

U. P. RajarshiTandon Open University Allahabad



ORDINANCE

of

School of Agricultural Sciences

**Academic building, Saraswati Campus
Sector-F, Shantipuram Colony
Phaphamau, Allahabad – 211021
Uttar Pradesh, India**

The School of Agricultural Sciences (SOAS), established under UP RajarshiTandon Open University, Allahabad in January 2005 is trying to fulfill its objectives framed for the wellbeing of rural people of Uttar Pradesh. Enhancing the level of education of rural people especially of those who are engaged infarm business,through ODL system is the major objective of establishing this school. Rural people, farmers and landless labourers are the main stake holders but learners of other areas are also welcome equally if they need to enrich their knowledge and skills in agriculture and its subsidiary business. Such education would refine their decision making process and increase their risk taking ability. The school since its establishment tries hard for a flagship role in turning the rural youth to become successful agricultural entrepreneur and agri-business manager. This in turn would reducethe rural migration through generation of gainful employment and better work environment in the rural sector of the state. This will help ensure livelihood security and sustainable productivity to change the quality of life in rural areas. The school has been focusing on academic and extension activities in agriculture at the State and the national levels with the following mission, vision and objectives:

MISSION

The School of Agricultural Sciences will make every effort to make the rural people aware of the benefits of agricultural education and impart/infuse the knowledge through ODL system for promotion of entrepreneurial and managerial zeal among its learners.

VISION

The School will work with a vision of extension of agricultural education and making stakeholders capable enough to make use of their knowledge and skillin prospective area. It will also try to harness convergence between ODL and conventional system through national and international linkages.

OBJECTIVES

1. To make people aware of the benefits of education in general and agricultural education in particular and encourage them to enroll themselves and their family members in the desired field;
2. To develop skill and entrepreneurship among learners for strengthening the human resource base in agriculture through distance education;
3. To use technological innovations for improving outreach and effectiveness of distance education in agriculture;
4. To provide quality, relevant and equitable education through ODL system and develop an inter sectorial interface; and
5. To establish inter institutionallinkages between India and other countries having expertise and experience in Distance Education especially in the field of agriculture and agri-business.

Programmes Offered by the School

List of Programmes

1. Awareness Programme:

- i. Awareness Programme in Dairy Farming (APDF)

2. Certificate Programmes:

- i. Certificate in Post Harvest Technology and Value addition (CPHT&VA)
- ii. Certificate in Cultivation of Medicinal and Aromatic Plants (CCMAP)
- iii. Certificate in Livestock Production System (CLPS)
- iv. Certificate in Poultry Farming (CPF)
- v. Certificate in Bee Keeping (CIB)
- vi. Certificate Programme in Gardening (CPIG)
- vii. Certificate in Organic Farming (COF)

3. Diploma Programmes:

- i. Diploma in Dairy Technology (DDT)
- ii. Diploma in Value Added Products from Fruits and Vegetables (DVAPFV)
- iii. Diploma in Watershed Management (DWM)

4. Post Graduate Diploma Programme:

- i. PG Diploma in Agricultural Extension (PGDAE)

Ordinances and Programme Details

A. Awareness Programmes:

In rural India the agriculture and its subsidiary activities can be helpful to generate regular income and employment if they are adopted with a business mindset. But, in absence of awareness and basic know how people hesitate to make an investment considering them uneconomic. Basic purpose of offering awareness programmes is to make people aware of the events and activities that are naturally happening in their surroundings. Such programmes would make significant contribution in encouraging prospective learners to go for further knowledge and training so that they may revive/establish a subsidiary occupation to get regular income from within the agriculture sector and make it a profitable venture. U. P. Rajarshi Tandon Open University offers some awareness programmes under its School of Agricultural Sciences in which a rigorous study is needed. For certification of his/her knowledge the learner is required to follow the general norms of university laid down for Awareness Programme:

