# M.Sc. (Semester - I) (CBCS) Examination Mar/Apr-2018 **Agrochemicals And Pest Management CHEMISTRY OF PESTICIDES AND THEIR FORMULATIONS - I**

Time: 2<sup>1</sup>/<sub>2</sub> Hours

Seat

No.

**Instructions:** 1) All sections are compulsory.

- 2) Figures to the right indicate full marks.
- Attempt any two questions from section-II and Section-III
- All questions carry equal marks.

# Section – I

#### Q.1 Select most correct alternative of the following. (Each carry 1 marks) 1) In Benzoin condensation, benzaldehyde undergoes self condensation in the

- presence of a) Sodium ethoxide b) Sodium hypobromite c) Sodium hydroxide d) Sodium cyanide
- 2) Alkylation of benzene is carried out with alkyl halide in presence of \_\_\_\_\_.
  - a) AICI<sub>3</sub> b)  $ZnCl_2$
  - c) FeCl<sub>3</sub> d) CdCl<sub>2</sub>
- In Cannizarro reaction two molecules of aldehyde in presence of conc. alkali undergoes

b) Oxidation and reduction

d) Both undergoes reduction

a) Addition reaction

a) Sulphur

a)

C<sub>2</sub>H<sub>5</sub>O

- c) Both undergoes oxidation
- 4) SN<sup>2</sup> reaction example of reaction.
  - a) Electrophilic substitution b) Nucleophilic substitution c) Electrophilic addition
    - d) Electrophilic substitution
- 5) Which of the following pesticide is formulated in the form of dust
  - b) Diazinon
  - c) Acetamide d) Dimethyl benzamide
- Chemically natural pyrethroids are \_
  - a) Acids c) Esters

  - a) Terpenoid b) Limonoid
    - c) Alkaloid
- 8) Which of the following is correct structure of Diazinon?  $C_2H_5Q$ S







Max. Marks: 70

14

SLR-UA-1

Set

# SLR-UA-1 9) Which of the following compound is not fumigant? b) HCN d) CH<sub>3</sub>CI

10)Which of the following is not synthetic pyrethroid?

a) CH<sub>3</sub>Br

c) PCNB

- a) Jasmolin b) Cypermethrin
- d) Allethrin c) Deltamethrin
- 11)Perkin's reaction is carried out at \_\_\_\_\_ \_temperature.
  - b) 190°c a) 200°c d) 180°c c) 150°c
- 12)Rogar is trade name of \_\_\_\_\_
  - b) Thiamate a) Dimethoate
  - c) Phorate d) Malathion
- 13) Pyridine ring system is presented in \_\_\_\_\_
  - a) Quinalphos b) Monocrotophos
  - c) Chlorpyriphos d) Phorate
- 14)N N dimenthyl benzamide is used as \_\_\_\_
  - a) Pesticide b) Insect repellant
  - c) Fungi cide d) Insect attractant

#### Section – II

# Attempt any two questions from this section:-

Q.2 A) Complete the following reaction and suggest the mechanism. Name the 07 reaction.



- B) Describe the following pesticide formulations.
  - 1. Baits and Lures
  - 2. Smoke and Dusts
- Q.3 A) Give synthesis of Quinalphos and Malathion. B) Describe the use of Neem plant extract in pest control.
- Q.4 A) Discuss Benzoin condensation reaction with mechanism. **B)** Give synthesis and uses of Permetherin and Deltametherin.

#### Section – III

# Attempt any two questions from this section:-

A) Discuss  $SN^2$  reaction with mechanism. Give energy profile diagram. Q.5 05 B) Give synthesis and uses of moncrotophos. 05 C) Describe the formulation of emulsions. 04 A) Give synthesis and uses of chloropyriphos. 05 Q.6 B) Describe the recently used insect attractants and repellants. 05 **C)** Discuss  $E_1$  – elimination with mechanism. 04 A) What is Pinacol? Discuss Pinacol-Pinacolone rearrangement reaction with Q.7 05 mechanism. **B)** What are pest and pesticides? Give their classification. 05 C) Write note on non-toxic insect controlling agents. 04

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07

07

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		M.Sc. (Semester - II) (CBCS) E	xai est	mination Mar/Apr-2018 Management
	С	HEMISTRY OF PESTICIDES AND	) T	HEIR FORMULATIONS - II
Time:	2½	Hours		Max. Marks: 70
Instru	ictio	<ul> <li>ans: 1) All sections are Compulsory.</li> <li>2) All Question carry equal marks.</li> <li>3) Attempt any two Questions from</li> <li>4) Figures to the right indicate full r</li> </ul>	Se	ction-II & III. ks.
0.1	6.	Section	—     a:	ving 1
Q.1	<b>5e</b> 1)	Methiuron is derivative of .	1101	ving.
	,	a) Urea c) Malonyl urea	b) d)	Thiourea Thiocyanate
	2)	Urea derivatives are used as a) Herbicides c) Fungicides	b) d)	Rodenticides Weedicide
	3)	<ul><li>Penta chlorophenol on oxidation gives</li><li>a) Hexachloroquinol</li><li>c) Chloranil</li></ul>	b) d)	Quinol Hydroxyquinol
	4)	Reaction between p – chloro thiopheno forms a) P – fluoroparaside c) Chlorobenside	blate b) d)	e with p–chlorobenzyl chloride Mesaltan Pantalan
	5)	Name the following pesticide CH <sub>3</sub> CH CH <sub>3</sub>		NO <sub>2</sub> NO <sub>2</sub>
		<ul><li>a) Dinobuton</li><li>c) P–nitrophenol</li></ul>	b) d)	Dinoseb Tenuron
	6)	Phthalan is obtained by condensation of	of so	odium salt of phthalimide with
		a) Chloral c) Carbon tetrachloride	b) d)	Chloroform Perchlor
	7)	Ester derivative of carbamic acid are kr a) Carboxylic acid c) Carbolic acid	now b) d)	n as Carbamate Carboxylic ester

Seat

No.

