin layer chromatography.
  - Explain in detail about the cultivation, collection and important uses of Tobacco.
  - Give two examples of crude drugs containing Indole alkaloids and write their biological source, chemical constituents and important uses.
  - Write the vernacular names, biological source, uses and marketed formulations of Shilajit.
  - Define alkaloid and write down the general chemical tests for alkaloids.
  - Mention the biological source, chemical constituents and uses of Lobelia.
  - What is the principle of Paper chromatography?
  - Write down the method of preparation of Tailas.
  - Write biological source, chemical constituents, uses and name of two marketed formulations of Shankhapusphi.





Part-III

290 Only Long Answer Type Questions (Answer Any Two out of Four) 290

Q3 Explain the general methods of extraction and isolation of alkaloids. Write the details of biological source, chemical constituents and uses of Cinchona. (16)

Q4 Write the biological source, chemical constituents, uses and life cycle of Ergot. Illustrate the method of preparations of Asava and Arista. (16)

Q5 Write a note on the production and utilization of Quinine and Podophyllotoxin. What is Column chromatography? Write its principles. (16)

Q6 Write the biological source, cultivation, collection, macroscopical characters, chemical constituents and uses of Catharanthus. Explain in detail about the microscopical studies of Datura with suitable diagram. (16)

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B.Pharm.  
BP603T

6<sup>th</sup> Semester Regular / Back Examination: 2021-22  
HERBAL DRUG TECHNOLOGY

BRANCH(S): B. Pharma

Time : 3 Hours

Max Marks : 75

Q. Code : J201

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:

- Define medicinal herb with example.
- Write various sources of natural medicinal agents.
- Define Nutraceuticals with example.
- Differentiate Aristas and Asawas.
- Define health foods with example.
- What do you mean by ash value? Write significance of Total ash value.
- Expand and define IPR.
- Write biological source of any one natural colourant.
- Differentiate churna and bhasma.
- What is *similia similibus* doctrine in homoeopathy?

Q2

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

(5 × 7)

- Discuss about the basic principles involved in Ayurveda.
- Outline good agricultural practices in reference to cultivation of medicinal plants.
- Write short notes on antioxidants of herbal origin.
- Submit a brief note on nutraceuticals having health benefit in the Diabetes.
- Discuss various standardization parameters for ghutika.
- Write a brief note on Patenting aspects of traditional knowledge and natural products in reference to neem.
- Write notes on Herb-Drug interaction.
- Write notes on Herbal formulations.
- Write notes on bio-insecticides.

Part-III

Long Answer Type Questions (Answer Any Two)

Q3

Give a note on herbal cosmetics.

Q4

Write in detail about Herbal excipients.

Q5

Discuss in detail on evaluation methods for herbal drugs as per WHO guidelines.

Q6

Present an account of plant based industries and institutions involved in work on medicinal and aromatic plants in India



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B.Pharm  
BP604T

6<sup>th</sup> Semester Regular / Back Examination: 2021-22  
BIOPHARMACEUTICS AND PHARMACOKINETICS  
BRANCH(S): B.Pharma

Time : 3 Hour

Max Marks : 75

Q.Code : J244

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)
- a) Define Biopharmaceutics.
  - b) What is  $t_{1/2}$  of drugs?
  - c) What do you mean by apparent volume of distribution?
  - d) What is intrinsic dissolution rate?
  - e) Define therapeutic window of a drug.
  - f) What is blood-brain barrier?
  - g) What do you mean by clearance?
  - h) Give one example of acetylation reaction.
  - i) Define Bioavailability and Bioequivalence.
  - j) What do you mean by Mean residence time?

Part-II

- Q2 Focused-Short Answer Type Questions- (Answer Any Seven) (5 × 7)
- a) Describe briefly carrier-mediated transport.
  - b) How polymorphism affects bioavailability?
  - c) What is pH partition hypothesis?
  - d) What are the various patient related factors for protein-drug binding? Give Examples.
  - e) Describe the major physiological biological barriers for distribution of drugs.
  - f) Describe briefly *in-vitro in-vivo* correlation.
  - g) Describe Noyes-Whitney equation.
  - h) Discuss various factors causing Non-linearity.
  - i) Which metabolic reactions are considered as phase III reactions?

Part-III

- Q3 Long Answer Type Questions (Answer Any Two) (10)
- Describe different theories of drug dissolution.
- Q4 Write the different processes involved in urinary excretion of drugs. (10)
- Q5 Discuss different Pharmacokinetic Parameters for one compartment open model for Extravasular Administration. (10)
- Q6 Describe the methods used to enhance the bioavailability of poorly soluble drugs. (10)



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B.Pharm  
BP606T

6<sup>th</sup> Semester Regular / Back Examination: 2021-22  
QUALITY ASSURANCE  
BRANCH(S): B. Pharma

290 290 290 290 290 290 290

Time : 3 Hour  
Max Marks : 75  
Q.Code : J356

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 **Answer the following questions :** 290 **Part-I** 290 290 290 290 **(2 × 10)**
- a) Potency complaint is which type of complaint?
  - b) Mention the importance of Distribution record.
  - c) What is P-D-C-A
  - d) Write the importance and efficacy of HEPA filter
  - e) What do you mean by NABL accreditation?
  - f) Mention the need of ISO14000.
  - g) Define quarantine area. 290 290 290 290
  - h) What is validation master plan?
  - i) Define the importance of Master Formula Record.
  - j) Define Total Quality Management.
- Q2** **Part-II**  
**Focused-Short Answer Type Questions- (Answer Any Seven)** **(5 × 7)**
- a) What are GLP and GMP? Write the relationship between GLP and GMP.
  - b) Write the differences between calibration and validation. 290 290 290
  - c) What is quality audit?
  - d) Write the principles of GLP and briefly write the non-clinical study protocol.
  - e) What are the responsibilities of QA personnel in pharmaceutical industry?
  - f) White a short note on TQM.
  - g) Discuss the ISO 9000 series in brief.
  - h) What is QbD? Why QbD is essential in pharmaceutical industry?
  - i) Write the importance of material management in pharmaceutical industries? 290 290 290 290
- Q3** **Part-III**  
**Long Answer Type Questions (Answer Any Two)**
- Write the types of complaints. Write briefly good complaint handling system according to GMP in compliance with EU and USA regulations. **(10)**
- Q4** 290 What is stability testing? List the categories of ICH topics. Write in detail about ICH stability testing guidelines. **(10)** 290

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**Q5** What is SOP? Describe the format of technical SOP. Mention the benefits of the SOP. (10)

**Q6** What is secondary packing? Write in detail about quality control test for containers, and closures. (10)