ANDHRA UNIVERSITY
B. Vocational course
AGRICULTURE
2020-21 Admitted Batch
I Year Semester – I
FUNDAMENTALS OF GENETICSMODEL QUESTION PAPER

Time:3Hours Maximum: 75Marks

SECTION – A

Answer any **FIVE** questions. Each question carriesequalmarks. (5*5 =25)

1. What are the characteristics ofMutations.
2. Explain lac operon concept of general regulation with neat labeleddiagram.
3. Differentiate between linkage & Crossingover.
4. Explain Mendel's law of heredity with suitableexamples.
5. Write the Properties of Geneticcode.
6. Write about types of DNA &RNA.
7. Explain the experiment to show cytological proof of crossingover.
8. Explain the different types of structural chromosomal aberration with suitable illustrations.

SECTION – B

Answer **All** the questions. Each question carries**TEN**marks (5*10 = 50)

1. a) Explain Semi Conservative method ofreplication.

   (OR)

   b) Explain the experiment for identification of recessive lethal mutations in Drosophila.
2. a) Differentiate between mitosis &meiosis.

   (OR)

   b) Explain lethal gene action with the help of suitable example.
3. a)Definegeneinteraction?Explainanytwoofthegeneinteractionswithhelpofsuitable examples.

   (OR)

   b) Explain different models of sex determination in plants.
4. a) Explain about the special types ofchromosomes.

   (OR)

   b) Describe the effects of various factors that affect the frequency of recombination.
5. a) Explain the Phenomenon of multiple allele with the help of an appropriateexample.

   (OR)

   b) Write about classification, Characteristics of linkage

	II SEM	1.	**English** (language)	3+0=3
		2.	**Inorganic Chemistry** (General education)	3+0=3
		3.	**Information & Communication Technology** (Skill development)	2+0=2
		4.	**Fruits and Vegetables Preservation** (Skill development)	2+0=2
		5.	**Agriculture Marketing** (Skill development)	2+0=2
		6.	**Introduction to Entomology** (Core subject)	4+2=6
		7.	**Introduction to Plant Pathology** (Core subject)	4+2=6
		8.	**Introduction to Plant Breeding** (Core subject)	4+2=6
			Total Credits=24+6=30	

ANDHRA UNIVERSITY
B. Vocational course
AGRICULTURE
2020-21 Admitted Batch
I Year Semester –II
ENGLISH-2
(CREDITS3+0=3)

Learning Outcomes:

- Use reading skillseffectively
- Comprehend different texts
- Interpret different types oftexts
- Write well for anypurpose
- Improve writing skills independently for futureneeds

I. UNIT

Prose	: 1. How to Avoid Foolish Opinions	BertrandRussell
Skills	: 2. Vocabulary: Conversion ofWords	
	: 3. One Word Substitutes	
	: 4. Collocations	

II. UNIT

Prose	: 1. The Doll's House	Katherine Mansfield
Poetry	: 2. Ode to the West Wind	P B Shelley
Non-Detailed Text	: 3. Florence Nightingale	Abrar Mohsin
Skills	: 4. Skimming and Scanning	

III. UNIT

Prose	: 1. The Night Train at Deoli	Ruskin Bond
Poetry	: 2. Upagupta	Rabindranath Tagore
Skills	: 3. Reading Comprehension	
	: 4. Note Making/Taking	

IV. UNIT

Poetry	: 1. Coromandel Fishers	Sarojini Naidu
Skills	: 2. Expansion of Ideas	
	: 3. Notices, Agendas and Minutes	

V. UNIT

Non-DetailedText	: 1. AnAstrologer'sDay	R KNarayan
Skills	: 2. Curriculum Vitae andResume	
	: 3. Letters	
	: 4. E-Correspondence	

ANDHRA UNIVERSITY
B. Vocational course
AGRICULTURE
2020-21 Admitted Batch
I Year – Semester II
ENGLISH -
2MODEL QUESTION PAPER

