

SKILL FACULTY OF AGRICULTURE

M.Voc.(Agriculture)Scheme

2 Year Course

2022-24



**SHRIVISHWAKARMA SKILL UNIVERSITY
DUDHOLA, PALWAL**

M. Voc. Agriculture - Semester III

Category	Subject Code	Subjects	Credits			Hours			Theory (Marks)			Practical (Marks)			Total
			Th	P	To	Th	P	To	I	E	To	I	E	To	
General Education Component	AGM-21301	Agricultural Business Management and Marketing	4	2	6	60	60	120	30	70	100	35	15	50	150
	AGM-21302	Entrepreneurship and Industrial Ethics	2	1	3	30	30	60	30	70	100	35	15	50	150
	AGM-21303	Dairy Farming	3	1	4	45	30	75	30	70	100	35	15	50	150
			9	4	13	135	120	255	90	210	300	105	45	150	450
Skill Education Component	AGM-21304	Seed Plant Production -1	3	3	6	45	90	135	30	70	100	35	15	50	150
	AGM-21305	Seed Plant Production-2	3	3	6	45	90	135	30	70	100	35	15	50	150
	AGM-21306	Agriculture Field Services	4	3	7	60	90	150	30	70	100	35	15	50	150
			10	9	19	150	270	420	90	210	300	105	45	150	450
		Total	19	13	32	285	390	675	180	420	600	210	90	300	900

M. Voc. Agriculture - Semester IV

Category	Subject Code	Subjects	Credits			Hours			Theory (Marks)			Practical (Marks)			Total
			Th	P	To	Th	P	To	I	E	To	I	E	To	
General Education Component	AGM-21401	MOOC /Online Resources –III	3	0	3	45	0	0	30	70	100	0	0	0	100
	AGM-21402	MOOC / Online Resources - IV	2	0	2	30	0	0	30	70	100	0	0	0	100
			5	0	5	75	0	0	60	140	200	0	0	0	200
Skill Education Component	AGM-21403	<u>OJT</u> Seed Plant Production Supervisory (105 hrs) Agriculture Field Services (175 hrs) Agriculture Practices (410 hrs)	0	23	23	0	690	690	0	0	0	350	150	500	500
			0	23	23	0	690	690	0	0	0	350	150	500	500
		Total	5	23	28	75	690	690	60	140	200	350	150	500	700

Complete Syllabus

Semester III

Subject: Agricultural Business Management and Marketing

Subject Code: AGM 21301

Course credit: 06 (4-2-0)

Max. Marks: 100 (30I+70E); 50(35I+15E)

Course Objectives: To make the learners aware of the market trends and planning activities, make and manage cooperative societies, analysis.

Theory

UNIT I

Agricultural business management, forms of business organisation, production relationships, cost concept, farm planning, Agricultural marketing, agribusiness and balance sheet analysis, project preparation, role of agro-processing in agribusiness development

UNIT II

Principles of cooperation, process of cooperative formation, cooperative legislation, governance in agribusiness cooperatives, management of cooperatives, overview of agribusiness cooperatives

UNIT III

Credit cooperatives, production/processing-based cooperatives, cooperative marketing, dairy cooperatives, tribal cooperatives. Marketing Cooperatives - APMC Regulated Markets, Direct marketing, Contract farming and Retailing, Supply Chain Management, State trading, Warehousing and other Government agencies, E NAM- objectives and its implications in agricultural marketing, Market infrastructure- problems and measures

UNIT IV

Financing agribusiness cooperatives, business development planning for cooperatives, MIS for agribusiness cooperatives, collective action and leadership in cooperatives, promotion of cooperative movement-education and training. Statistical tools and analysis.

