

Seat
No.

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

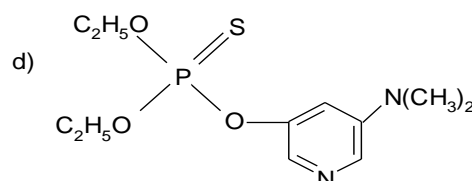
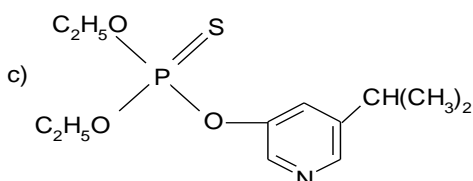
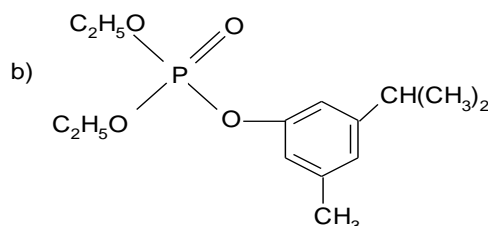
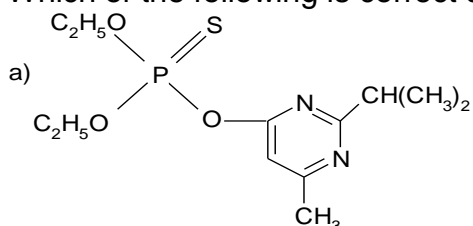
Time: 2½ Hours

Max. Marks: 70

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

Section – I**Q.1 Select most correct alternative of the following. (Each carry 1 marks) 14**

- In Benzoin condensation, benzaldehyde undergoes self condensation in the presence of _____.
 a) Sodium ethoxide
 b) Sodium hypobromite
 c) Sodium hydroxide
 d) Sodium cyanide
- Alkylation of benzene is carried out with alkyl halide in presence of _____.
 a) AlCl₃
 b) ZnCl₂
 c) FeCl₃
 d) CdCl₂
- In Cannizarro reaction two molecules of aldehyde in presence of conc. alkali undergoes _____.
 a) Addition reaction
 b) Oxidation and reduction
 c) Both undergoes oxidation
 d) Both undergoes reduction
- SN² reaction example of _____ reaction.
 a) Electrophilic substitution
 b) Nucleophilic substitution
 c) Electrophilic addition
 d) Electrophilic substitution
- Which of the following pesticide is formulated in the form of dust
 a) Sulphur
 b) Diazinon
 c) Acetamide
 d) Dimethyl benzamide
- Chemically natural pyrethroids are _____.
 a) Acids
 b) Alcohols
 c) Esters
 d) Amides
- Neem extract contains active ingredient _____.
 a) Terpenoid
 b) Limonoid
 c) Alkaloid
 d) None of these
- Which of the following is correct structure of Diazinon?



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

Time: 2½ Hours

Max. Marks: 70

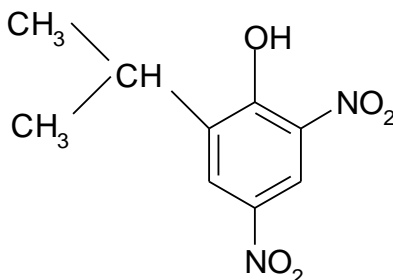
- Instructions:** 1) All sections are Compulsory.
 2) All Question carry equal marks.
 3) Attempt any two Questions from Section-II & III.
 4) Figures to the right indicate full marks.

Section – I

Q.1 Select most correct alternative of the following.