Max. Marks: 75 Time: 3 hrs

SECTION-A

1. Answer any TWO of the following questions in seventy five words each (2*5=10)
   a)
   b)
   c)
2. Answer any TWO of the following questions in seventy five words each (2*5=10)
   a)
   b)
   c)
3. Answer any ONE of the following questions in seventy five words each (1*5=5)
   a)
   b)

SECTION-B

4. A) pick the correct word from the words (2*1=2)

i)
ii)

B) Write suitable one word substitutes against their meanings (5*1=5)

i)
ii)
iii)
iv)
v)

C) Find the collocations in the following sentences (3*1=3)

i)
ii)
iii)

5. Compare and contrast between skimming and scanning (1*5=5)
6. A) Read the following passages and write answers (1*5=5)
   b) Read the following passage and prepare notes (1*5=5)
7. A) expand one of the following into a paragraph (1*5=5)
   B) Prepare an agenda for the following topic (1*5=5)
8. write a letter on any of the following topics (1*5=5)
   A)
   B)
9. A) Prepare a curriculum vitae for the following advertisement (1*5=5)
   B) i) write a covering letter for the above CV (1*5=5)

(OR)

ii) One of your friends has been selected for a job in MNC. Write an e-mail congratulating him for

securing job in the MNC.

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2020-21 Admitted Batch
I Year – Semester II
INORGANIC CHEMISTRY
(CREDITS 3+0=3)

UNIT –I

P-BLOCK ELEMENTS

Group-13:Synthesisandstructureofdiboraneandboron-nitrogencompounds(B3N3H6andBN) and Group - 14: Preparation and applications of silanes, silicones and Group - 15: Preparationand reactions of hydrazine,hydroxylamine.

UNIT-II

P-BLOCK ELEMENTS -II

Group - 16: Classifications of oxides based on (i) Chemical behaviour and (ii) Oxygen content, Oxyacids of sulphur (structures only). Group-17: Inter halogen compounds, pseudo halogens and comparision with halogens.

UNIT-III

Organometallic Chemistry

Definition - classification of Organometallic compounds - nomenclature, preparation, properties and applications of alkyls of Li and Mg.

UNIT –IV

1. **Chemistry of d-blockelements:**

Characteristics of d-block elements with special reference to electronic configuration, variable valence, magnetic properties, catalytic properties and ability to form complexes. Stability of various oxidation states.

2. **Theories of bonding inmetals:**

Metallic properties and its limitations, Valence bond theory, Free electron theory, Explanation of thermal and electrical conductivity of metals, limitations, Band theory, formation of bands, explanation of conductors, semiconductors andinsulators.

UNIT – V

1. **Metalcarbonyls:**EANrule,classificationofmetalcarbonyls,structuresandshapesofmetal carbonyls of V, Cr, Mn, Fe, Co and Ni.
2. **Chemistry of f-block elements:** Chemistry of lanthanides - electronic structure, oxidation states, lanthanide contraction, consequences of lanthanide contraction, magnetic properties. Chemistryofactinides-electronicconfiguration,oxidationstates,actinidecontraction,comparison of lanthanides andactinides.

List of Reference Books

1. Selected topics in inorganic chemistry by W.D.Malik,G..D.Tuli,R.D.Madan
2. Inorganic Chemistry J E Huheey, E A Keiter and R LKeiter
3. Advanced Inorganic chemistry by GurudeepRaj
4. Basic Inorganic Chemistry by Cotton andWilkinson
5. Concise Inorganic Chemistry byJ.D.Lee

INORGANIC CHEMISTRY (PRACTICAL) QUALITATIVE INORGANIC ANALYSIS

Analysis of mixture salt containing two anions and two cations (From two different groups) from the following:
Anions: Carbonate, sulphate, chloride, bromide, acetate, nitrate, borate, phosphate.
Cations: Lead, copper, iron, aluminium, zinc, manganese, calcium, strontium, barium, potassium and ammonium.