# SLR-UA-6

Set P

8) Name the following pesticide.



#### Attempt any two questions from this section:-

- Q.2 a) Give synthesis of Nitralin and Benifin.
  - b) Describe the role of Zinc oxide and Zinc phosphate as pest control. 07
- a) Give synthesis and uses of Ziram and Zineb. Q.3
  - **b)** Explain the role of urea derivatives as herbicides. Give synthesis manuron. 07

07

	5	SLR-UA-6
Q.4	<ul> <li>a) Give synthesis and uses of Baygon and Carbaryl.</li> <li>b) Give synthesis and uses of Endosulphan and 2, 4 – D.</li> </ul>	07 07
	Section – III	
Q.5	<ul> <li>Attempt any two questions from this section:-</li> <li>a) Describe the role nitro compounds as pest controls.</li> <li>b) Give synthesis and uses of Menab.</li> <li>c) Explain the role of copper compounds as fungicide.</li> </ul>	05 05 04
Q.6	<ul> <li>a) Give synthesis of Dicofol.</li> <li>b) Explain the structure activity relationship of carbamate with reference acetyl coline.</li> <li>c) Describe the use of computer in pesticide analysis.</li> </ul>	e to 05 05 04
Q.7	<ul> <li>a) Explain the role of hydrogen cyanide and carbon disulphide as fumiging</li> <li>b) Give synthesis and uses of Butachlor.</li> <li>c) Write a note on sulphur fungicides.</li> </ul>	gants. 05 05 04

# No. M.Sc. (Semester - II) (CBCS) Examination Mar/Apr-2018 **Agrochemicals And Pest Management**

# ANALYTICAL TECHNIQUES FOR AGROCHEMICALS

Time: 21/2 Hours

Seat

Instructions: 1) All Sections are Compulsory.

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

# **SECTION - I**

#### Choose the most correct answer (one mark each):-Q.1

- 1) Anion exchange chromatography is used for separation of . b) Cations only
  - a) Both cations and anions
  - c) Anions only d) Natural species
- 2) A polymer containing \_\_\_\_\_ group acts as cationic resin.
  - a) Phenolic b) Primary amine
  - c) Secondary amine d) Tertiary amine
- 3) In paper Chromatography, the R<sub>f</sub> value is given by the equation.
  - a) Distance travelled by solute divided by distance travelled by solvent
  - b) Distance travelled by solvent divided by distance travelled by solute
  - c) Distance moved by component divided by distance moved by solute
  - d) Distance moved by the substance divided by distance moved by solute
- 4) Methyl red is \_\_\_\_\_ in acid solution.
  - a) Red b) Yellow d) Pink
  - c) Orange
- In Gravimetric estimation iron is precipitated as \_
  - a) Iron powder b) Iron Hydroxide
  - c) Iron Oxide d) Iron Sulphate
- 6) In complex formation titrations, the indicators used are generally known as \_\_\_\_\_ indicators.
  - a) Universal

- b) Fluorescence
- c) Metallochromic d) Chromogenic
- 7) In a conductivity cell \_\_\_\_\_ plates are used as a electrode.
  - a) Copper b) Aluminum
  - d) Platinum c) Zinc
- 8) In potentiometric titration the potential of indicator electrode depends on the of ions present in the solution.
  - a) Pressure
  - c) Volume

- b) Temperature
- d) Concentration
- 9) SI unit of conductance is \_\_\_\_\_.
  - a) siemen
  - c) ohm<sup>-1</sup>

- b) ohm
- d) mhos

Max. Marks: 70

- Set
- SLR-UA-7

Page 2 of 2

- 10) The term P<sup>H</sup> was introduced by \_\_\_\_\_
  - a) S. P. L Sorenson
  - c) G. P. S. Lowry
- 11) Quinhydrone electrode is used in titration. b) Potentiometric
  - a) Conductometric
  - c) lodometric d) Volumetric
- 12) One of the main forms of chemical interference in flame emission spectroscopy is \_\_\_\_\_.
  - a) Salt formation
  - c) Reduction

b) Ionization

d) Newton

d) Complex formation

b) A. P. L Supermen

- 13) In the angle of the rotation of a plane polarized light is measured. a) AAS
  - b) TGA
  - d) Polarimetry c) Colorimetry
- 14) The hottest flame in  $O_2$  is produced by
  - a) Acetylene b) Butane
  - d) Hydrogen c) Cyanogens

