17191

BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – B.Sc.(Ag)-Hons-2021/B.Sc.(Ag)-Hons-2023
Course Name – Agro Chemicals/Agrochemicals
Course Code - EC-BAG471-B(T)
(Semester IV)

Full Marks : 50 **Time : 2:0 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A
(Multiple Choice Type Question) 1 x 20=20

1. *Choose the correct alternative from the following :*

(i) What are agricultural chemicals?
- a) Chemicals used in agriculture for pestcontrol and crop management
- b) Chemicals used in the manufacturingof plastics
- c) Chemicals used in the production offuel
- d) Chemicals used in the constructionindustry

(ii) What is the main purpose of fungicides in agriculture?
- a) To control fungi
- b) To control bacteria
- c) To control nematodes
- d) To control of snails

(iii) Which of the following is an effect of excessive use of fertilizers in the soil?
- a) Accumulation of nitrates
- b) Decreased salt concentration
- c) Reduced metal concentration
- d) Increased microbial activity

(iv) Which of the following contributes most to pesticide contamination of groundwater?
- a) Volatilization
- b) Leaching
- c) Erosion
- d) Adsorption

(v) Summarize the steps to prevent nutrient enrichment of lakes due to fertilizers.
- a) Increase pesticide dose
- b) Use highly soluble pesticides
- c) Use pesticides with low leaching potential
- d) Apply pesticides during the rainy season

(vi) Compare the roles of bactericides and herbicides. Which of the following is correct?
- a) Bactericides control harmful insects, while herbicides control weeds.
- b) Bactericides control weeds, while herbicides control bacteria.
- c) Bactericides control bacteria, while herbicides control weeds.
- d) Bactericides control nematodes, while herbicides control fungi.

(vii) Select the correct description of pesticide erosion.
- a) Pesticides move downward to groundwater with heavy rains.
- b) Pesticides are physically bound to soil particles during erosion.
- c) Erosion involves pesticides becoming dissolved in water.
- d) Pesticide erosion refers to the uptake of pesticides into plants.

(viii) What is the main effect of pesticide adsorption in soil?

a) It allows pesticides to become water contaminants.
b) It causes the pesticide to be broken down by microorganisms.
c) It removes the pesticide from the environment by binding it to soil particles.
d) It moves pesticides to the groundwater.

(ix) Select the correct statement about organochlorine insecticides.

a) They are highly toxic to animals.
b) They are less persistent in soil than organophosphate insecticides.
c) They remain active in soil for up to 10 years.
d) They break down readily through microorganisms.

(x) Which herbicide is used for controlling woody plants?

a) Atrazine
b) Simazine
c) 2,4,5-T
d) Glyphosate

(xi) What is the primary use of Butachlor?

a) Controlling broad-leaved weeds in cotton
b) Controlling weeds in rice
c) Woody plant control
d) Used for aquatic weed control

(xii) Which class of herbicides includes Metolachlor?

a) Aromatic carboxylic acids
b) Anilides
c) Pyridines
d) Organophosphorus compounds

(xiii) Which herbicide inhibits key enzymes in plant growth?

a) Fenuron
b) EPTC
c) Alachlor
d) Glyphosate

(xiv) Show how substituted ureas differ from anilides in their action.

a) Substituted ureas control woody plants
b) Anilides inhibit photosynthesis
c) Substituted ureas are less persistent in soil
d) Anilides only work post-emergence

(xv) Choose an herbicide effective against annual grass weeds in maize.

a) Thiobencarb
b) Ramrod
c) Machete
d) 2,4-D

(xvi) Select a herbicide for controlling weeds in transplanted rice.

a) Atrazine
b) Metolachlor
c) Thiobencarb
d) Lasso

(xvii) Choose the most suitable herbicide for controlling aquatic weeds.

a) Alachlor
b) Diquat
c) 2,4-D
d) Roundup

(xviii) Compare the environmental persistence of 2,4-D and 2,4,5-T.

a) 2,4-D remains longer in soil
b) Both degrade at the same rate
c) Neither affects the soil
d) Atrazine is more persistent

(xix) Which of the following is a biological control agent used in agriculture?

a) Chlorothalonil
b) Copper sulfate
c) Thiabendazole
d) Bacillus thuringiensis

(xx) Show which of the following is a synthetic pyrethroid insecticide commonly used in agriculture?

a) Carbaryl
b) Chlorpyriphos
c) Lambda-cyhalothrin
d) Glyphosate

Group-B

(Short Answer Type Questions) 2.5 x 10=25

2. Describe the utilization of phorate and phosphamidon. (2.5)
3. Define biofertilizers and their role in soil fertility. (2.5)
4. Identify the deficiency symptoms of manganese (Mn) and molybdenum (Mo). (2.5)

5. Explain the various methods of production of blue-green algae (BGA) as biofertilizers. (2.5)
6. List two major classes of herbicides and briefly describe their properties. (2.5)
7. Compare selective and non-selective herbicides with examples. (2.5)
8. Explain the mode of action and uses of Zineb and Ziram. (2.5)
9. Explain the formulation of smoke and emulsifiable concentrate. (2.5)
10. Explain the mode of action of cypermethrin. (2.5)
11. Justify the use of glyphosate as a post-emergence herbicide in non-agricultural areas. (2.5)

OR

Justify the use of pre-emergence herbicides over post-emergence herbicides for weed management in cereals. (2.5)

Group-C

(Long Answer Type Questions) 5 x 1=5

12. Explain the classification of pesticides. (5)

OR

Explain the manufacturing procedure of Urea. (5)

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