SLR-VA-1

Seat No.	

Set P

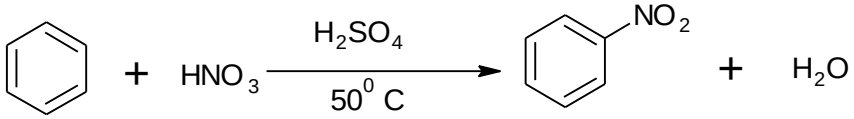
M.Sc. (Semester - I) (CBCS) Examination Nov/Dec-2018
Agrochemicals And Pest Management
CHEMISTRY OF PESTICIDES AND THEIR FORMULATIONS - I

Time: 2½ Hours Max. Marks: 70

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Select most correct alternative from the following the MCQ. **14**

1) Type of following reaction:-



a) Nucleophilic substitution b) Nucleophilic addition
c) Electrophilic substitution d) Electrophilic addition

2) Intermediate in SN^2 is _____.
a) Transition state b) Carbocation
c) Carbanion d) Carbene

3) Acylation of Benzene is carried out with _____.
a) CH_3COOH / $ZnCl_2$ b) CH_3COCl / $AlCl_3$
c) $(CH_3CO)_2O$ / CH_3COONa d) CH_3Cl / $AlCl_3$

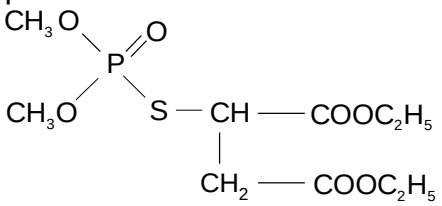
4) Which of the following reagent used in Perkins reaction?
a) $CH_2(COOC_2H_5)_2$ / Pyridine b) Zn / CH_3COOH
c) NaCN / C_2H_5OH d) $(CH_3CO)_2O$ / CH_3COONa

5) Which of following reaction is used for preparation of unsaturated acids?
a) Cannizaro's reaction b) Hofmann reaction
c) Reformatsky reaction d) Knoevenagel's reaction

6) Trade name of phorate is
a) Thimet b) Azodrin
c) Rogar d) Dimecron

7) Dimethoate is synthesised by condensation of O,O–dimethyl phosphorothioic acid with
a) $C_6H_5CONH_2$ b) $Cl – CH_2 – CONH – CH_3$
c) CH_3CONH_2 d) $NH_2 – CO – NH_2$

8) Name of the following pesticide:-

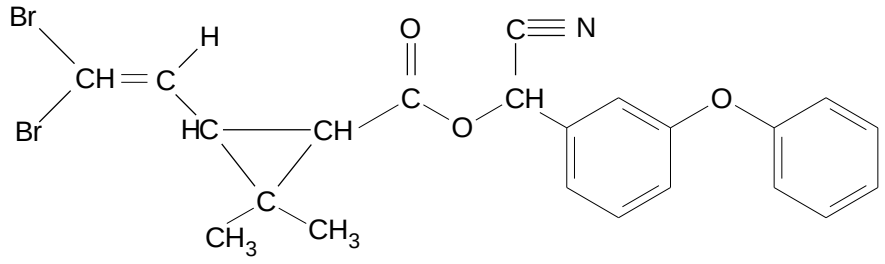


a) Dimethioate b) Malathion
c) Diazinon d) Phosphomidon

9) Sulphur is formulated in the form of
   a) Smoke
   b) Solution
   c) Dust
   d) Granules

10) Basudin is trade of
   a) Chloropyriphos
   b) Monocrotophos
   c) Phosalone
   d) Diazinon

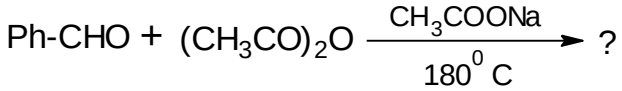
11) Name the following synthetic pyrethroid

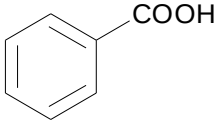
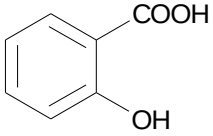
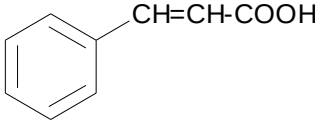
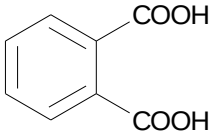


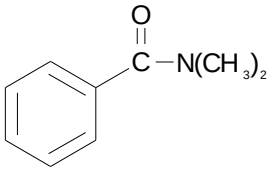
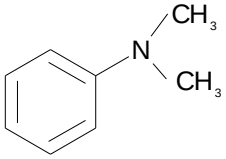
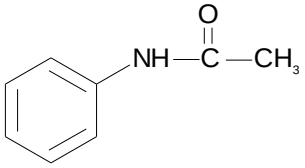
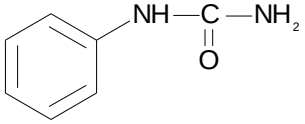
   a) Deltamethrin
   b) Cypermethrin
   c) Fermethrin
   d) Alethrin

12) Condensation of O,O–dimethyl chlorothiophosphate with Na–salt of 4–nitro–2–methyl phenol in aqueous medium gives
   a) Malathion
   b) Fenitrothion
   c) Dimethioate
   d) Phosphomidon

13) What is product of following reaction?

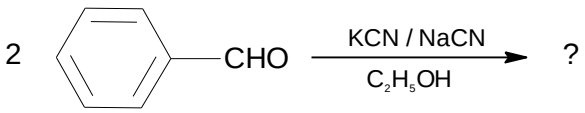


   a) 
   b) 
   c) 
   d) 

14) Which of the following compound is used as insect attractant
   a) 
   b) 
   c) 
   d) 

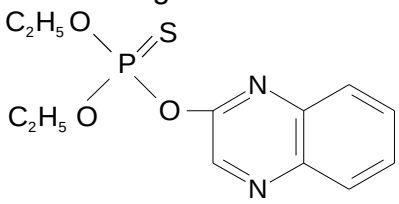
Q.2 A) Answer the following any four:- **08**

1. Predict the product of following reaction :-



2. What is nitration? Give the reaction of nitration of Benzene.
3. Write the structure and uses of cypermethrin.

4. Name the following pesticide and give its uses.



5. Explain in brief use of Neem plant extract in pest control

B) Write note on any two :- **06**

1. Friedel - Crafts reaction :- Alkylation
2. Systemic and non-systemic pesticides
3. Formulations of Dusts and Granules

Q.3 A) Answer the following(Any Two):- **08**

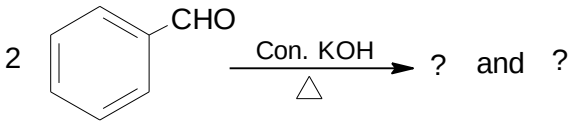
1. Discuss E_2 – elimination reaction with mechanism.
2. Give synthesis and uses of chloropyriphos.
3. Explain in brief insect attractants and repellents.

B) Answer the following (Any One):- **06**

1. Discuss Knoerangel's reaction with mechanism.
2. Give synthesis of Quinalphos and Chlorpyriphos.

Q.4 A) Answer the following(Any Two):- **10**

1. Discuss the formulation of smoke and emulsifiable concentrate.
2. Complete the following reaction? Suggest mechanism and name it



3. Give synthesis and uses of Diazinon.

B) Answer the following (Any One):- **04**

1. Discuss SN^2-reaction with mechanism and energy profile diagram.
2. Give synthesis of Cypermethrin.

Q.5 Answer the following(Any Two):- **14**

a) Give synthesis and uses of phorate and phosphamidon.
b) Discuss the Reimer-Tiemann reaction with mechanism.
c) Describe the formulations of suspension and Aerosols.

SLR-VA-2

Seat No.		Set	P

M.Sc. (Semester - I) (CBCS) Examination Nov/Dec-2018
Agrochemicals and Pest Management
SOIL SCIENCE, FERTILIZERS, MICRONUTRIENTS AND PLANT GROWTH REGULATORS

Time: 2½ Hours Max. Marks: 70

Instructions: 1) All questions are compulsory.
2) Draw neat labeled diagram wherever necessary.
3) Figures to the right indicate full marks.

