

Master of Science – I (Agrochemical and Pest Management)
Examination: Oct / Nov 2016 Semester – I (New CBCS)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SP - 01	Wednesday 16/11/2016	10.30 AM to 01.00 PM	Chemistry of Pesticides and Their Formulation - I	HCT 1.1	

Instructions

:

- 1) All questions carry equal marks.
- 2) All Sections are compulsory.
- 3) Attempt any two questions from Section – II and III
- 4) Figures to the right indicates full marks

Total

Marks:70

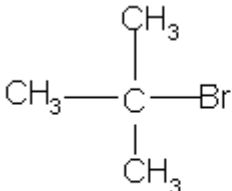
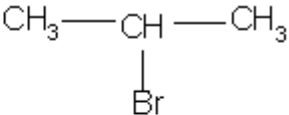
SECTION - I

Q.1 Select most correct alternative from the following (each carry 1 marks) 14

i) Sulphonation of benzene is example of

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

ii) Which of the following compound undergoes SN^1 – reaction.

- | | |
|---|---|
| a)  | b)  |
| c) $CH_3 - Br$ | d) $C_6H_5 - Br$ |

iii) The product of knoevenagel reaction is

- | | |
|--|--|
| a) α – hydroxyl ketone | a) β – hydroxyl aldehyde |
| b) α – β – Unsaturated acid | c) α – β – Unsaturated ketone |

iv) Aromatic aldehydes when undergoes self condensation in presence sodium or

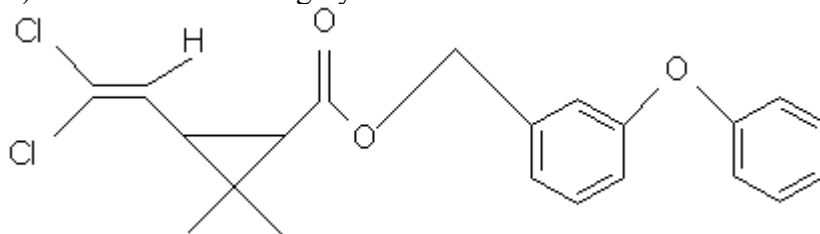
potassium cyanide give α – hydroxy ketone. This reaction is known as

- | | |
|-------------------------|-----------------------------|
| a) Benzoin condensation | b) Aldol condensation |
| c) Derkins condensation | d) Knoevenaged condensation |

v) Delta metherin contains

- | | |
|-------------|-------------|
| a) Chlorine | b) Bromine |
| c) Iodine | d) Fluorine |

vi) Name the following Pyrethroid



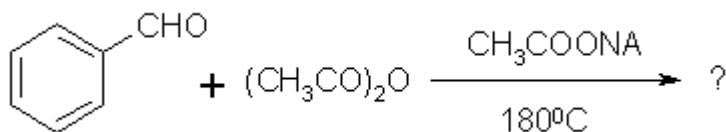
- | | |
|-----------------|---------------|
| a) Cypermethrin | b) Permethrin |
| c) Deltamethrin | d) Allethrin |

SECTION – III

Attempt any two questions from this section.

- Q.5** a) Discuss SN² reaction with mechanism and energy profile diagram. **05**
b) What are insect attractant and repellents? Describe their mode of action. **05**
c) Describe the use Neem plant extract for pest control. **04**

- Q.6** a) Discuss the synthesis and uses of Chloropyriphos. **05**
b) Complete the reaction and suggest the mechanism.



- c) Give synthesis of Diazinon. **04**
- Q.7** a) Discuss the synthesis and uses of Monocrothos and phorate. **05**
b) Discuss Friedel-Craft reaction with mechanism. **05**
c) Explain the aerosols and smoke formulation. **04**

Master of Science – I (Agrochemical and Pest Management)
Examination: Oct / Nov 2016 Semester – I (New CBCS)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SP - 02	Friday 18/11/2016	10.30 AM to 01.00 PM	Soil Science, Fertilizer Micronutrients & Plant growth Regulation	HCT 1.2	

Instructions:

- 1) All questions carry equal marks.
- 2) All Sections are compulsory.
- 3) Attempt any two questions from Section – II and III
- 4) Figures to the right indicates full marks

Total Marks:70

SECTION - I

Q.1 Select most correct alternative from the following (each carry 1 marks)

14

- i) Ion Exchange takes place in _____
 - a) Sand
 - b) Slit
 - c) Loan
 - d) Colloids

- ii) Water holding capacity of soil governed by _____
 - a) Type of soil
 - b) Organic matter of soil
 - c) Colour of soil
 - d) Alkalinity of soil

- iii) _____ is the byproduct of steel industry.
 - a) Bone meal
 - b) Basic slag
 - c) Blood meal
 - d) Guano meal

- iv) Breaking of seed dormancy is made by the treatment of _____
 - a) Gibberellic acid
 - b) Auxin
 - c) Cytokinin
 - d) Ethylene

