

Detailed Course Scheme
Bachelor of Science (Hons.)
Agriculture

Semester- II
(2022- 26)

DOC202208220005



RNB GLOBAL UNIVERSITY

RNB Global City, Ganganagar Road,
Bikaner, Rajasthan 334601

OVERVIEW

RNB Global University follows Semester System along with Choice Based Credit System as per latest guidelines of University Grants Commission (UGC). Accordingly, each academic year is divided into two semesters, **Odd (July-December)** and **Even (January-June)**. Also, the university follows a system of continuous evaluation along with regular updating in course curricula and teaching pedagogy.

The Curriculum for B. Sc Agriculture program for (January - June) Even Semester 2023 along with examination pattern is as follows:

Course Scheme

Semester -II

S. No.	Course Code	Course Name	L	T	P	Credits
1.	20023800	Fundamentals of Genetics	2	0	0	2
2.	20023900	Fundamentals of Genetics Lab	0	0	2	1
3.	20024300	Fundamentals of Agricultural Economics	2	0	0	2
4.	20024800	Agricultural Microbiology	1	0	0	1
5.	20024900	Agricultural Microbiology Lab	0	0	2	1
6.	20025300	Fundamentals of Entomology	2	1	0	3
7.	20025400	Fundamentals of Entomology Lab	0	0	2	1
8.	20001800	Irrigation & Water Management	2	1	0	3
9.	20025600	Soil & water Conservation Engineering	1	0	0	1
10.	20012500	Soil & water Conservation Engineering Lab	0	0	2	1
11.	20025700	Fundamentals of Crop Physiology	1	0	0	1
12.	20013500	Fundamentals of Crop Physiology Lab	0	0	2	1
13.	20026200	Fundamentals of Plant Pathology	3	0	0	3
14.	20026300	Fundamentals of Plant Pathology Lab	0	0	2	1
15.	20026000	Fundamentals of Agricultural Extension Education	2	0	0	2
16.	20026100	Fundamentals of Agricultural Extension Education Lab	0	0	2	1

17.	20002300	Ability and Skill Enhancement - II	2	0	0	2
18.	99003300	Workshops & Seminars/ Human Values & SocialService/NCC/NSS	-	-	-	1
Total			18	2	14	28

EVALUATION SCHEME - THEORY

The evaluation of the theory paper of B.Sc. Agriculture program would be based on Internal and External Assessments. Internal Assessment would consist of 50% of the marks (50 marks) and external assessment (in form of End Term Exam) would consist of remaining 50% marks (50 marks). Detailed scheme of Internal and External Assessments as follows:

Internal Assessment

The distribution of Internal Assessment Marks is as follows:

Type	Details	Marks
Mid Term	Two Mid-term Sessional of 15 marks each (15+15)	30
Marks obtained in various Tests, Assignments, Presentations, Quiz, Tutorials, etc.	Average of marks obtained	15
Attendance	75%+ : 5 marks	5
TOTAL	50	

External Assessment

Type	Marks
Theory	50

EVALUATION SCHEME - PRACTICAL

The evaluation of the practical paper of B.Sc. Agriculture program would be based on Internal and External Assessments. Internal Assessment would consist of 50% of the marks (50 marks) and external assessment (in form of End Term Exam) would consist of

remaining 50% marks (50 marks). Detailed scheme of Internal and External Assessment is as follows:

Internal Assessment

Type	Details	Marks
Marks obtained in various manuals, practical file, participation, any model prepared, output of practical	Average of marks obtained	45
Attendance	75%+ : 5 marks	5
TOTAL	50	

External Assessment

Type	Marks
Practical	50

EVALUATION SCHEME- WORKSHOPS & SEMINARS & NCC/NSS

1. NCC/NSS will be completed from Semester I – Semester IV. It will be evaluated internally by the institute. The credit for this will be given at the end of Semester.
2. The students have to join club/clubs with the active participation in different activities of club. The students would be continuously assessed from Semester-I to Semester-IV and credits and marks would be given after the end of Semester.