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

1) Which of the following statement is incorrect?
   a) Auxins are the most important plant hormone.
   b) Auxins are produced at the region of elongation
   c) Indoleacetic Acid (IAA) is a principal auxin
   d) Auxins are also important in regulating the fall of leave and fruits

2) _____ hormone is found in gaseous form.
   a) Florigens b) Abscisic Acid
   c) Ethylene d) Auxin

3) Product formed by mixing ammonium hydrate with 40% lime stone is called _____.
   a) Lime chalk b) Dolomite chalk
   c) Nitro chalk d) Lime stone chalk

4) Gibberllic acid is found in _____.
   a) Avena sativa *b) Gibberella fujikuori*
   c) Corn germ oil *d) Micorhiza*

5) Hydrogen ion concentration is increases in soil, causes _____.
   a) Active acidity b) Active alkalinity
   c) Salinity d) None of these

6) The chemical composition of single super phosphate is _____.
   a) [3 Ca $(CH_2PO_4)_2$ H_2O] b) Ca_3 $(PO_4)_2$
   c) [$Ca(H_2PO_4)_2$ H_2O] d) None of these

7) Interveinal chlorosis occurred due to _____.
   a) Ca b) Cu
   c) K d) Mg

8) Cow pea *(Vigna cajana)* is an example of _____.
   a) Green manure b) Guano manure
   c) Bulky organic manure d) Concentrated manure

9) Coconut milk contain _____ type of growth hormone.
   a) IAA b) GA
   c) Cytokinin d) CCC

10) Chemical composition of bone meal is _____.
   a) [$Ca_3(PO_4)_2$] b) $Ca(PO_4)_2$ CaF_2
   c) Ca_3 $(PO_4)_2$ CaF_2 d) $CaHPO_4$

11) The root initiation is major role of _____.
   a) IBA b) 2-4 D
   c) ABA d) 2-4 5D

12) Water holding capacity of soil is governed by _____.
   a) type of soil b) organic matter of soil
   c) color of soil d) alkalinity of soil

13) Which one of the following is not micronutrient?
   a) Zn b) Cl
   c) Mo d) P

14) Breaking of seed dormancy is made by the treatment of _____.
   a) Auxin b) Gibberellic acid
   c) Cytokinin d) CCC

Q.2 A) Answer the following any four:- **08**

1. Define the soil.
2. Enlist the phytohormons.
3. Define micronutrients
4. Define biofertilizers.
5. What is liquid manure?

B) Write Notes on any two :- **06**

1. Organic matter in soil.
2. Role of potassium sulphate.
3. Role of ABA.

Q.3 A) Answer the following. (Any Two) **08**

1. Write in brief manufacture of muriate of potash.
2. Deficiency symptoms of Mn & MO.
3. Mass culture of rhizobium.

B) Answer the following. (Any One) **06**

1. Describe the practical application of auxins.
2. Describe the properties and composition of soil.

Q.4 A) Answer the following. (Any Two) **10**

1. Write in brief methods of application of organic manures to increase the soil fertility.
2. Write in brief FYM.
3. Write in brief manufacture of sodium nitrate.

B) Answer the following. (Any One) **04**

1. Position of fertilizers industries in India.
2. Biosynthesis of Auxin.

Q.5 Answer the following. (Any Two) **14**

a) Describe the organic matter in soil and soil micronutrient.
b) What are the phosphate fertilizers? Write in brief triple super phosphate.
c) Describe the various methods of production of BGA.

SLR-VA-3

Seat No.	

Set P

M.Sc. (Semester - I) (CBCS) Examination Nov/Dec-2018
Agrochemicals and Pest Management
INTRODUCTORY AND INDUSTRIAL ENTOMOLOGY

Time: 2½ Hours Max. Marks: 70

Instructions: 1) All sections are compulsory.
2) All questions carry equal marks.
3) Solve any two questions from section-II.
4) Solve any two questions from section-III.

SECTION – I

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

1) _____ belongs to order Hemiptera.
   a) Silkworm b) Aphid
   c) Butterfly d) Grasshopper

2) Termite belongs to the family _____.
   a) Coleoptera b) Rodentia
   c) Diptera d) Termitidae

3) NPV is used against _____ pest.
   a) Lepidopteran b) Coleoptera
   c) Dipteran d) Thysenoptera

4) Forgut of insects is called as _____.
   a) Malphigian tubules b) Ovary
   c) Stomodeum d) Testes

5) _____ organ is used by female insect for egg laying.
   a) Ovipositor b) Sperm
   c) Testes d) Ovarioles

6) Saltatorial legs are found in _____.
   a) Cockroach b) Grasshopper
   c) Aphid d) Thrips

7) _____ type of antennae are found in mosquito.
   a) Pilose b) Digging
   c) Natatorial d) Jumping

8) _____ type of head found in insect.
   a) Chewing & biting b) Siphoning
   c) Sponging d) Ophisthognathus

9) Fringed wings are found in _____.
   a) Thrips b) White fly
   c) Aphid d) Butterfly

10) *Trichogramma* are act as _____ on pest.
   a) Predators b) Egg parasitoids
   c) Parasites d) None of the above

11) _____ is the scientific name of European bee.
   a) Apis mellifera *b) Apis dorsata*
   c) Apis indica *d) None of the above*

12) _____ species of silkworm found on Castor leaves.
a) *Bombax mori* b) *Attacus ricinni*
c) *Antheraea paphia* d) *Apis mellifera*

13) _____ is the important component in Blood of insect.
a) Malphigian tubules b) Nerve ring
c) Spiracle d) Haemocytes

14) _____ is the vertebrate pest found in field.
a) Snail b) Slug
c) Rat d) Nematode

Q.2 A) Answer the following any four:- **08**

1. Write definition of predators.
2. What is scientific name of Aphid?
3. Enlist different types of legs.
4. Write the name of different types of Honey bee.
5. Where is the habitat of Nematode?

B) Write note on any two :- **06**

1. Write the name of different types of silkworm with their host plant.
2. Enlist the host plant of Termite with their feeding habit.
3. Write short note on antennae of an insect.

Q.3 A) Answer the following. (Any Two) **08**

1. Define entomology and write note on harmful insect.
2. Explain slug as molluscan pest.
3. Production of NPV.

B) Answer the following. (Any One) **06**

1. Enlist different type of mouth parts and explain piercing and sucking type of mouth part.
2. Describe digestive system of Cockroach.

Q.4 A) Answer the following. (Any Two) **10**

1. Write note on importance of sericulture.
2. Write note on oogenesis.
3. Describe nature of damage and control measures on Jowar stem borer.
4. Production of *Trichogramma* species.

B) Answer the following. (Any One) **04**

1. Define entomology and write note on economic importance of insect.
2. Write note types of Honey bees.

Q.5 Answer the following. (Any Two) **14**

a) Describe the morphological details of head in insect.
b) Define pest and write note on parasite with an example.
c) Explain life cycle pattern of Mango stem borer.

SLR-VA-4

Seat No.	

Set P

M.Sc. (Semester - I) (CBCS) Examination Nov/Dec-2018
Agrochemicals and Pest Management
PLANT PATHOLOGY AND WEED MANAGEMENT

Time: 2½ Hours Max. Marks: 70

Instructions: 1) All questions are compulsory.
2) Draw neat labeled diagram wherever necessary.
3) Figures to the right indicate full marks.

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

1) Dodder (*Cuscuta*) is _____.
   a) Algal pathogen b) Fungal pathogen
   c) Parasitic insect d) Parasitic plant

2) Mildew type diseases generally caused by _____.
   a) Algae b) Bacteria
   c) Fungi d) Viruses

3) Papaya ring rot disease caused by _____.
   a) TMV b) SMV
   c) BBTV d) PRSV

4) Crawn gall of grapes caused by _____ spp.
   a) *Nitrosomonas* b) *Azatobactor*
   c) *Xanthomonas* d) *Agrobacterium*

5) Leaf curl disease of Chilli caused by _____.
   a) Fungi b) MLO's
   c) Nematodes d) Viruses

6) Weeds that live for many years are called as _____ weeds.
   a) Annual b) Biennials
   c) perennials d) None of these

7) Crop rotation is _____ method of weed control.
   a) Biological b) Physical
   c) Chemical d) None of these

8) MLOs are _____ plant pathogenic organisms.
   a) Cell wall less b) Eukaryotic
   c) Photosynthetic d) Both a & b

9) _____ are the green photosynthethic pathogens.
   a) Algae b) Bacteria
   c) Fungi d) Viruses

10) *Cephaleuros viresense* causes _____ disease in Mango.
   a) Wilt b) Smut
   c) Rust d) mildew

11) *Echornia* spp. is _____ type of weed.
   a) Wasteland b) Aquatic
   c) Coastal d) None of these

12) Most of plant viruses show _____ as genetic material.
a) RNA b) DNA
c) Both a & b d) All of these

13) *Striga* is _____parasite.
a) Bud b) Stem
c) Root d) Leaf

14) Hand weeding is _____ method of weed control.
a) Biological b) Physical
c) Chemical d) None of these

Q.2 A) Answer the following any four:- **08**
1. What is plant disease?
2. Write causal organism of GSD.
3. What is mean by causal organism?
4. Write any two symptoms of red rust of mango.
5. Define weeds.

