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S.Y. B. Pharmacy

**PHARMACEUTICAL ORGANIC CHEMISTRY - III
(2019 Pattern) (Semester - IV) (BP401T)**

Time : 3 Hours]

<https://pharmacyindia.co.in/> [Max. Marks : 75

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Write reactions wherever necessary.
- 3) Figures to the right indicate full marks.

Q1) Objective type Questions. (Any 5 out of 7)

[5×3=15]

- a) Asymmetric synthesis. <https://pharmacyindia.co.in/>
- b) Draw the following heterocycles with numbering
 - i) Pyrazine
 - ii) Isoxazole <https://pharmacyindia.co.in/>
 - iii) Benzthiazole
- c) Explain basic & acidic character of pyrrole.
- d) Write two methods for synthesis of Acridine.
- e) What is hetero atom? Name the compounds containing 2 hetero atoms.
- f) Draw the structure of Azepine derivatives & give its medicinal uses.
- g) Discuss medicinal uses of Oxazole & Indole.

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Q2) Long Answer questions. (Any 2 out of 4)

[2×10=20]

- a) Give a detail account of methods of synthesis & reactions of furan.
- b) Describe various method of resolution of racemic, mixture.
- c) Elaborate method of synthesis, reactions & medicinal uses of Thiazole.
- d) Discuss reaction, mechanism & applications of Wolf rearrangement & schmidt rearrangement.

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Q3) Short Answer any 8 out of 10. <https://pharmacyindia.co.in/> [8×5=40]

- a) Write methods of synthesis & medicinal uses of Thioplene.
- b) Conformational isomerism in n-butane.
- c) Stereospecific & stereoselective reactions. <https://pharmacyindia.co.in/>
- d) Atropisomerism with examples.
- e) Optical activity. <https://pharmacyindia.co.in/>
- f) Write two methods for synthesis of imidazole.
- g) Compare the structure & reactivity of quinoline & pyridine.
- h) Explain the reacton & mechanism involved in Baeyer-villiger oxidation.
- i) Discuss the mechanism & synthetic application of Beckman rearrangement. <https://pharmacyindia.co.in/>
- j) Explain Paal-knorr synthesis of Pyrrole.

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S.Y. B.Pharmacy

BP - 402T : MEDICINAL CHEMISTRY - I

(2019 Pattern) (Semester - IV)

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Time : 3 Hours]

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[Max. Marks : 75

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks.
- 3) Draw well labeled diagrams wherever necessary.

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Q1) Answer any five questions out of seven questions.

[5 × 3 = 15]

- a) Outline the synthesis of Salbutamol. <https://pharmacyindia.co.in/>
- b) Give an account on cholinergic receptors and their distribution.
- c) Explain the mechanism of action (MOA) and uses of Atropine sulphate and Scopolamine hydrobromide. <https://pharmacyindia.co.in/>
- d) Define metabolism and enlist factors affecting metabolism.
- e) Discuss chemistry, ?MOA and Outline synthesis of Halothane.
- f) Discuss the Butyrophenone derivatives with examples. <https://pharmacyindia.co.in/>
- g) Explain the SAR and chemistry of Morphinan derivatives.

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Q2) Answer any two questions out of four questions.

[2 × 10 = 20]

- a) Define and give classification of sympathomimetic agents with examples. Explain the structure activity relationship (SAR) and MOA of sympathomimetic agents.

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- b) Classify antipsychotic agents. Elaborate in detail phenothiazine derivatives as antipsychotics.

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- c) Elaborate on chemistry of Morphine, SAR and its MOA. Discuss with examples how the Morphine structure was modified for better analgesic activity.

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- d) Define sedatives and hypnotics. Explain SAR and MOA of Barbiturates and Nonbenzodiazepine analogues as sedatives and Hypnotics.

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Q3) Answer any eight questions out of ten questions. [8 × 5 = 40]

- a) Discuss the chemistry, MOA and uses of Beta adrenergic blockers with examples.

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- b) Explain biosynthesis of catecholamines. Outline the synthesis of Phenylephrine.

- c) Discuss in detail mechanism of irreversible cholinesterase inhibitors. Write down MOA and uses of Parathion and Malathion.

- d) Explain chemistry, MOA and uses of Dicyclomine hydrochloride and outline its synthesis.

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- e) Discuss importance of Stereochemistry for drug Action with examples.

- f) Explain the SAR and MOA of Anthranilic acid derivatives as Analgesics.

- g) Write a note on anticonvulsants.

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- h) Explain the Phase II metabolism with examples.

- i) Outline the synthesis Diclofenac and Ibuprofen with its MOA.

- j) Write a note on General Anaesthetics.

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S.Y. B. Pharmacy

BP - 403T : PHYSICAL PHARMACEUTICS - II

(2019 Pattern) (Semester - IV)

Time : 3 Hours]

[Max. Marks : 75

Instructions to the candidates:

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

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

[5 × 3 = 15]

- a) Define zeta potential and write its pharmaceutical importance.
- b) Differentiate micro emulsion and emulsion. <https://pharmacyindia.co.in/>
- c) Define and write the application of multiple emulsion.
- d) Why high molecularity of reaction is rare?
- e) Write the difference between the order of reaction and molecularity of a reaction. <https://pharmacyindia.co.in/>
- f) Define porosity and write it's application.
- g) Write the equation of elastic modulus and explain its parameters.

