

Proceedings


The meeting of Board of Studies (BoS) of Agricultural Economics & Statistics was held on dated 24.05.2021 at 08.00 PM via online mode (ZOOM App) to consider and approve the Curricula & Syllabus developed as per National Education Policy (NEP) 2020.

Dr. Om Prakash Singh (Associate Professor) as **Dean, Faculty of Agriculture**; **Dr. Rajendra Prasad Kaushal** (Assistant Professor) as **Convener**; **Dr. B. P. Singh** (Assistant Professor) as Member; **Dr. Nagendra Singh** (Assistant Professor) as Member; **Dr. Sudhir Kumar Singh** (Assistant Professor) as Member; **Dr. Manish Kumar Singh** (Associate Professor) as External Member and **Dr R. R. Kushwaha** (Assistant Professor) as External Member were attended the meeting.

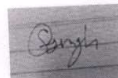
The BoS have unanimously approved the proposed syllabus for the Department of Agricultural Economics and the Department of Statistics, Computer Application & IPR under B.Sc. (Hons.) Agriculture Programme and recommended that it may be implemented from the Academic Year 2021-22 onwards.



Dr. (B. P. Singh)
Member



Dr. (Nagendra Singh)
Member



Dr. (Sudhir Kumar Singh)
Member



Dr. (Manish Kumar Singh)
External Member



Dr. (R. R. Kushwaha)
External Member



Dr. (Rajendra Prasad Kaushal)
Convener



Dr. (Om Prakash Singh)
Dean (FoA)

**NEW SYLLABUS AS NATIONAL EDUCATION POLICY (NEP)
2020**

(NEW AND RESTRUCTURED)

UNDER GRADUATE CURRICULA & SYLLABUS

B.Sc. (Hons.) Agriculture

Semester System as per ICAR Vth Deans Committee Report

DEPARTMENT OF AGRICULTURAL ECONOMICS

&

DEPARTMENT OF STATISTICS, COMPUTER APPLICATION AND IPR



Submitted by:

The Board of Studies (BoS),

Agricultural Economics & Statistics

Veer Bahadur Singh Purvanchal University, Jaunpur (U.P.)

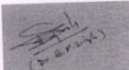
Minutes of Board of Studies (BoS) held on 24.05.2021

A meeting of Board of Studies (BoS) of *Agricultural Economics & Statistics* was held on dated **24.05.2021 at 08.00 PM** via online mode (ZOOM App). The following members were present:

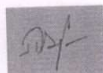
1.	Dr. Om Prakash Singh	Associate Professor (Agricultural Statistics) T D College, Jaunpur	Dean Faculty of Agriculture
2.	Dr. Rajendra Prasad Kaushal	Assistant Professor (Agricultural Statistics) SDJ PG College, Chandeshwar, Azamgarh	Convener
3.	Dr. B. P. Singh	Assistant Professor (Agricultural Economics) T D College, Jaunpur	Member
4.	Dr. Nagendra Singh	Assistant Professor (Agricultural Economics) T D College, Jaunpur	Member
5.	Dr. Sudhir Kumar Singh	Assistant Professor (Agricultural Economics) PG College, Ghazipur	Member
6.	Dr. Manish Kumar Singh	Associate Professor (Agricultural Economics) U. P. College, Varanasi	External Member
7.	Dr. R. R. Kushwaha	Assistant Professor (Agricultural Economics) ANDUAT, Kumarganj, Ayodhya	External Member

The abovesaid meeting of Board of Studies (BoS) of *Agricultural Economics & Statistics* was organized to consider and approve the Curricula & Syllabus developed as per *National Education Policy (NEP) 2020* (available at <https://uphed.gov.in/page/council/en/nep-2020>) for the *Department of Agricultural Economics* and the *Department of Statistics, Computer Application & IPR* under B.Sc. (Hons.) Agriculture Programme in compliance of letter संख्या-1065/सत्तर-3-2021-16(26)/2011, त्रिनांक 20.04.2021 and संख्या-1073/सत्तर-3-2021-8(20)/2020, त्रिनांक 30.04.2021.

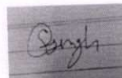
After detailed discussion, the BoS have unanimously approved the proposed syllabus for the *Department of Agricultural Economics* and the *Department of Statistics, Computer Application & IPR* under B.Sc. (Hons.) Agriculture Programme and recommended that it may be implemented from the Academic Year 2021-22 onwards.