B) Write notes on any two:- **06**
1. Chemical weapons of plant pathogens.
2. Physical method of weed control.
3. Symptoms of Crown gall of grapes.

Q.3 A) Answer the following. (Any Two) **08**
1. Write the symptoms and disease cycle in red rust of Mango.
2. Properties of mycoplasma.
3. Disease cycle and symptoms of Wilt of Banana.

B) Answer the following. (Any One) **06**
1. Comment up on Citrus greening with respect to symptoms, disease cycle its control measures.
2. Comment up on Ergot of Bajara with respect to symptoms, disease cycle and its control measures.

Q.4 A) Answer the following. (Any Two) **10**
1. Write in brief Koch's postulates.
2. Enlist characteristics of fungi.
3. Explain disease cycle in Papaya ring spot.

B) Answer the following. (Any One) **04**
1. Enlist the symptoms and control measures of Club root of cabbage.
2. Enlist the symptoms and control measures of leaf curl of chillies.

Q.5 Answer the following. (Any Two) **14**
a) Define weeds? Give its classification, life cycle and dispersal mechanism.
b) Write an essay on Epidemiology.
c) Comment up on histochemical procedure in plant disease diagnosis.

SLR-VA-6

Seat No.		Set	P

M.Sc. (Semester - II) (CBCS) Examination Nov/Dec-2018
Agrochemicals and Pest Management
CHEMISTRY OF PESTICIDES AND THEIR FORMULATIONS – II

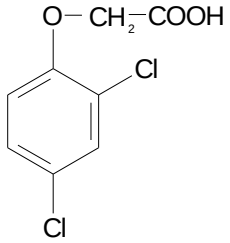
Time: 2½ Hours Max. Marks: 70

Instructions: 1) All sections are compulsory.
2) All questions carry equal marks.
3) Attempt any two questions from section-II and III
4) Figures to the right indicate full marks.

SECTION – I

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

1) Name the following pesticide.



a) I I A
b) DDVD
c) 2: 4-D
d) PCNB

2) Mercaptans and sulphides are used as _____.
a) Herbicides
b) Fungicides
c) Acaricides
d) Bactericides

3) Methiuron is derivative of _____.
a) Urea
b) Dimethyl urea
c) Thiourea
d) Thiocyanate

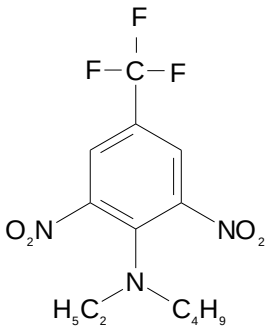
4) Reaction between ethylene diamine, carbon disulphide and sodium hydroxide with zink sulphate gives:-
a) Zineb
b) Maneb
c) Ziram
d) Aldicarb

5) Bordeaux mixture is the mixture of _____.
a) $CuSO_4$ + Cu $(OH)_2$
b) $CuSO_4$ + $ZnSO_4$
c) $CuSO_4$ + $MgSO_4$
d) $CuSO_4$ + Ca $(OH)_2$

6) Thiocyanate exhibit their pesticidal activity due to release of _____.
a) Hydrogen sulphide
b) Hydrogen cyanide
c) Ammonia
d) Carbondioxide

7) Pentachlorobenzene on nitration with Con HNO_3 / Con H_2SO_4 gives
a) Penta chloro nitro benzene
b) Hexachloro benzene
c) Amino benzene
d) Benzene

8) Name of the following pesticide:-



a) Nitralin
b) Trifluralin
c) Benifin
d) Bulbasan

9) Chlorobenside is obtained by reaction between P-chlorothiophenotate with __.
a) P - Chlorobenzyl chloride
b) P - Chloronitro benzene
c) O - dichlorobenzene
d) 2:4 – dichlorobenzyl chloride

10) BHC is less toxic due to _____.
a) High persistence
b) Less persistence
c) LD-50 value is high
d) LD-50 value is less

11) Baygon is produced by reacting 2 - isopropyl phenol with _____.
a) Methyl bromide
b) Methyl nitrite
c) Phenyl isocyanate
d) Methyl isocyanate

12) Endosulphan is also called as _____.
a) Thiodan
b) Sevin
c) Chloral
d) Azadrin

13) Alkyl ester of N-aryl carbamic acid are used as powerful _____.
a) Insecticide
b) Weedicide
c) Pesticide
d) Herbicide

14) Which of the following compound is used as rodenticide _____.
a) Zinc carbonate
b) Zinc chloride
c) Zinc phosphate
d) Zinc Sulphate

SECTION – II

Attempt any two questions from this section :-

Q.2 Answer the following any four:-

a) What are carbamates? Give synthesis of carbaryl and Baygon. **07**
b) What is rodenticide? Describe in detail zinc ad thallium sat as rodenticide. **07**

Q.3 a) Give methods of preparations of Zineb and Ziram. **07**
b) Describe the role of phenolic compounds as pesticides. **07**

Q.4 a) Give synthesis of Benifin and Nitralin. **07**
b) Describe the pesticides belonging to class thiourea. **07**

SECTION – III

Attempt any two questions from this section :-

Q.5 a) Give synthesis of 2,4 - D. **05**
b) Explain the role of copper compounds as pesticides. **05**
c) Use of computer in the pesticide formulations. **04**

Q.6	**a)**	Give synthesis of captan.	**05**
	b)	Give synthesis and uses of Trifluralin.	**05**
	c)	Describe the role of arsenic compounds as pesticides.	**04**
Q.7	**a)**	Give synthesis of Carbofuran.	**05**
	b)	Give synthesis and uses of Tenuron.	**05**
	c)	Give synthesis and uses Endosulphan.	**04**

SLR-VA-7

Seat No.	

Set P

M.Sc. (Semester - II) (CBCS) Examination Nov/Dec-2018
Agrochemicals and Pest Management
ANALYTICAL TECHNIQUES FOR AGROCHEMICALS

Time: 2½ Hours Max. Marks: 70

Instructions: 1) All Sections are compulsory.
2) Question 1 should be answered by choosing the correct answer.
3) Attempt in all five questions.
4) From question No. 2 to 6 attempt any three questions.
5) All questions carry equal marks.

SECTION – I

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

1) In gravimetric estimation of iron _____ hydroxide reagent is used.
   a) Sodium b) Barium
   c) Ammonium d) Potassium

2) Select the primary standard used in redox titration
   a) NaOH b) $K_2Cr_2O_7$
   c) $CaCO_3$ d) HCl

3) In Acid-base titration which indicator is used
   a) Phenolphthalein b) Erichrome Black-T
   c) Methylene blue d) None of these

4) All chromatographic techniques are based on the principle of _____.
   a) Electrolysis b) Separation
   c) Solvation d) Precipitation

5) The process of extracting a small portion from a large quantity of material representing its true composition is called _____.
   a) Sampling b) Extraction
   c) Qualitative analysis d) Quantitative analysis

6) Classification of chromatographic method is based on the phenomenon involving the process of either _____ or _____.
   a) Emulsion or Inversion b) Sorption or Occlusion
   c) Absorption or Adsorption d) Partition or Adsorption

7) Quinhydrone is _____ mixture of quinone & hydroquinone.
   a) 1:2 b) 1:1
   c) 2:3 d) 3:5

8) The titrations in which end points are determined by emf measurements are called _____ titration.
   a) Coductometric b) Colorimetric
   c) Potentiometric d) PH metric

9) In a conductivity cell _____ plates are used as a electrode.
   a) Copper b) Aluminium
   c) Zinc d) Platinum

10) Glass electrode is used in _____ type of titrations.
   a) Complexometric b) Potentiometric
   c) P^H metric d) Conductometric

11) The P^H range of methyl red indicator is _____.
   a) 7-10 b) 4-7
   c) 4.2-6.3 d) 7.3-9.5

