SLR-SA-1

Seat No.	

Set P

M.Sc. (Semester - I) (New) (CBCS) Examination: March/April-2023
AGROCHEMICALS AND PEST MANAGEMENT
Chemistry of Pesticides and Their Formulations – I (MSC26101)

Day & Date: Wednesday, 19-07-2023 Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) Q. No. 1 and 2 are compulsory.
2) Attempt any Three questions from Q.No.3 to Q.No.7.
3) Figures to the right indicate full marks.

Q.1 A) Choose the correct alternatives from the options. **10**

1) Zwitterionic intermediate is formed in which of the following reaction?
   a) Aldol b) Perkin
   c) Perkow d) Cannizarro

2) In thiol form of malathion phosphorous is double bonded with _____.
   a) Sulphur b) Carbon
   c) Oxygen d) Phosphorous

3) _____ type of formulation is used as tracking of rodents.
   a) Baits b) Dust
   c) EC d) Granules

4) Propellant is used for _____ type of formulations.
   a) Baits b) Fumigants
   c) Aerosols d) Dusts

5) _____ membered cycloalkane ring is present in allethrin.
   a) Three b) Four
   c) Five d) Six

6) Which reaction involves formation of lactone?
   a) Perkin b) Aldol condensation
   c) Stobbe condensation d) MPV reduction

7) Benzene on reaction with alkyl halide in presence of anhydrous aluminium chloride gives tolune. This reaction is known as _____ reaction.
   a) Friedel Craft's b) Cannizarro's
   c) Wurtz's d) Perkin's

8) Phosphorous is double bonded with ____ in phorate.
   a) Sulphur b) Oxygen
   c) Carbon d) Hydrogen

9) Chloropyriphos contains _____ chlorine atoms.
   a) One b) Two
   c) Three d) Four

10) Which of the following insecticide should be volatile?
   a) Contact b) Systemic
   c) Fumigant d) Desiccant

B) Fill in the blanks **06**

1) Pyrethroids affect ____ system of insects.
2) Ethyl alcohol on dehydration gives ethene. This is an example of _____ reaction
3) The pesticide which control the mites is known as _____.
4) Hydride ion transfer occurs in _____ reaction.
5) Neem coating is given on ____ fertilizer.
6) In ____ type of formulation, the target site must be enclosed.

Q.2 Answer the following. **16**

a) Write properties and uses of diazinon.
b) Describe SN^2 reaction with mechanism and energy profile diagram.
c) Write note on nontoxic insect controlling agents.
d) Describe pheromones with example.

Q.3 Answer the following. **16**

a) What is nitration reaction? Explain nitration of benzene with mechanism.
b) What are pyrethroids? Write synthesis and uses of fen valerate.

Q.4 Answer the following. **16**

a) Explain E^1 and E^2 reactions with mechanism.
b) Write synthesis, properties, uses and environmental fates quinalphos.

Q.5 Answer the following. **16**

a) Write in brief uses of neem plant a pesticide.
b) What is Knoevenagel reaction? Write mechanism of the reaction.

Q.6 Answer the following. **16**

a) Describe in detail concept of adjuvant and synergism.
b) Explain Pinacol- Pinacolone rearrangement.

Q.7 Answer the following. **16**

a) What are attractants and repellents? Explain their mode of action with example.
b) Write synthesis, properties, ues and environmental fate of malathion.

SLR-SA-2

Seat No.	

Set P

M.Sc. (Semester - I) (New) (CBCS) Examination: March/April-2023
AGROCHEMICALS AND PEST MANAGEMENT
Soil Science, Fertilizers, Micronutrients and Plant Growth Regulators
(MSC26102)

Day & Date: Thursday, 20-07-2023 Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) Question no. 1 and 2 are compulsory.
2) Attempt any three questions from Q. No. 3 to Q. No. 7.
3) Figure to right indicate full marks.

Q.1 A) Choose the correct alternative (MCQ) **10**

1) Which of the following is macronutrient?
   a) Mo b) Mn
   c) Zn d) K

2) The percentage of P_2O_5 in ammonium phosphate is _____.
   a) 48% b) 45%
   c) 46% d) 44%

3) The water fern named as _____ which is used as biofertilizer.
   a) Anabeana azolla b) Azolla pinnata
   c) Azotobactor species d) Rhizobium Phoseoli

4) Decomposition of organic matter in the soil is carried out by _____.
   a) micronutrient b) phytoplankton
   c) macronutrients d) microorganisms

5) Ethylene gas is used for _____.
   a) fruit ripening b) plant growth
   c) soil development d) none of these

6) Hatchinson and Richards introduced _____ process of composting.
   a) Indore process b) Bangalore process
   c) Adco Process d) Acivated process

7) _____ is growth retardants.
   a) IAA b) BAP
   c) CCC d) tricontonol

8) _____ deficiency causes acidity causes acidity of soil.
   a) Zinc b) Iron
   c) Calcium d) Copper

9) Biogas plant produced _____ gas.
   a) chlorine b) butane
   c) ethane d) methane

10) Night soil is obtained from _____.
   a) blood meal b) slaughter house
   c) human excrement d) poultry manure

B) Fill in the blanks. **06**

1) Urea contains _____ percentage of amide nitrogen.
2) _____ is obtained from the waste product of slaughter house.
3) Water holding capacity is governed by _____.
4) Fire hazards causes due to _____ fertilizer.
5) Long form of RCF _____.
6) Red color of soil associated with _____.

Q.2 Answer the following **16**

a) Classification of potassic fertilizer.
b) What are micronutrients? Give examples of it.
c) Write note on plant growth hormones.
d) Banglore method of composting.

Q.3 Answer the following. **16**

a) Write in brief role of cytokinin.
b) What is soil? Describe chemical and physical properties of soil.