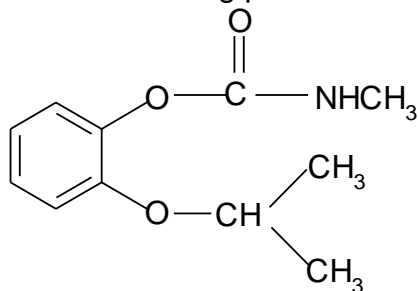
14

- Methiuron is derivative of _____.
 a) Urea
 b) Thiourea
 c) Malonyl urea
 d) Thiocyanate
- Urea derivatives are used as
 a) Herbicides
 b) Rodenticides
 c) Fungicides
 d) Weedicide
- Penta chlorophenol on oxidation gives _____.
 a) Hexachloroquinol
 b) Quinol
 c) Chloranil
 d) Hydroxyquinol
- Reaction between p – chloro thiophenolate with p–chlorobenzyl chloride forms
 a) P – fluoroparaside
 b) Mesaltan
 c) Chlorobenside
 d) Pantalan
- Name the following pesticide

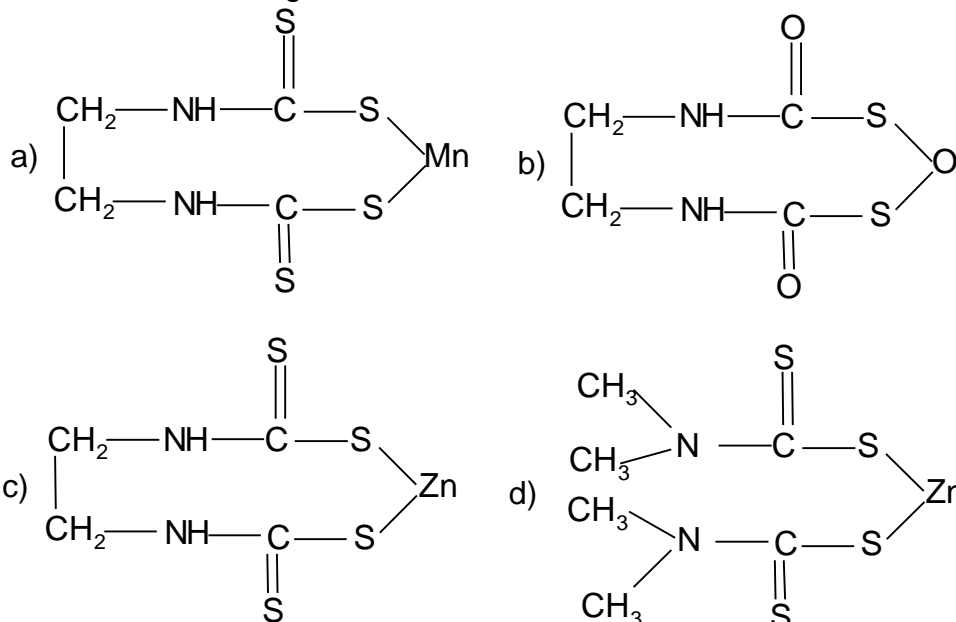


- Dinobuton
 b) Dinoseb
 c) P–nitrophenol
 d) Tenuron
- Phthalan is obtained by condensation of sodium salt of phthalimide with _____.
 a) Chloral
 b) Chloroform
 c) Carbon tetrachloride
 d) Perchlor
- Ester derivative of carbamic acid are known as _____.
 a) Carboxylic acid
 b) Carbamate
 c) Carbolic acid
 d) Carboxylic ester

8) Name the following pesticide.



- a) Baygon
 b) Carbaryl
 c) Aldicarb
 d) Bendiocarb
- 9) Sodium chlorate is used as _____.
- a) Weedicide
 b) Insecticide
 c) Herbicide
 d) Fungicide
- 10) Thiocarbamates exhibit their pesticidal activity due to release of _____.
- a) CO_2
 b) H_2S
 c) NH_3
 d) NO_2
- 11) Which of the following is correct structure of Ziram?