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

[2 × 10 = 20]

- a) Write a note on the instability and preservation of the emulsion.
- b) Describe particle size determination methods. <https://pharmacyindia.co.in/>
- c) Explain in detail the formulation of suspension.
- d) Enumerate the derived properties of the powder.

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Q3) Write a short note on the following (any 8 out of 10) : [8 × 5 = 40]

- a) Protective and sensitization of colloids. <https://pharmacyindia.co.in/>
- b) Air Adsorption method.
- c) Physical degradation.
- d) Instability of lyophobic colloids.
- e) First order reaction. <https://pharmacyindia.co.in/>
- f) Cup and Bob viscometer.
- g) Lyophilic and lyophobic colloids.
- h) Capillary viscometer. <https://pharmacyindia.co.in/>
- i) Emulsifying agent.
- j) Rheology of suspension.

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S.Y.B.Pharmacy

BP404T: PHARMACOLOGY - I

(Semester-IV) (2019 Pattern) (Credit System)

Time : 3 Hours]

[Max. Marks : 75

Instructions to the candidates :

- 1) All questions are compulsory
- 2) Neat labelled diagram must be drawn wherever necessary
- 3) Figures to the right indicate full marks.

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Q1) Objective Type Questions (Answer 5 out of 7)

[5 × 3 = 15]

- a) Write in detail sources and active ingredient of drugs.
- b) Define drug, pharmacokinetics and pharmacodynamics.
- c) Enlist the difference between sympathomimetic & parasympathomimetic agents.
- d) Explain drug addiction with suitable example.
- e) Define efficacy, affinity and therapeutic index.
- f) Explain the importance of pharmacovigilance.
- g) What is mean by drug antagonism?

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Q2) Long Answers (Any 2 out of 4)

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[2 × 10 = 20]

- a) Explain in detail various routes of administration with their advantages and disadvantages.
- b) Define & classify adrenergic drugs with suitable example on the basis of their therapeutic uses. Explain pharmacological details of adrenaline.
- c) Define & classify drug interaction. Explain pharmacokinetic & Pharmacodynamic drug interaction with example.
- d) Classify opioid analgesic & write pharmacological details of morphine.

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Q3) Short Answer (Any 8 out of 10)

[8 × 5 = 40]

a) Write a note on transport of drug across plasma membrane.

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b) Define & classify local anesthetics. Explain MOA & adverse effects of lignocaine.

c) Explain G-protein coupled receptor with example.

d) Discuss phases of clinical trials

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e) Discuss the term anxiety and add note on anxiolytics.

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f) Write a note on adverse drug reactions.

g) Write a note on Dale's vasomotor reversal.

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h) Define & classify antidepressant add a note on MAO inhibitors.

i) Pharmacotherapy of Myasthenia gravis.

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j) Define & classify antiepileptic, Write MOA & therapeutic uses of phenytoin.

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BP-405T : PHARMACOGNOSY AND
PHYTOCHEMISTRY - I

(2019 Pattern) (Semester - IV)

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Time : 3 Hours]

[Max. Marks : 75

Instructions to the candidates :

- 1) All questions are compulsory.
- 2) Neat labelled diagram must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.

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Q1) Answer the questions (Any 5 out of 7) :

[5 × 3 = 15]

- a) Write different chemical tests for identification of castor oil.
- b) Add a note on coppicing and felling method.
- c) Differentiate between organised and unorganised crude drugs with examples. <https://pharmacyindia.co.in/>
- d) Give biological source and chemical tests for bromelain.
- e) Explain the growth curve of plant tissue culture.
- f) Add a note on wool fat and Chaulmoogra oil.
- g) Define Acid value and saponification value.

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Q2) Long Answers (Any 2 out of 4) :

[2 × 10 = 20]

- a) Define Pharmacognosy. Explain in detail history, scope and development of Pharmacognosy.
- b) Define and classify lipids with examples. Describe method for extraction of shark liver oil. <https://pharmacyindia.co.in/>
- c) Explain factors affecting the cultivation of Medicinal plants.
- d) Define and classify essential oils. Explain general chemical tests for essential oils.

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Q3) Short Answers (Any 8 out of 10) :

[8 × 5 = 40]

- a) Define and classify carbohydrates with example. <https://pharmacyindia.co.in/>
- b) Define and classify enzymes. Write a note on Gelatin.
- c) Classify various marine drugs. Explain marine anticancer drugs.
- d) Describe types of adulteration and methods to detect adulteration.
- e) Explain in detail Lycopodium spore method.
- f) Write a note on abscisic acid and gibberellins. Give their applications.
- g) Enlist plant hormones with their applications. <https://pharmacyindia.co.in/>
- h) Comment on general nutrition requirements of plant tissue culture.
- i) Add a note on flavonoids.
- j) Explain chemical test for Cardiac glycosides and Anthraquinone glycosides. <https://pharmacyindia.co.in/>



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