Q.4 Answer the following. **16**

a) Write note on acidic and alkaline soil. Describe reclamation of acidic and alkaline soil.
b) Write a note on specification of grade of ammonium sulphate.

Q.5 Answer the following. **16**

a) Give manufacture, properties & uses of CAN.
b) Describe in brief nitrogenous fertilizers.

Q.6 Answer the following. **16**

a) Write a note on vermicompost and vermiwash.
b) Describe manufacture of Urea, Gives properties &uses of urea.

Q.7 Answer the following. **16**

a) Describe the various, methods of production of BGA.
b) Describe the classification of phosphatic fertilizer and its uses.

SLR-SA-3

Seat No.	

Set P

M.Sc. (Semester - I) (New) (CBCS) Examination: March/April-2023
AGROCHEMICALS AND PEST MANAGEMENT
Introductory and Industrial Entomology (MSC26103)

Day & Date: Friday, 21-07-2023 Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) Question 1and 2 are compulsory.
2) Attempt any Three questions from Q.3 to Q.7.
3) Figure to right indicate full marks.

Q.1 A) Choose the correct alternatives from the given options. **10**

1) Study of insect is called as _____.
   a) Physiology b) Anatomy
   c) Entomology d) Pathology

2) _____ is the bio control agent.
   a) Silkworm b) White grub
   c) Trichogramma d) Nematods

3) External study of insect is called as _____.
   a) Ecology b) Anatomy
   c) Physiology d) None of above

4) Mulberry silkworm belongs to family _____.
   a) Bombycidae b) Attacus ricinii
   c) Aantheraea assama d) a) and b) both

5) _____ metamorphosis is present in white grub.
   a) Complete b) Incomplete
   c) Disturbed d) Merged

6) Cockroach belongs to phylum _____.
   a) Echinodermata b) Mollusca
   c) Arthropoda d) Brachiopod

7) Nest of honey bee is called as _____.
   a) Borrows b) Hive
   c) Crivices d) None of above

8) _____ in honey bee colony is feed with royal jelly.
   a) Queen b) Worker
   c) Drone d) All of above

9) _____mouth parts are present in cockroach.
   a) Pearcing and sucking b) Biting and chewing
   c) Rasping d) Sponging

10) _____ is viral disease found in the honey bees.
   a) Sac brood disease b) American foul disease
   c) Nosema disease d) None of Above

B) Fill in the blanks. **06**

1) _____eyes are present in cockroach.
2) _____honey bee is called as little bee.
3) Scientific name of mango stem borer is _____.
4) White grub beetle belongs to order _____.
5) Chalk brood disease is fungal disease found in the _____.
6) _____type of life cycle is present in the grasshopper.

Q.2 Answer the following. **16**

a) Give the general description of the insect Abdomen.
b) Write the note on insect predator.
c) Describe the types of honey bee.
d) Give the general life cycle pattern of jowar stem borer.

Q.3 Answer the following. **16**

a) Define Apiculture. Give the life cycle of honey bee.
b) Explain the general life cycle pattern of the aphid and its control measure.

Q.4 Answer the following. **16**

a) Draw the neat labeled diagram of bee box and describe it.
b) Describe the life cycle pattern of Termite and write its nature of damage and control measure.

Q.5 Answer the following. **16**

a) Describe the digestive system of cockroach with neat labeled diagram.
b) Define Sericulture and write a note on mulberry cultivation.

Q.6 Answer the following. **16**

a) Write a disease caused in honey bee with control measure.
b) Describe the biting and chewing type of mouth part of insect with labeled diagram.

Q.7 Answer the following. **16**

a) What is nuptial flight in honey bee? Give food and medicinal value of honey with its chemical composition.
b) Describe the female reproductive system in cockroach with neat labeled diagram.

SLR-SA-4

Seat No.	

Set P

M.Sc. (Semester-I) (New) (CBCS) Examination: March/April-2023
AGROCHEMICALS AND PEST MANAGEMENT
Plant Pathology and Weed Management (MSC26108)

Day & Date: Saturday, 22-07-2023 Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) Question No.1 and 2 are compulsory.
2) Attempt any three questions from Q. No. 3 to Q. No. 7.
3) Figure to right indicate full marks.

Q.1 A) Choose correct alternative for the following. **10**

1) Viruses enter the plant cells through the process of_____.
   a) Osmosis b) Pinocytosis
   c) Diffusion d) Plasmolysis

2) MLO and Spiroplasma are mostly_____.
   a) Xylem inhibiting b) Phloem inhibiting
   c) Both (a) and (b) d) Stomata inhibiting

3) Purification of TMV in crystalline form by_____.
   a) Stanley b) Bowden
   c) Gibbs and Harrisons d) Albert Mayer

4) Fungal hyphae with two genetically distinct nuclei are said to be _____.
   a) Heterokaryotic b) Monokaryotic
   c) Dikaryotic d) Karyotic

5) Plant pathogenic bacteria which do not belong to coryneform group is _____.
   a) Clavibacter b) Pseudomonas
   c) Cutobacter d) Ralstonia

6) Papaya ring spot is caused by _____.
   a) poty virus b) cucumo virus
   c) como virus d) tobamo virus

7) Mycoplasmas differ from viruses is that they are sensitive to _____.
   a) penicillin b) tetracycline
   c) sugars d) amino acids

8) The first rule of weed prevention _____.
   a) Regular survey to identify new weeds
   b) Destruction of weeds before the set seed
   c) Clean seed
   d) Clean farm equipment's and irrigation water

9) A farming practice influencing weed floristic diversity _____.
   a) Fertility manipulation b) Crop rotation
   c) Intercropping d) All manipulation

10) The first prominent instance of biochemical mimicry-based crop associated weed under Indian perspective is _____.
   a) *Saccharum spontaneous* in sugarcane
   b) *Phalaris minor* in wheat
   c) Wild rice (*Oryza longistaninata*) in rice
   d) Itch grass (*Rottboelleacochinchinesis* in upland rice)

B) Fill in the blanks. **06**

1) The term Virus was coined by_____.
2) A simple spherical shape describes a bacterial cell known as_____.
3) Bacteria as causal agent of plant disease was first reported by_____.
4) Weed of the laboratory_____.
5) Mykes in Mycology means study of_____.
6) Agar- Agar is produced from_____.