CURRICULUM

Course Name: Fundamentals of Genetics

Course Code: 20023800

Course Outline:

Unit I

Pre and Post Mendelian concepts of heredity, Mendelian principles of heredity Architecture of chromosome; chromonemata, chromosome matrix, chromomeres, centromere, Secondary constriction and telomere; special types of chromosomes Chromosomal theory of inheritance- cell cycle and cell division- mitosis and meiosis Probability and Chi-square Dominance relationships, Epistatic interactions with example.

Unit II

Multiple alleles, pleiotropism and pseudoalleles, Sex determination and sex linkage, sex limited and sex influenced traits, Blood group genetics, Linkage and its estimation, crossing over mechanisms, chromosome mapping. Structural and numerical variations in chromosome and their implications Use of haploids, dihaploids and doubled haploids in Genetics.

Unit III

Mutation, classification, Methods of inducing mutations & CIB technique, mutagenic agents and induction of mutation Qualitative & Quantitative traits, Polygenes and continuous variations, multiple factor hypothesis, Cytoplasmic inheritance. Genetic disorders.

Unit IV

Nature, structure & replication of genetic material Protein synthesis, Transcription and translational mechanism of genetic material, Gene concept: Gene structure, function and regulation, Lac and Trp operons.

Suggested Readings

1. Gupta P.K.2004. Cytology, Genetics and evolution. Rastogi Publications, Meerut. (Hindi Edition)
2. Kaushik, M.P.2003. A text Book of Modern Botany. Prakash publications, Muzaffarnagar(UP)
3. Klug, W.W.And Cummings, M.R.2005.Concepts of genetics Pearson Education (Singapore) pvt.Ltd., Indian Branch, Pratapganj, New Delhi.
4. Singh, B.D. 2001.Kalyani Publishing House, New Delhi.

5. Strickberger, M.W.2001.Genetics. Prentice Hall of India. Pvt. Ltd., New Delhi.
6. Shekhawat, A.S.and Tripathi, B.K., 2009. A practical manual on Element of Genetics. Publish by College of Agriculture, Bikaner.

Course Name: Fundamentals of Genetics lab

Course Code: 20023900

Course Outline

1. Study of microscope.
2. Study of cell structure.
3. Mitosis and Meiosis cell division.
4. Experiments on monohybrid, dihybrid, trihybrid, test cross and back cross,
5. Experiments on epistatic interactions including test cross and back cross,
6. Practice on mitotic and meiotic cell division,
7. Experiments on probability and Chi-square test.
8. Determination of linkage and cross-over analysis (through two point test cross and three point test cross data).
9. Study on sex linked inheritance in Drosophila.
10. Study of models on DNA and RNA structures.

Course Name: Fundamentals of Agriculture Economics

Course Code: 20024300

Course Outline:

Unit I

Economics: Meaning, scope and subject matter, definitions, activities, approaches to economic analysis; micro and macro economics, positive and normative analysis. Nature of economic theory; rationality assumption, concept of equilibrium, economic laws as generalization of human behavior. Basic concepts: Goods and services, desire, want, demand, utility, cost and price, wealth, capital, income and welfare.

Agricultural economics: meaning, definition, characteristics of agriculture, importance and its role in economic development. Agricultural planning and development in the country.

Unit II

Demand: meaning, law of demand, demand schedule and demand curve, determinants, utility theory; law of diminishing marginal utility, equi-marginal utility principle. Consumer's equilibrium and derivation of demand curve, concept of consumer surplus.

Elasticity of demand: concept and measurement of price elasticity, income elasticity and cross elasticity.

Production: process, creation of utility, factors of production, input output relationship. Laws of returns: Law of variable proportions and law of returns to scale. *Cost:* Cost concepts, short run and long run cost curves. Supply: Stock v/s supply, law of supply, supply schedule, supply curve, determinants of supply, elasticity of supply.

Unit III

Market structure: meaning and types of market, basic features of perfectly competitive and imperfect markets. Price determination under perfect competition; short run and long run equilibrium of firm and industry, shut down and break even points.

Distribution theory: meaning, factor market and pricing of factors of production. Concepts of rent, wage, interest and profit.

Unit IV

National income: Meaning and importance, circular flow, concepts of national income accounting and approaches to measurement, difficulties in measurement. Good and services tax (GST) - meaning, definition, advantage and disadvantages and its implication on Indian economy.

Tax: meaning, direct and indirect taxes, agricultural taxation.