- 12) Trade name of endosulfan is _____.
- a) Sevin
 b) Rogar
 c) Thiodan
 d) None of these
- 13) Azo compounds on reduction forms
- a) Nitro compounds
 b) Amino compounds
 c) Hydrazines
 d) Nitro hydrocarbons
- 14) Burgundy mixture is mixture of _____.
- a) $\text{CuSO}_4 + \text{Na}_2\text{CO}_3$
 b) $\text{CuSO}_4 + \text{Ca}(\text{OH})_2$
 c) $\text{CuSO}_4 + \text{CaCO}_3$
 d) $\text{CuSO}_4 + \text{NH}_4\text{OH}$

Section – II

Attempt any two questions from this section:-

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

- Q.4** a) Give synthesis and uses of Baygon and Carbaryl. **07**
b) Give synthesis and uses of Endosulphan and 2, 4 – D. **07**

Section – III

Attempt any two questions from this section:-

- Q.5** a) Describe the role nitro compounds as pest controls. **05**
b) Give synthesis and uses of Menab. **05**
c) Explain the role of copper compounds as fungicide. **04**
- Q.6** a) Give synthesis of Dicofol. **05**
b) Explain the structure activity relationship of carbamate with reference to acetyl coline. **05**
c) Describe the use of computer in pesticide analysis. **04**
- Q.7** a) Explain the role of hydrogen cyanide and carbon disulphide as fumigants. **05**
b) Give synthesis and uses of Butachlor. **05**
c) Write a note on sulphur fungicides. **04**

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M.Sc. (Semester - II) (CBCS) Examination Mar/Apr-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) All Question carry equal marks.
 5) From questions No 2 to 6 attempt any three questions.

SECTION - I

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

14

- 1) Anion exchange chromatography is used for separation of _____.
 a) Both cations and anions b) Cations only
 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_f 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
 c) Orange d) Pink
- 5) 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
 c) Zinc d) Platinum
- 8) In potentiometric titration the potential of indicator electrode depends on the _____ of ions present in the solution.
 a) Pressure b) Temperature
 c) Volume d) Concentration
- 9) SI unit of conductance is _____.
 a) siemen b) ohm
 c) ohm⁻¹ d) mhos

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

Time: 2½ Hours

Max. Marks: 70

- 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

Section – I

Q.1 Choose correct answer from options given below.

14

- 1) Malaria causes due to _____ mosquito.
 - a) Male Anopheles
 - b) Female Anopheles
 - c) Female Culex
 - d) Male Aedes
- 2) Scientific name of Khapra beetle is _____.
 - a) Holotrichia consanguinea
 - b) Periplaneta Americana
 - c) Cimex lectularius
 - d) Musca domestica
- 3) _____ is sucking pest.
 - a) Aphid
 - b) Nematode
 - c) Silver fish
 - d) Helicoverpa borer
- 4) Sooty mold found on _____ part of the plants.
 - a) growing
 - b) stem
 - c) root
 - d) none of the above
- 5) Colony structure and polymorphism is the characteristics of _____.
 - a) Monkey
 - b) House sparrow
 - c) Termite
 - d) Pulse beetle
- 6) _____ is the vector of tuberculosis.
 - a) Khapra beetle
 - b) Helicoverpa borer
 - c) Rat
 - d) Bed bug
- 7) Cut worm belongs to family _____.
 - a) Aleyrodidae
 - b) Buprestidae
 - c) Cimicidae
 - d) Moridae
- 8) Chemicals used to control nematodes are known as _____.
 - a) Pesticides
 - b) Insecticides
 - c) Sprayers
 - d) Nematicides
- 9) Rat belongs to order _____.
 - a) Coleopteran
 - b) Anura
 - c) Chelonian
 - d) Rodentia
- 10) Hetetoderma spp. is called as _____.
 - a) Root knot nematode
 - b) Seed gall nematode
 - c) Cyst nematode
 - d) None of the above
- 11) _____ is the parasite on domestic animals.
 - a) Mite
 - b) House fly
 - c) Nematode
 - d) Pulse beetle

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M.Sc. (Semester - III) (New) (CBCS) Examination Mar/Apr-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) Attempt any two questions from Section-II.
 4) Attempt any two questions from Section-III.