Q.2 Answer the following. **16**

a) Describe control measures for Yellow vein Mosaic of Bean.
b) Explain the Disease Cycle of Bacterial Blight of Bean.
c) Enlist the objectives of Plant Quarantine.
d) Explain the symptoms and, causal organism for Club rot of Cabbage

Q.3 Answer the following. **16**

a) Write the classification of plant diseases based on mode of transmission.
b) Explain the symptoms, causal organism, disease cycle and control measures for Leaf curl of chilies.

Q.4 Answer the following. **16**

a) Explain the symptoms, causal organism, disease cycle and control measures for Little leaf of Brinjal.
b) Describe in detail the symptoms, causal organism, disease cycle and control measures for Crown gall of grapes.

Q.5 Answer the following. **16**

a) Explain the symptoms, causal organism, disease cycle and control measures for Ergot of Bajara.
b) Describe in detail the symptoms, causal organism, disease cycle and control measures for *Rhizopus* soft rot of fruits.

Q.6 Answer the following. **16**

a) Describe in detail various steps involved in Plant Quarantine.
b) Describe in detail any four methods of weed management studied by you.

Q.7 Answer the following. **16**

a) Explain in detail Principles of weed management.
b) What is integrated disease management? Discuss its contribution to sustainable disease control.

SLR-SA-6

Seat No.	

Set P

M.Sc. (Semester - II) (New) (CBCS) Examination: March/April-2023
AGROCHEMICALS AND PEST MANAGEMENT
Chemistry of pesticides and their formulations-II (MSC26201)

Day & Date: Wednesday, 19-07-2023 Max. Marks: 80
Time: 11:00 AM To 02:00 PM

Instructions: 1) Q. No. 1 and 2 are compulsory.
2) Attempt any Three questions from Q.No.3 to Q.No.7.
3) Figures to the right indicate full marks.

Q.1 A) Choose the correct alternatives from the options. **10**

1) Reaction of alpha naphthol and MIC gives _____ insecticide.
   a) Carbofuran b) Carbaryl
   c) Baygon d) Dinobuton

2) _____ is obtained from reaction between ethylene diamine, carbon disulphide, base and zinc sulphate.
   a) Maneb b) Ziram
   c) Zineb d) Nabam

3) Burgandy mixture contains copper sulphate and _____.
   a) CaOH b) NaOH
   c) HCl d) Na_2CO_3

4) Ziram acts as _____.
   a) Fungicide b) Herbicide
   c) Insecticide d) Nematicide

5) Catechol is starting material for synthesis of _____.
   a) Carbaryl b) Paraquat
   c) Zineb d) Baygon

6) Synthesis of Carbofuran involves _____ rearrangement reaction.
   a) Perkin b) Claisen
   c) Benzoin d) Aldol

7) _____ effectively controls powdery mildew.
   a) Nitralin b) CCC
   c) Baygon d) Sulphur

8) Antifungal and antibacterial compound used to protect seedlings contains _____ metal.
   a) Zn b) Mg
   c) Hg d) Mn

9) Fluorine containing compound from following is _____.
   a) Trifluralin b) Dinoseb
   c) Dinobuton d) PCNB

10) Zinc and copper phenolate has _____ property.
   a) Insecticidal b) Herbicidal
   c) Nematicidal d) Antimicrobial

B) Fill in the blanks **06**

1) Reaction between Catechol, Isopropy chloride, methyl isocyanate and base gives _____.
2) Pentachlorophenol on oxidation gives _____, which act as dehydrating agent.
3) Thallium sulphate is used as _____.
4) Mixture of copper sulphate and ammonium carbonate that control damping off is _____.
5) Carbamates are ester derivatives of _____.
6) Nitralin is used in agriculture as _____.

Q.2 Answer the following. **16**

a) Explain the use of computers in pesticide formulation.
b) Write a note on Fumigants.
c) Explain in details Sulphur fungicides.
d) Write a note on Mercaptans and Sulphides.

Q.3 Answer the following. **16**

a) Give the synthesis and uses of Ziram and Maneb.
b) Discuss the role of nitro compounds as pesticide.

Q.4 Answer the following. **16**

a) Explain synthesis, properties and uses of Baygon.
b) What are fungicides? Explain the role of copper compounds as fungicides.

Q.5 Answer the following. **16**

a) Write in detail use of organic and inorganic mercury compounds in agriculture.
b) Write synthesis, properties and uses of Carbofuran.

Q.6 Answer the following. **16**

a) Write the synthesis, properties and uses of Paraquat and Captan.
b) What are rodenticides? Describe zinc oxide and zinc phosphide as rodenticide.

Q.7 Answer the following. **16**

a) Give synthesis, properties and uses of Pentachloroanisol and Hexachlorophene.
b) Write the mode of action and effect of Carbamate and organochlorine pesticides on living organisms and environment.

SLR-SA-7

Seat No.		Set	P

M.Sc. (Semester - II) (New) (CBCS) Examination: March/April-2023
Agrochemicals and Pest Management
Analytical Techniques for Agrochemicals (MSC26202)

Day & Date: Sunday, 23-07-2023 Max. Marks: 80
Time: 11:00 AM To 02:00 PM

Instructions: 1) Q. Nos. 1 and 2 are compulsory.
2) Attempt any Three questions from Q.No.3 to Q.No.7.
3) Figures to the right indicate full marks.