12) In simple flame photometers, the monochromator is _____.
   a) Prism b) Grating
   c) Slit d) All of these

13) When a molecule rotate a plane of the plane polarized light in anticlockwise direction, it is known as _____ compound.
   a) Meso b) Dextro rotatory
   c) Laevo rotatory d) None of these

14) In polarography, specific rotation depends on _____.
   a) Temperature b) Concentration
   c) Wavelength d) All of these

SECTION – II

Q.2 **a)** Describe the principle and working of polarimeter. **07**
b) What is mean by chromatography? Describe the methodology of ion-exchange chromatography. **07**

Q.3 **a)** Explain precipitation titration w.r.t. Al and Cu. **07**
b) Describe the principle, development and types of paper chromatography. **07**

Q.4 **a)** Describe the process of redox titration in detail. **07**
b) Describe the working of potentiometer. **07**

SECTION – III

Q.5 **a)** What is the purpose of sampling? How is it done for solid, liquid and gases? **05**
b) Describe gravimetric estimation of Fe. **05**
c) Write the applications of voltametry in trace analysis. **04**

Q.6 **a)** What is the basic difference between flame photometer and AAS? Which is superior for pesticide analysis and how? **05**
b) Describe estimation of halides by using conductometer. **05**
c) Write a note on metallochromic indicator. **04**

Q.7 **a)** Describe working of nephelometer. **05**
b) Write applications of P^H meter in analysis of water and pesticide residue. **05**
c) Draw schematic diagram of flame photometer and AAS. **04**

SLR-VA-8

Seat No.	

Set P

M.Sc. (Semester - II) (CBCS) Examination Nov/Dec-2018
Agrochemicals And Pest Management
ECONOMIC ENTOMOLOGY

Time: 2½ Hours Max. Marks: 70

Instructions: 1) All questions are compulsory.
2) All questions carry equal marks.
3) Solve any two questions from section-II.
4) Solve any two questions from section-III.

SECTION – I

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

1) Dengue caused by _____ species of mosquito.
   a) *Aedes* b) *Anapheles*
   c) *Culex* d) All of the above

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

3) Indian meal moth is _____.
   a) Polyphagous b) Forest
   c) Household d) Monophagous

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

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

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

7) Cast system is found in _____ insect pest.
   a) Termite b) Cockroach
   c) Mosquito d) Housefly

8) Chemicals used to control weeds are known as _____.
   a) pesticide b) insecticide
   c) rodenticides d) weedicide

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

10) _____ type of mouth parts are found in digger wasp.
   a) Pectate b) Chewing
   c) Monoliform d) Clavate

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

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

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

14) Life cycle of Stem borer completes within _____ stages.
a) Egg-lava-pupa-adult b) Egg-grub-adult
c) Egg-nymph-adult d) Egg-adult

SECTION – II

Q.2 **a)** Describe seed gall nematodes. **07**
b) Describe life cycle pattern of Aphid with suitable diagram. **07**

Q.3 **a)** Describe life cycle pattern of cotton White fly with suitable diagram. **07**
b) Explain *Heliax species* as a molluscan pest of agricultural crops. **07**

Q.4 **a)** Describe lie cycle pattern of *Anapheles* with suitable diagram. **07**
b) Define pest, enlist and describe the different types of pest. **07**

SECTION – III

Q.5 **a)** Vertebrate pest of apiculture. **05**
b) Describe damage caused by *Spodoptera species.* **05**
c) Teak defoliator. **04**

Q.6 **a)** Describe control measure White grub. **05**
b) Explain damage caused by Cut worm. **05**
c) Control measures on pest of Livestock **04**

Q.7 **a)** Write note on Mealy bug. **05**
b) Economic importance of ornamental pest. **05**
c) Grasshopper. **04**

SLR-VA-10

Seat No.		Set	P

M.Sc. (Semester - III) (CBCS) Examination Nov/Dec-2018
Agrochemicals And Pest Management
PESTICIDE RESIDUES AND TOXICOLOGY

Time: 2½ Hours Max. Marks: 70

Instructions: 1) All questions are compulsory.
2) All questions carry equal marks.
3) Figures to the right indicate full marks.

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

1) The research institute of toxicology is established in _____.
   a) Mumbai b) Pune
   c) Delhi d) Lucknow

2) A component does not occur in nature but introduced by human activity is called _____.
   a) Poison b) Contaminant
   c) Pollutant d) Corrosion

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

4) The deep sleep and coma is produced by _____ in human beings.
   a) Narcotics b) Spasmodic
   c) Irritants d) Cardiac poison

5) _____ affects the balance of Na^+ and K^+ ions into the cells.
   a) Nicotinoids b) Organophosphates
   c) Carbamates d) Rynoids

6) The chemical which causes the cancer is known as _____.
   a) Carcinogenic b) Mutagenic
   c) Immunotoxic d) Corrosive

7) _____ includes process which moves the pesticides away from the target site.
   a) Biodegradation b) Photodegradation
   c) Drift d) Adsorption

8) Inhibition of acetyl choline esterase is caused by _____.
   a) DDT b) Organophosphorus insecticide
   c) Fungicide d) BHC

9) _____ poison affects on the nervous system of man.
   a) Corrosive b) Irritants
   c) Neurotoxins d) Cardiac

10) The process of tumor formation is known as _____.
   a) Neoplasia b) Hyperplasia
   c) Metaplasia d) Anaplasia

11) The Bhopal gas tragedy occurred due to leakage of _____ gas.
   a) Methyl isocyanate b) Propyl isocyanate
   c) Methyl isocyanide d) Chorine

12) Which of the following radiation are used for the generation of mutation?
   a) Gamma rays
   b) X-rays
   c) Both a & b
   d) None of these

13) Pesticides residues in the fruits are analyzed by _____ technique.
   a) HPLC
   b) Spectrophotometry
   c) Atomic absorption Spectrophotometry
   d) All of these

14) Minamata disease was observed in _____.
   a) China
   b) Africa
   c) Japan
   d) India

Q.2 A) Answer the following (Any Four):- **08**
1. Describe the pesticides
2. What are the mutagens?
3. What is biodegradation?
4. Define toxicology.
5. Write symptoms of Opium.

B) Write notes on (Any Two):- **06**
1. Symptoms of Arsenic.
2. Action of toxicant on lipids.
3. Degradation of pesticides in the soil.

Q.3 A) Answer the following (Any Two):- **08**
1. Write in brief about food toxicology
2. Explain in brief bioconcentration.
3. Write in brief analysis of pesticide residues from fruits.

B) Answer the following (Any One):- **06**
1. Write in brief about toxic chemicals in the soil and air.
2. Describe model ecosystem studies of bioconcentration.

Q.4 A) Answer the following (Any Two):- **10**
1. Describe the nature and pollution of aquatic systems studied by you.
2. Describe the classification of poisons and their treatment.
3. Describe the protocol of Gas Chromatography for fruits.

B) Answer the following (Any One):- **04**
1. Describe the effect of pesticides residue on microorganisms.
2. Explain in detail the history of toxicology.

Q.5 Answer the following (Any Two):- **14**

a) Describe the mechanism of action of organophosphate and organochlorine insecticide.

b) Explain the toxicological testing methods of HPLC for vegetables.

c) Write an essay on toxicology and its scope.

SLR-VA-11

Seat No.	

Set P

M.Sc. (Semester - III) (CBCS) Examination Nov/Dec-2018
Agrochemicals and Pest Management
ADVANCES IN PEST CONTROL - I

Time: 2½ Hours Max. Marks: 70

Instructions: 1) All questions are compulsory.
2) All questions carry equal marks.
3) Solve any two questions from section-II.
4) Solve any two questions from section-III.

