

Visit: <https://pharmacyindia.co.in>

Total No. of Questions : 3]

SEAT No. :

P-882

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[6019]-6011

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T.Y. B. Pharmacy

BP 601T : MEDICINAL CHEMISTRY - III

(2019 Pattern) (Semester - VI)

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Time : 3 Hours]

[Max. Marks : 75

Instructions to the candidates:

- 1) *All questions are compulsory, Internal choices are given.*
- 2) *Figures to the right indicate full marks.*
- 3) *Draw neat diagram and structures wherever necessary.*

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Q1) Objective type questions (Solve 5 out of 7) :

[5 × 3 = 15]

- a) Define and classify anti-tubercular agents.
- b) Explain numbering systems of penicillins, Penam and Cepham.
- c) Give the name and structure of antibiotics whose use for the treatment of malaria is limited to prophylaxis against strain of P. Falciparum resistant to chloroquine and sulphadoxine - Pyrimethamine.
- d) Give structure, MOA and therapeutic use of <https://pharmacyindia.co.in/>
 - i) Griseofulvin
 - ii) Ethambutol
- e) Give structure, IVPAC name and uses of any three drugs from cephalosporins class. <https://pharmacyindia.co.in/>
- f) Define and classify antineoplastic agents.
- g) Multiple choice questions : <https://pharmacyindia.co.in/>
 - i) Hansen's disease is also known as _____.
 - a) Tuberculosis
 - b) Malaria
 - c) HIV
 - d) Leprosy
 - ii) Erythromycin is which class of antibiotics
 - a) Macrolide
 - b) Tetracycline
 - c) Beta lactam
 - d) Aminoglycoside
 - iii) One of the following is reverse transcriptase inhibitor
 - a) Idoxuridine
 - b) Amantidine
 - c) Acyclovir
 - d) Zidovudine

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Q2) Long answers questions (Answer 2 out of 4) : **[2 × 10 = 20]**

- a) Discuss the chemistry, SAR and MOA of sulphonamides. Add note on synthesis of metronidazole. <https://pharmacyindia.co.in/>
- b) Classify antimalarial agents based on life cycle of malaria parasites with examples. Discuss the chemistry, SAR and MOA of amino quinolines.
- c) Classify antiviral agents with suitable example. Give detail account of purine and pyrimidine analogues as antivirals.
- d) Discuss chemistry, SAR and MOA of alkylating agents and antimetabolites classes of antineoplastic agents.

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Q3) Short answers questions (Answer 8 out of 10) : **[8 × 5 = 40]**

- a) Explain antineoplastic agents from plant products.
- b) Discuss chemistry and MOA of polyene antibiotics.
- c) Write a note on Hansch QSAR analysis and Ferguson-principle.
- d) Outline the synthesis of chloramphenicol. <https://pharmacyindia.co.in/>
- e) Write chemistry, SAR and MOA of macrolide antibiotics.
- f) Elaborate about antileprotic agents.
- g) Elaborate about antitubercular agents. <https://pharmacyindia.co.in/>
- h) Discuss chemistry, SAR and MOA of aminoglycoside antibiotics.
- i) Classify anthelmintics with their MOA and suitable examples.
- j) Write a note on azole antifungal agents.

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T.Y. B. Pharmacy

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**BP-602T : Pharmacology - III
(2019 Pattern) (Semester - VI)**

Time : 3 Hours]

[Max. Marks : 75

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Figures to the right indicate full marks.*

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Q1) Answer the following (Answer any 5 out of 7) :

[5 × 3 = 15]

- a) Define leprosy classify antileprotic drugs.
- b) Justify why sulphamethoxazole is given in combination with trimethoprim.
- c) Give pharmacotherapy of cough.
- d) Define acute, subacute & chronic toxicity.
- e) Give clinical symptomst management of barbiturate poisoning.
- f) Elaborate the term antibiotics & chemotherapy with examples.
- g) Define peptic ulcer & classify antiulcer drugs.