- v) _____ is associated with root nodule of leguminous plant.
 - a) Rhizobium
 - b) Azolla
 - c) Bacillus
 - d) E. Coii

- vi) Arrangement of soil particles in referred as _____
 - a) Soil texture
 - b) Soil Mass
 - c) Soil structure
 - d) Soil organs

- vii) Calcium Cyanamid contains _____ % nitrogen.
 - a) 22
 - b) 21
 - c) 31
 - d) 41

- viii) _____ is a growth retardant.
 - a) GA
 - b) ABA
 - c) Cytokinin
 - d) IAA

- ix) N:P:K (10:26:26) is a _____ fertilizer.
 - a) Only Potassic
 - b) Complex
 - c) Only nitrogenous
 - d) Only Phosphatic

Master of Science – I (Agrochemical and Pest Management)**Examination: Oct / Nov 2016 Semester – I (Old CBCS)**

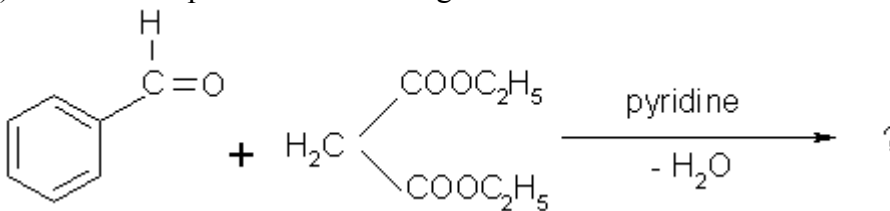
SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SP - 06	Wednesday 16/11/2016	10.30 AM to 01.00 PM	Chemistry of Pesticides and Their Formulation - I	I	

Instructions:

- 1) All questions carry equal marks.
- 2) All Sections are compulsory.
- 3) Attempt any two questions from Section – II and III
- 4) Figures to the right indicates full marks

Total Marks:70**SECTION - I****Q.1 Select most correct alternative from the following (each carry 1 marks)****14**

- i) Natural pyrethroids cannot be used in field because of _____
 - a) Toxicity
 - b) High Cost
 - c) Poor stability
 - d) Low activity
- ii) Chemical nature of pyrethroids are _____
 - a) Esters
 - b) Acids
 - c) Alcohols
 - d) Amides
- iii) Sulphur is formulated in the form of _____
 - a) Aerosol
 - b) Emulsive concentrate
 - c) Solution
 - d) Dust
- iv) Reimer – Tiemann reaction is useful for the preparation of _____
 - a) Benzaldehyde
 - b) Salicylaldehyde
 - c) Anisole
 - d) Acetophenone
- v) What is the product of following reaction



- a) Salicylic acid
 - b) Benzoic acid
 - c) Cinnamic acid
 - d) Phthalic acid
- vi) Benzene on treatment CH_3COCl and AlCl_3 with and gives Acetophenone this reaction is known as _____
 - a) Fridel Craft's acylation
 - b) Fridel Craft's alkylation
 - c) Sulphonation
 - d) Halogenation
 - vii) SN^1 – reaction is example of _____
 - a) Nucleophilic addition
 - b) Electrophilic addition
 - c) Nucleophilic substitution
 - d) Electrophilic substitution

SECTION – III

Attempt any two questions from this section.

- Q.5** a) Discuss SN^1 reaction with mechanism and energy profile diagram. **05**
b) Discuss pyrethrins and their synthetic analogues. **05**
c) Discuss the uses of insect attractants and repellents. **04**
- Q.6** a) Discuss Reimer – Tiemann reaction with mechanism. **05**
b) Discuss how Neem extract is useful for plant protection. **05**
c) Give synthesis and uses of Monocrotophos. **04**
- Q.7** a) Discuss Wagner – Meerwein rearrangement reaction with mechanism. **05**
b) Discuss different methods used for extraction of Neem plant. **05**
c) Write note on Natural and synthetic Pyrethroids. **04**

Master of Science – I (Agrochemical and Pest Management)
Examination: Oct / Nov 2016 Semester – I (Old CBCS)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SP – 08	Monday 21/11/2016	10:30 AM to 01:00 P.M	Introductory and Industrial Entomology	III	

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

Total Marks: 70

SECTION 1

Q.1 Choose the correct answer from options given below. 14

- 1) Abdomen of a cockroach is made up of _____ fused segments.
 - a) 4
 - b) 11
 - c) 3
 - d) 6

- 2) Mouth parts of grasshopper are of _____ type.
 - a) Chewing
 - b) Siphoning
 - c) Sponging
 - d) None of the above.