Section – I

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

1) _____ is the biological method used in pest control.
   a) Insecticides b) Herbicide
   c) Weedicide d) Use of predators

2) Chemicals that cause insects to make oriental movements towards their source are called _____.
   a) Repellants b) Chemosterilants
   c) Attractants d) None of the above

3) _____ component is present in neem seed which is important source for controlling the pest.
   a) Chlorophyll b) Limnoid
   c) Phloem d) Xylem

4) Lacewing is used as _____ for controlling the sucking pest.
   a) Predators b) Parasites
   c) Egg parasitoids d) All of the above

5) _____ is the stored grain pest.
   a) Rat b) Mole cricket
   c) Aphid d) Thrips

6) IPM stands for _____.
   a) Integrated pest management b) Integral pest management
   c) Important pest management d) Inverted pest management

7) Pesticides designed to controlling the nematodes are called _____.
   a) Aviacides b) Miticides
   c) Fungicides d) Nematicide

8) _____ is used for controlling the rat.
   a) Temperature b) Humidity
   c) Rodenticide d) Rain

9) The acute toxicity of insecticides are made introducing the _____ dose of insecticide directly into stomach or to rats.
   a) Single b) Double
   c) Triple d) Multiple

10) Which of the following is not a type of measure of _____ toxicity?
   a) Oral b) Dermal
   c) Stomach d) Inhalation

11)What are the units of LD_{50}?
a) kg/g of animal body weight *b)* mg/kg of animal body weight
c) g/g of animal body weight d) mg/g of animal body weight

12) The use of same insecticides again and again give rise to _____ in insects against that insecticide.
a) Restriction b) Resistance
c) Response d) Both a & b

13) H.P.R. stands for _____.
a) House Pest Resistance b) Host Pest Resistance
c) Host Plant Resistance d) Host Plant Rate

14) In the Housefly the resistance to _____ is due to recessive gene Kdr located on chromosome-3.
a) Dimethoate b) Carbaryl
c) Diazinon d) DDT

Q.2 A) Answer the following any four:- **08**
1. Write definition of parasites.
2. What is cultural control method?
3. What is attractants?
4. Enlist different types of feeding habits of insect pest.
5. Write examples of sucking pest with their host plant.

B) Write note on any two :- **06**
1. Write current pest found in an around you with their host plant.
2. Write a note any one type of duster.
3. Explain forest pest management.

Q.3 A) Answer the following. (Any Two) **08**
1. Note on NPV
2. Types of sprayer.
3. What is IPM?

B) Answer the following. (Any One) **06**
1. Give an account of attractant in pest control programme with suitable exam.
2. Define host plant resistance. Explain mechanism of resistance in plants.

Q.4 A) Answer the following. (Any Two) **10**
1. Genetic control method.
2. Light activated pesticides
3. Phermones and their role in pest control.
4. Importance of biotechnological applications in Pest Management.

B) Answer the following. (Any One) **04**
1. Write a note on Pesticides.
2. Note on different types of pests.

Q.5 Answer the following. (Any Two) **14**
a) Explain in detail biological method of pest control.
b) Enlist the plant protection appliances. Explain hand atomizer nozzle.
c) Enlist various methods of pest control. Explain the Mechanical method of pest control with suitable example.

SLR-VA-13

Seat No.	

Set P

M.Sc. (Semester - III) (CBCS) Examination Nov/Dec-2018
Agrochemicals and Pest Management
DISEASES OF CROP PLANTS – I

Time: 2½ Hours Max. Marks: 70

Instructions: 1) All questions are compulsory.
2) Draw neat labeled diagram wherever necessary.
3) Figures to the right indicate full marks.

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

1) Exclusion of plant disease by legislation is known as _____.
   a) Disease résistance b) Plant quarantine
   c) Biological control of plant d) Cultural control

2) First plant parasitic bacteria were reported by _____.
   a) Needham b) T. J. Burrill
   c) Louis Pasteur d) Leeuwenhoek

3) Fungi which can grow only on living host plant are called _____.
   a) Obligate saprophytes b) Facultative parasites
   c) Saprophytes d) Obligate parasites

4) Wilt of pigeon pea is caused by _____.
   a) Fusarium udum b) Gibberella indica
   c) Rhizopus nigricans d) Aspergillus flavus

5) For the effective control of wilt, pigeon pea should be intercropped with
   a) Maize b) Pearl millet
   c) Sorghum d) Green gram

6) Phytopathology is the study of _____.
   a) Algae b) Fungi
   c) Plant diseases d) Pteridophytes

7) The classification of the plant diseases is based mainly on _____.
   a) The structure of vegetative mycelium
   b) The asexual stage
   c) The sexual reproductive stage
   d) None of these

8) The name ‘smut diseases’ is given to those produced by Ustilago because _____.
   a) Its mycelium is black in color
   b) It parasitizes cereals
   c) The host becomes completely black
   d) The fungus produces black sooty spore masses

9) The rusts are caused by _____.
   a) Ustilaginales b) Peronosporales
   c) Uredinales d) Erysiphales

10) When two host species are required for completion of parasitic fungi life-cycle, this condition is described as _____.
   a) Autoecism b) Autotrophic
   c) Heteroecism d) Heterokaryotic

11) Wilt of Peas, Beans caused due to fungus _____.
   a) *Uncinula necator* b) *Alternaria alternata*
   c) *Alternaria solani* d) None of these

12) Downy mildews are caused by the members of _____.
   a) Erysiphales b) Taphrinales
   c) Ustilaginales d) Peronosporales

13) Which of the following diseases is caused by a fungus _____
   a) Cholera b) Rust of wheat
   c) T.B. d) Tetanus

14) Rice blast pathogen perfect stage is _____
   a) Pyricularia oryzae b) Magnaporthe grisea
   c) Helminthosporium oryzae d) Rhizoctonia solani

Q.2 A) Answer the following any four:- **08**

1. Write any two symptoms of Blast of Rice disease.
2. Write causal organisms of Rust and Smut disease of Maize.
3. What is mean by causal organism?
4. Write any two symptoms of French bean disease.
5. Write causal organism of Downey mildew and GSD disease of Sugarcane.

B) Write notes on any two :- **06**

1. Nature of damage and management in rust of Cotton.
2. Disease cycle of soybean rust.
3. Symptoms of Rust disease in Sunflower.

Q.3 A) Answer the following. (Any Two) **08**

1. Write the symptoms and disease cycle in Blast of rice.
2. Write the nature of damage and management in Seedling blight of mustard.
3. Disease cycle and symptoms of Powdery mildew of Sunflower.

B) Answer the following. (Any One) **06**

1. Comment up on Rust of Sorghum with respect to symptoms, disease cycle its control measures.
2. Comment up on Rust of Chickpea with respect to symptoms, disease cycle and its control measures.

Q.4 A) Answer the following. (Any Two) **10**

1. Write the disease cycle and management in Rust of castor.
2. Enlist the symptoms of Ergot of Bajara.
3. Explain disease cycle in Anthracnose of Soybean.

B) Answer the following. (Any One) **04**

1. Enlist the symptoms and control measures of Leaf spot of sesame.
2. Enlist the symptoms and control measures of Root rot of legume.

Q.5 Answer the following. (Any Two) **14**

a) Give details of Udbatta disease of Rice; with respect to causal organism, disease cycle, symptoms & control measures.

b) Give details Red rot of sugarcane; with respect to causal organism, disease cycle, symptoms & control measures.

c) Give details of Shank rot of tobacco; with respect to causal organism, disease cycle, symptoms & control measure.

SLR-VA-15

Seat No.		Set	P

M.Sc. (Semester - IV) (New) (CBCS) Examination Nov/Dec-2018
Agrochemicals And Pest Management
AGRO-BASED MARKETING MANAGEMENT

Time: 2½ Hours Max. Marks: 70

Instructions: 1) All Sections are compulsory.
2) Solve any two questions each from section II and section III.
3) Figures to the right indicate full marks.