- 1. Examination:** As per University norms the candidate will be required to complete assignment work only.
- 2. Assessment:** 100% weightage will be given through evaluation of assignment work. Depending on the marks scored/obtained by the learner grades will be awarded. Grades A, B, C and are different levels of satisfaction while E is unsatisfactory.
- 3. Criteria for Grading:**

Literal Grade	Qualitative Level	Equal Percentage of Marks
A	Excellent	80% or above of the total marks
B	Very Good	60% to 79.90% of the total marks
C	Good	50% to 59.90% of the total marks
D	Satisfactory	40% to 49.90% of the total marks
E	Unsatisfactory	Below 40% of the total marks

Some of the programmes designed and offered in the School of Agricultural Sciences are as under.

I. Awareness Programme in Dairy Farming (APDF)

Introduction: Dairy Farming has been one of the most important subsidiary occupations of the farming community in India. It is a remunerative business both in rural and urban areas because of its demand and availability of consumers. Capital investment in this business generates quick and regular income and employment throughout the year. It has a significant role in the eradication of malnutrition and poverty especially in the rural area. However, due to extensive use of days old primitive technology on most of the farms this business still remains low productive and economically less viable. The present programme aims to create awareness with imparting basic knowledge among the people regarding viability dairy farming as a business. The target group includes existing dairy Farmers, unemployed or underemployed rural youth, Women, other farmers and entrepreneurs.

Objectives:

Main objectives of the programme are to;

- to make people aware of the dairy farming as a business;

- to infuse/impart basic knowledge in dairy farming through Open and Distance Learning (ODL) Mode;
- to create awareness about the opportunities of employment and livelihood in dairy sector; and
- to impart basic knowledge in feeding dairy animals, breeding, nursing, and management.

Details of the programme are as under:

1. **ProgrammeCode** :803
2. **Programme Duration** :Minnimun 02 Months Maximum 01 Year
3. **Eligibility for Admission:**8th Pass or Equivalent
4. **Admission Procedure** : Open
5. **Medium** : Hindi
6. **Assignment Work** :Essential
7. **Programme Fee** : 1,000/-
8. **Programme Structure** : It is a Non Credit Programme.Course Design will be such as decided by the board of studies time to time.

Course Code	Title of the Course	Credit
APDF-01	Dairy Farming: Introduction and Significance	-
APDF-02	Animal Reproduction	-
APDF-03	Milk Production, Testing and Storage	-
APDF-04	Animal Shelter and Health Management	-
APDF-05	Dairy Farm-Instruments and Waste disposal	-
APDF-06	Dairy Economics and Development	-
Total Credits		-

9. **SLM-** No hard copies of SLM will be provided by the university to the learners. Only online links will be provided.

B. Certificate Programmes:

Most of the rural people in our country especially those who are engaged in agriculture and subsidiary activities are well aware of the practices and problems of this sector. But, because of one reason or other most of them use of days old primitive technologies and hence cannot exploit its full potential. Some of them are hesitant to adopt new business within this sector or expand the size of their existing business because of lack of proper technical knowledge. Imparting/infusing proper knowledge and training in such activities would increase their skill. It in turn can be helpful to generate regular income and employment in agriculture itself as well as check the rural migration. Short duration programmes of studies like awareness, Certificate, Diploma and PG Diploma are such courses which would cater the purpose if they are designed on the basis of local needs.

A certificate programme paves the way for desired modifications or addition in the existing store of knowledge of eligible practicers and its certification. These programmes may be offered as add-on courses by the other learners/students also which would increase the value of their degrees. Such programmes would make significant contribution in reviving/establishing subsidiary occupations as a profitable venture in farming community of India. U. P. Rajarshi Tandon Open University offers some certificate programmes under its School of Agricultural Sciences in which a rigorous study is needed. For certification of his/her knowledge the learner is required to appear in the examinations and pass it successfully. To pass the examinations and getting awarded the divisions criteria laid down by the University are as under:

1. **Examination:** As per University norms
2. **Assessment:** In theory papers 100% weightage will be given through Terminal examination and its external evaluation while in practical papers equal weightage (50% each) will be given through internal and external evaluations of performance in practical work.
3. **Passing Marks:** 36% of the total marks scored in assessment of each paper separately.
4. **Division:** I Division – 60% or above of the total marks.
II Division – 48% or above but below 60% of the total marks.
III Division – 36% or above but below 48% of the total marks.