Q.1 Choose the correct option given below:-**14**

- 1) Which of the following pesticide is carbamate type?
 - a) Carbaryl
 - b) Malathion
 - c) DDT
 - d) Endosulphon
- 2) The conversion of certain chemically stable compounds to highly chemically reactive metabolites is termed as _____.
 - a) bioaccumulation
 - b) biodegradation
 - c) bioactivation
 - d) none of these
- 3) Silicon inhalation causes _____ in human being.
 - a) asbestosis
 - b) silicoponia
 - c) silicosis
 - d) none of these
- 4) Conversion of the pesticide molecule to a non toxic compound by microorganisms is called _____.
 - a) bioaccumulation
 - b) biodegradation
 - c) bioactivation
 - d) none of these
- 5) Teratogenic substances are responsible for _____.
 - a) pneumonia
 - b) anemia
 - c) headache
 - d) none of these
- 6) Organophosphorus pesticides affect _____ system by inhibition of acetyl cholinesterase enzyme.
 - a) digestive
 - b) circulatory
 - c) nervous
 - d) all of the above
- 7) Azadiractin is _____ pesticide
 - a) synthetic
 - b) imported
 - c) natural
 - d) none of these
- 8) Sudden and permanent change in genome of an organism is _____.
 - a) mutation
 - b) expression
 - c) genetics
 - d) none of these
- 9) Lead and Mercurial pesticides are _____ persistence in atmosphere.
 - a) moderate
 - b) permanent
 - c) temporary
 - d) none of these

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**M.Sc. (Semester - III) (New) (CBCS) Examination Mar/Apr-2018
Agrochemicals And Pest Management
ADVANCES IN PEST CONTROL - I**

Time: 2½ Hours

Max. Marks: 70

- 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.

Q.1 Choose the correct option given below:-**14**

- 1) In sandwich method the known amount of insecticide is put between _____ and batch of insects.
 - a) two leaves
 - b) two insects
 - c) two crops
 - d) two flowers
- 2) Bioassay is the determination of response of a _____ on living organisms.
 - a) insect
 - b) chemicals
 - c) host plant
 - d) none of these
- 3) The fumigation method is carried out in _____.
 - a) closed chamber
 - b) open air
 - c) vacuum
 - d) dark room with no ventilation
- 4) In injection method with the help of _____ needle the measured amount of insecticide is directly injected in the systems in insect body.
 - a) sterile
 - b) hypodermic
 - c) both a and b
 - d) none of these
- 5) IPM stands for _____.
 - a) Integrated pest management
 - b) Integral pest management
 - c) Important pest management
 - d) Inverted pest management
- 6) In antixenosis the host plant may reduce _____ habit of insect.
 - a) feeding
 - b) oviposition
 - c) seeking shelter
 - d) all of the above
- 7) Antibiosis refers to the adverse effect of the host plant on the _____ of the insects.
 - a) biology
 - b) oviposition
 - c) tolerance
 - d) mating
- 8) The dose of the insecticide to control insect attacks is taken on basis of _____.
 - a) milligram / gram
 - b) milligram
 - c) milligram / kilogram
 - d) kilogram / milligram
- 9) _____ is an organism which is usually much larger than its prey and a single individual able to kill their prey.
 - a) predators
 - b) parasites
 - c) parasitoids
 - d) all of the above

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

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) Figures to the right indicate full marks.