SECTION – I

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

1) The concept of 4 P's given by _____
   a) F. W. Taylor b) Philip Kotler
   c) Mc Carty d) None of these

2) _____ are the forms of virtual marketing
   a) E-mail b) Twitter
   c) Link sharing d) None of these

3) E-business is a _____method of buying & selling.
   a) Off-line b) On-line
   c) Direct d) None of these

4) _____ is the first stage in product life cycle.
   a) Introduction b) Growth
   c) Maturity d) Decline

5) Market segmentation based on _____.
   a) Industrial b) Demographic
   c) Social d) All of these

6) _____ is not part of 4ps.
   a) Product b) Price
   c) People d) Promotion

7) In modern marketing _____ is supreme.
   a) The creditor b) The consumer
   c) The supplier d) None of these

8) Producer to consumer _____ channel.
   a) One level b) Two level
   c) Three level d) Four level

9) Marketing is process which aims at _____.
   a) Promotion b) Profit making
   c) Satisfaction of consumer needs d) Selling goods

10) Agro-based marketing management used for _____.
   a) Inform to merchant b) Growth of agro sector
   c) Both a & b d) All of these

11) Marketing environment does not include _____.
   a) Legal b) Economical
   c) Social and cultural d) History of market

12) _____ is the sum total of all factors that affects Marketing transactions.
a) Marketing concept
b) Marketing Environment
c) Marketing Research
d) Market Segmentation

13) _____ function of marketing create time utility in product.
a) Storage
b) Salling
c) Transportation
d) Advertising

14) Marketing is _____ process.
a) Social & managerial
b) Social & Political
c) Cultural & managerial
d) None of these

SECTION – II

Attempt any two questions from this section :-

Q.2 **a)** Define consumer behavior & factors affecting consumer behavior. **07**
b) Different between traditional marketing & modern marketing. **07**

Q.3 **a)** Define market segmentation & Base of market segmentation. **07**
b) Problems of agro-based business. **07**

Q.4 **a)** Define market environment & explain factor of macro environment. **07**
b) What is market? Explain various types of market. **07**

SECTION – III

Attempt any two questions from this section :-

Q.5 **a)** 4 P's in agro-based marketing **05**
b) Functions of marketing **05**
c) Target Marketing **04**

Q.6 **a)** Types of mobile business **05**
b) Importance of market segmentation **05**
c) Importance of marketing **04**

Q.7 **a)** Process of market planning **05**
b) Product life cycle **05**
c) Importance of consumer behaviour **04**

SLR-VA-16

Seat No.		Set	P

M.Sc. (Semester - IV) (New) (CBCS) Examination Nov/Dec-2018
Agrochemicals and Pest Management
ADVANCES IN PEST CONTROL – II

Time: 2½ Hours Max. Marks: 70

Instructions: 1) All questions are compulsory.
2) All questions carry equal marks.
3) Solve any two questions from section-II.
4) Solve any two questions from section-III.

SECTION – I

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

1) The full form of Bt is _____.
   a) *Bacillus thuringiensis* b) *Batocera thuringiensis*
   c) *Bacterium thuringiensis* d) None of the above

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

3) Due to _____ infected larva climbs at highest point and found dead with hanging by hind legs.
   a) *Bacillus thuringiensis* b) NPV
   c) *Metarrhizium* d) None of the above

4) Prothorasic gland secretes _____ hormone.
   a) PTTH b) ecdysone
   c) testosterone d) progesterone

5) Trial pheromone released by insect for _____ purpose.
   a) Feeding b) Protection
   c) Mating d) None of the above

6) In California cotton cushion scale controlled by using _____.
   a) White grub b) Grass hopper
   c) Lady bird beetle d) Giant toad

7) _____ stage is the infective larval stage of the nematodes enters into the plant.
   a) Second b) Fourth
   c) Third d) First

8) Hormonal IGRs work by mimicking or inhibiting _____ hormone.
   a) Juvenile b) Digestive
   c) Both d) None

9) Indian cotton research centre placed in _____
   a) Solapur b) Nagpur
   c) Pune d) Hydrabad

10) _____ is used for controlling insect pest in field application.
   a) Nematicide b) Choropyriphos
   c) Rodenticide d) Herbicide

11) _____ refers to the disease producing power of a group or sp. of micro-organisms.
a) Infectivity b) Virulence
c) Pathogenecity d) All the above

12) _____ is the advanced pesticide having effect with using sunlight.
a) Light activated pesticide b) IGR
c) Poison bait d) None of the above

13) Ti plasmid used for _____ transfer process in rDNA technique.
a) Bacterium b) Nucleus
c) Gene d) None of the above

14) The full form of NPV is _____.
a) Nuclear Polyhydrosis Virus b) Nuclear Polyhy Virus
c) Nuclear Porous Virus d) None of the above

SECTION – II

Q.2 **a)** Describe the methodology of BT gene transfer in plants. **07**
b) Describe the biotechnological applications in pest management. **07**

Q.3 **a)** What is microbial control of insect pest and explain viral pathogen in details. **07**
b) Define the biological control. Explain the different techniques used in biological control with suitable example. **07**

Q.4 **a)** Explain insect growth regulators. **07**
b) What are the semiochemicals? Discuss the chemosterilants. **07**

SECTION – III

Q.5 **a)** Light activated pesticides **05**
b) Antifident **05**
c) Enlist the advances in pest control **04**

Q.6 **a)** Genetic method of pest control **05**
b) Write note on use of molting hormone in pest management. **05**
c) Somaclonal variability **04**

Q.7 **a)** Explain Attractants **05**
b) Use of Fungi pathogen in pest management **05**
c) Sex pheromones **04**

SLR-VA-17

Seat No.	

Set P

M.Sc. (Semester - IV) (New) (CBCS) Examination Nov/Dec-2018
Agrochemicals and Pest Management
MANUFACTURE OF AGROCHEMICALS

Time: 2½ Hours Max. Marks: 70

Instructions: 1) All sections are compulsory.
2) Attempt any two questions from section-II.
3) Attempt any two questions from section-III.
4) All questions carry equal marks.

SECTION – I

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

1) Centrifugation is used for separation of _____.
   a) Liquid from solid b) Solid from solid
   c) Gas from gas d) Liquid from liquid

2) The process of drying is carried out at _____ temperature of water.
   a) Freezing point b) Below boiling point
   c) Just above boiling point d) At boiling point

3) Two solvents used in solvent extraction should be _____.
   a) Miscible b) Immiscible
   c) Partially miscible d) None of these

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

5) During the assessment of the purchase order, the copy of order is send to the store _____
   a) To make the funds available for purchase of goods
   b) To confirm that goods arrive in satisfactory condition
   c) To assure that goods are coming
   d) All of these

6) Imidacloprid is used as _____.
   a) Herbicide b) Fungicide
   c) Neonicotinoid insecticide d) Rodenticide

7) Ionizing radiations are used for treatment of _____.
   a) Fracture b) Asthama
   c) Cancer d) Dermatitis

8) Which of the following is not used as fungicide?
   a) Carbaryl b) Metalaxyl
   c) Thiophenate methyl d) Chlorothalonil

9) Synthon is a _____ Species.
   a) Charged b) Neutral
   c) Charged as well as neutral d) None of these

10) Asthma is inflammatory disease of _____.
   a) Heart b) Lungs
   c) Head d) Eyes

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

12) Multiple effect evaporator is commonly used in _____ operations.
a) Small scale b) Large scale
c) Medium scale d) None of these

13) Maneb is _____ type of pesticide.
a) Organochlorine b) Organophosphorous
c) Carbamate d) Botanical

14) _____ cost includes cost of instructions and testing during various stages of manufacture.
a) Failure b) Optimizing
c) Prevention d) Appraisal

SECTION – II

Q.2 **a)** Write synthesis, mode of action, environmental fate and applications of thiamethoxam. **07**
b) Write synthesis and unit process of captan. **07**

Q.3 **a)** Describe batch and contaminates crystallizers. **07**
b) Write synthesis, properties, uses, mode of action and environmental fate of thiophenate methyl. **07**

Q.4 **a)** Define disconnection. Explain different types of disconnections. **07**
b) Discuss the functions of General Manager in an industry. **07**

SECTION – III

Q.5 **a)** Describe handling of hazardous chemicals and pesticides. **05**
b) Describe importance of various kinds of first aids. **05**
c) Write note on spray dryer. **04**

Q.6 **a)** Explain gas absorption in towers. **05**
b) Describe training methods of R and D. **05**
c) Write manufacture and uses of agro grade sulphur. **04**

Q.7 **a)** Describe packed columns for distillation. **05**
b) Define synthon, synthetic equivalent, FGI and Target molecule. **05**
c) Explain ISI and ASTM specifications. **04**

SLR-VA-19

Seat No.	

Set P

M.Sc. (Semester - IV) (New) (CBCS) Examination Nov/Dec-2018
Agrochemicals And Pest Management
DISEASES OF CROP PLANTS – II

Time: 2½ Hours Max. Marks: 70

Instructions: 1) Attempt totally five questions.
2) Question no. 1 is compulsory (Section - I).
3) Attempt any two questions from question no. 2 to 4 (section-II).
4) Attempt any two questions from question no. 5 to 7 (section-III).
5) Figures to the right indicate full marks.

