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SARDAR PATEL UNIVERSITY

M.Sc (II Semester) Examination (CBCS)

Thursday, 23rd April, 2015, 2:30 pm to 5:30 pm

Biochemistry

PS02CBIC02 – Biochemical & Environmental Toxicology

TOTAL MARKS: 70

1. Choose the correct answer

1x8=8

- (i) Which of the following enzyme can utilize phase I reaction product as a substrate?
(a) CYP 450 Oxidase (c) Alcohol Dehydrogenase
(b) Epoxide hydrolase (d) none of the above
- (ii) Absorption, distribution, metabolism and elimination of a toxicant in human is termed
(a) Toxicodynamics (c) Xenobiotic metabolism
(b) Toxicokinetics (d) None of the above
- (iii) Estimated dose at which 5 % of the test subjects die is termed
(a) LD 95 (b) LD 5 (c) LD 50 (d) None of the above
- (iv) Itai-Itai - skeletal deformities with severe pain is by
(a) Cadmium toxicity (c) lead toxicity
(b) Arsenic toxicity (d) Mercury toxicity
- (v) A toxicant that over activates the immune system causing an immune response when one is not necessary is known as
(a) Neurotoxin (b) allergen (c) endocrine disruptor (d) none of the above
- (vi) A chemical or a type of radiation that causes cancer.
(a) Carcinogen (b) Teratogen (c) toxicant (d) all the above
- (vii) The buildup of toxicants in the tissue of an animal
(a) Bioaccumulation (b) Biomagnification (c) chronic toxicity (d) none of the above
- (viii) Acid rain is caused by
(a) CO and CO₂ (b) SO₂ and O₂ (c) SO₂ and NO₂ (d) NO₂ and O₂

2. Answer **any seven** of the following questions **briefly**: (14)

- (a) What are teratogens?
- (b) Differentiate between synergism and antagonism
- (c) Differentiate between toxicokinetics and toxicodynamics.
- (d) What is genotoxicity?
- (e) Give few reasons for the need of food additives.
- (f) What is meant by 'broad spectrum characteristics'?
- (g) Define: Green house effect.
- (h) Differentiate metals and metalloids.
- (i) What is meant by 'plumbism'?

3. (a) Write a note on scope and environmental significance of toxicology. (06)

(b) Write a note on paracetamol toxicity. (06)

OR

(b) What is dose response curve? Illustrate determination of ED50 values using dose response curve. (06)

4. (a) Explain Bruce Ames test. (06)

(b) Explain Phase I reactions.

OR

(b) Write a note on mammalian mutation tests. (06)

5. (a) What are environmental consequences of pesticide toxicity? (06)

(b) Write brief note on mode of action of fungicides and herbicides. (06)

OR

(b) Write an account on food additives and their toxicity. (06)

6. (a) Write a note on mercury toxicity. (06)

(b) Write a note on effect of SO₂ on environment. (06)

OR

(b) Write a brief account on uses and toxic effects of asbestos. (06)

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