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**VO—07—2022**

**FACULTY OF SCIENCE AND TECHNOLOGY**

**B.Pharm. (VI Sem.) EXAMINATION**

**JUNE/JULY, 2022**

**MEDICINAL CHEMISTRY—III**

**Paper BP601T**

**(Wednesday, 29-6-2022)**

**Time : 9.30 a.m. to 1.15 p.m.**

*Time—3.45 Hours*

*Maximum Marks—75*

*N.B. :— (i) All questions are compulsory.*

*(ii) Draw structure wherever necessary.*

1. Solve the following :

10×2=20

(1) Keto-enol tautomerism is observed in :

(a) Macrolide antibiotics

(b) Penicillins

(c) Tetracycline

(d) Chloramphenicol.

(2) Which one of the following is not a first line drug for treating tuberculosis ?

(a) Isoniazide

(b) Rifampin

(c) Cycloserine

(d) Pyrazinamide

(3) Which isomer of chloramphenicol is active ?

P.T.O.

- (4) Fluoroquinolones are indicated for all of the following *except*.
- (a) Urinary tract infections
  - (b) Tuberculosis
  - (c) Bone infections
  - (d) Bronchial asthma
- (5) Which one of the following is an antifungal antibiotic ?
- (a) Naftifine
  - (b) S. fluocytosine
  - (c) Nystatin
  - (d) Nafimidone
- (6) What do you mean by mutual prodrugs ?
- (7) QSAR method involves :
- (a) Target structure
  - (b) Target properties
  - (c) Ligand X-ray structure
  - (d) Ligand properties
- (8) Name the ring presents in metronidazole and diloxanide.
- (9) Give structure and physicochemical properties of mebendazole.
- (10) What is co-trimoxazole ?

2. Solve the following (any *two*) :

2×10=20

- (a) Define antibiotic. Classify antibiotics on the basis of mechanism of action. Discuss SAR of streptomycin.
- (b) Discuss SAR and mode of action of benzimidazole based anthelmintic agents.

(c) What are antiamoebic agents ? Classify them with suitable examples. Sketch down synthesis and mechanism of action of metronidazole.

3. Solve the following (any seven) :

7×5=35

- (a) Explain the effect of strong acid and strong base on tetracycline.
- (b) Discuss in brief degradation of penicillins.
- (c) Discuss in brief chemistry of beta lactum antibiotics.
- (d) How will you synthesize ciprofloxacin ? Give its mode of action.
- (e) Sketch out synthesis of metronidazole. Give its category and IUPAC name.
- (f) Explain mode of action of sulfonamides.
- (g) Sulfonamides and trimethoprim shows synergistic action. Explain.
- (h) What is the importance of substituents of 6th position of beta lactum ring in development of penicillinase resistant penicillins.
- (i) How will you classify different prodrugs ? Explain bipartate prodrugs.

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**VO—15—2022**

**FACULTY OF SCIENCE AND TECHNOLOGY**

**B. Pharm. (III Year) (VI Sem.) EXAMINATION**

**JUNE/JULY, 2022**

**PHARMACOLOGY—III**

**(Friday, 1-7-2022)**

**(BP602T)**

**Time : 9.30 a.m. to 1.15 p.m.**

*Time—3.45 Hours*

*Maximum Marks—75*

*N.B. :— (i) All questions are compulsory.*

*(ii) Draw a neat labelled diagram whenever necessary.*

*(iii) Answer to the point only.*

1. Answer the following :

10×2=20

(a) Enlist the drugs used in management of COPD.

(b) Define antibiotic and chemotherapy.

(c) Classify antifungal agent with examples.

(d) Give the treatment of syphilis.

(e) Define Genotoxicity and teratogenicity with examples.

(f) Give treatment of organophosphorous poisoning.

(g) Define biological clock and Rhythm.

(h) What are appetite stimulant and suppressant ?

(i) Give adverse effects of chloramphenicol.

(j) Why penicillin and probencid used in combination in viral diseases.

P.T.O.