- 3) The hind wings in dipteran are made into _____.
 - a) Elytra
 - b) Halter
 - c) Scutellum
 - d) None of the above

- 4) Circulatory system occurs in insect is of _____ type.
 - a) Closed
 - b) Open
 - c) Both a and b
 - d) None of the above

- 5) Malpighian tubules is the name given by scientist _____.
 - a) Malpighi
 - b) Mackel
 - c) Both a and c
 - d) None of the above

- 6) _____ is the polyphagous pest.
 - a) Monkey
 - b) Polu beetle
 - c) Both a and b
 - d) Grasshopper

- 7) _____ is called as rock bee.
 - a) *Apis dorsata*
 - b) *Apis floraea*
 - c) *Apis mellifera*
 - d) *Apis indica*

- 8) Moniliform antennae occur in _____ insect.
 - a) Termite
 - b) Grasshopper
 - c) Cricket
 - d) None of the above

- 9) *Apis gassypi* is the scientific name of _____.
 - a) White grub
 - b) Dung beetle
 - c) Aphid
 - d) None of the above

Master of Science – I (Agrochemicals and Pest Management)**Examination: Oct / Nov 2016 Semester – II (New CBCS)**

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SP - 11	Saturday 19/11/2016	10:30 AM to 01:00 PM	Analytical Techniques for Agrochemicals	VI	

- Instructions:**
- 1) All questions are compulsory.
 - 2) Answer any three questions from section II to III.
 - 3) Figures to right indicate full marks.
 - 4) Neat and labeled diagram should be drawn.

Total Marks:70

Section-I

Q.1 Choose the most correct alternative and write the sentences.

14

- 1) The locating agent of amino acids is-----
 - a) Diazo reagent
 - b) ninhydrin spray
 - c) Amphoteric oxides
 - d) Neutral oxides
- 2) Solvent extraction is more good if repeated extractions are done using.
 - a) Large solvent
 - b) Small solvent
 - c) Extra Solvent
 - d) None
- 3) The hottest flame in O₂ is produced by -----
 - a) Acetylene
 - b) Cyanogen
 - c) Butane
 - d) Hydrogen
- 4) The good oxidants to excite metals in flame is -----
 - a) O₂
 - b) N₂O
 - c) both a and b
 - d) H₂
- 5) The elements used as an ionization suppressor is -----
 - a) Bi
 - b) Cs
 - c) Na
 - d) Mg
- 6) The most widely used flame in atomic absorption is -----
 - a) Air acetylene
 - b) Air propane
 - c) Air coal gen
 - d) Oxyacetylene
- 7) The function of nebulizer burner system is to -----
 - a) Convert test solution to gaseous atom solution
 - b) Produce mist or aerosol of these test
 - c) both a and b
 - d) Convert liquid to solid state
- 8) The technique for back ground correction include.
 - a) Deuterium arc
 - b) Zeeman effect
 - c) Smith-Hieftje system
 - d) All of above
- 9) Molar rotation is given by -----
 - a) $M\alpha/100$
 - b) $M\zeta/1000$
 - c) $100M/a$
 - d) $a\zeta/100$
- 10) In gas absorption the solubility of gas in a given solvent decreases with -----
 - a) Temperature
 - b) Concentration
 - c) Partial pressure
 - d) Lowering the temperature

Master of Science – I (Agrochemical and Pest Management)

Examination: Oct / Nov 2016 Semester – II (Old CGPA)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SP - 14	Thursday 17/11/2016	10.30 AM to 01.00 PM	Chemistry of Pesticides and Their Formulations – II	V	

- Instructions**
- 1) All questions carry equal marks.
 - 2) All Sections are compulsory.
 - 3) Attempt any two questions from Section – II and III
 - 4) Q. No. 1 should be answered by choosing the correct alternatives
- Total Marks:70**

SECTION - I

Q.1 Select most correct alternative from the following (each carry 1 marks) 14

- i) Triphenyltin acetate is prepared by reacting three molecules of phenyl magnesium bromide and _____.
 - a) SnCl_4
 - b) ZnCl_2
 - c) CCl_4
 - d) MgCl_2
- ii) Thallium sulphate is used as _____.
 - a) Rodenticide
 - b) Herbicide
 - c) Growth promoter
 - d) Acardicide
- iii) Bordeaux mixture is used to protect plant from _____.
 - a) Fungal attack
 - b) Rodent attack
 - c) Insect attack
 - d) None of these
- iv) Organomercurial compounds are having _____ activity.
 - a) Insecticidal
 - b) Bactericidal and fungicidal
 - c) Only fungicidal
 - d) Only Bactericidal
- v) Zinc phosphide is used to kill the _____.
 - a) Insect
 - b) Fungi
 - c) Rodent
 - d) Herbs
- vi) Aldicarb is _____ type of insecticide.
 - a) Furyl carbamate
 - b) Organophosphorus
 - c) Oxime carbamate
 - d) Organochlorine
- vii) Carbamate pesticides act as inhibitor of _____.
 - a) Respiratory system
 - b) Circulatory system
 - c) Cholinesterase enzyme
 - d) Nerve signal transmission
- viii) Maneb is obtained by reaction between ethylenediamine and _____.
 - a) Carbon disulphide
 - b) Sodium sulphide
 - c) Potassium sulphide
 - d) Carbon dioxide
- ix) Catechol when treated with isopropyl chloride in presence of base it forms _____.
 - a) Carbofuran
 - b) Aldicarb
 - c) Baygon
 - d) Carbaryl