SECTION – I

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

1) White rust of crucifer is caused by _____.
   a) Puccinia b) Utilago
   c) Cystopus d) Peziza

2) Erysiphe causes the disease _____
   a) Powdery mildews b) Downy mildews
   c) Covered smut d) Late blight of potato

3) Wilt disease of tomato is caused by _____.
   a) Aspergillus b) Puccinia
   c) Cercospora d) Fusarium

4) White rust of crucifers is a pseudo-rust because _____.
   a) The disease is not caused by basidiomycetous members
   b) The color of the pustule is not red
   c) The disease is seen on crucifers
   d) The disease is not seen on wheat

5) Downy mildews are caused by the members of _____.
   a) Erysiphales b) Taphrinales
   c) Ustilaginales d) Peronosporales

6) Macrocyclic rust is the name given to some fungi _____.
   a) Which produces bigger spores
   b) Where all the five spore stages are produced
   c) Which completes its life-cycle on a single host
   d) Which selects many hosts to complete it life-cycle

7) Fungus *Alternaria solani* belongs to class _____.
   a) Ascomycetes b) Deuteromycetes
   c) Schizomycetes d) Oomycetes
   e) Absorbing nourishment from the host

8) The classification of the plant diseases is based mainly on _____.
   a) The structure of vegetative mycelium
   b) The asexual stage
   c) The sexual reproductive stage
   d) None of these

9) The name ‘smut diseases’ is given to those produced by Ustilago because _____.
   a) Its mycelium is black in color
   b) It parasitizes cereals
   c) The host becomes completely black
   d) The fungus produces black sooty spore masses.

10) Anthracnose of mango is caused by _____.
   a) Pythium b) Alternaria
   c) Colletotrichum d) Fusarium

11) The rusts are caused by _____.
   a) Ustilaginales b) Peronosporales
   c) Uredinales d) Erysiphales

12) Phytopathology is the study of _____.
   a) Algae b) Only fungi
   c) Plant diseases d) Pteridophytes

13) *Alternaria solani* causes _____.
   a) Late blight of potato b) Wart of potato
   c) Early blight of potato d) Leaf curl of potato

14) When two host species are required for completion of parasitic fungi life-cycle, this condition is described as _____.
   a) Autoecism b) Autotrophic
   c) Heteroecism d) Heterokaryotic

SECTION – II

Q.2 **a)** Describe the biology, nature of damage and control measure of downy mildew of peas. **07**

b) Explain any two diseases in Rose studies by you; with respect to causal organism, symptoms & control measures. **07**

Q.3 **a)** Comment up on following diseases with respect to causal organism & symptoms:- **07**
   1) Powdery mildew of *Sisso*
   2) Seedling blights of *Lacuna*

b) Explain leaf spot disease in Chilies; with respect to causal organism, symptoms & control measures. **07**

Q.4 **a)** Give detail of Brown rot (storage) disease of Pomegranate; with respect to causal organism, disease cycle, symptoms & control measures. **07**

b) Comment up on foliage disease and fruit storage disease of Ber. **07**

SECTION – III

Q.5 **a)** Write down the causal organism and symptoms of powdery mildews of chilies. **05**
b) Write down the causal organism and disease cycle of dry rot of sweet potato. **05**
c) Write down the control measures of orange rot. **04**

Q.6 **a)** Write down the causal organism and symptoms of Anthracnose of Grapes. **05**
b) Write down the causal organism and disease cycle of fruit root of mango. **05**
c) Write down the symptoms of leaf spots of banana **04**

Q.7 **a)** Write down the causal organism and symptoms of flower blights of *Gladiolus*. **05**
b) Write down the causal organism and disease cycle of star spot disease of Bamboo. **05**
c) Write down the control measure of Asterina disease of Santalum **04**

SLR-VA-20

Seat No.	

Set P

M.Sc. (Semester - IV) (Old) (CBCS) Examination Nov/Dec-2018
Agrochemicals And Pest Management
AGRO-BASED MARKETING MANAGEMENT

Time: 2½ Hours Max. Marks: 70

Instructions: 1) All Sections are compulsory.
2) Solve any two questions each from section II and section III.
3) Figures to the right indicate full marks.

SECTION – I

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

1) The concept of 4 P's given by _____
   a) F. W. Taylor b) Philip Kotler
   c) Mc Carty d) None of these

2) _____ are the forms of virtual marketing
   a) E-mail b) Twitter
   c) Link sharing d) None of these

3) E-business is a _____method of buying & selling.
   a) Off-line b) On-line
   c) Direct d) None of these

4) _____ is the first stage in product life cycle.
   a) Introduction b) Growth
   c) Maturity d) Decline

5) Market segmentation based on _____.
   a) Industrial b) Demographic
   c) Social d) All of these

6) _____ is not part of 4ps.
   a) Product b) Price
   c) People d) Promotion

7) In modern marketing _____ is supreme.
   a) The creditor b) The consumer
   c) The supplier d) None of these

8) Producer to consumer _____ channel.
   a) One level b) Two level
   c) Three level d) Four level

9) Marketing is process which aims at _____.
   a) Promotion b) Profit making
   c) Satisfaction of consumer needs d) Selling goods

10) Agro-based marketing management used for _____.
   a) Inform to merchant b) Growth of agro sector
   c) Both a & b d) All of these

11) Marketing environment does not include _____.
   a) Legal b) Economical
   c) Social and cultural d) History of market

12) _____ is the sum total of all factors that affects Marketing transactions.
a) Marketing concept
b) Marketing Environment
c) Marketing Research
d) Market Segmentation

13) _____ function of marketing create time utility in product.
a) Storage
b) Salling
c) Transportation
d) Advertising

14) Marketing is _____ process.
a) Social & managerial
b) Social & Political
c) Cultural & managerial
d) None of these

SECTION – II

Attempt any two questions from this section :-

Q.2 **a)** Define consumer behavior & factors affecting consumer behavior. **07**
b) Different between traditional marketing & modern marketing. **07**

Q.3 **a)** Define market segmentation & Base of market segmentation. **07**
b) Problems of agro-based business. **07**

Q.4 **a)** Define market environment & explain factor of macro environment. **07**
b) What is market? Explain various types of market. **07**

SECTION – III

Attempt any two questions from this section :-

Q.5 **a)** 4 P's in agro-based marketing **05**
b) Functions of marketing **05**
c) Target Marketing **04**

Q.6 **a)** Types of mobile business **05**
b) Importance of market segmentation **05**
c) Importance of marketing **04**

Q.7 **a)** Process of market planning **05**
b) Product life cycle **05**
c) Importance of consumer behaviour **04**

SLR-VA-21

Seat No.		Set	P

M.Sc. (Semester - IV) (Old) (CBCS) Examination Nov/Dec-2018
Agrochemicals and Pest Management
ADVANCES IN PEST CONTROL – II

Time: 2½ Hours Max. Marks: 70

Instructions: 1) All questions are compulsory.
2) All questions carry equal marks.
3) Solve any two questions from section-II.
4) Solve any two questions from section-III.

SECTION – I

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

1) The full form of Bt is _____.
   a) *Bacillus thuringiensis* b) *Batocera thuringiensis*
   c) *Bacterium thuringiensis* d) None of the above

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

3) Due to _____ infected larva climbs at highest point and found dead with hanging by hind legs.
   a) *Bacillus thuringiensis* b) NPV
   c) *Metarrhizium* d) None of the above

4) Prothorasic gland secretes _____ hormone.
   a) PTTH b) ecdysone
   c) testosterone d) progesterone

5) Trial pheromone released by insect for _____ purpose.
   a) Feeding b) Protection
   c) Mating d) None of the above

6) In California cotton cushion scale controlled by using _____.
   a) White grub b) Grass hopper
   c) Lady bird beetle d) Giant toad

7) _____ stage is the infective larval stage of the nematodes enters into the plant.
   a) Second b) Fourth
   c) Third d) First

8) Hormonal IGRs work by mimicking or inhibiting _____ hormone.
   a) Juvenile b) Digestive
   c) Both d) None

9) Indian cotton research centre placed in _____
   a) Solapur b) Nagpur
   c) Pune d) Hydrabad

10) _____ is used for controlling insect pest in field application.
   a) Nematicide b) Choropyriphos
   c) Rodenticide d) Herbicide

11) _____ refers to the disease producing power of a group or sp. of micro-organisms.
a) Infectivity b) Virulence
c) Pathogenecity d) All the above

12) _____ is the advanced pesticide having effect with using sunlight.
a) Light activated pesticide b) IGR
c) Poison bait d) None of the above

13) Ti plasmid used for _____ transfer process in rDNA technique.
a) Bacterium b) Nucleus
c) Gene d) None of the above

14) The full form of NPV is _____.
a) Nuclear Polyhydrosis Virus b) Nuclear Polyhy Virus
c) Nuclear Porous Virus d) None of the above

SECTION – II

Q.2 **a)** Describe the methodology of BT gene transfer in plants. **07**
b) Describe the biotechnological applications in pest management. **07**

Q.3 **a)** What is microbial control of insect pest and explain viral pathogen in details. **07**
b) Define the biological control. Explain the different techniques used in biological control with suitable example. **07**

Q.4 **a)** Explain insect growth regulators. **07**
b) What are the semiochemicals? Discuss the chemosterilants. **07**

SECTION – III

Q.5 **a)** Light activated pesticides **05**
b) Antifident **05**
c) Enlist the advances in pest control **04**

Q.6 **a)** Genetic method of pest control **05**
b) Write note on use of molting hormone in pest management. **05**
c) Somaclonal variability **04**

Q.7 **a)** Explain Attractants **05**
b) Use of Fungi pathogen in pest management **05**
c) Sex pheromones **04**

SLR-VA-22

Seat No.	

