

Total No. of Questions : 3]

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SEAT No. :

PA-4527

[5940] - 2001

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## First Year B. Pharmacy

### BP 201T : HUMAN ANATOMY & PHYSIOLOGY - II

(2019 Credit Pattern) (Semester - II)

Time : 3 Hours]

[Max. Marks : 75

Instructions to the candidates:

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- 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 following ( Any 5 )

[15]

- a) Give composition and functions of Saliva.
- b) Explain composition and functions of CSF.
- c) Draw a neat labelled of nephron & Explain Structure of glomerulus.
- d) Write location and functions of kidney.
- e) Write a note on hypothalamic hormones.
- f) Explain structure of sperm with a neat labelled diagram.
- g) Discuss the structure of lungs.

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Q2) Answer the following (Any 2)

[20]

- a) Classify nervous system. Write in detail anatomy and functions of brain stem.
- b) Draw a neat labelled diagram of digestive system. Explain structure and functions of liver.
- c) Explain the physiological role of hormones of anterior pituitary gland.
- d) Explain in detail various phases of menstrual cycle and hormones involved in it.

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Q3) Answer the following (Any 8)

[40]

- a) Explain structure and functions of Pancreas.
- b) Draw neat labelled diagram of spinal cord and Explain reflex arc.
- c) Write a note on neurotransmitters. <https://pharmacyindia.co.in/>
- d) Enlist and Explain disorders of nervous system.
- e) Explain the process of generation of action potential.  
<https://pharmacyindia.co.in/>
- f) Explain Oogenesis.
- g) Discuss in detail Calcium Homeostasis.  
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- h) Write an account on physiology of micturition.
- i) Explain the renin-angiotensin-aldosterone system.
- j) Define respiration. Describe the actions of muscles involved in breathing.

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F.Y.B. Pharmacy

PHARMACEUTICAL ORGANIC CHEMISTRY - I (BP202T)

(2019 Pattern) (Semester - II)

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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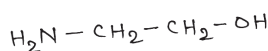
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Q1) Solve any five of the following.

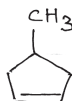
[5×3=15]

- i) Explain  $sp^2$  hybridization.
- ii) Draw structures of compounds from following IUPAC names.
  - a) 2-Ethyl-5-methyl-1-heptanol
  - b) 5-Methyl-1-hexyne
  - c) 2-Nitrobutane
- iii) Write IUPAC names for following structures.

a)

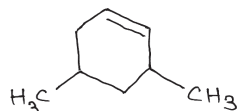


b)



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c)



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- iv) Differentiate between  $E_1$  and  $E_2$  elimination reactions.
- v) Explain why aldehydes are more reactive than ketones.

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- vi) Arrange the following acids in increasing order of their acidity and explain the reason for the same Chloroacetic acid, acetic acid, formic acid.
- vii) Explain why aliphatic amines ( methyl/ethyl amines) are more basic than ammonia.

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**Q2)** Solve any two of the following. **[2×10=20]**

- i) Explain bimolecular substitution reaction with mechanism and discuss factors affecting the bimolecular substitution reaction.
- ii) Define elimination reactions? Explain E2 elimination with mechanism, kinetics and factors affecting. <https://pharmacyindia.co.in/>
- iii) Write three methods of preparation and two reactions for aldehydes and ketones. <https://pharmacyindia.co.in/>
- iv) Explain conjugated dienes with suitable examples. Explain the stability of conjugated dienes. Explain Diel's-Alder reactions of conjugated dienes.

**Q3)** Solve any Eight of the following. **[8×5=40]**

- i) Classify organic compounds on the basis of elemental composition with suitable examples.
- ii) Write a note on structural isomerism. <https://pharmacyindia.co.in/>
- iii) Draw structure and give uses of following organic compounds.
  - a) Benzaldehyde <https://pharmacyindia.co.in/>
  - b) Benzyl benzoate
  - c) Ethylenediamine
- iv) Write short note on sp<sup>3</sup> hybridization in alkanes.
- v) Write any three methods of preparation and three reactions of carboxylic acids.