# **SECTION – II**

a) Explain principle of flame photometer with schematic diagram. 07 Q.2 **b)** What are acid base titrations? Explain their types with example. 07 Q.3 a) Describe principle, working and applications of thin layer chromatography. 07 **b)** Describe in detail the procedure of stripping voltametry using hanging 07 mercury drop electrode. a) What is paper chromatography? Explain various types of development of Q.4 07 paper chromatography. **b)** Explain precipitation titration w.r.t. determination of Mg, Zn and Ca. 07 **SECTION - III** a) Write applications of turbidimetry. Q.5 05 b) Describe how sampling of solids and gases can be done? 05 c) Write note on specific and equivalence conductance. 04 a) What are optically active pesticides? How are they analyzed? 05 Q.6 b) Write applications of conductivity measurement in the analysis of salinity and 05 soil moisture. c) Describe gravimetric estimation of Fe. 04 a) What are complexometric titrations? Describe metallochromic indicators. 05 Q.7 **b**) Write applications of  $P^{H}$  metry in food and juice analysis. 05 c) Write applications of atomic absorption spectrometer. 04

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Time	e: 2½ Hours	Max. Marks: 70
Instr	ructions: 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	
	Section – I	
Q.1	Choose correct answer from options given below.1) Malaria causes due to mosquito.a) Male Anophelesb) Female Anoc) Female Culexd) Male Aedes	14 opheles
	<ul> <li>2) Scientific name of Khapra beetle is</li> <li>a) Holotrichia consanguinea</li> <li>b) Periplaneta</li> <li>c) Cimex lectularius</li> <li>d) Musca dome</li> </ul>	Americana estica
	<ul> <li>3) is sucking pest.</li> <li>a) Aphid</li> <li>b) Nematode</li> <li>c) Silver fish</li> <li>d) Helicoverpa</li> </ul>	borer
	<ul> <li>4) Sooty mold found on part of the plants.</li> <li>a) growing b) stem</li> <li>c) root d) none of the</li> </ul>	above
	<ul> <li>5) Colony structure and polymorphism is the character</li> <li>a) Monkey</li> <li>b) House spars</li> <li>c) Termite</li> <li>d) Pulse beetle</li> </ul>	ristics of row
	<ul> <li>6) is the vector of tuberculosis.</li> <li>a) Khapra beetle</li> <li>b) Helicoverpa</li> <li>c) Rat</li> <li>d) Bed bug</li> </ul>	borer
	<ul> <li>7) Cut worm belongs to family</li> <li>a) Aleyrodidae</li> <li>b) Buprestidae</li> <li>c) Cimicidae</li> <li>d) Moridae</li> </ul>	
	<ul> <li>8) Chemicals used to control nematodes are known as</li> <li>a) Pesticides</li> <li>b) Insecticides</li> <li>c) Sprayers</li> <li>d) Nematicides</li> </ul>	S
	<ul> <li>9) Rat belongs to order</li> <li>a) Coleopteran</li> <li>b) Anura</li> <li>c) Chelonian</li> <li>d) Rodentia</li> </ul>	
	10)Hetetoderma spp. is called asa) Root knot nematodeb) Seed gall nec) Cyst nematoded) None of the	ematode above
	<ul> <li>11) is the parasite on domestic animals.</li> <li>a) Mite</li> <li>b) House fly</li> <li>c) Nematode</li> <li>d) Pulse beetle</li> </ul>	Ç

# M.Sc. (Semester - II) (CBCS) Examination Mar/Apr-2018 Agrochemicals And Pest Management ECONOMIC ENTOMOLOGY

# SLR-UA-8

Set P

Seat No.

	<ul><li>12) is the enemy of apic</li><li>a) Monkey</li><li>c) Green bee eater</li></ul>	culture in vertebrate pest. b) House sparrow d) Nematode	
	<ul> <li>13) crop is damaged by</li> <li>a) Wheat</li> <li>c) Coconut</li> </ul>	Amaragnata spp. b) Rice d) Apple	
	14)Flying foxes having great sense a) audio c) smell	e of b) sight d) hearing	
	S	ection – II	
Q.2	<ul><li>a) Describe life cycle stages of bee</li><li>b) Describe reproduction pattern in</li></ul>	d bug. n Termite with suitable diagram.	14
Q.3	<ul><li>a) Describe Root Knot nematode.</li><li>b) Describe different orders of inse</li></ul>	ects with their characters.	14
Q.4	<ul><li>a) Explain Snail as a molluscan pe</li><li>b) Describe nature of damages an</li></ul>	est of agricultural crops. d control measures of white grub.	14
	Se	ection – III	
Q.5	<ul> <li>a) Nature of damages caused by A</li> <li>b) Explain damages caused by Mo</li> <li>c) Write difference in sucking and</li> </ul>	Anopheles mosquitoes. onkey. live stock pest with suitable example.	05 05 04
Q.6	<ul> <li>a) Describe nature of damages of</li> <li>b) Control measures of stored grai</li> <li>c) Write morphological peculiarities</li> </ul>	Rice weevil. n pest. s of Porcupine.	05 05 04
Q.7	<ul> <li>a) Discuss specific feeding charac Worm.</li> </ul>	ters and Control measures of Lawn Web	05
	b) Draw life cycle diagram of Silver	r fish.	05

b) Draw life cycle diagram of Silver fish.c) Damages caused by sucking sand fly.

