

(12)

SC-1

# SARDAR PATEL UNIVERSITY

V.V.NAGAR

S.Y.BSc. Examination 2016

## IV SEMESTER BIOCHEMISTRY US04EBCH01

### FUNDAMENTALS OF BIOCHEMISTRY AND BIO-INSTRUMENTATION

Date: 19-04-2016

Time: 10:30 A.M. to 12:30 P.M.

Total Marks: 70

#### Q.1 Multiple choice Question (one mark each)

[10]

- The caloric value of lipid is \_\_\_\_\_ Kcal/gm.  
a) 2 b) 4 c) 6 d) 9
- Exergonic process includes \_\_\_\_\_.  
a) Muscular contraction b) Active transport c) Catabolism d) Anabolism
- \_\_\_\_\_ are not the sites of ATP production in ETC.  
a) Cytochrome c to a b) NAD to FP c) Cytochrome a to a<sub>3</sub> d) Cytochrome b to c<sub>1</sub>
- Which of the combination of radioisotopes are used in a Hershey-Chase experiment?  
a) 35 p & 35 s b) 35p & 32 s c) 32 p & 35 s d) 32 p & 32 s
- 2-amino 6-oxypyrimidine is chemical name of \_\_\_\_\_.  
(a) Guanine (b) Cytosine (c) Uracil (d) Thymine
- Which bio molecule obey Chargaff's rule?  
(a) DNA b) Protein c) RNA d) Carbohydrate
- Which one of the following is co-enzyme?  
a) Biotin b) Molybdenum c) Protein d) Peptidase
- Which class of enzyme is involved in addition or removal of water, CO<sub>2</sub>, etc.?  
a) Lyases b) Isomerases c) Ligases d) Hydrolases
- Commonly used buffer for electrophoretic technique are \_\_\_\_\_.  
a) Citrate (b) Phosphate (c) Tris (d) All of these
- Electrophoresis is also known as process of \_\_\_\_\_.  
(a) Half electrolysis (b) Full electrolysis (c) Quarter electrolysis (d) all of this

#### Q.2 Answer in short (attempt any ten)

[20]

- What is the source of acetyl CoA?
- Explain: ATP play central role in metabolism.
- Explain term: Metabolism.
- Define nucleoside and nucleotide.
- Draw the structure of tRNA.
- What do you know about nitrogen base?

[P. T. O.]

- 7) Define with example: enzyme.
- 8) Define  $K_m$ .
- 9) Define with example: coenzyme.
- 10) What are buffers, write its examples.
- 11) Write the elements of colorimeter.
- 12) Explain: radiant energy source for colorimeter.

Q.3 (a) Explain: basic concept of metabolism. [5]

(b) Explain: Living organisms are never at equilibrium with their surroundings. [5]

OR

Q.3 (a) Explain: role of acetyl co-A in metabolism. [5]

(b) Explain: feedback mechanism. [5]

Q.4 (a) Explain: Avery, Macleod & McCarty experiment. [5]

(b) Write short note on tRNA. [5]

OR

Q.4 (a) Explain: physical and chemical properties of fatty acid. [5]

(b) Explain: saturated fatty acids. [5]

Q.5 Write in detail enzyme classification with proper example. [10]

OR

Q.5 Describe in detail about M.M equation. [10]

Q.6 (a) Write a note on filters for colorimetric analysis. [5]

(b) Explain factor affecting electrophoretic migration. [5]

OR

Q.6 (a) Explain: Types of electrophoresis. [5]

(b) Explain: Laws of colorimeter. [5]

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