- x) Pentachlorobenzene on nitration gives _____.
- a) Pentachloronitrobenzene b) Pentachloroaminobenzene
c) Chloronitrobenzene d) Nitrobenzene
- xi) Hydrazine compounds which are used as pesticides contain _____ functional group.
- a) $-\text{NH}_2$ b) $-\text{N}=\text{N}-$
c) $-\text{N}=\text{O}$ d) NH_2-NH_2
- xii) Trifluralin is used to control _____
- a) Fungi b) Weeds in cotton
c) Rodents d) All of these
- xiii) Tenuron is derivative of _____
- a) Urea b) Thiourea
c) Thiocyanate d) None of these
- xiv) Sodium chlorate is used as _____.
- a) Rodenticide b) Acaricide
c) Fungicide d) Herbicide

SECTION – II

Attempt any two questions from this section.

- Q.2** a) Write synthesis and uses of Tenuron and Methiuron. **07**
b) Give an account of amines as pesticides. **07**
- Q.3** a) Describe the role of zinc oxide and zinc phosphide as pest control agent. **07**
b) Describe use of computers in formulation. **07**
- Q.4** a) Write synthesis, reactions and applications of maneb and zineb. **07**
b) Explain structure – activity relationship of carbamates. **07**

SECTION – III

Attempt any two questions from this section.

- Q.5** a) Explain the role of arsenic compounds as pesticides. **05**
b) Describe synthesis and uses of carbofuran. **05**
c) Write uses of mercaptans. **04**
- Q.6** a) Write synthesis and uses of MBC. **05**
b) Describe uses of various copper preparations. **05**
c) Write synthesis and uses of propanil. **04**
- Q.7** a) Explain role of surfactants and wetting agents in pesticide applications. **05**
b) Describe uses of azo compounds. **05**
c) Write synthesis and application of baygon. **04**

Master of Science – II (Agrochemical and Pest Management)

Examination: Oct / Nov 2016 Semester – III (Old CGPA)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SP 18	Wednesday 16/11/2016	02.30 PM to 05.00 PM	Pesticide Residues and Toxicology	IX	

- Instructions:**
- 1) All questions carry equal marks.
 - 2) All Sections are compulsory.
 - 3) Attempt any two questions from Section – II and III
 - 4) Figures to the right indicate full marks.
 - 5) Draw neat labeled diagrams wherever necessary.

Total Marks:70

SECTION – I

Q.1 Select most correct alternative from the following (each carry 1 marks) 14

- 1) Minamata disease is an example of _____
 - a) Air pollution
 - b) Noise pollution
 - c) Water pollution
 - d) Soil pollution
- 2) Teratogenic substances are responsible for _____
 - a) foetal abnormalities
 - b) anemia
 - c) headache
 - d) pneumonia
- 3) Organo-phosphorus pesticides affect _____ system by inhibition of acetyl cholinesterase enzyme.
 - a) digestive
 - b) circulatory
 - c) nervous
 - d) all of above
- 4) Insecticides kills the _____
 - a) insects
 - b) bacteria
 - c) fungi
 - d) all of above
- 5) In _____ the pesticides are degraded by microorganisms.
 - a) Bio-accumulation
 - b) Bio-activation
 - c) Bio-concentration
 - d) Bio-degradation
- 6) _____ is defined as abrupt and permanent change in genome of an organism.
 - a) mutation
 - b) expression
 - c) genetics
 - d) None of above
- 7) Lead and Mercurial pesticides are _____ persistent in atmosphere.
 - a) moderately
 - b) permanently
 - c) temporarily
 - d) None of these
- 8) _____ is a natural pesticide.
 - a) Quinolphos
 - b) Aldrin
 - c) Pyrethrum
 - d) Malathion
- 9) Inhalation of asbestos causes _____ in human being.
 - a) asbestosis
 - b) asbestoponia
 - c) asbetophobia
 - d) None of these

Master of Science – II (Agrochemicals & Pest Management)
Examination: Oct / Nov 2016 Semester – III (Old CGPA)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SP - 19	Friday 18/11/2016	02.30 PM To 05.00 PM	Advances in Pest Control – I	X	

- 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-II.