Seat No.							Set	Ρ
	M	Sc. (Semester. Agro PESTIC	- III) (No chemic CIDE RE	ew) (CBCS als And P SIDUES /	S) E 'est ANI	Examination Mar/Ap Management D TOXICOLOGY	or-2018	
Time: 2	21/2	Hours					Max. Mark	s: 70
Instruc	ctic	ons: 1) All Questio 2) All Questio 3) Attempt an 4) Attempt an	ns are co ns carry e y two que y two que	mpulsory. equal marks estions from estions from	Sec Sec	ction-II. ction-III.		
Q.1	<b>Ch</b> 1)	oose the correct Which of the follov a) Carbaryl c) DDT	option g wing pest	i <b>ven below:</b> icide is carb	- ama b) d)	ate type? Malathion Endosulphon		14
:	2)	The conversion of chemically reactiv a) bioaccumulation c) bioactivation	certain c e metabc on	hemically st lites is term	able ed a b) d)	e compounds to highly as biodegradation none of these		
;	3)	Silicon inhalation a) asbestosis c) silicosis	causes _	in	hui b) d)	man being. silicoponia none of these		
	4)	Conversion of the microorganisms is a) bioaccumulation c) bioactivation	pesticide called on	molecule to	bar b) d)	non toxic compound by biodegradation none of these		
	5)	Teratogenic subst a) pneumonia c) headache	ances ar	e responsibl	e fo b) d)	r anemia none of these		
	6)	Organophosphoru cholinesterase en a) digestive c) nervous	is pesticio zyme.	les affect	b) d)	system by inhibition circulatory all of the above	of acetyl	
-	7)	Azadiractin is a) synthetic c) natural		pesticide	b) d)	imported none of these		
1	8)	Sudden and perm a) mutation c) genetics	anent cha	ange in geno	ome b) d)	of an organism is expression none of these		
9	9)	Lead and Mercuria a) moderate c) temporary	al pesticio	des are	b) d)	persistence in atm permanent none of these	osphere.	

	10)Asbestos inhalation causesa) asbestosisc) asbetophobia	in human being. ) asbestoponia ) none of these	
	11)In liquid chromatography liquid contains a) steady c) detector	in column as phase. ) mobile d) none of these	
	12)HPLC is type of chromatogr a) high volume b c) high profile c	raphy. ) high pressure d) none of these	
	<ul> <li>13) The conversion of certain chemically stal chemically reactive metabolites is termed a) bioactivation</li> <li>bioaccumulation</li> <li>14) Henatic necrosis is the disorder related to the start of the start of</li></ul>	ble compounds to highly d as b) biodegradation d) none of these	
	a) salivary c) both a and b	b) liver d) none of these	
Q.2	<ul> <li>a) Define pesticides? How they can enter in</li> <li>b) Write in brief the technique of HPLC for t vegetables.</li> </ul>	II n atmosphere? he analysis of pesticide residue in	07 07
Q.3	<ul><li>a) Write an essay on scope toxicology in ag</li><li>b) Comment upon effects of pesticide reside</li></ul>	ıriculture. ue on soil micro-organisms.	07 07
Q.4	<ul> <li>a) Write the symptoms and treatment of – A</li> <li>b) Explain in brief the biological magnification example.</li> </ul>	Arsenic and Opium poisons. On of pesticides with suitable	07 07
	Section –	11	
Q.5	<ul> <li>a) Role of acetyl choline esterase.</li> <li>b) Write a note on Minamata disease.</li> <li>c) Explain in brief soil micro flora and fauna</li> </ul>		05 05 04
Q.6	<ul> <li>a) Disciplines of toxicology.</li> <li>b) Explain carcinogens.</li> <li>c) Application of GC in residue analysis.</li> </ul>		05 05 04
Q.7	<ul> <li>a) Write a note on Bhopal gas tragedy.</li> <li>b) Selective pesticides.</li> <li>c) Cardiac poison.</li> </ul>		05 05 04

	N	I.Sc. (Semester - III) (New) (CBCS Agrochemicals And P ADVANCES IN PES	S) E est T C	Examination Mar/Apr-2018 t Management CONTROL - I
Time	: 2½	2 Hours		Max. Marks: 70
Instr	ucti	<ul> <li>ons: 1) All questions are compulsory.</li> <li>2) Attempt any two questions from</li> <li>3) Attempt any two questions from</li> <li>4) All questions carry equal marks.</li> </ul>	Seo Seo	ction-II ction-III
Q.1	<b>C</b> h 1)	In sandwich method the known amount and batch of insects.	to i	14 nsecticide is put between
		a) two leaves c) two crops	b) d)	two insects two flowers
	2)	<ul><li>Bioassay is the determination of response</li><li>a) insect</li><li>c) host plant</li></ul>	se d b) d)	of aon living organisms. chemicals none of these
	3)	The fumigation method is carried out in a) closed chamber c) vacuum	b) d)	open air dark room with no ventilation
	4)	In injection method with the help of of insecticide is directly injected in the sy a) sterile c) both a and b	yste b) d)	needle the measured amount ems in insect body. hypodermic none of these
	5)	IPM stands for a) Integrated pest management c) Important pest management	b) d)	Integral pest management Inverted pest management
	6)	In antixenosis the host plant may reduce a) feeding c) seeking shelter	e b) d)	habit of insect. oviposition all of the above
	7)	Antibiosis refers to the adverse effect of the insects. a) biology c) tolerance	the b) d)	e host plant on the of oviposition mating
	8)	The dose of the insecticide to control ins a) milligram / gram c) milligram / kilogram	b) d)	t attacks of taken on basis of milligram kilogram / milligram
	9)	is an organism which is usual single individual able to kill their prey. a) predators c) parasitoids	ally b) d)	much larger than its prey and a parasites all of the above

