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SARDAR PATEL UNIVERSITY
B. Sc. (Biochemistry) – Sixth Semester Examination (CBCS)
Friday, 1st April, 2016
2:30 p.m. to 5:30 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]**
- Coenzyme Q is a derivative of.....
(a) Benzoic acid (b) Ubiquinone (c) Benzaldehyde (d) Benzoquinone
 - Which of the following is not an uncoupler?
(a) Calcium (b) Detergents (c) FCCP (d) DNP
 - Chemiosmotic theory was postulated by.....
(a) Boyer (b) Peter Mitchell (c) Krebs (d) Nilkas and Lederer
 - Skin, eye and hair pigmentation is due to melanin, which is synthesized from.....
(a) Tyrosine (b) Methionine (c) Arginine (d) Glutamic acid
 - Decarboxylase enzyme convert amino acids in to.....
(a) Amines (b) Amides (c) Imino acids (d) Acids
 - D- aminoacids are present in
(a) Plants (b) Micro-organisms (c) Both (a) and (b) (d) Insects
 - Which one of the following is not an end product of heme oxygenase enzyme?
(a) Iron (Fe^{+3}) (b) Bilirubin (c) Biliverdin (d) Carbon monoxide
 - First step during heme biosynthesis involves condensation of.....
(a) Glycine & Succinyl CoA (b) Glutamine & Succinyl CoA
(c) Aspartate & Succinyl CoA (d) Aspartate & glycine
 - During glycolysis lactate is produced due to.....condition.
(a) Aerobic (b) Anaerobic (c) Both (a) and (b) (d) None of these
 - Urea cycle and TCA cycle linked/ integrated through.....
(a) Malate (b) Fumarate (c) succinyl CoA (d) Carbamoyl phosphate

- Q.2 Answer any TEN from the following: [20]**
- Write names of 4 complexes of electron transport chain.
 - What are high energy compounds. Write examples.

P.T.O.

- iii. Define the terms entropy and free energy.
- iv. Write full name of MSUD. How it occurs?
- v. Enlist types of deamination reactions.
- vi. Write role of glutamine in brain.
- vii. What are the sources for the synthesis of purine ring?
- viii. Give reaction catalyzed by bilirubin reductase.
- ix. Write structure of guanine.
- x. Define the terms cachexia and xanthomatosis.
- xi. Write name of common product and organ involved during starvation.
- xii. Write any 4 glucose transporters with their locations.

- Q.3 a. Write a note on P : O ratio. [04]
 b. Give detail account on anti oxidants. [06]

OR

- Q.3 a. Write examples and mode of action of site specific inhibitors of ETC. [04]
 b. Give detail account on free radicals. [06]

- Q.4 a. Discuss salient mechanisms and importance of transamination reactions. [06]
 b. Write a note on Phenylketonuria. [04]

OR

- Q.4 a. Describe detoxification of ammonia by urea cycle. [06]
 b. Write a note on albinism. [04]

- Q.5 a. Describe salvage pathway for purine nucleotides. [06]
 b. Write a detail note on gout. [04]

OR

- Q.5 a. Describe degradative pathway for pyrimidine nucleotides. [06]
 b. Explain conversion of IMP to AMP. [04]

- Q.6 Discuss metabolism during diabetes mellitus. [10]

OR

- Q.6 Explain central role of TCA cycle. Give connection between TCA and Urea cycle. [10]
