

Total No. of Questions : 3] Visit - pharmacyindia.co.in

SEAT No. :

PA-867

[Total No. of Pages : 2

[5940]-4001

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S.Y. B.Pharmacy

BP-401T : PHARMACEUTICAL ORGANIC CHEMISTRY - III

(2019 Pattern) (Semester - IV)

Time : 3 Hours]

[Max. Marks : 75

Instructions to the candidates :

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

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Q1) Objective Type Questions (Any 5 out of 7) :

[5 × 3 = 15]

- a) Write conditions for optical activity.
- b) Give any three reactions for Furan.
- c) Draw the following heterocycles with numbering.
 - i) Benzthiazole.
 - ii) Thiazole.
 - iii) Pyridine.
- d) Write stereospecific & stereoselective reactions.
- e) Discuss two methods for synthesis of Oxazole.
- f) Draw the resonance structure of Pyrrole and & Pyrazole.
- g) Give the structure & medicinal uses of Acridine.

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

[2 × 10 = 20]

- a) Discuss in detail the conformational isomerism in cyclohexane.
- b) Give methods of synthesis & reactions of Thiophene.
- c) Define Heterocyclic compounds. Discuss their nomenclature & classification with examples.
- d) Elaborate method of synthesis, reactions & medicinal uses of Quinoline.

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

[8 × 5 = 40]

- a) Write Chemistry & Synthesis of Pyrrole.
- b) Asymmetric Synthesis. <https://pharmacyindia.co.in/>
- c) Comment on conformational isomerism in n-butane.
- d) Discuss the stereoisomerism in biphenyl compounds. Write it's significance.
- e) Write in detail on aromaticity in Pyridine. <https://pharmacyindia.co.in/>
- f) Describe method of synthesis & chemical reactions of Isoquinoline.
- g) Discuss the mechanism & synthetic application of Hofmann rearrangement. <https://pharmacyindia.co.in/>
- h) What is Dakin reaction? Give its application.
- i) Discuss synthesis & medicinal uses of Pyrimidine.
- j) Explain in detail Schmidt rearrangement. <https://pharmacyindia.co.in/>

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[5940]-4001

2

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SEAT No. :

PA-868

[Total No. of Pages : 2

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[5940]-4002

S.Y. B.Pharmacy

BP-402T : MEDICINAL CHEMISTRY - 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 diagrams must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.

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Q1) Answer any Five questions out of Seven questions : [5 × 3 = 15]

- a) Explain in brief importance of Partition Coefficient in relation to biological action.
- b) Discuss how drugs with esters/amide class under go metabolism.
- c) Outline the synthesis of Tolazoline. <https://pharmacyindia.co.in/>
- d) Discuss SAR & MOA of aniline derivatives as analgesics.
- e) Explain with examples irreversible Cholinesterase enzyme inhibitors.
- f) Explain the SAR & MOA of Methadone derivatives.
- g) Discuss Chemistry of solanaceous alkaloids as anti muscarinic agents.

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Q2) Answer any Two questions out of Four questions : [2 × 10 = 20]

- a) Write a note on Biosynthesis and Metabolism of Catecholamines. Explain SAR & MOA of Beta Blockers with examples.
- b) What is epilepsy? Classify anticonvulsants with examples. Discuss GABA analogs as anticonvulsants. <https://pharmacyindia.co.in/>
- c) Explain classification of opioid analgesics. Explain SAR and therapeutic uses of Mepiridine analogs.
- d) Define Metabolism, Enlist factors affecting Metabolism. Discuss Phase II reactions with examples.

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Q3) Answer **any Eight** questions out of **Ten** questions : [8 × 5 = 40]

- a) Write a note on importance of stereo chemistry in drug action.
- b) Discuss in detail Alpha Adrenergic antagonist. <https://pharmacyindia.co.in/>
- c) Write a note on mixed action Sympathomimetic drugs with examples.
- d) Classify Cholinergic receptors and their distribution. Elaborate on Chemistry of Acetyl Choline analogs.
- e) Discuss SAR & MOA of Atypical anti psychotics.
- f) Outline synthesis of Halothane and give its MOA. <https://pharmacyindia.co.in/>
- g) Explain SAR of amino alcohol and amino alcohol ethers as muscarinic antagonist. Add their therapeutic uses.
- h) Explain SAR & MOA of aryl acetic acid derivatives (Indo methacin).
- i) Explain the MOA of Neostigmine and outline the synthesis.
- j) Discuss the Butyro Phenone derivatives with examples.

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[5940]-4002

2



Total No. of Questions : 3]

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SEAT No. :

PA-869

[Total No. of Pages :2

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[5940]-4003

Second Year B. Pharmacy

BP403T : PHYSICAL PHARMACEUTICS - II

(2019 Pattern) (Semester - IV)

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: (Any 5 out of 7)

[5 × 3 = 15]

- a) Differentiate between lyophilic and lyophobic colloids.
- b) Write equation and application of Heckel equation.
- c) Define and give an example of the required HLB.
- d) Define half-life and shelf life of reaction.
- e) Define porosity and write it's applications.
- f) Explain the pharmaceutical importance of particle size determination.
- g) What is a gold number and give it's example?