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I Year – Semester II
INORGANIC
CHEMISTRYMODEL QUESTION
PAPER

Max. Marks: 75 Time: 3 hrs

SECTION-A (5x5M=25Marks)

Answer any five questions. Each answer carries 5 marks
(At least 1 question should be given from each Unit)

1. Write the preparation and structure of Borazole
2. Explain the preparation, properties of Hydroxylamine ?
3. Write about pseudo halogen compounds?
4. Write the magnetic properties of d-block elements?
5. Write a note on free electron theory?
6. Write the differences between Lanthanides & Actinides?
7. Define EAN Rule with example?
8. Write the applications of Alkyl Lithium?

SECTIONB (5x10M = 50Marks)

Answer all questions. Each answer carries 10 marks
(At least 1 question should be given from each Unit)

1. (a) Explain the preparation, classification and uses of silicones?

(or)

(b) Write the preparation and structure of diborane.

2. (a) Classification of oxides based on
   (i) chemical behavior
   (ii) Oxygen content with one example to each.

(or)

(b) What are Inter halogen compounds? Give an account on different types of inter halogen compounds?

3. (a) What is Grignard reagent? Write the preparation and application of Grignard reagent

(or)

(b) Write the nomenclature and classification of Oregano metallic compounds?

4. (a) Explain the following properties of d – block elements?
   (i) Variable oxidation states (ii) Complex formation
   (iii) Catalytic properties

(or)

(b) (i) Explain valence bond theory ?
   (ii) Explain about conductors, Insulators and semi-conductors in terms of Band theory?

5. (a) What is Lanthanide contraction? And write about its consequences?

(or)

(b) (i) Explain the classification of metal carbonyls.
   (ii) Write the preparation and structure of Nickel carbonyl.

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ANDHRA UNIVERSITY
B. Vocational course
AGRICULTURE
2020-21 Admitted Batch
I Year – Semester II

INFORMATION AND COMMUNICATIONTECHNOLOGY

(CREDITS 2+0=2)

Learning outcomes:

- Understand the literature of social networks and theirproperties.
- Explain which network is suitable forwhom.
- Develop skills to use various social networking sites like twitter, flickr,etc.
- Learn few GOI digital initiatives in highereducation.
- Apply skills to use online forums, docs, spreadsheets, etc for communication,collaboration andresearch.
- Get acquainted with internet threats and securitymechanisms.

UNIT-I- Fundamentals of Internet: What is Internet?, Internet applications, Internet Addressing – Entering a Web Site Address, URL–Components of URL, Searching the Internet, Browser –Types of Browsers, Introduction to Social Networking: Twitter, Tumblr, LinkedIn, Facebook, flickr, Skype, yahoo, YouTube, WhatsApp.

UNIT-II- E-mail: Definition of E-mail -Advantages and Disadvantages –User Ids, Passwords, Email Addresses, Domain Names, Mailers, Message Components, Message Composition, Mail Management,G-Suite:Googledrive,Googledocuments,Googlespreadsheets,GoogleSlides and Google forms.

UNIT-III- Overview of Internet security, E-mail threats and secure E-mail, Viruses and antivirus software, Firewalls, Cryptography, Digital signatures, Copyright issues. What are GOIdigital initiativesinhighereducation?(SWAYAM,SwayamPrabha,NationalAcademicDepository, National Digital Library of India, E-Sodh-Sindhu, Virtual labs, e- acharya, e-Yantra and NPTEL).

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

- Assignments(in writing and doing forms on the aspects of syllabus content andoutside thesyllabus content. Shall be individual andchallenging)
- Student seminars (on topics of the syllabus and related aspects (individualactivity)
- Quiz and GroupDiscussion
- SlipTest
- Try to solve MCQ's availableonline.
- Suggested student hands on activities:

a. Createyouraccountsfortheabovesocialnetworkingsitesandexplorethem,establishavideo

conference using Skype.

b. CreateanEmailaccountforyourself-Sendanemailwithtwoattachmentstoanotherfriend.Group the email addresses use addressfolder.

c. Register for one online course through any of the online learning platformslike NPTEL, SWAYAM, Alison, Codecademy, Coursera. Create a registrationform for your college campus placement through Google forms.