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Q2) Answer the following (Answer any 2 out of 4) :

[2 × 10 = 20]

- a) Explain mechanism of action, antibacterial spectrum, adverse effect & uses of penicillin G.
- b) Define asthma. Discuss mechanism of action pharmacological actions, therapeutic uses & adverse effect of salbutamol.
- c) Classify antiemetic drugs. Explain pharmacology of 5HT-3 antagonist & prokinetic drugs.
- d) Classify antimalarial drugs & Explain Radical cure of malaria with different strategy of antimalarial drugs.

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Q3) Answer the following (Answer any 8 out of 10) : [8 × 5 = 40]

- a) Classify anti-tubercular drugs describe mechanism of action, resistance adverse effect & uses of INH & rifampicin.
- b) Discuss drug treatment of amoebiasis. <https://pharmacyindia.co.in/>
- c) Explain in detail Teratogenicity & carcinogenicity.
- d) Write a short note on pharmacotherapy of diarrhoea.
- e) Define Broad spectrum antibiotics. Explain mechanism of action of tetracycline. <https://pharmacyindia.co.in/>
- f) Brief the application of monoclonal antibodies.
- g) Write a short note on Immunostimulout & Immuno-depressants.
- h) Describe the approaches to canser chemotherapy.
- i) Write a note on carminatives.
- j) Give pharmacotherapy of UTI. <https://pharmacyindia.co.in/>



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T. Y. B. Pharmacy

HERBAL DRUG TECHNOLOGY

(2019 Pattern) (Semester - VI) (BP603T)

Time : 3 Hours]

[Max. Marks : 75

Instructions to the candidates:

- 1) *All the questions are compulsory.*
- 2) *Neat labeled diagrams must be drawn whenever necessary.*
- 3) *Figures to the right indicate full marks.*

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Q1) Objective type (Answer 5 out of 7)

[5×3=15]

- a) Explain basic principles involved in Ayurveda.
- b) Explain in detail possible side effects and interaction of Hypericum.
- c) Write Brief note on natural flavors and perfumes.
- d) Write a note on natural binders and disintegrants.
- e) Give the four e.g. of natural API's with their uses.
- f) Write a note on scope of Herbal Drug Industry.
- g) Write a note on Ashwagandha as Nutraceutical.

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Q2) Long Answer (Answer 2 out of 4)

[2×10=20]

- a) Define Nutraceuticals. Classify the nutraceuticals in detail with e.g. Explain in detail Omega-3-fatty acids and Resveretrol.
- b) Explain Pest and Pest Management. Describe in detail Good Agricultural Practices in cultivation of medicinal plants.
- c) Describe any one Principle of Ayurveda. Explain preparation and evaluation of Asava and Arishta. <https://pharmacyindia.co.in/>
- d) Define biopesticides. Classify the biopesticides with e.g.. Write in detail Pharmacognostic account of Pyrethrum as Natural pesticide.

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Q3) Short Answer (Answer 8 out of 10) [8×5=40]

- a) Write a note on Preparation and Evaluation of Herbal Shampoo.
- b) Give the advantages of Novel dosage forms in herbal formulation. Describe Phytosomes with e.g. <https://pharmacyindia.co.in/>
- c) WHO Guidelines for Herbal Drugs Stability.
- d) Write a note on Homeopathic system of medicine.
- e) Define Bhasma. Explain in detail preparation and evaluation of Bhasma.
- f) Write a note on traditional knowledge and explain case study of Neem or Turmeric. <https://pharmacyindia.co.in/>
- g) Explain in detail regulatory issues-regulation in India (ASU DTAB, ASU DCC) provisions relating to Ayurvedic, Siddha and Unani system of medicine. <https://pharmacyindia.co.in/>
- h) Describe in detail Proanthocyanidins and Carotenoids.
- i) Explain interaction and side effects of Ephedra.
- j) ICH guidelines for stability of herbal drugs. <https://pharmacyindia.co.in/>

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T. Y. B. Pharmacy

**HERBAL DRUG TECHNOLOGY
(2019 Pattern) (Semester - VI) (BP603T)**

Time : 3 Hours]

[Max. Marks : 75

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- b) Explain in detail possible side effects and interaction of Hypericum.
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- e) Give the four e.g. of natural API's with their uses.
- f) Write a note on scope of Herbal Drug Industry.
- g) Write a note on Ashwagandha as Nutraceutical.