Q.1 A) Choose the correct alternatives from the options. **10**

1) The plane polarized light has waves vibrating in _____ directions.
   a) One b) Two
   c) Three d) All the directions

2) In gravimetric estimation of _____ ammonium hydroxide is used as reagent.
   a) Potassium b) Barium
   c) Iron d) Sodium

3) First step in stripping analysis is _____.
   a) Oxidation b) Stripping
   c) Dilution d) Concentration

4) In simple flame photometer, the monochromator is _____.
   a) Photocathode b) Photoanode
   c) Prism d) Slit

5) The primary standard used in redox titration is _____.
   a) $K_2Cr_2O_7$ b) KOH
   c) NaOH d) HCl

6) In _____ titrations, end point is determined by emf measurement.
   a) Colorimetric b) Potentiometric
   c) Conductometric d) Iodometric

7) _____ of the following cannot cause separation in chromatography.
   a) Alumina b) Calcium carbonate
   c) Paper d) Magnesia

8) _____ is mixture of quinone and hydroquinone.
   a) Quinol b) Quinoxaline
   c) Aniline d) Quinhydrone

9) Reference electrode from following is _____.
   a) Hydrogen b) Amalgam
   c) Silver d) Copper

10) Spraying reagent used to detect amino acid by paper chromatography is _____.
   a) Acid b) Ninhydrin
   c) Base d) Aluminon

B) Fill in the blanks **06**

1) The instrument used to measurement angle of rotation of plane polarized light is known _____.
2) In strong acid-strong base titration, _____ indicator is used.
3) Flame photometry is also known as _____ spectroscopy.
4) In stripping voltametry, the working electrode is _____ film electrode.
5) Component with small value of distribution coefficient has affinity for _____ phase.
6) The two phases involved in chromatography must be _____ with each other.

Q.2 Answer the following. **16**

a) Write a note on sampling of solids.
b) Explain the theory and principle of solvent extraction.
c) Write the applications of voltammetry in trace analysis.
d) Write a note on complexometric titrations.

Q.3 Answer the following. **16**

a) Explain in detail, analysis of soil and water by atomic absorption spectroscopy.
b) What are indicators? Explain in detail acid - base indicators.

Q.4 Answer the following. **16**

a) Explain the precipitation titration method for Ca and Al analysis in pesticide sample.
b) Write the applications of Nephelometry and turbidimetry.

Q.5 Answer the following. **16**

a) Explain the method of gravimetric estimation of iron.
b) Describe the principle, procedure and applications of paper chromatography.

Q.6 Answer the following. **16**

a) Write the principle and instrumentation of flame photometry.
b) Write the method and applications of pH metry in pesticide analysis.

Q.7 Answer the following. **16**

a) Write the applications of polarimetry and potentiometry in pesticide analysis.
b) Write the principle, instrumentation and applications of ion chromatography.

SLR-SA-8

Seat No.	

Set P

M.Sc. (Semester - II) (New) (CBCS) Examination: March/April-2023
AGROCHEMICALS AND PEST MANAGEMENT
Economic Entomology (MSC26206)

Day & Date: Tuesday, 25-07-2023 Max. Marks: 80
Time: 11:00 AM To 02:00 PM

Instructions: 1) Question 1and 2 are compulsory.
2) Attempt any Three questions from Q. No. 3 to Q. No. 7.
3) Figure to the right indicate full marks.

Q.1 A) Choose the correct alternatives from the given options. **10**

1) Scientific name of Hadda bettle is _____.
   a) *Periplaneta Americana*
   b) *Holotrichia consagunia*
   c) *Henosepilachna vigintioctopunctata*
   d) *Musca domestica*

2) Indian meal mouth is _____.
   a) Polyphagous b) Forest
   c) Household d) Monophagous

3) Helicoverpa bore belongs to family _____.
   a) Blattidae b) Acrididae
   c) Cimicidae d) Noctuidae

4) _____ belongs to phylum vertebrata.
   a) Nematode b) Gram pod borer
   c) Rat d) Grasshopper

5) Spiraling white fly is _____ pest.
   a) stored grain b) ornamental
   c) polyhouse d) livestock

6) _____ is the pest of stored grain.
   a) Saw toothed beetle b) Aphid
   c) Mealy bug d) Housefly

7) _____ is the pest of forest.
   a) Teak defoliator b) Saw toothed beetle
   c) Bed bug d) White fly

8) _____vertebrate pest is the enemy of apiculture.
   a) Wild boar b) Monkey
   c) Common green bee eater d) Flying foxes

9) Coleoptera is the order of _____.
   a) Rat b) White grub
   c) Grass hopper d) Butterfly

10) Life cycle of Stem borer competes within _____ stages.
   a) Egg-larva-pupa-adult b) Egg-grub-adult
   c) Egg-nymph-adult d) Egg-adult

B) Fill in the blanks. **06**

1) Cockroach has _____ type of mouthpart.
2) Most damaging stage of nematode is _____.
3) Dengue caused by _____ species of mosquito.
4) Cast system is found in _____ insect pest.
5) Chemicals used to control insects are known as _____.
6) _____ type of mouth parts are found in digger wasp.

Q.2 Answer the following. **16**

a) Describe control measures White grub.
b) Write a note on Indian meal moth.
c) Write control measures of Helicoverpa borrer.
d) Describe damage caused by hairy caterpillar.

Q.3 Answer the following. **16**

a) Describe damages caused by cut worms and grasshopper.
b) Write a note on Indian field mouse and give its nature of damage and control measure.

Q.4 Answer the following. **16**

a) Write a note on poly house pest and give its nature of damage and control measure.
b) Explain slug as a molluscan pest of agricultural crops.

Q.5 Answer the following. **16**

a) Write a nature of damage, control measure and life cycle of termites.
b) What are vertebrate pest? Explain nature of damage of monkey.