Suggested Readings

1. K.K. Dewett and J.D. Verma (1986) Elementary Economic Theory, S.Chand& Company, New Delhi.
2. P.A. Samuelson & W.D. Nordhaus (1987) Economics, McGraw-Hill, Singapore.
3. S.K. Mishra and V.K. Puri (1996) Indian Economy, Himalaya Publishing House, New Delhi.
4. G.B. Jathar and S.G. Beri (1996) Elementary Principles of Economics, Oxford University Press (10th Edition), Delhi.
5. Berkeley Hill (1980) An Introduction to Economics for students of agriculture, Pergaman Press, Oxford.

Course Name: Agriculture Microbiology

Course Code: 20024800

Course Outline

Unit-I

Introduction. Microbial world: Prokaryotic and eukaryotic microbes. Bacteria: cell structure, chemoautotrophy, photo autotrophy, growth. Bacterial genetics: Genetic recombination transformation, conjugation and transduction, plasmids, transposon.

Role of microbes in soil fertility and crop production: Carbon, Nitrogen, Phosphorus and Sulphur cycles.

Unit-II

Biological nitrogen fixation- symbiotic, associative and asymbiotic. Azolla, blue green algae and mycorrhiza. Rhizosphere and phyllosphere.

Microbes in human welfare: silage production, biofertilizers, biopesticides, biofuel production and biodegradation of agro-waste.

Suggested Readings

1. Biswas, T.D. and Mukherjee, S.K. 1990. Text Book of Soil Sciences, Tata McGraw-Hill Publishing Company Limited, New Delhi.
2. Mukherjee, N. and Ghosh T. 1998. Agricultural Microbiology, Kalyani Publishers, New Delhi.
3. Pelczar, Jr. Michel J. Chan, E.C.S. and Krieg, Noel R. 1997. Microbiology. Tata McGraw -Hill Edition, 1993. India.
4. Rangaswami, G. and Bagyaraj, D.J. 2010. IInd ed. Agricultural Microbiology. Prentice Hall of India Pvt. Limited, New Delhi.
5. Rao, N.S. 2000. Soil Microbiology, Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.
6. Vishunavat, K. and Kolte, S.J. 2005. Essentials of Phytopathological Techniques. Kalyani Publishers, New Delhi
7. Prescott, 2014. Microbiology. McGraw Hill & Co.
8. R.P. Singh, 2013. Plant Pathology. Kalyani Publishers

Course Name: Agriculture Microbiology Lab

Course Code : 20024900

Practical

1. Introduction to microbiology laboratory and its equipments;
2. Microscope- parts, principles of microscopy, resolving power and numerical aperture.
3. Methods of sterilization.
4. Nutritional media and their preparations.
5. Enumeration of microbial population in soil- bacteria, fungi, actinomycetes.
6. Methods of isolation and purification of microbial cultures.
7. Isolation of Rhizobium from legume root nodule.
8. Isolation of Azotobacter from soil. Isolation of Azospirillum from roots.
9. Isolation of BGA. Staining
10. Microscopic examination of microbes.
11. Mehrotra, R.S. and Aggarawal, A. 2012. 12th ed. Plant Pathology. Tata McGraw Hill Publishing Co. Ltd., New Delhi

Course Name: Fundamental of Entomology

Course Code: 20025300

Course Outline

Unit I

History of Entomology in India. Major points related to dominance of Insecta in Animal kingdom. Classification of phylum Arthropoda upto classes. Relationship of class Insecta with other classes of Arthropoda. Morphology: Structure and functions of insect cuticle and molting. Body segmentation. Structure of Head, thorax and abdomen. Structure and modifications of insect antennae, mouth parts, legs, Wing venation, modifications and wing coupling apparatus. Structure of male and female genital organ. Metamorphosis and diapause in insects. Types of larvae and pupae. Structure and functions of digestive, circulatory, excretory, respiratory, nervous, secretary (Endocrine) and reproductive system, in insects. Types of reproduction in insects. Major sensory organs like simple and compound eyes, chemoreceptor.

Unit II

Insect Ecology: Introduction, Environment and its components. Effect of abiotic factors– temperature, moisture, humidity, rainfall, light, atmospheric pressure and air currents. Effect of biotic factors – food competition, natural and environmental resistance.