2. Long answer questions (any *two*) : 2×10=20
- (i) Classify antimicrobial agents on the basis of mechanism of action. Give mechanism, adverse effect and uses of penicillins.
  - (ii) Explain in detail pharmacology of chloroquine and explain malaria cycle.
  - (iii) (a) Explain pharmacotherapy of Asthma.  
(b) Classify antiulcer drugs with examples. Give mechanism of action and side effect of cimetidine.
3. Short answer questions (any *seven*) : 7×5=35
- (i) Write drugs used in treatment of diarrhoea. Give mechanism of action and uses of any *one*.
  - (ii) Give mechanism, adverse effect and uses of sulphadoxim.
  - (iii) Write pharmacological account of quinolones.
  - (iv) Classify antileprotic agents with example. Give mechanism and side effect of clofazamine.
  - (v) Classify anti-cancer agents with examples.
  - (vi) Explain the role of glucocorticoid as immunosuppressive agents.
  - (vii) Write a note on chronotherapy.
  - (viii) Give clinical symptoms and management of Barbiturates and lead poisoning.
  - (ix) Explain in detail pharmacology of Zidovudin.

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**VO—23—2022**

**FACULTY OF SCIENCE AND TECHNOLOGY**

**B. Pharm. (Third Year) (Sixth Semester) EXAMINATION**

**MAY/JUNE, 2022**

**HERBAL DRUG TECHNOLOGY**

**Paper—BP 603T**

**(Monday, 4-7-2022)**

**Time : 9.30 a.m. to 1.15 p.m.**

*Time— 3.45 Hours*

*Maximum Marks—75*

*N.B. :— (i) Write the answer to the point only.*

*(ii) Figures to the right indicate full marks.*

1. Answer all the questions :

10×2=20

(a) Enlist various methods for pest control.

(b) What are the effects of tridoshas on human health ?

(c) Give the method of preparation of Phytosomes. (any one)

(d) What is primary processing of herbal raw materials ?

(e) How will you prepare Lehyas ?

(f) Define :

(i) Herb

(ii) Herbal drug preparation.

(g) What are the health benefits of Ginger ?

(h) Give the importance of organic farming.

(i) What is Bioinsecticides ?

(j) Write down the objectives of GMP.

P.T.O.

2. Long answer questions. (Answer *two* out of *three*): 2×10=20
- (a) Explain in detailed about the nutraceuticals used in Cancer and Cardiovascular diseases.
  - (b) Give a brief account of plant based industries and institutions involved in work on medicinal and acromatic plants in India.
  - (c) What are excipients ? Give it's detailed classification.
3. Short answer questions (Answer *seven* out of *nine*): 7×5=35
- (a) Write down the general method of preparation and standardization of Churna.
  - (b) What are the possible interactions of :
    - (i) Kava-Kava
    - (ii) Hypercium.
  - (c) Explain good agricultural practices in cultivation of medicinal plant.
  - (d) Discuss raw materials of herbal origin used in skin care product.
  - (e) Make a short note on documentation and record.
  - (f) Explain regulations of manufacture of ASV drug.
  - (g) Discuss syrup as a Conventional Herbal Formulation.
  - (h) Write a note on cse study of Neem.
  - (i) Give the general aspects, market growth and scop[e of nutraceuticals.

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**VO—31—2022**

**FACULTY OF SCIENCE AND TECHNOLOGY**

**B.Pharma. (Third Year) (Sixth Semester) EXAMINATION**

**JUNE/JULY, 2022**

*BP604T*

**BIOPHARMACEUTICS AND PHARMACOKINETICS**

**(Wednesday, 6-7-2022)**

**Time : 9.30 a.m. to 1.15 p.m.**

*Time— 3.45 Hours*

*Maximum Marks—75*

*N.B. :— (i) All questions are compulsory.*

*(ii) Figures to the right indicate full marks.*

*(iii) Draw neat labelled diagram wherever necessary.*

1. Answer *all* the questions : 10×2=20
- (a) Define the term absorption of drug. Enlist any *two* mechanisms of the same.
- (b) What is volume of distribution ? Give its significance.
- (c) Enlist the names of various drug binding sites on HSA.
- (d) What are Xeobiotics ?
- (e) Define the terms :
- (i) Bioavailability and
- (ii) Bioequivalence.
- (f) What is  $C_{max}$  and  $t_{max}$  ?
- (g) What is the flip-flop phenomenon and when it is observed ?
- (h) State Michaelis Menten equation.
- (i) What are the limitations of pH partition Hypothesis ?
- (j) Why is the placental barrier not as effective as BBB ?

P.T.O.