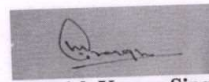
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Member



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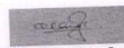
Dr. (Manish Kumar Singh)
External Member



Dr. (R. R. Kushwaha)
External Member



Dr. (Rajendra Prasad Kaushal)
Convener



Dr. (Om Prakash Singh)
Dean (FoA)

DEPARTMENT OF AGRICULTURAL ECONOMICS

Course Code	Course Title	Credit Hours
	Compulsory Courses	
AG-204	Fundamentals of Agricultural Economics	2(2+0)
AG-305	Agricultural Finance and Co-operation	3(2+1)
AG-504	Agricultural Marketing, Trade and Prices	3(2+1)
AG-604	Farm Management, Production and Resource Economics	2(1+1)
	Elective Course	
AGE-51	Agri-business Management	3(2+1)

AGRICULTURAL ECONOMICS

1. Fundamentals of Agricultural Economics

2(2+0) AG-204Theory

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. 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, 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. Supply: Stock v/s supply, law of supply, supply schedule, supply curve, determinants of supply, elasticity of supply. Basic features of perfectly competitive and imperfect markets, Concepts of rent, wage, interest and profit, National Income: meaning and importance, concepts of national income accounting. Population: importance, natural and socio-economic determinants. Money: meaning and functions of money, classification of money, money supply, inflation and deflation. Tax: meaning, direct and indirect taxes, agricultural taxation, VAT, Economic systems: important features of capitalistic, socialistic and mixed economies.

2. Agricultural Finance and Co-operation

3(2+1) AG-305

Theory

Agricultural Finance: meaning, scope and significance, credit needs and its role in Indian agriculture. Agricultural credit: meaning, definition, need, classification. Credit analysis; 3R's, 3C's and 7P's of credit. Sources of agricultural finance: institutional and non-institutional sources, commercial banks, social control and nationalization of commercial banks, RRBs. Micro financing including KCC, SHGs, Lead bank scheme, Crop Insurance Scheme, Scale of finance and unit cost, Cost of credit. An introduction to higher financing institutions – RBI, NABARD, Insurance and Credit Guarantee Corporation of India, Recent development in agricultural credit, Preparation and analysis of financial statements - Balance Sheet and Income Statement, Basic guidelines for preparation of project reports- Bank norms - SWOT analysis,

Agricultural Cooperation - Meaning, brief history of cooperative development in India, objectives, principles of cooperation, significance of cooperatives in Indian agriculture, Agricultural Cooperation in India- credit, marketing, consumer and multi-purpose cooperatives, farmers' service cooperative societies, processing cooperatives, farming cooperatives, cooperative warehousing; role of ICA, NCUI, NCDC, NAFED.

Practical

Determination of most profitable level of capital use, Optimum allocation of limited amount of capital among different enterprise, Analysis of progress and performance of cooperatives using published data, Analysis of progress and performance of commercial banks and RRBs using published data, Visit to a commercial bank, cooperative bank and cooperative society to acquire firsthand knowledge of their management, schemes and procedures, Estimation of credit requirement of farm business - A case study, Preparation and analysis of balance sheet - A case study, Preparation and analysis of income statement - A case study, Appraisal of a loan proposal - A case study, Techno-economic parameters for preparation of projects, Preparation of Bankable projects for various agricultural products and its value-added products, Seminar on selected topics.

3. Agricultural Marketing, Trade and Prices

3(2+1) AG-504

Theory

Agricultural Marketing: concepts and definitions of market, marketing, agricultural marketing, market structure, marketing mix and market segmentation. classification and characteristics of agricultural markets; Nature and determinants of demand and supply of farm products; Producer's surplus - meaning and its types, marketable and marketed surplus, factors affecting marketable surplus of agri-commodities; Marketing process: concentration, dispersion and equalization; Marketing functions: exchange functions - buying and selling; physical functions - storage, transportation and processing; facilitating functions - packaging, branding, grading, quality control and labeling (AGMARK); Types and importance of agencies/ functionaries involved in agricultural marketing; Meaning and definition of marketing channel; number of channel levels; marketing channels for different farm products; Meaning, definition and types of market integration; marketing efficiency; marketing costs, margins and price spread, factors affecting costs of marketing, reasons for higher marketing costs of farm commodities; ways of reducing marketing costs; Role of Government in agricultural marketing: Public Sector Institutions- CWC, SWC, FCI, CACP & DMI - their objectives and functions; Farmer Producer Organization(FPO); cooperative marketing in India; Meaning and functions

of price, administered prices, need for agricultural price policy; Concept of International Trade and its need, present status and prospects of international trade in agri-commodities; GATT and WTO; Agreement on Agriculture (AoA).

Practical

Plotting and study of demand and supply curves and calculation of elasticities; Study of relationship between market arrivals and prices of some selected commodities; Computation of marketable and marketed surplus of important commodities; Study of price behaviour over time for some selected commodities; Visit to a local market to study various marketing functions performed by different agencies, identification of marketing channels for selected commodity. collection of data regarding marketing costs, margins and price spread and presentation of report in the class; Visit to market institutions - NAFED, SYNC, - CWC, cooperative marketing society, etc. to study their organization and functioning.