Q.6 Answer the following. **16**

a) Describe life cycle pattern of *Anopheles* with suitable diagram.
b) Describe the life cycle pattern of Cotton white fly and write its control measures.

Q.7 Answer the following. **16**

a) Describe life cycle pattern of nematode and write its damage caused in agriculture crop.
b) Describe life cycle pattern of cockroach its damage caused in agriculture crop.

SLR-SA-10

Seat No.	

Set P

M.Sc. (Semester - III) (New) (CBCS) Examination: March/April-2023
AGROCHEMICALS AND PEST MANAGEMENT
Pesticide Residues and Toxicology (MSC26301)

Day & Date: Monday, 10-07-2023 Max. Marks: 80
Time: 11:00 AM To 02:00 PM

Instructions: 1) Q. Nos. 1 and 2 are compulsory.
2) Attempt any Three questions from Q.No.3 to Q.No.7.
3) Figures to the right indicate full marks.

Q.1 A) Choose the correct alternatives from the options. **10**

1) Disease itai itai is caused due to chronic poisoning of _____.
   a) Cadmium b) Arsenic
   c) Lead d) Mercury

2) _____ poison affect the nervous system of man.
   a) Corrosive b) Irritants
   c) Neurotics d) Cardiac

3) Carcinogenic substances are responsible for _____.
   a) Cancer b) Anemia
   c) Headache d) Pneumonia

4) ____ toxicology is used in detection of cause of mortality.
   a) Environmental b) Economic
   c) Biochemical d) Forensic

5) Toxicokinetics of toxic substance involves _____.
   a) Absorption b) Distribution
   c) Transformation d) all of these

6) _____ is a natural pesticide.
   a) Malathion b) Aldrin
   c) Pyrethrus d) Quinolphose

7) Hepatic necrosis is the disorder related to _____.
   a) Liver b) Salivary gland
   c) Brain d) Heart

8) Pesticide enters in atmosphere due to _____.
   a) Spraying b) Dusting
   c) Handling d) all of these

9) Fungicide kills the _____.
   a) Insect b) Bacteria
   c) Fungi d) Weed

10) _____ pesticide is permanent in nature.
   a) Malathion b) Dimecron
   c) BHC d) Mercury

B) Fill in the blanks **06**

1) Minimata disease was first recorded in _____.
2) _____ is the father of toxicology.
3) The full form of WHO is _____.
4) Due to leakage of _____ gas the Bhopal gas tragedy occurred.
5) _____ is the process by which micro organism convert pesticide from complex to simple form.
6) The full form of MIC is _____.

Q.2 Answer the following. **16**

a) Write note on biodegration.
b) Classification of enzymes.
c) Discipline of toxicology.
d) Write note on irritants poison.

Q.3 Answer the following. **16**

a) Explain if brief forensic toxicology.
b) Explain GC in residue analysis.

Q.4 Answer the following. **16**

a) Explain effect of pesticides on human health.
b) State effect of pesticide residues on soil micro- organisms.

Q.5 Answer the following. **16**

a) Define toxicology and its scope in agriculture.
b) Explain in detail mechanism of action of organochlorine pesticide.

Q.6 Answer the following. **16**

a) Write note on inhibition of acetyl choline esterase.
b) Discuss different modes of entry of pesticides in atmosphere.

Q.7 Answer the following. **16**

a) Explain in brief biological magnification of pesticide with two examples.
b) Give the symptoms and treatment of cadmium and arsenic poisoning.

SLR-SA-11

Seat No.	

Set P

M.Sc. (Semester - III) (New) (CBCS) Examination: March/April-2023
AGROCHEMICALS AND PEST MANAGEMENT
Advances in Pest Control – I (MSC26302)

Day & Date: Tuesday, 11-07-2023 Max. Marks: 80
Time: 11:00 AM To 02:00 PM

Instructions: 1) Question 1and 2 are compulsory.
2) Attempt any Three from Q.3 to Q.7.
3) Figure to right indicate full marks.

Q.1 A) Choose the correct alternatives from the given options. **10**

1) Yellow sticky trap is used to control _____.
   a) Fruit fly b) White fly
   c) Stem borer d) Hairy caterpillar

2) Pheromone released by one sex only but elicits response in both the sexes of the species is called as _____.
   a) Sex pheromone
   b) Aggregation pheromone
   c) Communication pheromone
   d) Symbiotic association

3) _____ is the mechanical method of pest control.
   a) trap crop b) cooling
   c) heating d) trench digging

4) _____ is an organism which is usually much larger than its prey and a single individual able to kill their prey.
   a) predators b) parasites
   c) parasitoids d) all of the above

5) Neem leaves is the example of _____.
   a) attractants b) repellant
   c) chemo sterilant d) pheromones

6) _____ allele of this gene for DDT resistance found in American strain of housefly.
   a) Kd b) Kdr-O
   c) Kd-O d) Kdr-D

7) In Rotary Duster the air blast is produced by employing a _____ enclosed in a box.
   a) Hopper b) Blower
   c) Agitator d) Compressor

8) Bucket pump sprayer has _____ shaped handle.
   a) M or W b) L or T
   c) D or O d) D or T

9) While handling duster or sprayer one should have knowledge of _____.
   a) Insecticides Mode of action
   b) Insect pest habitat
   c) Technique of handling agriculture appliances
   d) All of the above

10) Plants with larger roots can be cultivated with which of the following types of hydroponics _____.
   a) Ebb and flow system b) Drip system
   c) Nutrient Film technique d) None of these

B) Fill in the blanks. **06**

1) Sandwich method is the known amount of insecticide is put between _____of the batch of insect.
2) Hydraulic energy sprayer is a type of _____.
3) *Trichogramma* is _____.
4) In Integrate Pest Management HPR stands for _____.
5) In toxicity of insecticides how many numbers of entry routes are there _____.
6) The form of hydroponics that does not require a growing medium at all is _____.

