UG Even Semester (CBCS) Exam., May—2017

PHARMACEUTICAL SCIENCES

(4th Semester)

Course No. : BPH–405 (C)

(Pharmaceutical Biochemistry)

Full Marks : 75
Pass Marks : 30

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **five** questions, taking **one** from each Unit

UNIT—I

1. Write a note on biochemical organization of a typical eukaryotic cell. How do ligand-gated and voltage-gated ion channels function? What is the difference between active and passive transport? Classify transport process across cell membrane. 5+5+2+3=15

2. Discuss briefly the biochemistry behind the production of ATP and mention its biological significance. Write a short note on metastasis. Derive the relationship between change in free energy and equilibrium constant. 6+3+6=15

UNIT—II

3. Classify enzymes with specific examples. Discuss the factor-affecting enzymatic action. Write a note on behind the estimation of enzymes and isoenzymes in clinical diagnosis. 5+6+4=15

4. Derive Michaelis-Menten equation for enzyme kinetics. Explain the significance of vitamins as coenzymes with examples. 10+5=15

UNIT—III

5. Define glycolysis, gluconeogenesis and glycogenesis. Enumerate the pathway and energetics of glycolysis. What is the significance of gluconeogenesis? 3+9+3=15

6. Write down stepwise reaction scheme of citric acid cycle. Briefly discuss the amphibolic role of TCA cycle. What do you mean by anaplerosis? 9+3+3=15

UNIT—IV

7. Explain the -oxidation of fatty acid including its energetics. What are phospholipids and sphingolipids? 12+3=15

8. Write notes on any *two* of the following : 7½×2=15

(a) Biosynthesis of saturated fatty acids

(b) Biosynthesis of ketone bodies

(c) Biosynthesis of eicosanoids

UNIT—V

9. Discuss in detail the mechanism of protein synthesis. 15

10. Explain the principle of biological oxidation and detoxification mechanisms. 15

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