Section – I

Q.1 Choose correct answer from options given below :-

14

- 1) _____ is a delivery of standard of living to the society.
 - a) Marketing
 - b) Product
 - c) Consumption
 - d) Purchase power
- 2) The concept of 7 P's given by _____.
 - a) F. W. Taylor
 - b) Philip Kotler
 - c) Mc Carty
 - d) None of these
- 3) Modern concept of marketing is _____ oriented.
 - a) Sales
 - b) Profit
 - c) Production
 - d) Customer
- 4) _____ is the sum total of all factors that affects Marketing transactions.
 - a) Marketing concept
 - b) Marketing environment
 - c) Marketing research
 - d) Market segmentation
- 5) _____ is an attempt to recognize distinct stages in the sales history of the product.
 - a) Product Life Cycle
 - b) Project Life Cycle
 - c) Human Life Cycle
 - d) None of these
- 6) Agro-based marketing management used for _____.
 - a) Inform the farmer
 - b) Growth of agro-sector
 - c) Increase sales
 - d) All of these
- 7) Buying behavior is basically _____ in nature.
 - a) Economical
 - b) Social
 - c) Psychological
 - d) Cultural
- 8) _____ factor is not includes in macro environment of marketing.
 - a) Legal
 - b) Economical
 - c) Social and cultural
 - d) Ethics and values
- 9) _____ problem in agro marketing.
 - a) Competition
 - b) Education
 - c) Govt. policy
 - d) All of these
- 10) _____ is the value of the product or service to customer into quantitative terms.
 - a) Product
 - b) Price
 - c) Place
 - d) Promotion

- 11) The major components of marketing mix are _____.
- a) Product
 - b) Price
 - c) Place
 - d) All of the above
- 12) Marketing is process which aims at _____.
- a) Promotion
 - b) Profit making
 - c) Satisfaction of consumer needs
 - d) Selling goods
- 13) If only wanted to target the age group between 18 to 35, this policy is known as _____ marketing?
- a) Direct
 - b) Indirect
 - c) Target
 - d) None of these
- 14) _____ function of marketing create place utility in product.
- a) Storage
 - b) Selling
 - c) Transportation
 - d) Advertising

Section – II**Solve any two questions from Sec II.**

- | | | |
|------------|---|-----------|
| Q.2 | a) Define marketing and function of marketing. | 07 |
| | b) Problems of agro based business. | 07 |
| Q.3 | a) Describe the factor affecting on buying behavior. | 07 |
| | b) Describe the various types of market. | 07 |
| Q.4 | a) Use of 7 P's in agro based marketing. | 07 |
| | b) Types of mobile business. | 07 |

Section – III**Solve any two questions from Sec III.**

- | | | |
|------------|--|-----------|
| Q.5 | a) Importance of marketing. | 05 |
| | b) Process of marketing planning. | 05 |
| | c) Target marketing. | 04 |
| Q.6 | a) Explain the buying process. | 05 |
| | b) Product life cycle. | 05 |
| | c) Base of market segmentation. | 04 |
| Q.7 | a) Macro environment of agro-marketing. | 05 |
| | b) Importance buying behavior. | 05 |
| | c) Advantages of market segmentation. | 04 |

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M.Sc. (Semester - IV) (New) (CBCS) Examination Mar/Apr-2018
Agrochemicals And Pest Management
ADVANCES IN PEST CONTROL – II

Time: 2½ Hours

Max. Marks:70

- 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

Section – I

Q.1 Choose correct answer from options given below :-

14

- 1) _____ is the example of parasitoid.
 - a) Sugarcane wooly aphid
 - b) Cut worm
 - c) Termite
 - d) Trichogramma
- 2) _____ fungi are used as biological control agent.
 - a) *Trichogramma chelonus*
 - b) *Bacillus thuringiensis*
 - c) *Metarizium*
 - d) None of these
- 3) Chemicals released by insect for feeding purpose are called _____.
 - a) aggregation
 - b) alarm
 - c) sex
 - d) none of these
- 4) PTTTH is secreted by _____ of the brain.
 - a) pituitary
 - b) neurosecretary
 - c) corpora alata
 - d) corpora cardiaca
- 5) Antimetabolites is the example of _____.
 - a) attractants
 - b) repellent
 - c) chemosterilant
 - d) pheromones
- 6) Kairomones are included in _____.
 - a) attractants
 - b) repellent
 - c) chemosterilant
 - d) pheromones
- 7) The incompatible insect technique is used in _____ control.
 - a) biological
 - b) genetic
 - c) cultural
 - d) all the above
- 8) *Azadirachtin* is used in pest control for inhibit _____ growth.
 - a) egg
 - b) larval
 - c) pupal
 - d) adult
- 9) Triflumuron is used as _____.
 - a) Starycide
 - b) Weedicide
 - c) Herbicide
 - d) None of the above
- 10) _____ is the shape of NPV.
 - a) Round
 - b) Quadrangular
 - c) Cylindrical
 - d) None of the above.