Practical:

Supply and demand elasticities in relation to problems in agricultural marketing, Price spread and marketing efficiency analysis, Marketing structure analysis through concentration ratios, Performance analysis of Regulated market and marketing societies, Chain Analysis - quantitative estimation of supply chain efficiency

Suggested Books:

1. Agricultural Marketing in India-S S Acharya and N L Agrawal, Oxford &IBH Publishing.
2. Agricultural Marketing in India -A K Singhal, Annual Publishing New Delhi.
3. Marketing Farm Products -S G Shepherd & A F Gene, Iowa State Univ. Press.
4. Agricultural Markets: Mechanisms, Failures and Regulations- D. Martimort. Elsevier.
5. Economics of Agricultural Markets- Schrimper R A. Pearson

Subject: Entrepreneurship and Industrial Ethics

Subject Code: AGM 21302

Course credit: 03 (2-1-0)

Max. Marks: 100 (30I+70E); 50(35I+15E)

Course objectives: To equip and train students for being an eminent entrepreneur. This course is designed to develop an intellect and mind creativity for being a part of the economical structure along with Industrial Ethics.

Theory:

UNIT I

Concept and overview of entrepreneurship—definition, nature and characteristics, need and importance, benefits of being an entrepreneur, types of entrepreneurs, entrepreneur and entrepreneurship, entrepreneur vs. manager, entrepreneurs vs. entrepreneurship; evolution and growth of entrepreneurship in India—factors affecting growth of entrepreneurship in India, Indian society and entrepreneurship development; role of entrepreneurship in economic development

UNIT II

Entrepreneurial characteristics, skills and competencies, role of entrepreneurs, Entrepreneurial input; entrepreneurial behaviours and entrepreneurial motivation. N-Achievement and managerial success, entrepreneurial development programme in India—History, support, objectives, stages of performances; planning and EDP-objectives. Target group, selection of centre, pre-training work; Government policy towards MSMEs

UNIT III

Building a new identity—identity search, identity formation and identity establishment; rural entrepreneur, women entrepreneur, minority group; managing innovation function; goal settings—goal settings theory, MBO as a goal setting process, SMART goal setting; creativity and problem solving—source of business idea, ideation, idea generation methods, idea processing, input requirements, problem-inventory analysis, barriers to problem-solving, problem-solving techniques. Entrepreneurial success in rural areas

UNIT IV

Ethics: Meaning and nature of Ethics, Meaning of Moral & Ethics, Types of Ethics, Importance of Ethics, Nature of Ethics, Importance of ethics in business, Types of business; Individual Ethics— Professional ethics, Corporate Ethics, Ethical behaviour

Nature of business ethics and values; Factors influencing business ethics, leadership strategy and performance, environment corporate culture, individual characteristics, Managing codes of ethics, ethics committees, hotlines, ethics training programs and laws enforcing ethical conduct

Practical:

Case study of successful entrepreneurs, Situational responses, preparation of feasibility reports and legal formalities and documentation.

Suggested Books:

1. Agalabatti B.H., Krishna S., Business Ethics: Concepts and Practices (With special emphasis on Indian Ethos and Values), NiraliPrakashan 2. Chakraborty S.K., Ethics in Management: Vedantic Perspective, Oxford University Press Davies Peter W.F., Current Issues in Business Ethics, Roulledge 3. Fernando A.C., Corporate Governance: Principles, policies and practices, Pearson Education Gary A. Yukl, Leadership in Organizations, Pearson
2. D. F. Kuratko and T. V. Rao: Entrepreneurship: A South-Asian Perspective, Cengage Learning, Delhi, 2016
3. Thomas W. Zimmerer and Norman M. Scarborough: Essentials of Entrepreneurship and Small Business Management, PHI Learning, Delhi, 2015
4. Rajeev Roy: Entrepreneurship, Oxford University Press, New Delhi, 2011

Subject: Dairy Farming

Subject Code: AGM 21303

Course credit: 04 (3-1-0)

Max. Marks: 100 (30I+70E); 50(35I+15E)

Course objectives:

To teach students about types of dairy development, livestock census, routine farm management, milk production, processing of dairy and meat products, export of dairy and meat products.

Theory

UNIT I

Scope of livestock in Indian economy; Livestock census and trend of livestock production. Terminology used in livestock care i.e. calf, heifer, milking animal, dry animal, pregnant animal, draft animal and breeding bull, stress management, care and management of livestock.

UNIT II

Housing of different livestock. Routine farm management. Preparation of animal for different purposes. Various breeds of cattle, sheep, goat, buffalo; Cleaning and hygiene maintenance of animals and farm, Artificial Insemination.