Unit III

Categories of pests. Concept of IPM, Practices, scope and limitations of IPM. Classification of insecticides, toxicity of insecticides and formulations of insecticides. Chemical control- importance, hazards and limitations. Recent methods of pest control, repellents, antifeedants, hormones, attractants, gamma radiation. Insecticides Act 1968-Important provisions. Application techniques of spray fluids. Symptoms of poisoning, first aid and antidotes.

Unit IV

Systematics: Taxonomy –importance, history and development and binomial nomenclature. Definitions of Biotype, Sub-species, Species, Genus, Family and Order. Classification of class Insecta upto Orders, basic groups of present day insects with special emphasis to orders and families of Agricultural importance like Orthoptera: Acrididae, Tettigonidae, Gryllidae, Gryllotalpidae; Dictyoptera: Mantidae, Blattidae; Odonata; Isoptera: Termitidae; Thysanoptera: Thripidae; Hemiptera: Pentatomidae, Coreidae, Cimicidae, Pyrrhocoridae, Lygaeidae, Cicadellidae, Delphacidae, Aphididae, Coccidae, Lophophidae, Aleurodidae, Pseudococcidae; Neuroptera: Chrysopidae; Lepidoptera: Pieridae, Papilionidae, Noctuidae, Sphingidae, Pyralidae, Gelechiidae, Arctiidae, Saturnidae, Bombycidae; Coleoptera: Coccinellidae, Chrysomelidae, Cerambycidae, Curculionidae, Bruchidae, Scarabaeidae; Hymenoptera: Tenthredinidae, Apidae. Trichogrammatidae, Ichneumonidae, Braconidae, Chalcididae; Diptera: Cecidomyiidae, Tachinidae, Agromyziidae, Culicidae, Muscidae, Tephritidae.

Course Name: Fundamentals of Entomology Lab

Course Code: 20025400

Course Outline

1. Methods of collection and preservation of insects including immature stages
2. External features of Grasshopper/Blister beetle
3. Types of insect antennae, mouthparts and legs
4. Wing venation, types of wings and wing coupling apparatus
5. Types of insect larvae and pupae
6. Dissection of digestive system in insects (Grasshopper)
7. Dissection of male and female reproductive systems in insects (Grasshopper)

8. Study of characters of orders Orthoptera, Dictyoptera, Odonata, Isoptera, Thysanoptera, Hemiptera, Lepidoptera, Neuroptera, Coleoptera, Hymenoptera, Diptera and their families of agricultural importance
9. Insecticides and their formulations
10. Pesticide appliances and their maintenance
11. Sampling techniques for estimation of insect population and damage

Suggested Readings:

1. Chapman .R.F.1981. Insect Structure and Function, ELBS Publishers New Delhi.
2. David B.V. and Ananthakrishnan .T.N. 2003. General and Applied Entomology, 2nd Ed. Mc graw Hill publishing Co. Ltd. New Delhi.
3. Mathur and Upadhyay, 2005. A Text Book of Entomology, Aman Publishing House, Meerut.
4. Pant. N.C. and Ghai, S. 1981. Insect Physiology and Anatomy, ICAR, New Delhi.
5. Richards O.W. and Davies R.G. 1977. Imm's General Text Book of Entomology, Vol. I & II. Chapman and Hall, London.
6. Snodgrass R.E .2001. Principles of Insect Morphology, CBS Publishers and Distributors, New Delhi.

Course Name: Irrigation and Water Management

Course Code: 20001800

Course Outline

Unit I

Irrigation: definition and objectives; Water resources and irrigation development in India and Rajasthan; Soil moisture constants and theories of soil water availability; Methods of soil moisture estimation; Evapo transpiration and crop water requirement; Scheduling of irrigation;

Unit-II

Methods of irrigation: surface, sprinkler and drip irrigation; Irrigation efficiency and water use efficiency, Irrigation water quality and its management including conjunctive use of water; Water management of different crops (rice, wheat, maize, groundnut, sugarcane, pearl millet, chickpea, mustard); Agricultural drainage.