# Seat No.

SLR-UA-11

Set

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	10)A substances released by one sex f	or attracting another is called as	
	pheromone. a) alarm c) sex	b) aggregation d) repell	
	<ul><li>11) is included in biological</li><li>a) insecticide</li><li>c) weedicide</li></ul>	method of pest control. b) herbicide d) attractants	
	12)The control of insect pest by steriliza 1937.	ation was 1 <sup>st</sup> discovered by in	
	<ul><li>a) Albert Einstein</li><li>c) Rutherford</li></ul>	<ul><li>b) E. F. Knipling</li><li>d) Jorge Mendel</li></ul>	
	<ul> <li>13) plants leaves are used a</li> <li>a) Neem</li> <li>c) Tulsi</li> </ul>	as a repellent against stored grain pest. b) Ashoka d) Turmeric	
	<ul><li>14)Phosphine gas is used for the mana</li><li>a) forest</li><li>c) ornamental</li></ul>	gement for pest. b) stored grain d) medicinal	
0.2	Sect	ion – II arts of Rucket and Knapsack type of	07
Q.2	<ul><li>b) Enlist various methods of pest control with suitable example.</li></ul>	ol. Explain the cultural method of pest	07
Q.3	<ul> <li>a) Give an account of Pheromones in period</li> <li>example.</li> <li>b) Define host plant resistance. Explain</li> </ul>	pest control programme with suitable	07 07
Q.4	<ul> <li>a) Define pest and enlist the different ty</li> <li>b) Give importance and side effects of management.</li> </ul>	ypes of pest with suitable examples. Neem based preparations is pest	07 07
	Sect	ion – III	
Q.5	<ul> <li>a) Insect growth regulators.</li> <li>b) Write a note on attractants.</li> <li>c) Legal method of pest control.</li> </ul>		05 05 04
Q.6	<ul> <li>a) Breeding for insect resistance.</li> <li>b) Plant products in pest control.</li> <li>c) Natural method of pest control.</li> </ul>		05 05 04
Q.7	<ul> <li>a) Estimation of losses causes by inser</li> <li>b) Bioassay method</li> <li>c) Antifedants</li> </ul>	ct pest.	05 05 04

c) Antifedants

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M.Sc. (Semeste Ag	er - III) (New) (CBC rochemicals And I DISEASES OF CR	S) Examination Mar/Apr-2018 Pest Management OP PLANTS - I
Time: 21/2 Hours		Max. Ma
	<b>A</b> 1	

#### **Instructions:** 1) All sections are Compulsory.

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- 2) Figures to the right indicate full marks.
- 3) Solve any two Questions from Section-II
- 4) Solve any two Questions from Section-III
- 5) All questions should be written in same answer book.
- 6) Draw neat & labeled diagram wherever necessary.

#### Section – I

#### Select most correct alternative of the following. Q.1

- 1) Leaf spot disease of Groundnut is caused by
- a) <u>Puccinia arachidis</u>
  b) <u>Cercospora arachidicola</u>
  c) <u>Puccinia purpurea</u>
  d) Both a and c 2) <u>Phakopsora pachyrhizi</u> causes \_\_\_\_\_ disease of soybean.
   a) Anthracnose \_\_\_\_\_ b) Rust a) Anthracnose b) Rust d) Brown stem rot c) Leaf spot 3) Erysiphe cichoracearum causes \_\_\_\_\_ disease of sunflower. a) Rust b) Downey mildew c) Powdery mildew d) Blight 4) <u>Albugo candida</u> causes \_\_\_\_\_\_ disease of mustard. b) White rust a) Stem rust c) Powdery mildew d) Black rust Root rot disease of safflower is caused by \_\_\_\_\_ a) <u>Sclerotium bataticola</u> b) <u>Fusarium oxysporum</u> c) <u>Pythium splendens</u> d) Both a and b 6) Rust of castor is caused by \_\_\_\_\_ b) Puccinia helianthi a) Melampsora ricini c) Cercospora ricinella d) Cercospora personata Wilt disease of sesamum is caused by \_\_\_\_\_ a) <u>Pythium splendens</u>
  b) <u>Fusarium oxysporum</u>
  c) Cercospora sesami
  d) Plasmopara viticola c) Cercospora sesami d) Plasmopara viticola 8) Corn smut is caused by \_\_\_\_\_. a) <u>Ustilago maydis</u> b) <u>Puccinia maydis</u> d) Tilletia caries c) Ustilago avenae 9) Pyricularia oryzae causes \_\_\_\_\_ disease of rice.a) False smutb) Seedling blight b) Seedling blight c) Blast d) Udbatta 10)In false smut disease of Rice the pathogen infects the \_\_\_\_\_ only. a) Stem b) Leaf c) Spikelets d) Root