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

[2 × 10 = 20]

- a) Write short notes on non-Newtonian types of flow.
- b) Describe optical and electric properties of colloidal dispersion.
- c) Discuss the method used for the determination of the order.
- d) What is the specific surface area of powder and write methods for determination of it?

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

- a) Instability of lyophilic colloids.
- b) Suspending agents.
<https://pharmacyindia.co.in/>
- c) Coulter counter method.
- d) Stability study of pharmaceutical products.
- e) Half-life and shelf life of zero order reaction.
- f) True density of the powder. <https://pharmacyindia.co.in/>
- g) Instability of suspension.
- h) Thixotropy. <https://pharmacyindia.co.in/>
- i) Particle size distribution.
- j) Emulsion theories.

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[5940]-4003

2



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SEAT No. :

PA-870

[Total No. of Pages :2

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[5940]-4004

Second Year B. Pharmacy
BP404T : PHARMACOLOGY - I
(2019 Pattern) (Semester - IV)

Time : 3 Hours]

[Max. Marks : 75

Instructions to the candidates :

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

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Q1) Objectives type questions: (Any 5 out of 7)

[5 × 3 = 15]

- a) Define agonist, antagonist & partial antagonist.
- b) Classify sedative & hypnotics. <https://pharmacyindia.co.in/>
- c) Explain why levodopa is combined with carbidopa.
- d) What is the enteric nervous system?
- e) Explain enzyme induction and enzyme inhibition with example.
- f) What do you mean by clinical trials? Enlist phases of clinical trials.
- g) Give therapeutic uses of atropine

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

[2 × 10 = 20]

- a) Write in detail the process of drug distribution. Describe the role of plasma protein in the distribution. <https://pharmacyindia.co.in/>
- b) Classify sympatholytics .Write mechanism of action, pharmacological action, adverse effects and uses of propranolol.
- c) Discuss the pharmacology of Parkinson's diseases.
- d) Classify antiepileptic. Discuss mechanism of action, pharmacological action, therapeutic uses and adverse drug reactions of hydantoins.

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

[8 × 5 = 40]

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- a) Write MOA, Adverse Effects and Clinical uses of Aspirin.
- b) Write about process of development of new drug.
- c) Explain factors affecting drug absorption. <https://pharmacyindia.co.in/>
- d) Write a brief note on drug interaction.
- e) Define & classify sympathomimetics. Write a note on amphetamines.
- f) Organophosphate poisoning. <https://pharmacyindia.co.in/>
- g) Enlist various neurotransmitters of CNS & explain neurohumoral transmission.
- h) Define antidepressants & write uses, adverse effects of tricyclic antidepressants. <https://pharmacyindia.co.in/>
- i) Define general anesthetics & explain pre-anesthetic medication.
- j) Write a note on various receptors.



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2

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PA-871

[Total No. of Pages :2

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[5940]-4005

Second Year B. Pharmacy

BP 405T : PHARMACOGNOSY AND PHYTOCHEMISTRY - I
(2019 Pattern) (Semester - IV) (Theory)

Time : 3 Hours]

[Max. Marks : 75

Instructions to the candidates :

- 1) All questions are compulsory.
- 2) Draw neat labelled diagram.
- 3) Figures to the right indicate full marks.

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

[5 × 3 = 15]

- a) Write the biological source, chem. constituents and applications of Jute and Hemp.
- b) Add a note on coppicing and felling method.
- c) Define and classify natural allergens.
- d) Differentiate between organised and unorganised drugs with examples.
- e) Explain the growth curve of plant tissue culture.
- f) What is micropropagation?
- g) Describe plant fruit anatomy with a neat diagram.

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

[2 × 10 = 20]

- a) Define and classify alkaloids. Explain chemical tests for alkaloids.
- b) Give historical development of PTC. Classify and explain various types of cultures.
- c) Define and classify lipids. Explain general methods of extraction. Describe extraction of shark liver oil.
- d) Explain role of secondary metabolites in plants. Differentiate between primary and secondary metabolites.

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Q3) Short Answers: (Any 8 out of 10) [8 × 5 = 40]

- a) Explain in detail polyploidy and mutation techniques in medicinal plants.
- b) Classify various marine drugs and explain anticancer drugs of marine origin. <https://pharmacyindia.co.in/>
- c) Explain in detail foaming index.
- d) Enlist plant hormones with their applications.
- e) Describe various types of adulteration. <https://pharmacyindia.co.in/>
- f) Describe general anatomy and morphology of subterranean organs.
- g) Explain in detail lycopodium spore method.
- h) Classify crude drugs and explain pharmacognosy of any one crude drug.
- i) Write a note on abscisic acid and gibberlins. Give their functions.
- j) Explain ash values and their significances. <https://pharmacyindia.co.in/>

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[5940]-4005

2