Q.2 Answer the following. **16**

a) Write a note on attractants.
b) Write a note on power operated sprayer.
c) Define Bioassay and write a note on sandwich method of bioassay.
d) Write a note on hand rotator duster.

Q.3 Answer the following. **16**

a) Explain cultural and mechanical method of pest control.
b) Explain types of damage caused by insects to plants and their estimation.

Q.4 Answer the following. **16**

a) Give importance and side effects of Neem based preparations in insect pest management.
b) Write a note on chemosterilents and repellents.

Q.5 Answer the following. **16**

a) Explain in detail Host plant resistance.
b) Write in brief mode of action of neem in plant protection.

Q.6 Answer the following. **16**

a) Define bio-efficacy of pesticides and explain any five methods of bioassay.
b) Explain insect insecticide resistance and resistance management.

Q.7 Answer the following. **16**

a) Explain with neat labeled diagram parts of Bucket and Knapsack type of sprayer.
b) Define hydroponics. Write a note on hydroponic technique.

SLR-SA-13

Seat No.		Set	P

M.Sc. (Semester - III) (New) (CBCS) Examination: March/April-2023
AGROCHEMICALS AND PEST MANAGEMENT
Diseases of Crop Plants-I (MSC26307)

Day & Date: Wednesday,12-07-2023 Max. Marks: 80
Time: 11:00 AM To 02:00 PM

Instructions: 1) Q. Nos. 1 and 2 are compulsory.
2) Attempt any three questions from Q. No. 3 to Q. No. 7.
3) Figure to right indicate full marks.

Q.1 A) Choose correct alternative. (MCQ) **10**

1) *Cercospora arachidicola* causes_____ in Groundnut.
   a) Wilt b) Early leaf spot
   c) Powdery mildew d) black spot

2) _____ is the economic product of Sorghum.
   a) Wood b) Leaf extract
   c) Latex d) Seed

3) Downy mildew of sunflower caused due to _____.
   a) *Odium sp.* b) *Plasmopara halstedi*
   c) *Fusarium* d) none of above

4) Applications of appropriate foliar fungicides can help control the disease but care should be taken as some labels do not allow seeds from treated plants to be used as food or feed.
   a) Acitamapride b) Benzer
   c) Nuvan d) Thirum

5) _____ causes Anthracnose of soyabean.
   a) Colletotrichum truncatum b) *Gleosporium ampelfagum*
   c) *Melanoconium fulgenium* d) Wilt

6) _____ seed are used as an oil purpose.
   a) Bajra b) Sunflower
   c) Maize d) none of above

7) Rust of safflower caused due to fungus _____.
   a) *Gleosporium ampelfagum* b) *Alternaria alternate*
   c) *Puccinia carthami* d) *Ceratocystis fimbriata*

8) Root development is reduced and finally seedlings die in ____ diseases.
   a) Rots b) Blight
   c) Rust d) Powdrey mildew

9) Remove and destroy the diseased plants is ____ method of disease control.
   a) Chemical b) Physical
   c) Biological d) none of above

10) *Albugo Candida* caused due to _____.
   a) Wilt b) Root rot
   c) White rust d) Leaf spot

B) Fill in the blanks. **06**

1) Capton is_____ Type of fungicide.
2) Seed treatment is_____ method of disease control.
3) Modem irrigation method is control_____ disease.
4) *Cercospora* coursed due to_____.
5) Wheat is_____ Type of crop.
6) Wilt is_____ seed born disease.

Q.2 Answer the following. **16**

a) Write the symptoms and control rust of wheat.
b) Write the common diseases of forage crop.
c) Enlist the general symptoms of fungal disease
d) Write the symptoms and control of Powdery mildew on peas.

Q.3 Answer the following. **16**

a) Write the causal organism, symptoms, Disease cycle and management wilt of cotton.
b) Explain the Rust and grain smut of sorghum.

Q.4 Answer the following. **16**

a) Enlist the diseases of Bajra explain in detail Downey mildew.
b) Write the general symptoms and control on powdery mildew.

Q.5 Answer the following. **16**

a) Write the diseases of rice details blast on rice.
b) Write brief the diseases of soybean.

Q.6 Answer the following. **16**

a) Write the common Physical, Chemical and Biological control method of fungal disease.
b) Enlist the diseases of sugarcane write details GSD.

Q.7 Answer the following. **16**

a) Explain the diseases of Gram.
b) Write the measure diseases of Tobacco explain black shank disease.

SLR-SA-15

Seat No.		Set	P

M.Sc. (Semester - IV) (New) (CBCS) Examination: March/April-2023
AGROCHEMICALS AND PEST MANAGEMENT
Agro-Based Marketing Management (MSC26401)

Day & Date: Monday, 10-07-2023 Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) Q. Nos. 1 and 2 are compulsory.
2) Attempt any Three questions from Q.No.3 to Q.No.7.
3) Figures to the right indicate full marks.