2. Long answer questions (Answer any *two* out of the of three) :  $2 \times 10 = 20$
- (a) Explain patient related factors affecting drug absorption.
  - (b) Describe one-compartment open model. How the elimination rate constant and half life in determined for a drug follows one compartment model kinetics ?
  - (c) Explain various methods to enhance dissolution rate of poorly soluble drugs ?
3. Short answer questions (Anwer 7 out of 9) :  $7 \times 5 = 35$
- (a) Explain in short the factors causing Non-linearity.
  - (b) Explain Inavitro-Invivo Correlation in bioavailability study.
  - (c) What is two compartments model ? Explain the same for Intravenous infusion.
  - (d) Explain the following physicochemical parameters affecing drug absorption :
    - (i) Particle size of surface are a
    - (ii) Polymorphism.
  - (e) Note on following physiologic barriers :
    - (i) Simple cell membrane barriers
    - (ii) Blood brain barrier.
  - (f) Explain significance of protein binding of drugs.
  - (g) Write about oxidative reactions of phase I metabolism.
  - (h) Define the process Dissolution. Write a note on diffusion layer model theory.
  - (i) Discuss chemical factors affecting biotransformation of drugs.

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**VO—36—2022**

**FACULTY OF SCIENCE & TECHNOLOGY**  
**B. Pharma (Sixth Semester) EXAMINATION**

**MAY/JUNE, 2022**

**PHARMACEUTICAL BIOTECHNOLOGY**

(BP605T)

**(Friday, 8-7-2022)**

**Time : 09.30 a.m. to 01.15 p.m.**

*Time— 3.45 Hours*

*Maximum Marks—75*

*N.B. :— (i) Q. No. 1 is compulsory.*

*(ii) Attempt all the questions.*

1. Answer *all* the questions : 10×2=20
- (a) Define antigenicity.
  - (b) Give the sources of protease.
  - (c) Write the properties of IgA.
  - (d) List out pharmaceuticals derived by *rDNA* technology.
  - (e) What is meant by species immunity ?
  - (f) Give the ideal characteristics for vectors.
  - (g) What do you mean by Michaelis-Menten's constant ?
  - (h) Classify MHC with their gene products.
  - (i) Enlist the classes of enzyme with examples.
  - (j) Define mutation. Give the examples of mutagen.
2. Long answer questions (Answer 2 out of 3) : 2×10=20
- (a) Explain the microbial biotransformation with its applications.
  - (b) Discuss antiviral mechanism, methods of production and applications of interferon.
  - (c) Define biotechnology. Give a note on their major fields.

P.T.O.

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3. Short answer questions (Answer 7 out of 9) :

- (a) Define vaccines. Give their classification with example.
- (b) Write the principle and procedure involved in ELISA.
- (c) What is PCR ? Give their applications.
- (d) Write about protein engineering with its methods.
- (e) Give a note on control test for blood products.
- (f) Explain the production of Hepatitis B vaccines.
- (g) Give the general requirement for fermentation.
- (h) Write the advantages and disadvantages of enzyme immobilization.
- (i) Describe in detail, the production of glutamic acid.

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**VO—38—2022**

**FACULTY OF SCIENCE AND TECHNOLOGY**

**B.Pharm. (Third Year) (Sixth Semestre) EXAMINATION**

**JUNE/JULY, 2022**

**QUALITY ASSURANCE**

**BP 606T**

**(Saturday, 16-07-2022)**

**Time : 9.30 a.m. to 1.15 p.m.**

*Time— 3.45 Hours*

*Maximum Marks—75*

*N.B. :— (i) All questions are compulsory.*

*(ii) Answer to the point only.*

1. Answer *all* the questions :

20

(a) What is TQM ?

(b) Define calibration.

(c) Give the objectives of QBD.

(d) Why there is need for material management ?

(e) Give the benefits of ISO9000.

(f) What is important of documentation ?

(g) Define GLP.

(h) What do you mean by HVAC system ?

(i) Give the importance of packaging.

(j) Enlist *five* characteristics that should be present in quality product.

P.T.O.

2. Long answer questions (Answer two out of 3) : 2×10=20
- (a) Add a detailed note on process of Harmonization.
  - (b) Explain the concept of GMP in detail.
  - (c) Give the quality control tests for glass containers.
3. Short answer questions (answer 7 out of 9) : 5×7=35
- (a) Add a note on principles of Material Management.
  - (b) Give the regulatory guidelines for evaluation of complaints.
  - (c) Explain different steps in ISO14000 registration process.
  - (d) Give detailed account of NABL accreditation process.
  - (e) Comment on Training and Hygiene in pharmaceutical industry.
  - (f) Add a note on maintenance of stores for raw materials.
  - (g) Give the quality control tests for plastic containers.
  - (h) What are the different elements of QBD programme ?
  - (i) Comment on types of Validation.