Total marks:70

Q.1 A) Choose the correct alternatives: (One mark each) 14

- 1) *Campoletis chlorideae* is _____
 - a) pest parasitoid
 - b) larval parasitoid
 - c) predator
 - d) All of the above
- 2) Avicides are used used for _____
 - a) to control weeds
 - b) control of birds
 - c) instead of fertilizers
 - d) All the above
- 3) Hand picking of insect is _____ method of
 - a) chemical
 - b) mechanical
 - c) legal
 - d) None of above
- 4) Natural enemy of sugarcane aphid is _____
 - a) Dipha
 - b) Trichogamma
 - c) Nymph
 - d) All the above
- 5) _____ medium is suitable for 'Bt' gene activity.
 - a) acidic
 - b) alkaline
 - c) neutral
 - d) all the above
- 6) Chemosterilants does the work as _____ in insects.
 - a) Supporess reproduction
 - b) Suppress feeding
 - c) Suppress dwelling
 - d) All of the above
- 7) Pneumatic hand sprayer is the type of _____ sprayer.
 - a) Machine oprayed
 - b) compression
 - c) power oprated
 - d) All of the above
- 8) Azadiractin is _____ originated insecticide.
 - a) Neem
 - b) Mulberry
 - c) attractants
 - d) All of the above
- 9) Chemicals that cause insect to make oriented movements towards their source are called _____
 - a) repellents
 - b) Sterilants
 - c) attractants
 - d) All the above

Master of Science – II (Agrochemical and Pest Management)**Examination: Oct / Nov 2016 Semester – III (New CBCS)**

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SP - 22	Wednesday 16/11/2016	02.30 PM to 05.00 PM	Pesticide Residues and Toxicology	IX	

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

Total Marks:70

SECTION – I

Q.1 Choose correct answer from options given below.

14

- Fungicides kills the _____
 - a) insects
 - b) bacteria
 - c) fungi
 - d) all the above
- Teratogenic substances are responsible for _____
 - a) foetal abnormalities
 - b) anemia
 - c) headache
 - d) pneumonia
- Organophosphorus pesticides affect _____ system by inhibition of acetyl cholinesterase enzyme.
 - a) digestive
 - b) circulatory
 - c) nervous
 - d) all the above
- Minamata disease was observed in _____ country.
 - a) Indonesia
 - b) China
 - c) Africa
 - d) Japan
- Azadiractin is _____ pesticide.
 - a) synthetic
 - b) imported
 - c) natural
 - d) none of these
- Sudden and permanent change in genome of an organism is _____
 - a) mutation
 - b) expression
 - c) genetics
 - d) none of above
- Lead and Mercurial pesticides are _____ persistence in atmosphere.
 - a) moderate
 - b) permanent
 - c) temporary
 - d) none of above
- Decomposition of pesticides by microbes is _____ the process.
 - a) Bio-accumulation
 - b) Bio-activation
 - c) Bio-concentration
 - d) Bio-degradation
- Asbestos inhalation causes _____ in human being.
 - a) asbestosis
 - b) asbestoponia
 - c) asbetophobia
 - d) none of these
- In liquid chromatography liquid contains in column as _____ phase.
 - a) steady
 - b) mobile
 - c) detector
 - d) none of these
- HPLC is _____ type of chromatography.
 - a) high volume
 - b) high pressure
 - c) high profile
 - d) none of these

Master of Science – II (Agrochemicals and Pest Management)
Examination: Oct / Nov 2016 Semester – III (New CBCS)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SP – 23	Friday 18/11/2016	02:30 PM to 05.00 PM	Advances in Pest Control - I	X	

- 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

Total Marks: 70

Section-I

Q.1 Rewrite the following sentences by selecting correct answers from given alternative. 14

- 1) Which item below is not used to delay pesticide resistance?
 - a) use the correct pesticide
 - b) use the same pesticide repeatedly
 - c) use the correct dose
 - d) apply pesticide correctly
- 2) Bait attract ants, so baits: _____
 - a) are placed outside where there is ants activity to attract ants out of a building
 - b) may have to be placed inside if the ant colony has moved inside.
 - c) are placed outside where there are ant activity and will reduce the potential of ant.
 - d) all of the above
- 3) The most important factor in keeping rodent and birds away from building is _____
 - a) exclusion
 - b) using repellents
 - c) using bait
 - d) using traps
- 4) Which of the below best defines the principles of IPM in one statement.
 - a) IPM is a systems approach using multiple strategies.
 - b) IPM promotes a single strategy for all pest problems.
 - c) IPM focuses its strategies on biological control.
 - d) IPM is the most cost-effective means of killing pests.
- 5) Pyrethrin is got from _____.
 - a) Azadirachata indica
 - b) Utrica dioca
 - c) Tagetus erecta
 - d) Chrsanthemum cinerarifolicum
- 6) Most effective pesticide is _____
 - a) carbamates
 - b) organophosphates
 - c) organochlorine
 - d) all of three
- 7) Which of following substance is used to control weed?
 - a) herbicide
 - b) pesticide
 - c) insecticide
 - d) fungicide
- 8) An alkaloid nicotin sulphate is _____
 - a) Neem
 - b) Tobacco
 - c) Custard apple
 - d) Accasia
- 9) Red ribbons are implemented in _____
 - a) sensory repellent
 - b) stimuli repellent
 - c) auditory repellent
 - d) visual repellent

Master of Science – II (Analysis Of Pest Management)
Examination: Oct/Nov 2016 Semester – III (New CBCS)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SP– 24	Monday 21/11/2016	2:30 P.M to 5:00 P.M	Analysis of Agrochemicals	XI	