Q.1 A) Choose the correct alternatives from the options. **10**

1) The art and science of choosing target markets and building profitable relationships with them is called _____.
   a) Marketing management b) Positioning
   c) Segmentation d) Selling

2) _____ is the act of obtaining a desired object from someone by offering something in return.
   a) Value proposition b) Donation
   c) Bribery d) Exchange

3) Channels of _____ is a set of independent organization involved in the process of making a product or services available for use of consumption.
   a) Distribution b) Marketing
   c) Promotion d) Financial

4) Dividing the total market in to different small parts is known as market _____.
   a) Research b) Analysis
   c) Segmentation d) Differentiation

5) Product installation service is an example of _____.
   a) Indirect selling b) Impersonal selling
   c) After sales service d) Direct selling

6) _____ goods are purchased by a person after proper planning & thinking.
   a) Specially b) Shopping
   c) Convenience d) Luxury

7) E-business means use of _____ for purchase & sales of goods & services.
   a) Portal b) Telephone
   c) Television d) none of these

8) _____ is a delivery of standard of living to the societies.
   a) Marketing b) Production
   c) Consumption d) Purchasing power

9) A _____ is the set of actual and potential buyers of a product.
   a) Audience b) Group
   c) Market d) Segment

10) _____ Problems are/is faced by agro-based marketing
   a) Competition b) Education
   c) Govt. Policy d) All of above

B) Fill in the blanks **06**

1) India mart and E-Business company was established by ____.
2) The study of consumer behavior helps the marketer to decide _____ policy.
3) _____ is more important in agro marketing.
4) In _____ market the possession of goods in immediately given to the buyer after sale
5) In _____ concept, all marketing efforts are concentrated on the sales.
6) Agro based marketing management used for _____.

Q.2 Answer the following. **16**

a) Note on marketing Planning.
b) Write the political segment of marketing.
c) Comment on traditional marketing.
d) Enlist the Factors of influencing agro based marketing management.

Q.3 Answer the following. **16**

a) Write the meaning and scope of marketing.
b) Explain the types of market.

Q.4 Answer the following. **16**

a) Write the problem of agro based marketing.
b) Write brief Importance and function of marketing.

Q.5 Answer the following. **16**

a) Write the role of marketing in agro based business.
b) Enlist 7 Ps in agro chemical and pest management and explain any one.

Q.6 Answer the following. **16**

a) Write the difference between Traditional Marketing and Modem marketing.
b) Explain the factors determining the consumer behaviour.

Q.7 Answer the following. **16**

a) Explain the buying process.
b) Write the types of consumer.

SLR-SA-16

Seat No.	

Set P

M.Sc. (Semester - IV) (New) (CBCS) Examination March/April-2023
AGROCHEMICALS AND PEST MANAGEMENT
Advances in Pest Control – II (MSC26402)

Day & Date: Wednesday, 12-07-2023 Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) Question 1and 2 are compulsory.
2) Attempt any Three from Q.3 to Q.7.
3) Figure to right indicate full marks.

Q.1 A) Choose the correct alternatives from the given options. **10**

1) Alarm pheromone released by insect for _____ purpose.
   a) Feeding b) protection
   c) Mating d) none of the above

2) _____ is the single celled organisms that reproduced by fission.
   a) Bacteria b) Testosterone
   c) PTTH d) Progesterone

3) Corpora cardiaca secrets _____ hormone.
   a) PTTH b) juvenile
   c) Testosterone d) progesterone

4) _____ pest is destroyed by trichogramma in their in their egg stages itself.
   a) Sugarcane wooly aphid b) Cut worm
   c) Termite d) Rice moth

5) Green lace wing act as biocontrol agent against _____.
   a) Hemipteran pest b) Hymenoptera pest
   c) Blatidae pest d) Scarabidae pest

6) In Maharashtra Sugarcane research centre placed in _____.
   a) Chennai b) Vijapur
   c) Pune d) Hydrabad

7) _____ is used as herbicide in field application.
   a) Azadirechtin b) DDT
   c) Lacentad d) Round up

8) Using Neem leaves is the example of _____.
   a) Attractants b) repellant
   c) chemosterilant d) pheromones

9) Lady bird beetle is used as _____ against sucking pest.
   a) Predators b) Parasites
   c) Parasitoids d) Both b and c

10) The full form of NPV is _____.
   a) Nuclear Polyhedrosis Virus
   b) Nuclear Polyhy Virus
   c) Nuclear Porous Virus
   d) none of the above

B) Fill in the blanks OR Write true or false. **06**

1) Yellow sticky trap is used as attractant for _____ pest.
2) _____ stage is the infective larval stage of the nematodes enters into spiracle of the insect and kills them.
3) _____ Pest is destroyed by lacewing.
4) White grubs are _____ type of pest.
5) Viruses are _____.
6) Bt stands for _____.

Q.2 Answer the following **16**

a) Define propesticides and explain in detailed.
b) Define transgenic plants and explain with examples.
c) Explain Insect growth regulators.
d) Explain Genetic method of pest control.

Q.3 Answer the following. **16**

a) Describe the biotechnological applications in pest management.
b) What are semiochemicals? Discuss the importance of pheromones.

Q.4 Answer the following. **16**

a) Define the biological control and discuss how it is better than chemical control.
b) Explain Insect growth regulators.

Q.5 Answer the following. **16**

a) Describe the methodology of BT gene transfer in plants.
b) What is genetic engineering? How vector mediated gene transfer takes place.

Q.6 Answer the following. **16**

a) What is microbial control of insect pest?
b) Describe light activated pesticide.

Q.7 Answer the following. **16**

a) Describe predators and parasitoid with example.
b) Write advanced techniques for pest control which are used in agricultural field in your area.

SLR-SA-17

Seat No.		Set	P

M.Sc. (Semester - IV) (New) (CBCS) Examination: March/April-2023
AGROCHEMICALS AND PEST MANAGEMENT
Manufacture of Agrochemicals (MSC26403)

Day & Date: Friday, 14-07-2023 Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) Q. Nos. 1 and 2 are compulsory.
2) Attempt any three questions from Q. No. 3 to Q. No. 7
3) Figure to right indicate full marks.

