2. Mention the salient features of Watson-Crick model of DNA. 5

3. Mention the biological significance and synthesis of dopamine from tyrosine. 2+3

4. Define energy rich compounds. Mention the classification with examples. 1+4

5. Discuss the conversion of cholesterol into bile acids. 5

6. What are ketone bodies? Describe the formation of ketone bodies. 5

7. Discuss the IUB classification of enzymes with examples. 5

8. Explain oxidative phosphorylation and its mechanism. Give examples of inhibitors of ETC. 3+2

9. Mention the significance of HMP Shunt. 5

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B Pharm Even Semester Examination, September, 2023

PHARMACEUTICAL SCIENCES

(2nd Semester)

Course No: BP-203T
(Biochemistry- Theory)

FM: 75
Time: 3 Hours

The figures in the right margin indicate full marks for the question

I. A. Multiple Choice questions 1x10=10

1. Which of the following tissues cannot produce purines?

   (a) Erythrocytes (b) Brain

   (c) Both of the above (d) None of the above

2. Which of the following represents stop codons?

   (a) UAA (b) AUA

   (c) AAU (d) All of the above

3. Which of the following is a low-energy phosphate?

   (a) Pyrophosphate

   (b) Adenosine triphosphate

   (c) Fructose-6-phosphate

   (d) None of the above

4. No. of ATPs produced by the oxidation of one molecule of palmitic acid is

(a) 131 (b) 129

(c) 108 (d) 96

5. Which of the following serve as precursor for the synthesis of aspartate?

(a) α-ketoglutarate (b) Succinyl CoA

(c) Oxaloacetate (d) None of the above

6. Which of the following statement is true for non-competitive inhibition?

(a) Km decreases and Vmax remains unchanged

(b) Km remains unchanged and Vmax decreases

(c) Km decreases and Vmax increases

(d) Km and Vmax decreases

7. Streptokinase is used

(a) To remove blood clots

(b) In cancer therapy

(c) Anti-inflammatory

(d) To treat emphysema

8. Which of the following C-2 epimers?

(a) Glucose and galactose

(b) Glucose and mannose

(c) Galactose and mannose

(d) Both (a) and (b)

9. Which of the following does not form osazone?

(a) Sucrose (b) Maltose

(c) Fructose (d) None of the above

10. Which of the following is a basic amino acid?

(a) Isoleucine (b) Threonine

(c) Asparagine (d) Lysine

I. B. Objective type 2x5=10

1. What are semi-essential amino acids? Give two examples.

2. Define epimers and anomers.

3. Differentiate between deamination and transamination.

4. Define endergonic and exergonic reactions.

5. What are coenzymes? Give examples.

II. Long answers (Answer two out of three questions) 10x2=20

1. Describe the urea cycle and the disorders associated with it. 6+4

2. Explain β-oxidation of palmitic acid with energetics. 8+2

3. Describe citric acid cycle and its energetics. 8+2

III. Short answers (Answer seven out of nine questions) 5x7=35

1. Write a note on pyrimidine nucleotide biosynthesis. 5