UNIT III

Physiology of ruminants, Nutrient requirement of livestock. Maintenance of records on livestock dairy farms. Animal health cover, clean milk production. Testing of milk- organoleptic, chemical and microbial, Procurement and Processing of various dairy products. (Paneer, ghee, buttermilk, butter, etc.)

UNIT IV

Vaccination schedules of livestock. Record keeping, judging of animals for dairy and draft purposes. Utilization of dairy farm wastes, feed management. Layout of various dairy structures

UNIT V

Marketing of dairy products, export of dairy products, risk in dairy, Cattle insurance policy in India-New livestock insurance schemes promoted by state government and Central government. Government initiatives for promotion of dairy products.

Practical:

Case study on different dairy cooperatives and dairy processing industries. A visit to milk dairy Report on organoleptic quality and evaluation of milk and milk products- raw milk, paneer, ghee, butter, buttermilk. Report on physical properties of milk, chemical composition of different animal and poultry products. Report on handling and control of animals, routine practices on livestock and poultry farms.

Suggested books:

1. Singh, R.A. Poultry Production. Kalyani Publishers, New Delhi
2. Maske, O Norton. Commercial Chicken Production. Manuel AVI Publishers, INC
West Port.
Devendra, C. and G. B. McElroy. Goat and Sheep Production in Tropics – Long man
Group Ltd., London.
3. Wong, et al. Fundamentals of Dairy Chemistry. Publishers Van Nastrand Rain hold
Comp. New York.
4. Banerjee, G. C. Text Book of Animal Husbandry. Oxford and IBH Publishers, New
Delhi.
5. Sashry, C.K. Thomas and R. A. Singh. Farm Animal Management and Poultry
Production. NSR, Vikas Publishing House Pvt. Ltd., Delhi.

Subject: Seed Plant Production- 1

Subject Code: AGM 21304

Course credit: 06 (3-3-0)

Max. Marks: 100 (30I+70E); 50(35I+15E)

Course Objectives:

To teach students about seed development, genetic purity, seed processing and seed storage.

Theory:

UNIT I

Seed development (sporogenesis, fertilization, embryogenesis & seed formation) in a typical dicot and monocot crop. Endosperm types and functions, cotyledons. Seed coat structure, permeability, seed dormancy and factors causing dormancy of seeds. Seed dispersal strategies, types of seeds; economic importance of seeds.

UNIT II

Seed as basic input in agriculture; importance of genetic purity in seed production; seed production in self and cross-pollinated crops; methods of hybrid seed development; custom seed production in India. Seed processing: Introduction and importance; Equipment used for seed cleaning, drying, grading, destoning and gravity separating.

UNIT III

Seed industry development. Classification of crop plant in relation to mode of reproduction, variety, definition, type, development and release system and notification. Objective of seed productions, Generation System. Factors affecting seed production, site selection, isolation and rouging, compact area approach. Variety maintenance, nucleus/breeder, foundation and certified seed production in different crops.

UNIT IV

Seed treatment (physical and chemical), benefits and precautions. Seed storage – introduction, steps, factors affecting storage; insect, rodent and bird control of storage houses. Hybrid seed production, heterosis; inbreeding depression, genetic, physiological and biochemical basis of heterosis.

Practical

Assessment of genetic purity by grow-out test, Physical purity analysis of seed samples, Seed and seedling vigour test. A case study on seed testing laboratories and seed processing plants for seed cleaning, grading and packaging. Study on seed treatment methods, seed priming and pelleting. Study based on practices in rouging and seed storage.

Suggested Books:

1. Bhojwani SS & Bhatnagar SP. 1999. The embryology of Angiosperm. Vikas publications.
2. Copeland LO & McDonald MB. 2001. Principles of seed science and Technology. 4th Ed. Chapman & Hall.
3. Agarwal RL. 1997. Seed Technology. 2nd Ed. Oxford & IBH.
4. Kelly AF. 1998. Seed Production of Agricultural Crops. Longman.
5. McDonald MB Jr & Copeland Lo. 1997. Seed Production: Principles and Practices. Chapman & Hall.

