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SEAT No. _____

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Sardar Patel University , Vallabh Vidyanagar

M.Sc. Environmental Science and Technology -ISEM

Course: Occupational and Environmental Toxicology

Course no: PS02CEST23

Date: 23rd March, 2019

Time: 10.0 – 1.00 pm

Max.marks:70

N.B. Draw neat labelled diagrams wherever necessary

Q1. Answer the following multiple choice questions

(8X1)

a. Which of the following controls the movement of the Eye lens

i. Ciliary body ii. Retina iii. Iris iv. Cornea

b. Non Cyclic photophosphorylation occurs in

i. Cytoplasm of the cell ii. Protoplasm iii. Matrix of Mitochondria iv. None

c. Kranz anatomy is observed in which plants

i. C3 plants iii. C4 plants iii. CAM plants iv. None

d. The respiratory quotient for Fats is

i. 1 ii. 0 iii. Less than 1 iv. More than 1

e. "Kuffer cells" are found in

i. Lungs ii. Skin iii. Kidney iv. None

f. Portal tree is a part of following organ of the body

i. Kidney ii. Heart iii. Brain iv. none

g. Heart beat is mainly initiated by

i. SA node, ii. Perkinj fibers iii. HIS bundles iv. AV node

h. Byssinosis disease is caused by

i. Iron ii. Bauxite. iii. Coal iv. None

Q2. Answer any SEVEN of the following

(7X2)

a) Sweat glands

b) Synthesis of Acetyl Co-enzyme A from Pyruvic Acid

c) Structure of Muscular tissues

d) Structure of Rods and Cones

e) Endocrine disrupters

f) Types of Entry of toxicant in human body

g) Urtricularia

h) Mode of action of herbicides.

i) Connective tissue

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(P.T.O)

Q3. A. What is ADME and explain ADME in details when chemicals or toxicants exposed to human (6)

B.i. Discuss LD₅₀ in details (3+3)

ii. Enlist general carcinogens and first aid treatments

OR

B.i. Enumerate Chronic toxicity (3+3)

ii. Describe the Dose- Response by giving suitable examples

Q4.A. Discuss industrial toxicants/ drugs producing Cardiotoxic diseases in human (6)

B. Describe the structure of Nephrons, glomerule and add a note on functions of Kidney (6)

OR

B. Explain the structure of Human liver with suitable illustration and add a note on its functions (6)

Q5.A. Enumerate the Human Neurotoxic diseases caused due to exposure to different chemicals. (6)

B.i. Draw a neat labelled diagram of Human Eye (3+3)

B.ii. Explain Citric Acid synthesis takes place in mitochondria

OR

B.i. Draw a neat labelled diagram of Human Lungs (3+3)

ii. Write a note on Cyclic photophosphorylation pathway in detail

Q6.A. Discuss molecular fate of herbicides in plants (6)

B i. Describe generalized morphological responses of plants towards various herbicides (3+3)

ii. Explain general herbicide translocation in plants

OR

B. Enumerate mode of action of Phenoxy herbicides (6)

— X —
(2)