Set P

M.Sc. (Semester - IV) (Old) (CBCS) Examination Nov/Dec-2018
Agrochemicals and Pest Management
MANUFACTURE OF AGROCHEMICALS

Time: 2½ Hours Max. Marks: 70

Instructions: 1) All sections are compulsory.
2) Attempt any two questions from section-II.
3) Attempt any two questions from section-III.
4) All questions carry equal marks.

SECTION – I

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

1) Centrifugation is used for separation of _____.
   a) Liquid from solid b) Solid from solid
   c) Gas from gas d) Liquid from liquid

2) The process of drying is carried out at _____ temperature of water.
   a) Freezing point b) Below boiling point
   c) Just above boiling point d) At boiling point

3) Two solvents used in solvent extraction should be _____.
   a) Miscible b) Immiscible
   c) Partially miscible d) None of these

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

5) During the assessment of the purchase order, the copy of order is send to the store _____
   a) To make the funds available for purchase of goods
   b) To confirm that goods arrive in satisfactory condition
   c) To assure that goods are coming
   d) All of these

6) Imidacloprid is used as _____.
   a) Herbicide b) Fungicide
   c) Neonicotinoid insecticide d) Rodenticide

7) Ionizing radiations are used for treatment of _____.
   a) Fracture b) Asthama
   c) Cancer d) Dermatitis

8) Which of the following is not used as fungicide?
   a) Carbaryl b) Metalaxyl
   c) Thiophenate methyl d) Chlorothalonil

9) Synthon is a _____ Species.
   a) Charged b) Neutral
   c) Charged as well as neutral d) None of these

10) Asthma is inflammatory disease of _____.
   a) Heart b) Lungs
   c) Head d) Eyes

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

12) Multiple effect evaporator is commonly used in _____ operations.
a) Small scale b) Large scale
c) Medium scale d) None of these

13) Maneb is _____ type of pesticide.
a) Organochlorine b) Organophosphorous
c) Carbamate d) Botanical

14) _____ cost includes cost of instructions and testing during various stages of manufacture.
a) Failure b) Optimizing
c) Prevention d) Appraisal

SECTION – II

Q.2 **a)** Write synthesis, mode of action, environmental fate and applications of thiamethoxam. **07**
b) Write synthesis and unit process of captan. **07**

Q.3 **a)** Describe batch and contaminates crystallizers. **07**
b) Write synthesis, properties, uses, mode of action and environmental fate of thiophenate methyl. **07**

Q.4 **a)** Define disconnection. Explain different types of disconnections. **07**
b) Discuss the functions of General Manager in an industry. **07**

SECTION – III

Q.5 **a)** Describe handling of hazardous chemicals and pesticides. **05**
b) Describe importance of various kinds of first aids. **05**
c) Write note on spray dryer. **04**

Q.6 **a)** Explain gas absorption in towers. **05**
b) Describe training methods of R and D. **05**
c) Write manufacture and uses of agro grade sulphur. **04**

Q.7 **a)** Describe packed columns for distillation. **05**
b) Define synthon, synthetic equivalent, FGI and Target molecule. **05**
c) Explain ISI and ASTM specifications. **04**

SLR-VA-24

Seat No.	

Set P

M.Sc. (Semester - IV) (Old) (CBCS) Examination Nov/Dec-2018
Agrochemicals and Pest Management
DISEASES OF CROP PLANTS – II

Time: 2½ Hours Max. Marks: 70

Instructions: 1) Attempt totally five questions.
2) Question no. 1 is compulsory (Section - I).
3) Attempt any two questions from question no. 2 to 4 (section-II).
4) Attempt any two questions from question no. 5 to 7 (section-III).
5) Figures to the right indicate full marks.

SECTION – I

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

1) White rust of crucifer is caused by _____.
   a) Puccinia b) Utilago
   c) Cystopus d) Peziza

2) Erysiphe causes the disease _____
   a) Powdery mildews b) Downy mildews
   c) Covered smut d) Late blight of potato

3) Wilt disease of tomato is caused by _____.
   a) Aspergillus b) Puccinia
   c) Cercospora d) Fusarium

4) White rust of crucifers is a pseudo-rust because _____.
   a) The disease is not caused by basidiomycetous members
   b) The color of the pustule is not red
   c) The disease is seen on crucifers
   d) The disease is not seen on wheat

5) Downy mildews are caused by the members of _____.
   a) Erysiphales b) Taphrinales
   c) Ustilaginales d) Peronosporales

6) Macrocyclic rust is the name given to some fungi _____.
   a) Which produces bigger spores
   b) Where all the five spore stages are produced
   c) Which completes its life-cycle on a single host
   d) Which selects many hosts to complete it life-cycle

7) Fungus *Alternaria solani* belongs to class _____.
   a) Ascomycetes b) Deuteromycetes
   c) Schizomycetes d) Oomycetes
   e) Absorbing nourishment from the host

8) The classification of the plant diseases is based mainly on _____.
   a) The structure of vegetative mycelium
   b) The asexual stage
   c) The sexual reproductive stage
   d) None of these

9) The name ‘smut diseases’ is given to those produced by Ustilago because _____.
   a) Its mycelium is black in color
   b) It parasitizes cereals
   c) The host becomes completely black
   d) The fungus produces black sooty spore masses.

10) Anthracnose of mango is caused by _____.
   a) Pythium b) Alternaria
   c) Colletotrichum d) Fusarium

11) The rusts are caused by _____.
   a) Ustilaginales b) Peronosporales
   c) Uredinales d) Erysiphales

12) Phytopathology is the study of _____.
   a) Algae b) Only fungi
   c) Plant diseases d) Pteridophytes

13) *Alternaria solani* causes _____.
   a) Late blight of potato b) Wart of potato
   c) Early blight of potato d) Leaf curl of potato

14) When two host species are required for completion of parasitic fungi life-cycle, this condition is described as _____.
   a) Autoecism b) Autotrophic
   c) Heteroecism d) Heterokaryotic

SECTION – II

Q.2 **a)** Describe the biology, nature of damage and control measure of downy mildew of peas. **07**

b) Explain any two diseases in Rose studies by you; with respect to causal organism, symptoms & control measures. **07**

Q.3 **a)** Comment up on following diseases with respect to causal organism & symptoms:- **07**
   1) Powdery mildew of *Sisso*
   2) Seedling blights of *Lacuna*

b) Explain leaf spot disease in Chilies; with respect to causal organism, symptoms & control measures. **07**

Q.4 **a)** Give detail of Brown rot (storage) disease of Pomegranate; with respect to causal organism, disease cycle, symptoms & control measures. **07**

b) Comment up on foliage disease and fruit storage disease of Ber. **07**

SECTION – III

Q.5 **a)** Write down the causal organism and symptoms of powdery mildews of chilies. **05**

b) Write down the causal organism and disease cycle of dry rot of sweet potato. **05**

c) Write down the control measures of orange rot. **04**

Q.6 **a)** Write down the causal organism and symptoms of Anthracnose of Grapes. **05**

b) Write down the causal organism and disease cycle of fruit root of mango. **05**

c) Write down the symptoms of leaf spots of banana **04**

Q.7 **a)** Write down the causal organism and symptoms of flower blights of *Gladiolus*. **05**

b) Write down the causal organism and disease cycle of star spot disease of Bamboo. **05**

c) Write down the control measure of Asterina disease of Santalum **04**