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SARDAR PATEL UNIVERSITY

T. Y. B. Sc. (FIFTH SEMESTER) EXAMINATION

2013

FRIDAY, 15th NOVEMBER

Time: 10.30 a.m. to 01.30 p.m.

US05CENV02 (ENVIRONMENTAL SCIENCE)

(PESTICIDE, HERBICIDE, FUNGICIDE TOXICOLOGY)

Note: 1. Answers of all the questions (including multiple choice questions) should be written in the provided answer book only

2. Figures to the right indicate the full marks of sub question

3. Draw neat and labelled diagrams wherever necessary

Maximum Marks: 70

Q. 1. Multiple choice questions

(10)

1. Excretion of toxicants takes place via _____ route.
a. Urinary b. Biliary c. Pulmonary d. All of these
2. _____ factor affects biotransformation of xenobiotics.
a. Chemical b. Biological c. Physical d. Environmental
3. The entry of toxicants to CNS is prevented by _____.
a. Placental barrier b. Blood-brain barrier c. Skin d. None of these
4. Which one is an organophosphate?
a. DDT b. Aldrin c. Dieldrin d. Parathion
5. Chlorinated hydrocarbons are also used as _____ insecticides.
a. Organophosphates b. Pyrethroids c. Carbamates d. Organochlorines
6. 2, 2 – dichloropropionic acid is a herbicide commonly known as _____.
a. Dalapon b. Atrazine c. Paraquat d. Endothal
7. Endothal inhibit _____ and proteolytic activity in Barley.
a. Amylase b. IAA c. Photosynthesis d. Physical
8. Paraquat is translocated by _____ movement.
a. Apoplastic b. Symplastic c. Both of these d. None of these
9. Copper fungicides affect the fungus by combining with _____.
a. Oxalic acid b. Succinic acid c. Carboxylic acid d. Melic acid
10. Burgandy mixture is an example of _____.
a. Copper fungicide b. Sulphur fungicide c. Mercury fungicide d. Carboxamide

Q. 2. Answer the following questions in short (Any Ten) (20)

1. Define: Dose-response curve
2. Explain aromatic hydroxylation reaction with example
3. Enlist various routes of excretion of toxicants.
4. Enlist uses of pesticides
5. Draw structures of Malathion and Parathion insecticides
6. Classify pesticides based on target organisms
7. Define herbicide and its mode of action
8. Define: Apolastic and Symplastic movement of herbicide
9. Write about 2, 4 - D and 2, 4, 5 - T herbicides
10. Name the disease controlled by CAPTAN
11. Write merits and demerits of Mercury fungicides
12. Draw structures of Benomyl and Dichlone fungicides

- Q. 3. (a) Explain various sites of absorption of xenobiotics (05)**
(b) Write a short note on Bioassay (05)

OR

- Q. 3. Explain any five biotransformation reaction of phase-I reaction (10)**

- Q. 4. (a) Write a detailed note on carbamate insecticides (06)**
(b) Classify pesticides based on mode of action (04)

OR

- Q. 4. (a) Write a note on organophosphorus insecticide (06)**
(b) Write a short note on: Dieldrin (04)

- Q. 5. (a) Write a short note on Dalapon herbicide (06)**
(b) Write briefly about selectivity in herbicides (04)

OR

- Q. 5. (a) Write a short note on Molecular fate of Atrazine (05)**
(b) Write about Phenoxy herbicides (05)

- Q. 6. Describe properties, mode of action and biochemical response of: Sulphur fungicides with example (10)**

OR

- Q. 6. (a) Describe the mode of action and phytotoxicity of organophosphorus fungicides (06)**
(b) Write merits and demerits of Copper fungicides (04)