Unit-III

Importance of water in crop production Soil Moisture constant Estimation of potential evapo-transpiration and consumptive use Water requirement of crops and factors affecting it Approaches of irrigation scheduling , . Systems and methods of irrigation –

drip, sprinkler and mist Irrigation, Quantity and quality of irrigation, Measurement of irrigation water, Elementary idea of drainage on farms.

Suggested Readings:

1. Land and Water Management Engineering. 1982. Murthy V.V.N. Kalyani Pubhliers, New Delhi.
2. Irrigation: Theory and Practices.2012. Michael A.M. Vikas Publishing House Pvt. Ltd., New Delhi.
3. Principles of Agricultural. Engineering. Vol. II. 2012. Michael A.M. and T.P. Ojha. Jain Brothers, New Delhi.
4. Soil and Water Conservation Water Management. 2010. Mahnot, S.C., Singh P.K. and Chaplot, P.C., Apex Publication House, Udaipur.

Course Name: Soil & Water Conservation Engineering

Course Code: 20012400

Course Outline

Unit I

Introduction to Soil and Water Conservation, causes of soil erosion. Definition and agents of soil erosion, water erosion: Forms of water erosion. Gully classification and control measures. Soil loss estimation by universal Loss Soil Equation. Soil loss measurement techniques.

Unit II

Principles of erosion control: Introduction to contouring, strip cropping. Contour bund. Graded bund and bench terracing. Grassed water ways and their design. Water harvesting and its techniques. Wind erosion: mechanics of wind erosion, types of soil movement. Principles of wind erosion control and its control measures.

Course Name: Soil & Water Conservation Engineering Lab

Course Code: 20012500

Course Outline

1. Study of different types and forms of water erosion. Exercises on computation of rainfall erosivity index. Computation of soil erodibility index in soil loss estimation.

2. Determination of length of slope (LS) and cropping practice (CP) factors for soil loss estimation by USLE and MUSLE. Exercises on soil loss estimation/measuring techniques. Study of rainfall simulator for erosion assessment.
3. Estimation of sediment rate using Coshocton wheel sampler and multi slot devisor. Determination of sediment concentration through oven dry method.
4. Design and layout of contour bunds.
5. Design and layout of graded bunds.
6. Design and layout of broad base terraces.
7. Design and layout of bench terraces.
8. Design of vegetative waterways.
9. Exercises on rate of sedimentation and storage loss in tanks.
10. Computation of soil loss by wind erosion.
11. Design of shelterbelts and wind breaks for wind erosion control.
12. Visit to soil erosion sites and watershed project areas for studying erosion control and water conservation measures.

Course Name: Fundamentals of Crop Physiology

Course Code: 20025700

Course Outline

Introduction to crop physiology and its importance in Agriculture; Plant cell: an Overview; Diffusion and osmosis; Absorption of water, transpiration and Stomatal Physiology; Mineral nutrition of Plants: Functions and deficiency symptoms of nutrients, nutrient uptake mechanisms; Photosynthesis: Light and Dark reactions, C3, C4 and CAM plants; Respiration: Glycolysis, TCA cycle and electron transport chain; Fat Metabolism: Fatty acid synthesis and Breakdown; Plant growth regulators: Physiological roles and agricultural uses, Physiological aspects of growth and development of major crops: Growth analysis, Role of Physiological growth parameters in crop productivity.

Course Name: Fundamentals of Crop Physiology Lab

Course Code: 20013500

Course Outline

1. Study of plant cells, structure and distribution of stomata, imbibitions, osmosis, plasmolysis, measurement of root pressure, rate of transpiration, Separation of photosynthetic pigments through paper chromatography.
2. Rate of transpiration, photosynthesis, respiration, tissue test for mineral nutrients, estimation of relative water content, Measurement of photosynthetic CO₂ assimilation by Infra-Red Gas Analyzer (IRGA).

Course Name: Fundamentals of Plant Pathology

Course Code: 20013600

Course Outline

Unit I

Introduction: Importance of plant diseases, scope and objectives of Plant Pathology. History of Plant Pathology with special reference to Indian work. Terms and concepts in Plant Pathology. Pathogenesis. Causes / factors affecting disease development: disease triangle and tetrahedron and classification of plant diseases. Important plant pathogenic organisms, different groups: fungi, bacteria, fastidious vesicular bacteria, phytoplasmas, spiroplasmas, viruses, viroids, algae, protozoa, phanerogamic parasites and nematodes with examples of diseases caused by them. Diseases and symptoms due to abiotic causes.