- 11) Restriction endonuclease enzyme is known to the _____.
- a) attach DNA fragment b) cut DNA fragment
c) both a and b d) none of the above
- 12) Pathogens synthesize _____ toxins.
- a) anabolic b) metabolic
c) genetic d) all the above
- 13) The production, isolation, modification and use of substances derived by means of biosynthesis is called as _____.
- a) Zoology b) Biotechnology
c) Botany d) Chemistry
- 14) E. F. Knipling was initiated _____ control of screw worm fly.
- a) mechanical b) cultural
c) genetic d) none of the above

Section – II

- Q.2** a) What is microbial control of insect pest and explain bacteria pathogen in details. **07**
b) Explain predators and parasites in pest management. **07**
- Q.3** a) What are the semiochemicals? Discuss the importance of attractants. **07**
b) Describe the biotechnological applications in pest management. **07**
- Q.4** a) Define the biological control and discuss the trichogramma use in biological control. **07**
b) Describe insect growth regulators. **07**

Section – III

- Q.5** a) Explain Repellant. **05**
b) Use of viral pathogen in pest management. **05**
c) Alarm pheromone **04**
- Q.6** a) Somaclonal variability. **05**
b) Light activated pesticides. **05**
c) Enlist the advances in pest control. **04**
- Q.7** a) Hot water treatment for disease control. **05**
b) Molting hormone. **05**
c) Transgenic plant. **04**

- 10) The name 'smut diseases' is given to those produced by *Ustilago* because _____.
- Its mycelium is black in color
 - It parasitizes cereals
 - The host becomes completely black
 - The fungus produces black sooty spore masses.
- 11) White rust of crucifers is a pseudo-rust because _____.
- The disease is not caused by basidiomycetous members
 - The color of the pustule is not red
 - The disease is seen on crucifers
 - The disease is not seen on wheat
- 12) Anthracnose of mango is caused by _____.
- Pythium
 - Alternaria
 - Colletotrichum
 - Fusarium
- 13) Downy mildews are caused by the members of _____.
- Erysiphales
 - Taphrinales
 - Ustilaginales
 - Peronosporales
- 14) The rusts are caused by _____.
- Ustilaginales
 - Peronosporales
 - Uredinales
 - Erysiphales

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) Comment up on following diseases with respect to causal organism, and control measures. **07**
- Black rot disease of sugar beet
 - Fruit rot of Cucurbits
- b) Explain Anthracnose of Mango; with respect to causal organism, symptoms & control measures. **07**
- Q.4** a) Give details of Brown rot disease of *Citrus*; 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) Write down the disease cycle of 'black scurf of tubers' disease of potato. **05**
- b) Write down the symptoms and control measures of Powdery mildews. **05**
- c) Enlist any four Fruit trees diseases of vegetable crops along with their casual organism. **04**
- Q.6** a) Write down causal organism and disease cycle of Wilt of Coconut. **05**
- b) Write down control measures of 'Fruit rot of Mango'. **05**
- c) Enlist any four diseases of forest trees along with their causal organism. **04**
- Q.7** a) Write down symptoms of black spot diseases on Guava. **05**
- b) Write down general symptoms of fungal diseases. **05**
- c) Enlist any two diseases of peas and beans along with their casual organism. **04**