BRAINWARE UNIVERSITY

Term End Examination 2025-2026
Programme – B.Sc.(Ag)-Hons-2024
Course Name – 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 a naturally occurring fungicide?

a) Copper Sulphate
b) Canbendazim
c) Neem oil
d) Mancozeb

(iv) How can pesticides in the soil be moved off-site?

a) Absorption
b) Accumulation
c) Adsorption
d) Erosion

(v) What is the main nutrient provided by gypsum?

a) N
b) Ca
c) P
d) Zn

(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) Compare the effects of pesticide leaching and adsorption in soil. Which of the following is true?

a) Leaching moves pesticides upward into the atmosphere, while adsorption moves them into plant tissues.
b) Leaching occurs when pesticides are adsorbed to soil particles, whereas adsorption involves the pesticide dissolving in water.
c) Leaching leads to pesticide movement into groundwater, while adsorption keeps pesticides in the soil
d) Both leaching and adsorption lead to pesticides being broken down by microorganisms

(viii) 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.

(ix) Outline the major fates of pesticides in soil.

a) Leaching, Adsorption, Erosion, Movement in runoff, Absorption
b) Adsorption, Absorption, Decomposition, Erosion, Movement in runoff
c) Erosion, Absorption, Leaching, Adsorption, Breakdown
d) Adsorption, Degradation, Movement in runoff, Leaching, Absorption

(x) Explain why 2,4-D is considered a selective herbicide.

a) It is systemic
b) It targets dicots but is tolerated by monocots
c) It acts on all types of plants
d) It has a high LD50

(xi) 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

(xii) Choose the best herbicide for stubble cleaning.

a) Simazine
b) Butachlor
c) Paraquat
d) Thiobencarb

(xiii) Choose the following option: PS-1 inhibitor herbicide is

a) Bipyridiliums
b) Triazines
c) Phenyl ureas
d) Uracils

(xiv) Choose the following option: PS-2 inhibitor herbicide is

a) Triazines
b) Phenyl ureas
c) Uracils
d) All of these

(xv) Choose the following option: Rice herbicides is/are

a) Butachlor
b) Pyrazosulfuron ethyl
c) Both A & B
d) Sulfosulfuron

(xvi) Why was DDT banned?

a) Bioaccumulation
b) Biomagnification
c) None
d) Both A & B

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

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

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

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

(xix) Choose the following option: Common source of potassium is

a) Rock phosphate
b) Muriate of Potash (MOP)
c) Calcium Ammonium Nitrate (CAN)
d) Urea

(xx) What is the nitrogen content in Urea?

a) 0.46
b) 0.4

c) 0.5 d) 0.35

Group-B

(Short Answer Type Questions) 2.5 x 10=25

2. Interpret in brief the manufacture of muriate of potash. (2.5)
3. Identify the deficiency symptoms of manganese (Mn) and molybdenum (Mo). (2.5)
4. What are phosphate fertilizers? Provide examples. (2.5)
5. Explain the mode of action and uses of carbofuran. (2.5)
6. Outline the manufacturing procedure of potassium chloride. (2.5)
7. Demonstrate what a mixed fertilizer is and provide suitable examples. (2.5)
8. Analyze the potential of plant biopesticides in reducing dependence on synthetic agrochemicals for sustainable crop protection. (2.5)
9. Develop a weed management plan using a combination of pre-emergence and post-emergence herbicides. (2.5)
10. What are systemic and non-systemic pesticides? (2.5)
11. Compare the effectiveness of selective vs. non-selective herbicides in different cropping systems. (2.5)

OR

Explain the formulation of smoke and emulsifiable concentrate. (2.5)

Group-C

(Long Answer Type Questions) 5 x 1=5

12. Explain the fate of herbicides in soil and water ecosystems, highlighting the factors that influence their degradation and persistence. (5)

OR

Explain the manufacturing procedure of Urea. (5)

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