Reference:

1. In-line/On-line : Fundamentals of the Internet and the World Wide Web, 2/e –byRaymond Greenlaw and Ellen Hepp, Publishers :TMH
2. Internet technology and Web design, ISRD group,TMH.
3. Information Technology – The breaking wave, Dennis P.Curtin, Kim Foley, KunaiSen and Cathleen Morin,TMH.

ANDHRA UNIVERSITY
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2020-21 Admitted Batch
I Year Semester- II
INFORMATION AND COMMUNICATION TECHNOLOGY
MODELQUESTIONPAPER

Max.Marks:50 Time:1½hrs (90Minutes)

SECTION-A(4x5M=20Marks)

Answeranyfourquestions.Eachanswercarries5marks
(At least1 questionshould begivenfrom eachUnit)

1. Write the applications of Internet.
2. Write about URL
3. What is IP address?
4. Define Lynx?
5. How to create and share a presentation using Google Docs?
6. What are different ways of learning on the Internet?
7. What is spyware? Write about different types of spyware.
8. Write about firewalls.

SECTION-B (3x10M=30Marks)

Answeranythreequestions.Eachanswercarries10marks
(Atleast1 questionshouldbegivenfrom eachUnit)

1. Explain how the www works in Internet?
2. What is yahoo? Explain its features.
3. What is composition of an E-mail message?
4. What is Google forms? How to create a Google forms document? Explain its feature.
5. What is a computer worm? What are different types of computer warms?

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ANDHRA UNIVERSITY
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2020-21 Admitted Batch
I Year Semester- II

FRUITS AND VEGETABLES PRESERVATION

(CREDITS 2+0=2)

Learning Outcomes:

On successful completion of this course the students will be able to;

- Identify various types of fruits and vegetables and explain their nutritivevalue.
- Understand the fragile nature of fruits and vegetables and causes for theirdamage.
- Explain various methods of preservation for fresh fruits andvegetables.
- Get to know the value-added products made from fruits andvegetables.

UNIT – I- Introduction to fruits and vegetables

1. Fruits: Definition, elementary knowledge on types of fruits (fleshy and dry) withlocal /common examples.
2. Vegetables: Definition, elementary knowledge on types of vegetables (root, leafy, stem,flower and fruit) with local/ commonexamples.
3. Importance of fruits and vegetables in humannutrition.
4. Concept of perishable plant products – maturation and spoilage, shelf life; preservation – definition and need for preservation of fruits andvegetables.

UNIT – II- Preservation of Fruit

1. Fruits – ripening and biological aging; storage and preservationconcerns.
2. Preservation of fresh fruits at room temperature and in coldstorage.
3. Fruit preservation at room temperature as juices, squashes andsyrups.
4. Preservation of fruits by application of heat; making of fruit products (jams, jellies and fruit slices in processingfactories).
5. Preservation by dehydration (Eg. banana chips), application of sugar (Eg. mango candy), application of salt(pickling).
6. Fruit preservation by freezing – storage at the lowesttemperatures.

UNIT – III- Preservation of vegetables

1. Vegetables – losses after harvesting and causes; problems in handling andstorage.
2. Modern methods of packaging and storage to reducelosses.
3. Trimming of vegetables and packing in cartons; dehydration technique -factory processing.
4. Making of vegetable products (flakes/chips of potato and onion; garlicpowder).
5. Frozen vegetables – Carrots, Cauliflower, Okra andSpinach.
6. Preservation of sliced vegetables in factories by canning andbottling.

Suggested Co-curricular activities

1. Assignments/Group discussion/Quiz/ModelExam.
2. Invited lecture and demonstration by localexpert
3. Exhibition of various types of locally available fruits andvegetables.
4. Hands on training on handling and packaging methods of fresh fruits andvegetables.
5. Hands on training on making fruitjuices.
6. Display of various preserved fruit products available in localmarkets.
7. Hands on training on making of potato, yam, onionchips.
8. Display of various preserved vegetable products available in localmarkets.
9. Watching videos on preservation of fruits andvegetables.
10. Visit to Horticulture University or research station to learn about value added products of fruits andvegetables.