# SLR-UA-13

Max. Marks: 70

Set P

	<ul> <li>11)GSD of sugarcane was first observed in state.</li> <li>a) Tamilnadu</li> <li>b) Bihar</li> <li>c) Orissa</li> <li>d) Maharashtra</li> </ul>	
	12)Cephalosporium gregatum causes disease of soybean.a) Frog eye leaf spotb) Brown stem rotc) Rustd) Anthracnose	
	13)The sugarcane crop is affected by disease.a) Rustb) Smutc) Downy mildewd) All of these	
	14)Angular leaf spot of cotton is disease.a) Fungalb) Bacterialc) Virald) Mycoplasma	
	Section – II	
Q.2	<ul> <li>Attempt any two questions from this section:-</li> <li>A) Describe the disease Downy mildew of Bajara w.r.t. its causal organism, symptoms and control.</li> </ul>	07
	<ul> <li>B) State the name of pathogen, symptoms and control measures of Root rot disease of groundnut.</li> </ul>	07
Q.3	A) Write the name of causal organism, symptoms, nature of damage and control	07
	<ul><li>B) Write the name of Pathogen, symptoms and control measures of Anthracnose of soybean.</li></ul>	07
Q.4	<ul> <li>A) Write causal organism, symptoms, nature of pathogen and control measures of Blast of Rice.</li> <li>B) Write symptoms, nature of damage and control measures of Bust of Caster.</li> </ul>	07
	<b>b)</b> while symptoms, hattire of damage and control measures of Rust of Castor.	07
	Attempt any two questions from this section-	
Q.5	<ul> <li>A) Describe the disease cycle of whip smut of sugarcane.</li> <li>B) State the symptoms and control measures of wilt of cotton.</li> <li>C) Write symptoms and control measures of GSD of Sugarcane.</li> </ul>	05 05 04
Q.6	A) Enlist the diseases of forage crops and write symptoms of Rust of any fodder	05
	<ul><li>B) Write symptoms of white rust and powdery mildew of Mustard.</li><li>C) Write symptoms and control measures of grain smut of Jowar.</li></ul>	05 04
Q.7	<ul> <li>A) Write symptoms and control measures of stem rust of wheat.</li> <li>B) Enlist the diseases of pulses and vegetables write symptoms of Powdery mildew of beans.</li> </ul>	05 05
	C) Write symptoms and nature of damage of early blight of Tobacco.	04

Time:	21/2	Hours		Max. Marks:70
Instru	icti	<ul> <li>ons: 1) All sections are compulsory.</li> <li>2) Attempt any Two questions from \$ 3) Attempt any Two questions from \$ 4) Figures to the right indicate full maginal</li> </ul>	Sect Sect arks	tion II. tion III. 5.
		Section –	I	
Q.1	<b>Ch</b> 1)	noose correct answer from options give is a delivery of standard of liv a) Marketing c) Consumption	<b>en b</b> ring b) d)	to the society. Product Purchase power
	2)	The concept of 7 P's given by a) F. W. Taylor c) Mc Carty	 b) d)	Philip Kotler None of these
	3)	Modern concept of marketing is a) Sales c) Production	( b) d)	oriented. Profit Customer
	4)	<ul> <li> is the sum total of all factors the a) Marketing concept</li> <li>c) Marketing research</li> </ul>	nat a b) d)	affects Marketing transactions. Marketing environment Market segmentation
	5)	is an attempt to recognize dis the product. a) Product Life Cycle c) Human Life Cycle	stinc b) d)	ct stages in the sales history of Project Life Cycle None of these
	6)	Agro-based marketing management used a) Inform the farmer c) Increase sales	d foi b) d)	r Growth of agro-sector All of these
	7)	Buying behavior is basically i a) Economical c) Psychological	n na b) d)	ature. Social Cultural
	8)	factor is not includes in macro a) Legal c) Social and cultural	o er b) d)	nvironment of marketing. Economical Ethics and values
	9)	problem in agro marketing. a) Competition c) Govt. policy	b) d)	Education All of these
	10	<ul> <li>is the value of the product or set terms.</li> <li>a) Product</li> <li>c) Place</li> </ul>	ervic b) d)	e to customer into quantitative Price Promotion

Seat	
No.	

# M.Sc. (Semester - IV) (New) (CBCS) Examination Mar/Apr-2018 Agrochemicals and Pest Management AGRO-BASED MARKETING MANAGEMENT

:70

Set Ρ

- SLR-UA-20

	11)	The major components of marketing mix a) Product c) Place	are b) d)	Price All of the above	
	12)	Marketing is process which aims at a) Promotion c) Satisfaction of consumer needs	b) d)	 Profit making Selling goods	
	13)  	If only wanted to target the age group be known as marketing? a) Direct	twe b)	en 18 to 35, this policy is Indirect	
	14)_ ;;	<ul> <li>c) Target</li> <li> function of marketing create  </li> <li>a) Storage</li> <li>c) Transportation</li> </ul>	d) plac b) d)	None of these e utility in product. Selling Advertising	
		Section	– II		
	Sol	ve any two questions from Sec II.			
Q.2	a) b)	Define marketing and function of market Problems of agro based business.	ting		07 07
Q.3	a) b)	<ul> <li>a) Describe the factor affecting on buying behavior.</li> <li>b) Describe the various types of market.</li> </ul>			07 07
Q.4	a) b)	Use of 7 P's in agro based marketing. Types of mobile business.			07 07
		Section	– III		
	Sol	ve any two questions from Sec III.			
Q.5	a) b) c)	Importance of marketing. Process of marketing planning. Target marketing.			05 05 04
Q.6	a) b) c)	Explain the buying process. Product life cycle. Base of market segmentation.			05 05 04
Q.7	a) b) c)	Macro environment of agro-marketing. Importance buying behavior. Advantages of market segmentation.			05 05 04

c) Advantages of market segmentation.