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Q2) Long Answer (Answer 2 out of 4)

[2×10=20]

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- b) Explain Pest and Pest Management. Describe in detail Good Agricultural Practices in cultivation of medicinal plants.
- c) Describe any one Principle of Ayurveda. Explain preparation and evaluation of Asava and Arishta.
- d) Define biopesticides. Classify the biopesticides with e.g.. Write in detail Pharmacognostic account of Pyrethrum as Natural pesticide.

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Q3) Short Answer (Answer 8 out of 10) [8×5=40]

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- b) Give the advantages of Novel dosage forms in herbal formulation. Describe Phytosomes with e.g. <https://pharmacyindia.co.in/>
- c) WHO Guidelines for Herbal Drugs Stability.
- d) Write a note on Homeopathic system of medicine.
- e) Define Bhasma. Explain in detail preparation and evaluation of Bhasma.
- f) Write a note on traditional knowledge and explain case study of Neem or Turmeric. <https://pharmacyindia.co.in/>
- g) Explain in detail regulatory issues-regulation in India (ASU DTAB, ASU DCC) provisions relating to Ayurvedic, Siddha and Unani system of medicine.
- h) Describe in detail Proanthocyanidins and Carotenoids.
- i) Explain interaction and side effects of Ephedra.
- j) ICH guidelines for stability of herbal drugs. <https://pharmacyindia.co.in/>



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T.Y. B. Pharmacy

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**BP-604T : BIOPHARMACEUTICS AND
PHARMACOKINETICS**

(2019 Pattern) (Semester - VI)

Time : 3 Hours]

[Max. Marks : 75

Instructions to the candidates:

<https://pharmacyindia.co.in/>

- 1) *All questions are compulsory.*
- 2) *Neat labeled diagrams must be drawn wherever needed.*

Q1) Answer the following (any 5) :

[15]

- a) What are displacement interactions? Give Example.
- b) Explain in short about an active transport of drug. <https://pharmacyindia.co.in/>
- c) What is the difference between absolute & effective surface area? How it can be improved for hydrophobic drug.
- d) What are the limitations of pH - partition Hypothesis?
- e) Discuss briefly factors affecting gastric emptying of drug.
- f) Define the term biotransformation. List the factors affecting biotransformation of drug. <https://pharmacyindia.co.in/>
- g) Write in short about non renal route of Excretion.

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Q2) Answer the following (any 2) :

[20]

- a) Discuss the mechanism of dissolution with the help of various theories.
- b) Define distribution of drug. Discuss various factors affecting distribution of drug.
- c) What is BCS classification? Give its significance. Add a note on bio waivers?
- d) What are pharmacokinetic models? Explain various types with their significance.

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Q3) Answer the following (any 8) : <https://pharmacyindia.co.in/> [40]

- a) Write a note on causes of Non-linear pharmacokinetics.
- b) How are sink conditions maintained at the site of absorption?
- c) Explain how, the plasma concentration remains steady as long as constant rate i.v. infusion is continued, when an i.v. bolus injection is given as a loading dose before starting i.v. infusion.
- d) Write a note on In-Vitro and In-Vivo co-relation.
- e) What are the advantages and limitations of randomized, balanced, cross-over design in BE studies? <https://pharmacyindia.co.in/>
- f) Explain what dose-dependent kinetics is? Give methods of detection.
- g) Liver is considered as the major organ involved in detoxification, Justify.
- h) Write detailed note on Blood Brain Barrier.
- i) Write a note on method of residuals.
- j) Volume of distribution and its importance.

