Question Paper

Exam Date & Time: 09-May-2018 (09:30 AM - 12:30 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

MANIPAL COLLEGE OF PHARMACEUTICAL SCIENCES
END SEMESTER THEORY EXAMINATIONS - MAY 2018
PROGRAM: BPHARM SEMESTER 2
DATE: 09/05/2018
TIME: 09:30 AM - 12:30 PM

Biochemistry [PBT-BP203T]

Marks: 75 **Duration: 180 mins.**

I Multiple Choice Questions (MCQs)

Answer all the questions. Section Duration: 30 mins

1) Study of energy changes in biochemical reactions is referred as (1)
Enthalpy | Standard free energy | Bioenergetics | Catabolism

2) An example of a high energy compound under the class thioesters is (1)
ATP | 1,3-BPG | Phosphoenol pyruvate | Acetyl CoA

3) An example of a polysaccharide is (1)
Glucose | Starch | Maltose | Lactose

4) The biomolecule that is the repository of hereditary information is (1)
Protein | RNA | DNA | Lipid

5) The product of stage I of catabolism of starch is (1)
Maltose | Amylose | Dextrin | Glucose

6) The products of SGOT mediated reaction are (1)
Aspartate and Glutamate | Aspartate and Oxaloacetate | Aspartate and α-keto glutarate | α-keto glutarate and Oxaloacetate

7) An example for a physiological uncoupler is (1)
Adrenaline | Thermogenin | Dinitrocresol | Pentachlorophenol

8) Identify the wrongly named enzyme complex of ETC (1)
Complex I - NADH - CoQ reductase | Complex II - Succinate - CoQ oxidase | Complex III - CoQ - Cytochrome C reductase | Complex IV -Cytochrome oxidase (Cyt a to Cyt a3)

9) An example of a compound that is not a ketone body (1)
HMG CoA | Acetoacetate | Acetone | β-Hydroxy Butyrate

10) The number of carbon atoms in Cholesterol is (1)
17 | 04 | 20 | 27

11) Alkaptonuria is also known as (1)
Gilbert's disease | Black urine disease | Cushing's syndrome | Albinism

12) Guthrie test is employed to identify (1)
Fatty liver | Hyperbilirubinemia | Phenylketonuria | Tyrosinemia

13) Which form of DNA has 12 bp per turn? (1)
A | B | C | Z

14) Which of the following is not related to nucleosome? (1)
Core particle | Linker | Histones | Primer

15) Which of the following is a translation inhibitor? (1)
Erythromycin | Rifampin | Etoposide | Doxorubicin

16) Which of the following diseases is not associated with elevated levels of uric acid? (1)
Primary gout | Secondary gout | Pseudo gout | Lesch Nyhan syndrome

17) Multiple forms of an enzyme catalyzing the same reaction is termed as (1)
Coenzyme | Isoenzyme | Diagnostic enzyme | Allosteric enzyme

18) The type of enzyme inhibition where the inhibitor has close resemblance to the substrate is (1)
Competitive Inhibition | Non-competitive inhibition | Suicide Inhibition | Irreversible Inhibition

19) The functional unit of an enzyme is referred to as (1)
Apoenzyme | Coenzyme | Holoenzyme | Proenzymes

20) An increase in enzyme velocity with every 10°C rise of temperature is known as (1)
Substrate analogue | Michaelis Menten constant | Temperature coefficient | Temperature gradient

II Long Answers

Answer all the questions.

1) Mention the synonyms for aerobic oxidation of glucose in cytosol and sketch the pathway. Add a note on its energetics. (10)

2) With respect to nucleic acid metabolism, explain the following: (10)
   a) Genetic code
   b) Steps in transcription process

III Short Answers

Answer all the questions.

1) Define the terms exergonic and endergonic reactions with an example for each. Add a note on redox potential. (5)

2) Write short notes on the following: (5)
   a) Degradation of IMP
   b) Components of electron transport chain

3) Give the enzyme defect, clinical manifestations, diagnosis and treatment associated with alkaptonuria. (5)

4) Sketch the urea cycle. (5)

5) Define β-oxidation. Write briefly on carnitine shuttle system. (5)

6) Define enzymes. Enlist any four properties of enzymes and write briefly on their nomenclature. (5)

7) Give the IUB classification of enzymes, citing suitable reaction under each class. (5)

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