Suggested text books/reference books :

1. Giridharilal,G.S.SiddappaandG.L.Tandon(2007)*PreservationofFruitsandVegetables,* Indian Council of Agri. Res., New Delhi
2. Srivastava, R.P., and Sanjeev Kumar (2019) *Fruit and Vegetable Preservation :Principles and Practices,* CBS Publishers & Distributors Pvt., Ltd., NewDelhi
3. Thompson,A.K.(1995)*PostHarvestTechnologyofFruitsandVegetables*.BlackwellSci.,U.K.
4. Verma, L.R. and V.K. Joshi (2000) *Post Harvest Technology of Fruits andVegetables.* Indus Publ., New Delhi

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AGRICULTURE
2020-21 Admitted Batch
I Year Semester- II
FRUITS AND VEGETABLES PRESERVATION
MODELQUESTIONPAPER

Max.Marks:50 Time:1½hrs (90Minutes)

SECTION-A(4x5M=20Marks)

Answeranyfourquestions.Eachanswercarries5marks
(At least1 questionshould begivenfrom eachUnit)

1) Give the classification of foods according to their storage.
2) Spoilage of Vegetables
3) Biological ageing of fruits
4) Fozen Okra
5) Pickling
6) Add a short note on fruit slicing.
7) Properties of glass containers used in packing
8) Write about the causes for past harvesting losses.

SECTION-B (3x10M=30Marks)

Answeranythreequestions.Eachanswercarries10marks
(Atleast1 questionshouldbegivenfrom eachUnit)

1) What is a fruit? Explain different types of fruits.
2) What are the various methods of preservation of fruits by freezing?
3) Write an essay on how Jam is prepared?
4) Explaining different environmental factors controlling fruit ripening.
5) Write an essay on processing of Vegetables.

ANDHRA UNIVERSITY
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AGRICULTURE
I Year – Semester II
2020-21 Admitted batch

AGRICULTURE MARKETING

(CREDITS 2+0=2)

Learning Outcomes:

By the successful completion of this course, the student will be able to;

- Know the kinds of agricultural products and theirmovement
- Understand the types, structure and functioning of agricultural marketingsystem
- Comprehend related skills and apply them in samplesituations
- Extend this knowledge and skills to their production/consumptionenvironment

UNIT- I- Introduction of Agriculture and agricultural products (including agriculture, horticulture, sericulture, floriculture, aquaculture- genetic culture and dairy product) - Agricultural Marketing- Role of marketing - Concepts - Goods and services - Movement of product from farm to consumer –Middlemen – Moneylenders - Types of agricultural markets (basic classification).

UNIT- II- Basic structure and facilities of an agricultural market – Primary, secondary and tertiary markets–Functioning of Market Yards–Market information – Rythu Bharosa Kendras (RBK) – Govt market policies and regulations- Contract farming -Govt Apps for marketing of agri products.

UNIT- III- Planning production – assembling – grading - transportation– storage facilities. Price fixation. Dissemination of market information –and role of ICT. Marketing - Mix- Product element- Place element- Price element- Promotion element. Selection of target market. Government programs insupport of Agricultural marketing in India.

Suggested Co-curricular Activities

1. Study visit to agricultural markets and Rythu Bharosa Kendras(RBK)
2. Invited lecture by fieldexpert
3. Survey of various involved activities e.gassembling, grading, storage, transportation and distribution
4. Identify the demand for food processingunits
5. Application of Govt Apps as one Nation and oneMarket
6. Assignments, Group discussion, Quizetc.