Unit II

Fungi: general characters, definition of fungus, somatic structures, types of fungal thalli, fungal tissues, modifications of thallus, reproduction (asexual and sexual). Nomenclature, Binomial system of nomenclature, rules of nomenclature, classification of fungi. Key to divisions, sub-divisions, orders and classes.

Bacteria and mollicutes: general morphological characters. Basic methods of classification and reproduction.

Viruses: nature, structure, replication and transmission. Study of phanerogamic plant parasites.

Nematodes: General morphology and reproduction, classification, symptoms and nature of damage caused by plant nematodes (*Heterodera*, *Meloidogyne*, *Anguina*, *Radopholus* etc.)

Unit III

Growth and reproduction of plant pathogens. Liberation / dispersal and survival of plant pathogens. Types of parasitism and variability in plant pathogens. Pathogenesis. Role of enzymes, toxins and growth regulators in disease development. Defense mechanism in plants. Epidemiology: Factors affecting disease development. Principles and methods of plant disease management. Nature, chemical combination, classification, mode of action and formulations of fungicides and antibiotics.

Course Name: Fundamentals of Plant Pathology Lab

Course Code: 20013700

Course Outline

1. Acquaintance with various laboratory equipments and microscopy.
2. Collection and preservation of disease specimen.
3. Preparation of media, isolation and Koch's postulates.

4. General study of different structures of fungi.
5. Study of symptoms of various plant diseases.
6. Study of representative fungal genera.
7. Staining and identification of plant pathogenic bacteria.
8. Transmission of plant viruses.
9. Study of phanerogamic plant parasites.
10. Study of morphological features and identification of plant parasitic nematodes.
11. Sampling and extraction of nematodes from soil and plant material, preparation of nematode mounting.
12. Study of fungicides and their formulations.
13. Methods of pesticide application and their safe use.
14. Calculation of fungicide sprays concentrations.

Suggested Readings:

1. Agrios GN. 2005. Plant Pathology. 5th Ed. Academic Press, New York. (Indian Ed.)
2. Mehrotra, R.S. and Aggarawal, A. 2007. Plant Pathology. Tata McGraw Hill Publishing Co. Ltd., New Delhi
3. Singh, R.S. 2005. 4th ed. Principles of Plant Pathology. Oxford & IBH, New Delhi.
4. Nene, Y.L. 2015. Fungicides in Plant Diseases Control. Oxford & IBH published Co. Pvt. Ltd., New Delhi
5. Vander plank, J.E. (2014) Host Pathogen Interactions in Plant Diseases. A.P.
6. Singh, R.P. 2013. Plant Pathology. Kalyani Publishers
7. Alexopoulos CJ, Mims CW & Blackwell M. 2000. Introductory Mycology. 5th Ed. John Wiley & Sons, New York.
8. Dube, H.C. 2012. Mordern Plant Pathology, Agro Bios , India
9. Lakshman, H.C. 2014. Bio-fertilizers and Bio-pesticides. Pointer Publishers

Course Name: Fundamentals of Agriculture Extension Education

Course Code: 20026000

Course Outline

Education: Meaning, definition & Types; Extension Education- meaning, definition, scope and process; objectives and principles of Extension Education; Extension Programme planning- Meaning, Process, Principles and Steps in Programme Development. Extension systems in India: extension efforts in pre-independence era (Sriniketan, Marthandam, Firka Development Scheme, Gurgaon Experiment, etc.) and post-independence era (Etawah Pilot Project, Nilokheri Experiment, etc.); various extension/ agriculture development programmes launched by ICAR/ Govt. of India (IADP, IAAP, HYVP, KVK, IVLP, ORP, ND, NATP, NAIP, etc.). New trends in agriculture extension: privatization extension, cyber extension/ e-extension, market-led extension, farmer-led extension, expert systems, etc.