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

Total Marks:70

SECTION-I

Q.1 A) Choose the correct alternative given in the bracket. 14

- 1) Sulphur dioxide is analysed by ----- method.
a) IR
b) GC
c) Polarography
d) Spectrophotometry
- 2) In acetone ----- sets of proton are observed.
a) One
b) Two
c) Three
d) Six
- 3) Mass spectroscopy is ----- technique.
a) Low pressure
b) High pressure
c) Low temperature
d) None of these
- 4) ----- of following undergoes fragmentation easily by electron beam.
a) Ketones
b) Ethers
c) Aromatic compounds
d) Alchols
- 5) The radio isotopes have -----.
a) Same atomic number and same mass number
b) Same atomic number and different mass number
c) Different atomic number and same mass number
d) Different atomic number and different mass number
- 6) In paper chromatography paper acts as ----- phase.
a) Solid
b) Liquid
c) Stationary
d) Support
- 7) Electron donating groups often ----- fluorescence.
a) Quenching
b) Enhance
c) Decrease
d) Remains same
- 8) HPLC is used in -----.
a) Pharmaceutical chemistry
b) Biochemical analysis
c) Chemical analysis
d) All

- 9) The RF value depends upon
- Solvent system
 - Temperature of environment
 - Size of the vessel
 - All of these
- 10) The intensity of fluorescence depends upon ----- of solution.
- Volume
 - Pressure
 - Concentration
 - Polarity
- 11) The wavelength range for UV region of the electromagnetic radiation is -----.
- 100-400 nm
 - 400-800nm
 - Above 800 nm
 - 100-400 μm
- 12) When λ_{max} value of certain molecules shift towards longer wavelength region, then this phenomenon is known as -----.
- Hypsochromic shift
 - Hyperchromic shift
 - Bathochromic shift
 - Hypochromic shift
- 13) The absorption of radio frequency radiations by organic molecule is accompanied by -----.
- Electronic level change
 - Vibrational level change
 - Nuclear spin change
 - Molecular weight change
- 14) The RF value is always -----.
- One
 - More than one
 - Less than one
 - Zero

SECTION-II

- Q.2**
- Describe principle and procedure of Thin Layer Chromatography. **07**
 - Describe in detail G.M.Counter. **07**
- Q.3**
- Draw a schematic diagram of experimental setup of polarography and discuss its principle and working. **07**
 - Describe principle and instrumentation of UV spectroscopy. **07**
- Q.4**
- Describe instrumentation and application of HPLC. **07**
 - Describe the applications of mass spectroscopy. **07**

SECTION-III

- Q.5**
- Write applications of fluorescence measurement in pesticide residue analysis. **05**
 - Write note on fingerprint region of IR spectroscopy. **05**
 - Write applications of UV spectroscopy. **04**
- Q.6**
- Write a note on neutron activation analysis. **05**
 - Distinguish following pair of compounds by IR spectroscopy. **05**
 CH_3COOH and CH_3CHO
 - Predict the NMR spectra of following. **04**
 $\text{CH}_3\text{CH}_2\text{-OH}$ and CH_3COOH
- Q.7**
- Explain shielding and deshielding phenomenon with example. **05**
 - Write a note on mass spectra of isotope ion. **05**
 - Describe SO_2 analysis. **04**

Master of Science – II (AGPM) Examination: Oct/Nov 2016
Semester – III (New CBCS)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SP - 26	Wednesday 23/11/2015	02.30 PM to 05.30 PM	Diseases of Crop Plants – I	XII	

- 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

Total Marks: 70

SECTION – 1

Q.1 A) Rewrite the following sentences by choosing appropriate alternative. 14

- 1) ‘Stem rot of Berseem’ is cause by _____
 - a) *Macrophomia sp.*
 - b) *Sclerotiorum sp.*
 - c) *Bremia sp.*
 - d) *Fusarium sp.*

- 2) The pathogen *Albugo candida* survives through _____ in affected host tissue
 - a) Zoo spores
 - b) Conidia
 - c) Oospores
 - d) Oidia

- 3) The scientific name of Bajara is _____
 - a) *Pennisetum americanum*
 - b) *Sorgun bicolor*
 - c) *Zea mays*
 - d) *Triticum aestivum*

- 4) Pathogenecity is refferd as _____
 - a) Disease producing power of a microorganism
 - b) Disease transmission capacity of a microorganism
 - c) Disease survival power of a microorganism
 - d) Disease protecting power of host

- 5) Rust of Soyabean mostly controlled by spraying of _____
 - a) Bordeaux mixture
 - b) dithaneZ-78
 - c) BHC
 - d) Sulphur dust

- 6) *Erysiphe cruciferarum* is the causal organism of _____
 - a) Powdery mildew of grapes
 - b) Powdery mildew of mustard
 - c) Smut of Jowar
 - d) Tikka disease of groundnut