Reference books

1.S.S. Acharya & N.L.Agarwala, Agricultural Marketing in India - Oxford and IBHPublications

2. K.S.Habeeb - Ur - Rahman Rural Marketing in India - Himalayapublishing

3. S.S.Chinna Agricultural Marketing in India - KALYANIpublishers

4. Publications of National Institute of Agricultural Marketing,Odisha

5. Wikipedia and other websites on AgriculturalMarketing.

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I Year – Semester II
2020-21 Admitted batch
AGRICULTURE MARKETING
MODELQUESTIONPAPER

Max.Marks:50 Time:1½hrs (90Minutes)

SECTION – A

Answer any Four questions. Each question carries Five marks? (4*5=20)

1. What are the advantages of contract farming?
2. What are the functions of Rythu Bharosa Kendras (RBK)?
3. What is the difference between speculation vs hedging?
4. What is the role of NABARD in Agricultural marketing finance?
5. What is marketing channel and give one example for any crop.
6. What are the components of basic market structure?
7. What are the advantages of Grading?
8. Explain different packing materials used in product market.

SECTION – B

Answer any three questions. Each question carries Ten marks (3*10=30)

1. What are the different marketing functions and explain them in detail?
2. What are the differences in marketing of agricultural and manufactured goods?
3. A. What are the aims and objectives of ISI and
   B. AGMARK
4. A. What is the importance of agricultural marketing
   B. Define marketable surplus and marketed surplus. What are the factors affecting marketable surplus?
5. A. What is market and list out classification of markets.
   B. Classify markets based on competition and write the characteristic features of each market with example.

ANDHRA UNIVERSITY
B. Vocational course
AGRICULTURE
2020-21 Admitted Batch
I Year – Semester II
INTRODUCTION TO ENTOMOLOGY
(CREDITS 4+2=6)

UNIT I- History and importance

History of Entomology in India; Position of insects in the animal kingdom and their relationship with other classes of Arthropoda; Reasons for insect dominance.

UNIT II- Morphology

Generalorganisationofinsectbodywall-structureandfunction,cuticularappendages,moulting; Body regions - insect head, thorax and abdomen, their structure andappendages.

UNIT III- Anatomy and physiology

Digestive, excretory, respiratory, circulatory, nervous and reproductive systems in insects in brief

UNIT IV-Taxonomy of Apterygota and Exopterygota

Insect systematics; Distinguishing characters of agriculturally important orders and families of Hexapoda.Characters of Apterygota ,Exopterygota (Ephemeroptera, Odonata, Orthoptera, Phasmida, Dictyoptera, Embioptera, Dermaptera, Hemiptera, Isoptera, Psocoptera, Mallophaga, Thysanoptera and Siphunculata).

UNIT V- Taxonomy of Endopterygota

Distinguishing characters of agriculturally important families of Lepidoptera, Coleoptera, Diptera, Hymenoptera, Siphonaptera, Neuroptera and Strepsiptera.

INTRODUCTION TO ENTOMOLOGY (PRACTICAL)

1. Observations on external features of grasshopper /cockroach,
2. Methods of insect collection, preservation – Preparation of Rikermount.
3. Types of insect head, antenna, mouth parts – Structure ofthorax.
4. Types of insect legs, wings and their modifications – wingcoupling.
5. Structure of abdomen, and itsmodifications.
6. Metamorphosis in insects – immature stages ininsects.
7. Study of digestive and reproductive systems of grasshopper /coackroach
8. Observing the characters of agriculturally important orders andfamilies.

ANDHRA UNIVERSITY
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I Year – Semester II
2020-21 Admitted batch
INTRODUCTION TO ENTOMOLOGY
MODEL QUESTION PAPER

Time:3 hrs Maximum: 75marks

SECTION – A

Answer any FIVE questions. Each question carries Five marks (5*5=25)

1. Write about insect antenna and enlist different types of antennae with suitable examples.
2. What is moulting and write about stages and hormones involved in process of moulting.
3. Write about digestive system of an insect.
4. Write about insect body wall, its structure and functions.
5. Explain the respiratory system of an insect
6. Write about different parts of insect leg and give a detailed account on different types of insect legs with suitable examples.
7. Explain about different body regions of an insect
8. Write in detail about insect circulatory system.