4. Farm Management, Production and Resource Economics

2(1+1) AG-604

Theory

Meaning and concept of farm management, objectives and relationship with other sciences, Meaning and definition of farms, its types and characteristics, Type and systems of farming, factors affecting types of farming, Principles of farm management: concept of production function and its type, law of diminishing marginal returns, returns to scale, factor-product, factor-factor and product-product relationship, law of equi-marginal/or principles of opportunity cost and law of comparative advantage. Meaning and concept of cost, types of costs and their interrelationship, importance of cost in managing farm business and estimation of gross farm income, net farm income, family labor income and farm business income. Farm business analysis: meaning and concept of farm income and profitability, technical and economic efficiency measures in crop and livestock enterprises. Importance of farm records and accounts in managing a farm, farm inventory, balance sheet, profit and loss accounts. Meaning, need and importance of farm planning and budgeting, partial and complete budgeting, steps in farm planning. linear programming: meaning, assumptions, pre-requisites, advantages. Concept of risk and uncertainty occurs in agriculture production, nature and sources of risks, Concepts of resource economics, unique properties of natural resources, Positive and negative externalities in agriculture.

Practical

Preparation of farm layout, Determination of cost of fencing of a farm, Computation of depreciation cost of farm assets, Application of equi-marginal returns/opportunity cost principle in allocation of farm resources, Determination of most profitable level of inputs use in a farm production process, Determination of least cost combination of inputs, Selection of most profitable enterprise combination, Application of cost principles including CACP concepts in the estimation of cost of crop and livestock enterprises, Preparation of farm plan and budget, farm records and accounts and profit & loss accounts, Collection and analysis of data on various resources in India.

ELECTIVE COURSE

1. Agri-business Management

3(2+1) AGE-51

Theory

Transformation of agriculture into agribusiness, various stakeholders and components of agribusiness systems, Importance of agribusiness in the Indian economy and New Agricultural Policy, Distinctive features of Agribusiness Management: Importance and needs of agro-based industries, Classification of industries and types of agro-based industries, Institutional arrangement: procedures to set up agro-based industries, Constraints in establishing agro-based industries. Agri-value chain: Understanding primary and support activities and their linkages, Business environment: PEST & SWOT analysis. Management functions: Roles & activities, Organization culture, Planning: meaning, definition, types of plans. Purpose or mission, goals or objectives, Strategies, policies, procedures, rules, programs and budget. Components of a business plan, Steps in planning and implementation, Organization staffing, directing and motivation, Ordering, leading, supervision, communications, Control, Capital Management and Financial management of Agribusiness, Financial statements and their importance, Marketing Management: Segmentation, targeting & positioning, Marketing mix and marketing strategies, Product Life Cycle (PLC), Sales & Distribution Management, Pricing policy, various pricing methods, Project Management definition, project cycle, identification, formulation, appraisal, implementation, monitoring and evaluation, Project Appraisal and evaluation techniques.

Practical

Study of agri-input markets: Seed, fertilizers, pesticides. Study of output markets: grains, fruits, vegetables, flowers, Study of product markets, retail trade commodity trading,

and value-added products, Study of financing institutions- Cooperative, Commercial banks, RRBs, Agribusiness Finance Limited, NABARD, Preparations of projects and Feasibility reports for agribusiness entrepreneur, Case study of agro-based industries, Trend and growth rate of prices of agricultural commodities, Appraisal/evaluation techniques of identifying viable project- Non-discounting techniques, Net present worth technique for selection of viable project

DEPARTMENT OF STATISTICS, COMPUTER APPLICATION AND IPR

Course Code	Course Title	Credit Hours
	Compulsory Courses	
AG-309	Statistical Methods	2(1+1)
AG-410	Agri-Informatics	2(1+1)
AG-509	Intellectual Property Rights	1(1+0)
	Remedial Course	
AG-111B	Elementary Mathematics	2(2+0)

STATISTICS, COMPUTER APPLICATION AND IPR

1. Statistical Methods

2(1+1) AG-309

Theory

Introduction to Statistics: Definitions, Aims, Limitations and its Applications in Agriculture, Classification and Tabulation, Diagrammatic and Graphical Representation of Data, Measures of Central Tendency: Mean, Median, Mode; Measures of Dispersion: Range, Mean Deviation, Standard Deviation, Variance, Coefficient of Variation and Standard Error of Mean(S.E.); Definition and Types of Correlation, Scatter Diagram, Karl Pearson's Coefficient of Correlation, Regression, Two Lines of Regression, Regression Coefficient and its Properties, Relationship between Correlation Coefficient and Regression Coefficient. Test of Significance: Introduction to Test of Significance, Concept of Random Sample and Statistic, Test of Significance based on Z, t, F and Chi-Square (χ^2) Statistics, Chi-Square (χ^2) test of Goodness of Fit, Test of Independence of Attributes in 2x2 Contingency Table. Introduction to Analysis of Variance, Analysis of One Way and Two Way Classification, Introduction to Sampling Methods, Simple Random Sampling with and without replacement, Use of Random Number Tables for selection of Random Sample.