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- vi) Explain following reactions with mechanism
- a) Aldol condensation
  - b) Perkin condensation
- <https://pharmacyindia.co.in/>
- vii) Draw structure and give uses of following organic compounds.
- a) Propylene glycol
  - b) Vanillin
  - c) Benzoic acid
- viii) Explain the role of electromeric effect on reactivity of carbonyl group.
- ix) Write any three methods of preparation and reaction of alkyl halides
- x) Explain Saytzeffs orientation for 1,2 Elimination reactions.

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**First Year B. Pharmacy**  
**BP 203T : BIOCHEMISTRY**  
**(2019 Pattern) (Semester - II)**

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*Time : 3 Hours]*

*[Max. Marks : 75*

*Instructions to the candidates:*

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

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**Q1)** Answer the following ( Any 5 out of 7) (3 Marks each)

**[15]**

- a) Define and classify amino acid based on their structure.
- b) Give chemistry and biological functions of lipids.
- c) Explain oxidation of pyruvate to acetyl CoA.
- d) Explain ketoacidosis/ Fatty liver. <https://pharmacyindia.co.in/>
- e) Define carbohydrate. Classify it with example.
- f) Write a note on genetic code.
- g) Give significance of ATP and cyclic AMP.

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**Q2)** Long Answer (Any 2 out of 4) (10 marks each)

**[20]**

- a) Describe glycogen metabolism in detail. Add a note on GSDs.
- b) Explain semi conservative model of DNA. Add a note on DNA replication.
- c) Explain Beta oxidation of odd and even number fatty acid in detail.
- d) Discuss chemistry nucleic acid and explain biosynthesis of pyrimidine.

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**Q3)** Short answers (Any 8 out of 10) (5 marks each).

**[40]**

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- a) Define and classify enzymes. Add a note on enzyme specificity.
- b) Write a note on gluconeogenesis.
- c) Explain urea cycle in detail. <https://pharmacyindia.co.in/>
- d) Define and classify amino acids. Add physical and chemical properties of it.
- e) Elaborate on disorders in purine metabolism.
- f) Describe organization of mammalian genome.  
<https://pharmacyindia.co.in/>
- g) Describe transamination and deamination.
- h) Add a note on ketone bodies formation and utilization.
- i) Explain biological role and utilization of cholesterol.
- j) Explain metabolic disorders of phenylalanine and tyrosine.

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**F.Y. B. Pharmacy**

**BP204T - PATHOPHYSIOLOGY (Theory)**

**(2019 Pattern) (Semester - II)**

*Time : 3 Hours]*

*[Max. Marks : 75*

*Instructions to the candidates :*

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

**Q1) Answer the following. (Any 5 out of 7)**

**[5 × 3 = 15]**

- a) Define and explain pathogenesis of angina pectoris.
- b) Compare hypothyroidism and hyperthyroidism.
- c) Define and explain pathophysiology of atherosclerosis.
- d) Explain the pathogenesis of cell injury.
- e) Describe pathophysiology of myocardial infarction.
- f) Explain the etiology of AIDS.
- g) Define and describe symptoms of hypogonadism.

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

**[2 × 10 = 20]**

- a) Define, classify and explain pathophysiology of hypertension.
- b) Outline the types and explain in detail pathophysiology of cancer.
- c) Explain pathophysiology of acute and chronic renal failure.
- d) Define inflammation. Explain pathophysiology of acute inflammation.

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**P.T.O.**



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

**[8 × 5 = 40]**

- a) Define leprosy and describe signs and symptoms of leprosy.
- b) Explain etiology and pathogenesis of hepatitis B.
- c) Define and explain pathogenesis of asthma. <https://pharmacyindia.co.in/>
- d) Write a short note on peptic ulcer.
- e) Explain schizophrenia and discuss its signs and symptoms.
- f) Discuss pathogenesis of diabetes mellitus.
- g) Discuss pathophysiology of Parkinson's disease.
- h) Write short note on thalassemia. <https://pharmacyindia.co.in/>
- i) Define and explain pathogenesis of osteoporosis.
- j) Describe etiology and pathogenesis of tuberculosis.

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