Unit II

Rural Development: concept, meaning, definition; various rural development programmes launched by Govt. of India. Community Dev.-meaning, definition, concept & principles, Philosophy of C.D. Rural Leadership: concept and definition, types of leaders in rural context; extension administration: meaning and concept, principles and functions. Monitoring and evaluation: concept and definition, monitoring and evaluation of extension programmes; transfer of technology: concept and models, capacity building of extension personnel; extension teaching methods: meaning, classification, individual, group and mass contact methods, ICT Applications in TOT (New and Social Media), media mix strategies; communication: meaning and definition; Principles and Functions of Communication, models and barriers to communication. Agriculture journalism; diffusion and adoption of innovation: concept and meaning, process and stages of adoption, adopter categories.

Course Name: Fundamentals of Agriculture Extension Education lab

Course Code: 20026100

Course Outline

1. To get acquainted with university extension system
2. Group discussion- exercise
3. Handling and use of audio visual equipments and digital camera and LCD projector
4. Preparation and use of AV aids, preparation of extension literature – leaflet, booklet, folder, pamphlet news stories and success stories
5. Presentation skills exercise; micro teaching exercise
6. A visit to village to understand the problems being encountered by the villagers/ farmers
7. To study organization and functioning of DRDA and other development departments at district level
8. Visit to NGO and learning from their experience in rural development
9. Understanding PRA techniques and their application in village development planning
10. Exposure to mass media: visit to community radio and television studio for understanding the process of programme production
11. Script writing, writing for print and electronic media, developing script for radio and television

Suggested Readings:

1. Adivi Reddy, A., 2001, Extension Education, Sree Lakshmi press, Bapatla.
2. Dahama, O. P. and Bhatnagar, O. P., 1998, Education and Communication for Development, Oxford and IBH publishing Co. Pvt. Ltd., New Delhi.

3. Jalihal, K. A. and Veerabhadraiah, V., 2007, Fundamentals of Extension Education and Management in Extension, Concept publishing company, New Delhi.
4. Muthaiah Manoraharan, P. and Arunachalam, R., Agricultural Extension, Himalaya Publishing House (Mumbai).
5. Rathore, O. S. et al., 2012, Handbook of Extension Education, Agrotech Publishing Academy, Udaipur.
6. Ray, G. L., 1991 (1st Edition), Extension Communication and Management, Kalyani Publishers, Ludhiana {7th revised edition - 2010}.
7. Supe, S. V., 2013 (2nd Edition), A Text Book of Extension Education, Agrotech Publishing Academy, Udaipur.
8. Van Den Ban, A. W. and Hawkins, H. S., Agricultural Extension, S. K .Jain for CBS Publishers & Distributors, New Delhi.
9. Debabrata Das Gupta. Extension Education. Agrobios (India), Agro house behind Nasrani Cinema, Chaupasani Road, Jodhpur- 342402, Phone -0291-2642319, Fax-0291-2643993, Email- agrobios@sify.com
10. Sharma, O. P. & Somani, L. L. 2012. Dimension of Agricultural Extension, Agrotech Publishing Academy. Udaipur.

Course Name: Ability and Skill Enhancement - II

Course Code: 20002300

Course Outline - Final Assessment – Debate/Group Discussion

Unit I: Phonetics

Phonetic symbols and the International Phonetic Alphabets (IPA), The Description and Classification of Vowels (Monophthongs& Diphthong) Consonants, Phonetic Transcription & Phonology, Syllable, Stress & Intonations, and Reading aloud, recording audio clips.

Unit II: Vocabulary Building

Idioms and Phrases, Words Often Confused, One word Substitution, Word Formation: Prefix & Suffix.

Unit III: Ethics & Etiquettes

What are ethics, what are values, difference between ethics and morals, Business ethics, workplace ethics, what are virtues for e.g. civic virtues, etc. Human ethics and values- 5 core human values are: right conduct, living in peace, speaking the truth, loving and care, and helping others. Etiquette awareness, Importance of First Impression, Personal Appearance & Professional presence, Personal Branding, Dressing Etiquette, Dining Etiquette.

Unit IV: Reading & Writing Skills

Reading Comprehension, News Reading, Picture Description, Paragraph Writing, News Writing.

Unit V : Listening & Speaking Skills

Public Speaking, Debate, Inspirational Movie Screening, Skit Performance.

Note: The review of Syllabus happens on periodic basis for the benefit of the students. In case there are changes in curriculum due to review, students would be intimated in writing.

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