Q.1 A) Choose the correct alternative. **10**

1) Gas absorption is known as _____.
   a) Absorption of gas in solid
   b) Absorption of gas in solid surface
   c) Absorption of gas in liquid phase
   d) All of these

2) The reaction in which only one set of sterioisomers is formed predominantly as called _____.
   a) Steriospecific b) Public union
   c) Stiochiomertic d) None of these

3) _____ cost include the cost of interaction and testing of goods at various stages of manufacture.
   a) Failuare b) Optimizing
   c) Prevention d) Appraisal

4) Chlorothalonil is used as _____.
   a) Herbicide b) Fungicide
   c) Rodenticide d) Rodenticide

5) Drying involves the removal of relatively small amount of _____ from the solute.
   a) Solute b) Solution
   c) Moisture d) All of these

6) Captan is manufactured by using _____.
   a) Phthalic acid b) Tetrahydrophthalimide
   c) Phthalimide d) None of these

7) The BSI kitemark is applied to _____ goods.
   a) Mechanical b) Chemical
   c) Electrical d) Non electrical & electrical

8) The performance of an evaporator is evaluated in terms of _____.
   a) Economy b) Efficiency
   c) Capacity d) Capacity &Economy

9) A generalized fragment usually an ion produced by a disconnection is _____.
   a) Synthon b) Synthetic equivalent
   c) Reagent d) Target molecule

10) Distillation is a process in which _____ component are separated from the mixture.
   a) Water b) Solid
   c) Volatile d) Gas

Q.1 B) Fill in the blanks. **06**

1) Synthon is _____ species.
2) Two solvent involved in solvent extraction should be _____.
3) Maneb is manufactured by using ethylene diamine and _____.
4) Rogar is also called as _____.
5) The liquid which undergoes decomposition at the boiling points can be separated by _____.
6) Development is the _____ Step between applied research and production.

Q.2 Answer the following. **16**

a) Describe purpose of HRD.
b) Write note on chemo selectivity.
c) Describe contaminates crystallizer.
d) Write Synthesis & unit process of captan.

Q.3 Answer the following.

a) Explain in details synthesis & unit process of dimethoate. **08**
b) Explain ASTM & BIS specification. **08**

Q.4 Answer the following.

a) Describe batch & contaminates crystallizers. **08**
b) Explain in detail gas absorption in towers. **08**

Q.5 Answer the following.

a) Write synthesis & unit process of phosphamedon. **08**
b) Explain in detail importance of health education for workers. **08**

Q.6 Answer the following.

a) Define disconnection. Explain different types of disconnections. **08**
b) Define synthon, synthetic equivalent, FGI & Target molecule. **08**

Q.7 Answer the following.

a) Explain training method of R & D. **08**
b) Explain the main features of industrial licensing policy. **08**

SLR-SA-19

Seat No.		Set	P

M.Sc. (Semester - IV) (New) (CBCS) Examination: March/April-2023
AGROCHEMICALS AND PEST MANAGEMENT
Diseases of Crop Plants II (MSC26407)

Day & Date: Sunday,16-07-2023 Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) Q. Nos. 1 and 2 are compulsory.
2) Attempt any three questions from Q. No. 3 to Q. No. 7.
3) Figure to right indicate full marks.

Q.1 A) Choose correct alternative. (MCQ) **10**

1) Wilt of tomato caused due to fungus_____.
   a) Fusarium oxysporium b) Alternaria alternata
   c) Alternaria solani d) none of above

2) Black rot of sweet potato caused due to fungus____.
   a) Gleosporium ampelfagum b) Alternaria alternata
   c) Synchytrium endobioticum d) Ceratocystis fimbriata

3) Powdery mildew of Chilies caused due to_____.
   a) Leveilula Taurica b) Cercospora sp.
   c) Both ‘a’ and ‘b’ d) none of above

4) Ganoderma lucidum causes_____ in Coconut.
   a) Wilt b) rust
   c) Powdery mildew d) black spot

5) _____ causes Anthracnose of Mango.
   a) Wilt
   b) Gleosporium ampelfagum
   c) Melanoconium fulgenium
   d) Collectotrichum gleosporioides

6) Gladiolus flowers are used as an_____ purposes.
   a) Ornamental b) medicinal
   c) Edible d) none of above

7) ____ is the economic product of Rubber tree.
   a) Wood b) Leaf extract
   c) Latex d) none of above

8) Leaf spot of sugar beet caused due to fungus_____.
   a) Fusarium oxysporium b) Alternaria alternata
   c) Alternaria solani d) Cercospora

9) Early blight of potato caused due to fungus_____.
   a) Gleosporium ampelfagum b) Alternaria soalni
   c) Synchytrium endobioticum d) none of above

10) Powdery mildew of Grapes caused due to_____.
   a) Uncinula necator b) Cercospora sp.
   c) Both ‘a’ and ‘b’ d) none of above

B) Fill in the blanks OR write True or False. **06**

1) *Alternaria Solani* caused due to_____ disease of tomato.
2) Mancozeb is _____type of fungicide.
3) Treat the seed is_____ method of disease control.
4) White rust disease communally attacks on_____ family crop.
5) ____ is economical plant part of gladiolus.
6) Crop rotation is____ method of disease control.

Q.2 Answer the following. **16**

a) Write symptoms and control on Wilt of cucurbits.
b) Comment on the Downy mildew on onion.
c) Enlist and write its causal organism on diseases of Teak plant.
d) Powdery mildew of Bhendi.

Q.3 Answer the following. **16**

a) Write the diseases of Tomato explain any one.
b) Explain the Downey mildew and White rust of Crucifies.

Q.4 Answer the following. **16**

a) Enlist the diseases of mango write brief Anthracnose.
b) Write symptoms and control measure on Anthracnose and stem rot of papaya.

Q.5 Answer the following. **16**

a) Explain the general symptoms of fungal diseases on crop plant.
b) Explain brief black spot and Powdery mildew on rose.

Q.6 Answer the following. **16**

a) Write the general method of fungal disease control
b) Enlist the diseases of grape explain Downey mildew.

Q.7 Answer the following. **16**

a) Explain the symptoms and control wilt diseases.
b) Write the powdery mildew and leaf spot of chili crop.