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PHARMACEUTICAL BIOTECHNOLOGY

(2019 Pattern) (Semester - VI) (BP605T)

<https://pharmacyindia.co.in/>

Time : 3 Hours]

[Max. Marks : 75

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Black figures to the right indicate full marks.*

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Q1) Answer 5 out of 7:

[5×3=15]

- a) Explain basic principle of genetic engineering.
- b) What is biotechnology? Enlist applications of biotechnology with reference to pharmaceutical sciences.
- c) Discuss production of enzymes.
- d) Explain working of biosensor. <https://pharmacyindia.co.in/>
- e) Give the example of micro organisms used for production of amylase, penicillinase and lipase.
- f) Discuss aeration process used in fermentation.
- g) Describe the principle of southern blotting.

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Q2) Answer 2 out of 4:

[2×10=20]

- a) What is cloning vector? Discuss ideal properties of cloning vectors and write a note on types of cloning vectors in detail.
- b) What are hypersensitivity reactions? Classify hypersensitivity reactions and explain them in detail. <https://pharmacyindia.co.in/>
- c) What is hybridoma technology? Discuss production of monoclonal antibodies by hybridoma technology and their applications.
- d) What is fermentation? Highlight general requirements of fermentation and discuss production of penicillins by fermentation technology.

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Q3) Answer 8 out of 10:

[8×5=40]

- a) Explain the methods of enzyme immobilization.
- b) Write a note on polymerase chain reaction (PCR). <https://pharmacyindia.co.in>
- c) Discuss production of recombinant insulin.
- d) Write a note on ELISA.
- e) Explain humoral and cellular immunity. <https://pharmacyindia.co.in/>
- f) Illustrate microbial genetic transformation and conjugation.
- g) Discuss design of large scale production fermenter.
- h) Describe collection, processing and storage of whole human blood.
- i) What is mutation? Summarize types of mutation.
- j) Write a note on microbial biotransformation. <https://pharmacyindia.co.in/>

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T.Y.B.Pharmacy

PHARMACEUTICAL QUALITY ASSURANCE

(2019 Pattern) (Semester - VI) (BP606T)

Time : 3 Hours]

[Max. Marks : 75

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks. <https://pharmacyindia.co.in/>

Q1) Attempt any five of the following. **[15]**

- a) What is CDS Co responsible for?
- b) What is PIC/s Guidelines? State its importance.
- c) Define quality costs. Give the obstacles associated with TQM implementation.
- d) State importance of distribution record. <https://pharmacyindia.co.in/>
- e) Explain PQ.
- f) Define calibration. State the purpose of calibration.
- g) What is method validation? Why is method validation necessary?

Q2) Attempt any two of the following. **[20]**

- a) What are QA and QC? Elaborate on purchase specifications and maintenance of stores for raw materials.
- b) Explain the concept of QbD. Write in detail about steps in QbD approach. <https://pharmacyindia.co.in/>
- c) Discuss cGMP requirements regarding premises, sanitation and maintenance of sterile area.
- d) Discuss the principles and process of handling market complaints in pharmaceutical industry. <https://pharmacyindia.co.in/>

Q3) Attempt any eight of the following. **[40]**

- a) What does QSEM stand for? Summarize ICH QSEM guidelines.
- b) State principle and procedure for NABL Certification.
- c) What is ISO? Provide benefits and limitations of ISO.
- d) Write a note on GMP issues for personnel.
- e) What is CPCSEA? Give role and responsibilities of CPCSEA.
- f) What is primary and secondary packing material? Give quality control tests for secondary packing material.
- g) State importance and scope of validation.
- h) Explain accuracy and precision.
- i) Provide guidelines for waste disposal.
- j) What are precautions to avoid mix up and cross contamination?

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