Seat No.						Set	Ρ
	Μ.	Sc. (Semester - Agroc ADVA	IV) (New) (CBCS hemicals And Pe ANCES IN PEST	6) E est CC	Examination Mar/A Management NTTROL – II	pr-2018	
Time:	21⁄2	Hours				Max. Mark	s:70
Instru	ctio	ons: 1) All questions 2) Attempt any 3) Attempt any 4) All questions	are compulsory. Two questions from Two questions from carry equal marks	Se Se	ction II ction III		
			Section -	- 1			
Q.1	Ch	oose correct answ	er from options give	/en	below :-		14
	1)	a) Sugarcane wool c) Termite	y aphid	b) d)	Cut worm Trichogramma		
	2)	fungi ar a) <i>Trichogramma c</i> c) <i>Metarizium</i>	e used as biological chelonus	coi b) d)	ntrol agent. <i>Bacillus thuringiensis</i> None of these		
	3)	Chemicals released pheromone. a) aggregation c) sex	I by insect for feedin	g p b) d)	urpose are called alarm none of these		
	4)	PTTH is secreted by a) pituitary c) corpora alata	y of the l	bra b) d)	n. neurosecretary corpora cardiaca		
	5)	Antimetabolites is th a) attractants c) chemosterilant	ne example of	b) d)	 repellant pheromones		
	6)	<ul><li>Kairomones are inc</li><li>a) attractants</li><li>c) chemosterilant</li></ul>	luded in	b) d)	repellant pheromones		
	7)	The incompatible in a) biological c) cultural	sect technique is us	ed b) d)	in control. genetic all the above		
	8)	<i>Azadirechtin is used</i> a) egg c) pupal	d in pest control for i	nhii b) d)	<i>bit</i> growth. larval adult		
	9)	Triflumuron is used a) Starycide c) Herbicide	as	b) d)	Weedicide None of the above		
	10)	) is the s a) Round c) Cylindrical	hape of NPV.	b) d)	Quadrangular None of the above.		

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SLR-UA-21	
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	11)	Restriction endonuclease enzyme is kn a) attach DNA fragment c) both a and b	now b) d)	n to the cut DNA fragment none of the above	
	12)	Pathogens synthesize toxi a) anabolic c) genetic	ns. b) d)	metabolic all the above	
	13)	The production, isolation, modification means of biosynthesis is called as a) Zoology c) Botany	anc b) d)	use of substances derived by  Biotechnology Chemistry	
	14)	E. F. Kinipling was initiated a) mechanical c) genetic	_ co b) d)	ntrol of screw worm fly. cultural none of the above	
		Section	1 – I	I	
Q.2	a)	What is microbial control of insect pes details.	t an	d explain bacteria pathogen in	07
	b)	Explain predators and parasites in pes	st m	anagement.	07
Q.3	a) b)	What are the semiochemicals? Discu Describe the biotechnological applicat	ss t ions	he importance of attractants. s in pest management.	07 07
Q.4	a)	Define the biological control and discubiological control.	ss t	he trichogramma use in	07
	b)	Describe insect growth regulators.			07
		Sectio	n –	111	
Q.5	a) b) c)	Explain Repellant. Use of viral pathogen in pest manager Alarm pheromone	ner	ıt.	05 05 04
Q.6	<ul> <li>a) Somaclonal variability.</li> <li>b) Light activated pesticides.</li> <li>c) Enlist the advances in pest control.</li> </ul>		05 05 04		
Q.7	a) b) c)	Hot water treatment for disease contro Molting hormone. Transgenic plant.	ol.		05 05 04

c) Transgenic plant.

	Μ	I.Sc. (Semester - IV) (New) (CBCS Agrochemicals And Pe MANUFACTURE OF AG	5) E est GR	Examination Mar/Apr-2018 Management OCHEMICALS
Time	: 2½	2 Hours		Max. Marks:70
Instr	ucti	ions: 1) All Sections are compulsory. 2) Attempt any Two questions each 3) Attempt any Two questions each 4) All questions carry equal marks	n fro n fro	om Section II. om Section III.
		Section	- I	
Q.1	<b>Ch</b> 1)	Maneb is sold in the market as a) Heptachlor	• <b>gi</b> v  b)	ven below:- 14
	2)	<ul> <li>c) Diffione</li> <li>Rogar is also called as</li> <li>a) Parathion</li> <li>c) Dimenthoate</li> </ul>	a) b) d)	Diazinon Malathion
	3)	Diethyl amine and acetoacetic acid is the preparation of a) Dimethoate c) Phosphamidon	e st b) d)	arting material used for Malathion Chloropyriphos
	4)	Cost arising when product components requirements prior to transfer of owners cost.	and hip	materials fail to meet quality to customer is known as
		a) Failure c) Prevention	b) d)	Optimizing Appraisal
	5)	During the assessment of the purchase the store a) To make the funds available for purc b) To confirm that goods arrive in satisf c) To assure that goods are coming d) All of these	ord has act	er, the copy of order is send to se of goods ory condition
	6)	Imidacloprid is used as a) Herbicide c) Neonicotinoid insecticide	b) d)	Fungicide Rodenticide
	7)	A generalized fragment usually an ion p a) Synthon c) Reagent	rod b) d)	uced by disconnection is Synthetic equivalent Product
	8)	<ul><li>A species which is chemically equivalen</li><li>a) Synthon</li><li>c) Reagent</li></ul>	t to b) d)	synthon is called Synthetic equivalent Product
	9)	For the synthesis 2, 4-D what is used as a) Benzene c) Acetone	s sta b) d)	arting material? Phenol Cumene

Seat No.