Subject: Seed production II

Subject Code: AGM-21305

Course Credit: 06 (3-3-0)

Max. Marks: 100 (30I+70E); 50 (35I+15E)

Course Objectives: To teach students about seed germination, types and its need in agriculture and horticulture.

Theory

UNIT I

Seed germination-introduction and types; germination requirements in agriculture and horticulture crop seeds. Factors affecting seed germination, role of promoters and inhibitors. Seed vigour-concept, factors affecting seed vigour, physiological and genetic basis of seed vigour. Methods of measuring seed vigour; seed and seedling vigour in relation to crop establishment and yield.

UNIT II

National seed testing rules and organizations; seed sampling, heterogeneity test, sample receipt and registration. Moisture test, tetrazolium test – principles, procedure and evaluation; methods to break seed dormancy.

UNIT III

Self-incompatibility, its genesis and use in hybrid seed production. Causes of seed deterioration. Seed production planning, method of production, processing and storing in rice, wheat, maize, sorghum, pearl millet, barley, red gram, gram, green gram, cowpea, pea, soybean, groundnut, mustard, sunflower, linseed, cotton.

UNIT IV

Seed certification – concept, purpose and phases of seed certification, certification agency, certified seed level, certification tag and validity period of certification. Seeds Act, rules & law enforcement; seed control order and seed policy; role of “Quality Control” for import and export of seeds.

Practical

Seed germination test: principles and procedures, Testing viability and vigour of seed, Testing procedures for coated and pelleted seeds, Estimation of moisture content in seed samples, Testing of seed health, International seed analysis certificate, Visit to Mega Seed Project UNIT, Seed Testing Laboratory and Seed Production Farms

Suggested Books:

1. Barton LV. 1985. Seed Preservation & Longevity. International Books and Periodicals Supply Service. New Delhi.
2. Justice OL & Bass LN. 1978. Principles and Practices of seed storage. Castle House Publ. Ltd.
3. Nema NP. 1986. Principles of Seed Certification and Testing. Allied Publications.
4. Tunwar NS & Singh SN. 1988. Indian Minimum Seed Certification Standards. CSCB, Ministry of Agriculture, New Delhi.

Subject: Agriculture Field Services

Subject Code: AGM-21306

Course Credit: 07 (4-3-0)

Max. Marks: 100 (30I+70E); 50 (35I+15E)

Course Objectives: To teach students about the communication skills and for guiding farmers for assessing loans.

Theory

UNIT I

Communication skills: interpersonal skills, organization of meetings with farmers and cooperatives, record maintenance, types of loans for farmers, document requirement for loan process, loan application process, agriculture in put supply and farm machinery business enterprises.

UNIT II

Factors that can have an impact on agricultural production to assess income and risk profiles, Character analysis of Farmer: personal integrity, capacity to repay the loan, capital investment for farming business, backup security, credibility and liability etc., Furnish all the document and details collected to the credit officer to enable diligence on loan.

UNIT III

Information organization, Loan proposal, document submission, loan monitoring and money utilization, Record maintenance, prepare loan portfolio, debt collection, customer rating on the completion of loan cycle.

UNIT IV

Professional ethics: Coordination with colleagues and superiors, maintaining relationship with the cooperatives, farmer, company, team management, Maintaining trust, transparency and mutual confidence with the farmers.

Practical

Field visit to collect farmer`s data, analysis of profile, loan proposal, document preparation, applying for loan, loan procedure. Communicate with farmers, record keeping and maintenance, prepare loan approval file (for various loans).

Suggested Books:

1. Moss Charles B., 2013. Agriculture Finance. Routledge Textbooks in Environmental and Agricultural Economics, London, New York.
2. Reddy S. Subba, 2018. Agriculture Finance and Management. Oxford & IBH Publishing Co. Pvt. Ltd.
3. Entrepreneurship Development And Communication Skills In Agricultural Extension Education 2018 Edition by Bhise R N, CBS Publishers and Distributors
4. Rajaraman V., 2019. Credit Appraisal Risk Analysis & Decision Making 10Th Edition. Snow white publisher