SECTION – B

Answer ALL the questions. Each question carries Ten marks (5*10=50)

9. A. Give an account on reasons for insect dominance

(OR)

B. Differentiate between Apterygota and Pterygota? Explain any two orders of Apterygota and Pterygota respectively

10. A. Elaborate the characteristics of order lepidoptera and give a detailed account of its families.

(OR)

B. Write about insect wings, wing venation, different types of wings and wing flexing/ coupling mechanisms.

11. A. Write about insect head, types of head, sclerites and sutures.

(OR)

B. Write about the reproductive system of an insect

12. A. Write about excretory system of an insect

(OR)

B. Write about the order hymenoptera

13. A. Write about the nervous system of an insect

(OR)

B. Write about the position of insect in animal kingdom and their relationship with other arthropoda

ANDHRA UNIVERSITY
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AGRICULTURE
I Year – Semester II
2020-21 Admitted batch

INTRODUCTION TO PLANTPATHOLOGY

(CREDITS 4+2=6)

UNIT 1: Introduction to plant diseases and their causal organisms

History, Importance of plant diseases, scope and objectives of Plant Pathology. Importantplantpathogenicorganisms,ClassificationofPlantDiseasesBinomialsystem of nomenclature, rules of nomenclature

UNIT 2 : Fungi

Fungi: General characters, definition of fungus, somatic structures, 2.2Types of fungal thalli, fungal tissues, modifications of thallus, 2.3Reproduction (asexual and sexual)

UNIT 3 : Bacteria and Mollicutes

Bacteria – General Characters, Classification of plant pathogenic bacteria Important plant bacterial diseases and their causal agents

Mollicutes :Phyto plasma and Spiroplasma – General characters and important diseases and vectors

UNIT4 : Plant Viruses

Fastidious vascular Bacteria – general characters and important diseases and vectors

Viruses: General characters of plant viruses, nature, architecture

Symptoms of various viral diseases, transmission of plant viruses. Important plant viral diseases and their vectors.

UNIT 5: Viroids, phanerogamic plant parasites and plant parasitic nematodes, Viroids – General characters and important diseases

Phanerogamic plant parasites – general characters, propagation, survival and their hosts

Plant parasitic nematodes–general characters and important plant parasitic nematodes.

INTRODUCTION TO PLANT PATHOLOGY (PRACTICAL)

1. Study of labequipments.
2. Preparation of PDA (Potato DextroseAgar).
3. Preparation of NA (NutrientAgar).
4. General study of different structures offungi.
5. Study of symptoms of various plantdiseases.
6. Staining and identification of plant pathogenicbacteria.
7. Study of phanerogamicparasites.
8. 30Herbarium.

ANDHRA UNIVERSITY

B. Vocational course

AGRICULTURE

I Year – Semester II

2020-21 Admitted batch

INTRODUCTION TO PLANT PATHOLOGY

MODEL QUESTION PAPER

Time:3 hrs Maximum: 75marks

SECTION – A

Answer any FIVE questions. Each question carries Five marks? (5*5=25)

1. What are the general characteristics of fungi and modifications of its thallus?
2. Explain about symptoms of bacterial diseases and their causal organisms.
3. Give an account on phanerogamic plant parasites
4. What is vector? write about importance and different types of vectors in disease transmission
5. Explain about general characteristics of phytoplasmas and spiroplasmas
6. Write about general characters of plant parasitic nematodes.
7. Write about nomenclature and rules of nomenclature
8. Write about importance, scope and objectives of plant pathology

SECTION – B

Answer ALL the questions. Each question carries Ten marks (5*10=50)

9. A. Write in detail about reproduction (both sexual and asexual) in fungi

(OR)

B. Elaborate the classification of plant diseases.

10. A. Give a detailed account of classification of fungi.

(OR)

B. Write about different fungal thalli and its somatic structures

11. A. Write about characters of viroids and important diseases caused by them

(OR)

B. Give an account on characters of virus, symptoms of diseases and vectors of transmission

12. A. Write an essay on diseases caused by plant parasitic nematodes

(OR)

B. Write about classification of bacteria

13. A. Explain about different symptoms and diseases caused by phytoplasmas and spiroplasmas along with their vectors of transmission

(OR)