Practical

Diagrammatic and Graphical representation of data, Measures of Central Tendency: Computation of Arithmetic mean, Median and Mode for Ungrouped and Grouped data. Measures of Dispersion: Computation of Mean deviation, Standard deviation, Variance and Coefficient of Variation for Ungrouped and Grouped data. Calculation of Correlation Coefficient and Determination of Regression Line, Calculation based on t, Z, F test, Chi-Square (χ^2) test of Goodness of Fit, Chi-Square (χ^2) test of Independence of Attributes in 2x2 contingency table, Analysis of Variance for One Way and Two Way Classification.

2. Agri-Informatics

2(1+1) AG-410

Theory

Introduction to Computers, Operating Systems, definition and types, Applications of MS-Office for document creation & Editing, Data presentation, interpretation and graph creation, statistical analysis, mathematical expressions. Database, concepts and types, uses of DBMS in Agriculture, World Wide Web (WNW): Concepts and components.

e-Agriculture, concepts and applications, Use of ICT in Agriculture, Computer-controlled devices (automated systems) for Agri-input management, Smartphone Apps in Agriculture for farm advises, market price, Post-harvest management etc; Geospatial technology for generating valuable agri information, Decision support systems, concepts, components and applications in Agriculture, Agriculture Expert System, Soil Information Systems etc for supporting Farm decisions.

Practical

Study of Computer Components, accessories, practice of important DOS Commands, Introduction of different operating systems such as windows, Unix/ Linux, Creating, Files & Folders, File Management. Use of MS-WORD and MS Power-point for creating, editing and presenting a scientific Document MS-EXCEL - Creating a spreadsheet, use of statistical tools, writing expressions, creating graphs, analysis of scientific data. MS-ACCESS: Creating Database, preparing queries and reports, demonstration of Agri-information system, Introduction to World Wide Web (WWW), Introduction of Geospatial Technology for generating valuable information for Agriculture, Hands on Decision Support System.

3. Intellectual Property Rights

1(1+0) AG-509

Theory

Introduction and meaning of intellectual property, brief introduction to GATT, WTO, TRIPS and WIPO, Types of Intellectual Property and legislations covering IPR in India: Patents, Copyrights, Trademark, Industrial design, Geographical indications, Integrated circuits, Trade secrets, Patents Act 1970 and Patent system in India, Origin and history including a brief introduction to UPOV for protection of plant varieties, Protection of plant varieties under UPOV and PPV&FR Act of India, Plant breeder's

rights, Registration of plant varieties under PPV&FR Act 2001, breeders, researcher and farmers rights.

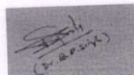
REMEDIAL COURSE

5. Elementary Mathematics

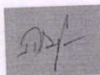
2(2+0) AG-111B

Theory

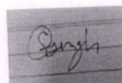
Straight lines: Distance Formula, Section Formula (internal and external division), Equation of co-ordinate axes, Equation of lines parallel to axes, Two point form of equation of line, Normal form of equation of line, Point of intersection of two straight lines, Angles between two straight lines, Parallel lines. Circle: Equation of circle whose center and radius is known, general equation of a circle, Equation of circle passing through three given points, Equation of circle whose diameters is line joining two points (X_1, Y_1) & (X_2, Y_2) . Differential & Integral Calculus: Definition, limit and continuity of a function, Simple problems on limit and continuity, Differentiation of x^n , e^x , a^x , $\log x$ & $\sin x$, $\cos x$, $\tan x$, $\cot x$, $\sec x$ & $\csc x$ from first principle, Derivatives of sum, difference, product and quotient of two functions, Differentiation of functions of functions (Simple problem based on it), Logarithmic differentiation (Simple problem based on it), Differentiation by substitution method (Simple problems based on it). Integration of simple functions, Integration by Parts: Integration of Product of two functions, Integration by substitution method. Determinants and Matrices: Introduction of determinants, Properties of determinants up to 3rd order and their evaluation, Definition of Matrices, type of Matrices and properties, Addition, Subtraction, Multiplication, Transpose and Inverse of a matrix up to 3rd order.



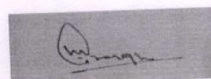
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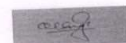
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