- 7) In some order countries, Brown rust of wheat produces spermogonia and aecia on species of
 - a) *Thalictrum sp*
 - b) *Oxalis corniculata*
 - c) Barberry
 - d) Brinjal

SECTION – III

- Q.5** A) Rust of Wheat-symptoms and control measures. **05**
- B) Root rot of safflower – symptoms and life cycle. **05**
- C) Symptoms, nature of damage and methods of control for powdery mildew of sunflower. **04**
- Q.6** A) Enumerate common disease of pulse of your region. Highlight methods of management for Blight of Chickpea. **05**
- B) Anthracnose of French bean: symptoms, nature of damage and methods of management. **05**
- C) Disease cycle and management of powdery mildew of pennisetum **04**
- Q.7** A) GSD **05**
- B) Seedling blight of Mustard-nature of damage and its management. **05**
- C) Shank rot of Tobacco. **04**

Master of Science – II (Agrochemical and Pest Management)
Examination: Oct / Nov 2016 Semester – IV (CGPA Pattern)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SP 27	Thursday 17/11/2016	02.30 PM to 05.00 PM	Agro based Marketing Management	XIII	

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

Total Marks:70

SECTION – I

Q.1 Select most correct alternative from the following (each carry 1 marks) 14

- 1) _____ is part of promotional tools of marketing.
 - a) Process
 - b) Sales promotion
 - c) People
 - d) Product

- 2) RBI Establishment in _____
 - a) 1932
 - b) 1935
 - c) 1937
 - d) 1930

- 3) NABARD form in _____
 - a) 1990
 - b) 1982
 - c) 1987
 - d) 1986

- 4) WTO stands for _____
 - a) World Trade Organization
 - b) World Tariff Organization
 - c) World Transport Organization
 - d) None of these

- 5) _____ is second stage in PLC.
 - a) Introduction
 - b) Maturity
 - c) Growth
 - d) Decline

- 6) STP stands for _____
 - a) Shoot, Transfer, Product
 - b) Segmentation, Target, Positioning
 - c) Skill, Target, Product
 - d) None of these

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

- 8) T.V. is _____ tool of marketing.
 - a) Personal selling
 - b) Advertising
 - c) Brand
 - d) None of these

- 9) _____ problem in agro marketing.
 - a) Competition
 - b) Education
 - c) Government Policy
 - d) All of these

**Master of Science – II (Agrochemical and Pest Management)
Examination: Oct/Nov 2016 Semester – IV (CGPA)**

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SP-28	19/11/2016	02:30 PM To 05:00 PM	Advances in Pest Control - II	XIV	

- 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

Total Marks:70

Q.1 Choose the most correct alternative and write the sentences. 14

- 1) ----- is an organism which is usually much larger than its prey and a single individual usually kill host.
 - a) Parasite
 - b) Predator
 - c) Parasitoid
 - d) None of the above

- 2) In the brain of insect ----- hormones are present.
 - a) Parathohormone
 - b) Neurohormone
 - c) Growth hormone
 - d) None of the above

- 3) Richal Carson is the author of book----- .
 - a) Applied entomology
 - b) Lehninger
 - c) Silent spring
 - d) None of the above

- 4) Mycoses is the condition of having ----- infection.
 - a) Insects
 - b) Bacterial
 - c) Viral
 - d) Fungal

- 5) Anabolic toxins are synthesized by -----
 - a) Viruses only
 - b) Insects
 - c) Pathogens
 - d) Mammals

- 6) Chemosterillants does the important work in IPM is -----
 - a) To kill the insect
 - b) To produce the insect
 - c) To attract insect
 - d) To rendering them unattractive

- 7) Any chemical that inhibit the growth of gonads are called as -----
 - a) Chemosterillants
 - b) Attractants
 - c) Synomones
 - d) Alarm pheromones

- 8) Restriction endonuclease enzyme is known to the -----
 - a) Attach DNA fragment
 - b) Cut the DNA fragment
 - c) Cut the RNA fragment
 - d) All the above

- 9) Micromus is done the work to suppress the ----- pest.
 - a) Sugarcane wooly aphid
 - b) Cut worm
 - c) Termite
 - d) Fruit fly

- 10) The full form of CPV -----
 a) Cytoplasmic polyhydrosis Virus b) Cytophagous Virus
 c) Cytochrome polished Virus d) None of the these
- 11) Due to Cytoplasmic incompatibility ----- type of insect control occurred.
 a) Mechanical b) Legal
 c) Genetic d) All the above
- 12) Neurohormones are present in _____ organ of insects.
 a) brain b) intestine
 c) kidney d) none of the above
- 13) Genetic control of screw worm fly was initiated by -----
 a) F.E.Edward b) E.F.Kinipling
 c) C.Raymond d) None of the above
- 14) What do you mean by HaNPV0 -----
 a) *Heliothis armigera* Nuclear Polyhydrosis Virus
 b) *Helicoverpa armigera* Nuclear Polyhydrosis Virus
 c) *Helicopa army* Nuclear Polydimensional Virus
 d) *Helicomb army* Nuclear Polymorphic Virus