B. Write about different fastidious vascular bacteria and diseases caused by them

ANDHRA UNIVERSITY
B. Vocational course
AGRICULTURE
I Year – Semester II
2020-21 Admitted batch

INTRODUCTION TO PLANT BREEDING

(CREDITS 4+2=6)

UNIT-I-

Historicaldevelopment,concept,natureandroleofplantbreeding,majorachievementsandfuture prospects; Genetics in relation to plant breeding; Heritability and genetic advance; modes of reproduction and apomixes; self – incompatibility and male sterility- genetic consequences, cultivaroptions;

UNIT-II-

Domestication, Acclimatization, introduction, Centre of origin/diversity; Genetic basis and breeding methods in self-pollinated crops-mass and pure line selection, hybridization techniques and handling of segregating population; Multiline concept; Concepts of population genetics and Hardy Weinberg Law;

UNIT-III-

Genetic basis and methods of breeding cross pollinated crops, modes of selection; Heterosis and inbreedingdepression,developmentofinbredlinesandhybrids,compositeandsyntheticvarieties;

UNIT-IV-

Breeding methods in asexually propagated crops, clonal selection and hybridization; Wide hybridization and pre-breeding; Polyploidy in relation to plant breeding; mutation breeding-methods and uses;

UNIT-V

Breeding for important biotic and abiotic stresses; Biotechnological tools-DNA markers and marker assisted selection. Participatory plant breeding.

INTRODUCTION TO PLANT BREEDING (PRACTICAL)

- Plant Breeder's kit; Study of germplasm of variouscrops;
- Study of floral structure of self-pollinated and cross pollinated crops;
- Emasculation and hybridization techniques in self & cross pollinatedcrops;
- Consequences of inbreeding on genetic structure of resultingpopulations;
- Study of male sterility system; Handing of segregationpopulations;
- Methods of calculating mean, range, variance, standard deviation.
- Designs used in plant breeding experiment, analysis of Randomized BlockDesign;
- Estimation of heterosis, inbreeding depression and heritability;
- Layout of fieldexperiments;
- Work out the mode of pollination in a given crop and extent of natural outcrossing;
- Prediction of performance of double crosshybrids.

ANDHRA UNIVERSITY
B. Vocational course
AGRICULTURE
I Year – Semester II
2020-21 Admitted batch
INTRODUCTION TO PLANT BREEDING
MODEL QUESTION PAPER

Time:3 hrs Maximum: 75 marks

SECTION – A

Answer any FIVE questions. Each question carries Five marks? (5*5=25)

1. Objectives of the plant breeding
2. Future prospects of the plant breeding
3. Mass selectin
4. Hardy Weinberg Law
5. Heterosis
6. Back cross
7. Merits of synthetic varieties
8. Basic components of plant stress

SECTION – B

Answer ALL the questions. Each question carries Ten marks (5*10=50)

9. a)Write an essay on types of pollination in plants
   (or)
   b) Write an essay on self-incompatibility
10. a) Write an essay on Genetic bases of Heterosis and inbreeding depression
    (or)
    b) Write an essay on Pedigree method of hybridization in plant breeding
11. a) Describe the introduction method in plant breeding
    (or)
    b) Describe the hybridization method in plant breeding
12. a) Write an essay on mutation breeding
    (or)
    b) Write an essay on polyploidy breeding
13. a) write an essay on Biotechnological tools and DNA markers in plant breeding
    (or)
    b) Write an essay on Biotic and Abiotic stresses

ON JOB TRAINING – II

I. **FIELDTRIP**(3) : 3 trips X 5 M = 15 Marks (Attendance for each trip 5 marks)

II. **PROJECTREPORT** : 10 Marks

III. **FIELDWORK** : 10 X 1M Per Pracitcal= 10Marks

IV. **ECONOMICALSURVEY** : 2.5M X2 FARMERS=5 MARKS (Interaction with two farmers and gathering thedata)

V. **SEMINAR** : 5Marks

VI. **VIVA:** 5 Marks

TOTALMARKS : 50 Marks