SLR-UA-22

Set P

- c) Acetone

	10)	Chlorothalonil is used as a) Herbicide c) Fungicide	b) Insecticide d) Rotenticide	
	11)	LD-50 value of thiophenate methyl is _ a) 1 mg/kg c) 50 mg/kg	b) 6640 mg/kg d) 10000 mg/kg	
	12) t	Drying involves the removal of relative he solute. a) Solution c) Solute	ly small amount of from b) Moisture d) All the above	
	13)	Volatile components from the mixture a) Filtration c) Evaporation	are separated by process. b) Distillation d) None of these	
	14)	Two solvents used in solvent extractio a) Miscible c) Partially miscible	n should be b) Immiscible d) None of these	
		Sectio	n – II	
Q.2	a) b)	What is distillation? Describe fraction Write the synthesis, properties, uses, fate of thiophenate metalaxyl.	al distillation with diagram. mode of action and environmental	07 07
Q.3	a) b)	Define disconnection and describe types of disconnections. Explain the main features of industrial licensing policy.		
Q.4	a)	Write synthesis, mode of action, envi thiacloprid.	ronmental fate and applications of	07
	b)	Explain synthesis and unit process of	dimethoate.	07
	_	Section	on – III	
Q.5	a) b) c)	Describe types of dryers. Describe R and D laboratory specific Write a note on industrial safety.	ations.	05 05 04
Q.6	a) b) c)	Describe liquid-liquid type of extraction. Describe agrograde suphur. Write a note on ASTM and BIS specifications.		
Q.7	a)	Explain what precautions should be t chemicals?	aken while handling hazardous	05 05
	(a c)	Write a note on centrifuge machine.	roi and target molecule.	05 04

NO.		
	M.Sc. (Semester	- IV) (New) (CBCS) Examination Mar
	Agro	chemicals And Pest Management
	D	SEASES OF CROP PLANTS – II

Time <sup>.</sup> 2½ Hours	

Seat

# **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

#### Rewrite the following sentences by choosing the correct alternative. Q.1 1) Fungus Alternaria solani belongs to class: \_

a) Ascomycetes

b) Deuteromycetes

d) Oomycetes

- c) Schizomycetes
- e) Obsorbing nourishment from the host
- 2) 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
- 3) The rusts are caused by \_\_\_\_\_.
  - a) Ustilaginales
  - c) Uredinales
- Alternaria solani causes \_\_\_\_\_
  - a) Late blight of potato
  - c) Early blight of potato
- b) Wart of potato d) Leaf curl of potato

d) None of these

d) None of these

d) Erysiphales

5) Powdery mildew of Grapes caused due to b) Cercospora sp.

- a) Uncinula necator
- c) Both 'a' and 'b'
- Wilt of Peas, Beans caused due to fungus \_\_\_\_\_\_ b) Alternaria alternata
  - a) Uncinula necator
  - c) Alternaria Solani
- Erysiphe causes the disease \_\_\_\_\_
  - a) Powdery mildews
  - c) Covered smut
- 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 its life-cycle
- 9) Wilt disease of tomato is caused by \_\_\_\_
  - a) Aspergillus b) Puccinia d) Fusarium
    - c) Cercospora

- b) Downy mildews
- d) Late blight of potato

Set

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Max. Marks: 70

14

b) Peronosporales

10) 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.

11)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

12)Anthracnose of mango is caused by \_

- a) Pythium
  - d) Fusarium

13)Downy mildews are caused by the members of \_\_\_\_\_ b) Taphrinales

a) Erysiphales

c) Colletotrichum

- c) Ustilaginales
- 14)The rusts are caused by \_\_\_\_\_.
  - a) Ustilaginales
  - c) Uredinales

b) Peronosporales

d) Peronosporales

d) Erysiphales

b) Alternaria

#### Section – II

Q.2	a)	Explain the causal organism, nature of damage, symptoms and control measure of Blight disease of Tomato.	07
	b)	Explain the causal organism, nature of damage, symptoms and control measure of Anthracnose of Papaya.	07
Q.3	a) b)	<ul> <li>Comment up on following diseases with respect to causal organism, and control measures.</li> <li>1) Black rot disease of sugar beet</li> <li>2) Fruit rot of Cucurbits</li> <li>Explain Anthrachose of Mango: with respect to causal organism, symptoms</li> </ul>	07
	~)	& control measures.	01
Q.4	a)	Give details of Brown rot disease of <i>Citrus</i> ; with respect to causal organism, disease cycle, symptoms & control measures.	07
	b)	Comment up on fruit decay disease in Figs.	07
		Section – III	
Q.5	a) b) c)	Write down the disease cycle of 'black scurf of tubers' disease of potato. Write down the symptoms and control measures of Powdery mildews. Enlist any four Fruit trees diseases of vegetable crops along with their casual organism.	05 05 04
Q.6	a) b) c)	Write down causal organism and disease cycle of Wilt of Coconut. Write down control measures of 'Fruit root of Mango'. Enlist any four diseases of forest trees along with their causal organism.	05 05 04
Q.7	a) b) c)	Write down symptoms of black spot diseases on Guava. Write down general symptoms of fungal diseases. Enlist any two diseases of peas and beans along with their casual organism.	05 05 04