Selection- II

- Q.2** a) Define the biological control. Explain the different techniques used in biological control with suitable example. **07**
 b) Describe the importance of biotechnological applications in pest management. **07**
- Q.3** a) What is the genetic control? Explain the different techniques used in genetic control with suitable example. **07**
 b) Describe in brief the methodology of *Bacillus thuringiensis*. To introduce gene into plant so as to produce transgenic plants. **07**
- Q.4** a) Explain the role of predators and parasitoids in pest management. **07**
 b) Describe the implementation strategies in IPM. **07**

Selection- III

- Q.5** a) Microbial method in pest control. **05**
 b) Antifidants. **05**
 c) Semichemicals. **04**
- Q.6** a) Chemosterillants. **05**
 b) Nuclear Polyhydrosis Virus **05**
 c) Role of fungi in pest control. **04**
- Q.7** a) Protenase inhibitor. **05**
 b) Light activated pesticides **05**
 c) Attractants and Repellants **04**

Master of Science – II (Agrochemicals and Pest Management)**Examination: Oct / Nov 2016 Semester – IV (CGPM)**

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SP – 29	Tuesday 22/11/2016	02.30 PM To 05.00 PM	Manufacture of Agrochemicals	XV	

- Instructions:**
- 1) All sections are compulsory.
 - 2) Question 1 should be answered by choosing the correct answer.
 - 3) Attempt any two questions from section II and two questions from section III
 - 4) All questions carry equal marks.

Total Marks: 70

SECTION – 1

Q.1 A) Choose the correct answer (one mark each)

14

- 1) Agrograde sulphur is used as
 - a) Herbicide
 - b) Fungicide
 - c) Growth retardant
 - d) Growth promoter
- 2) The acute toxicity of dimethoate for rat is
 - a) 320 to 500 mg/kg
 - b) 365 to 540 mg/kg
 - c) 60 to 120 mg/kg
 - d) 30 to 45 mg/kg
- 3) Distillation is a process in which _____ components are separated from the mixture.
 - a) Solid
 - b) Gaseous
 - c) Volatile
 - d) Water
- 4) Distribution coefficient becomes equal to distribution ratio when there is _____.
 - a) No association
 - b) No dissociation
 - c) No polymerization
 - d) All of these
- 5) Continuous counter current extraction is applicable when _____.
 - a) Solute has slow distribution coefficient
 - b) Solute has high distribution coefficient
 - c) Solute is volatile
 - d) Solute is non-volatile
- 6) A generalized fragment usually an ion, produced by a disconnection is
 - a) Synthone
 - b) Synthetic equivalent
 - c) Reagent
 - d) Target molecule
- 7) In absorption tower packing the broken rock is generally not used due to _____.
 - a) Easy availability
 - b) Low cost
 - c) Great weight
 - d) Unusual size and shape
- 8) For drying of milk and milk products _____ dryers are used
 - a) Spray
 - b) Turbo
 - c) Tray
 - d) Conveyor

Master of Science – II (Agrochemical and Pest Management)
Examination: Oct / Nov 2016 Semester – IV (CGPA)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SP – 30	Thursday 24/11/2016	02:30 PM to 05:00 PM	Pest and Diseases of Crop Plants - II	XVI	

- Instructions:**
- 1) Section I is compulsory.
 - 2) All questions carry equal marks.
 - 3) Solve any two questions from Section II.
 - 4) Solve any two questions from Section III.

Total Marks: 70

SECTION 1

Q.1 Choose the correct alternative and rewrite the sentences **14**

- 1) White grub shows its pupation more in _____
 a) Leaves b) Balls
 c) Soil d) Both 'a' and 'b'

- 2) Scientific name of Rice striped borer is _____
 a) *Chilo suppressalis* b) *Atherigona soccata*
 c) *Periplaneta Americana* d) *Helocoverpa armigera*

- 3) Red pumpkin beetle belongs to the order _____
 a) Hemiptera b) Lepidoptera
 c) Coleoptera d) None of these

- 4) Which woolly aphid of sugarcane is firstly noticed in _____ state.
 a) Kashmir b) Assam
 c) Maharashtra d) Tamilnadu

- 5) *Dacus cucurbitae* is known as _____
 a) Pink borer b) Stem borer
 c) Shoot borer d) Fruit fly

- 6) Pollu beetle is _____ pest.
 a) Monophagous b) Oligophagous
 c) Polyphagous d) None of these

- 7) The network of veins in leaves is shown by feeding of _____
 a) Pink fly b) Stem borer
 c) Leaf webber d) Midge fly

- 8) Blight of tomato caused by fungus _____
 a) *Nurospora crassa* b) *Alternaria alternata*
 c) *Alternaria solani* d) None of these

- 9) _____ is mean by wart of potato
 a) Corky outgrowth on stem b) Corky outgrowth on leaves
 c) Corky outgrowth on root d) None of the above

