SC

[66/A-12]

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SARDAR PATEL UNIVERSITY

B. Sc. (Biochemistry) – Sixth Semester Examination (CBCS)

Friday, 29th March, 2019

10:00 a.m. to 1:00 p.m.

US06CBCH03: Metabolism - II

Total Marks: 70

Note: (1) Figures to the right indicate marks.
(2) Draw a neat and labeled diagram, wherever necessary.

Q. 1 Choose the most appropriate answer from the four alternatives given: [10]

i. **Which of the following is not a characteristic feature of free radicals?**
(a) They are highly reactive
(b) It can generate new radicals by chain reaction
(c) They are very much beneficial to biomolecules, cells and tissues
(d) They have short half life

ii. **..... is an example of preventive antioxidants?**
(a) Catalase (b) FCCP (c) Calcium (d) Dinitro cresol

iii. **P : O ratio or ADP : O ratio is a measure of.....production.**
(a) NAD (b) ATP (c) FAD (d) NADP

iv. **Mutation in tyrosinase enzyme gene causes.....**
(a) Tyrosinemia (b) MSUD (c) Homocysteinuria (d) Albinism

v. **..... converts ammonia in to uric acid.**
(a) Fishes (b) Humans (c) Reptiles and birds (d) Insects

vi. **The removal of amino group from the aminoacids in a form of ammonia is called .....**
(a) Detoxification (b) Deamination (c) Decarboxylation (d) Transamination

vii. **.....aminoacid is not involved in purine biosynthesis.**
(a) Aspartate (b) Glutamine (c) Glycine (d) Arginine

viii. **Conversion of Biliverdin to Bilirubin is catalyzed by..... enzyme?**
(a) Heme oxygenase (b) Bilirubin reductase (c) Biliverdin hydrolase (d) Bilirubin lyase

ix. **A metabolic condition which is opposite to obesity is known as.....**
(a) Cachexia (b) Lipidosis (c) Starvation (d) Xanthomatosis

x. **Total starvation includes complete deprivation of .....**
(a) Foods (b) Salts (c) Water (d) All of these

Q.2 Answer any <u>TEN</u> from the following: [20]

i. Write names of four complexes of ETC. Write atleast one inhibitor for each complex.

ii. Differentiate between entropy and enthalpy.

iii. What is ROS? Write its examples.

<u>P.T.O.</u>

(1)

iv. Enlist types of albinism.

v. Write importance of transamination reaction.

vi. Differentiate between D aminoacid oxidase and L aminoacid oxidase.

vii. What is PRPP? Write its importance.

viii. What is salvage pathway?

ix. Explain regulation of pyrimidine synthesis.

x. Define the term inflammation.

xi. Name any 4 glucose transporters along with their locations.

xii. What is obesity?

Q.3 a. Write a detail note on cytochromes. [06]

b. Give an overview of uncouplers. [04]

OR

Q.3 a. Write a detail note on inhibitors of oxidative phosphorylation. [06]

b. Give an overview of Chemiosmotic hypothesis. [04]

Q.4 a. Discuss PKU. [06]

b. Write a note on protein turn over. [04]

OR

Q.4 a. Describe MSUD. [06]

b. Write a note on decarboxylation of aminoacids. [04]

Q.5 a. Describe pathway for heme degradation. [05]

b. Explain regulation of purine biosynthesis. [05]

OR

Q.5 a. Write a detail note on gout. [05]

b. Explain formation of GMP from IMP. [05]

Q. 6 Discuss metabolic adaptations during starvation. [10]

OR

Q. 6 "Metabolism is an integrated process" Justify the statement. [10]