Some of the programmes designed and offered in the School of Agricultural Sciences are as under.

i. Certificate in Post Harvest Technology and Value addition (CPHT&VA)

Introduction: Agricultural products are perishable in nature. Generally, faulty methods of harvesting and lack of post-harvest care results in heavy losses. To prevent such losses it is necessary to make farmers aware of it and impart them a basic know how and training in this regard. The certificate programme designed on this subject would modify the existing store of the learners' knowledge and certify it. It may be offered by the stake holders or by any learner who is eager to get knowledge about this practice.

Objectives:

Main objectives of the programme are:

- to develop and strengthen Human Resource by infusing/imparting knowledge and skill in Post-harvest Management and Value addition through Open and Distance Learning (ODL) Mode;
- to create awareness about the opportunities of employment and livelihood in this particular sector; and
- to impart basic knowledge and technical proficiency in basic methods of harvesting and post-harvest management.

Details of the programme are as under:

1. **Programme Code** :401
2. **Programme Duration** :Minnimun 06 Months Maximum 02 Year
3. **Eligibility for Admission:**10+2 Pass or Equivalent
4. **Admission Procedure** : Open
5. **Medium** : Hindi
6. **Assignment Work** : Not Essential
7. **Programme Fee** : 3,000/-
8. **Programme Structure:** Programme will be of 12 credits.Course Design will be such as decided by the board of studies time to time.

Course Code	Title of the Course	
CPHT&VA-01	Post Harvest Management: Concepts and Process	4
CPHT&VA-02	Post Harvest Processing: Technology Development	4
CPHT&VA-03	Value Addition: Process and Products	4
Total Credits		12

9. **SLM-** No hard copies of SLM will be provided by the university to the learners. Only online links will be provided.

ii. **Certificate in Cultivation of Medicinal and Aromatic Plants (CCMAP)**

Introduction: Cultivation of Medicinal and Aromatic Plants has emerged as one of the most important subsidiary occupations in farming business in India. It is a remunerative business both in rural and urban areas due to the requirement of small space, low capital investment and generates sufficient income and employment throughout the year. It has a significant role in the eradication of malnutrition and poverty especially in the rural area. The present programme aims to impart knowledge and skill to the poultry farmers to make this activity a profitable business. The target group includes existing farmers, unemployed or underemployed rural youth, women, and entrepreneurs.

Objectives:

Main objectives of the programme are:

- to develop and strengthen Human Resource by infusing/imparting knowledge and skill in cultivation of medicinal and aromatic plants through Open and Distance Learning (ODL) mode;
- to create awareness about the opportunities of employment and livelihood in farm Sector; and

- to impart basic knowledge and technical proficiency in raising nursery, cultivation practices, post-harvest management and marketing.

Details of the programme are as under:

1. **Programme Code** : 402
2. **Programme Duration** : Minimum 06 Months Maximum 02 Year
3. **Eligibility for Admission:** 10+2 Pass or Equivalent
4. **Admission Procedure** : Open
5. **Medium** : Hindi
6. **Assignment Work** : Not Essential
7. **Programme Fee** : 3,000/-
8. **Programme Structure:** Programme will be of 12 credits. Course Design will be such as decided by the board of studies time to time.

Course Code	Title of the Course	
CCMAP-01	Medicinal Plants: Introduction and Significance	4
CCMAP-02	Major Medicinal Plants: Cultivation and Economy	4
CCMAP-03	Other Medicinal and Aromatic Plants: Product Manufacture and Marketing	4
Total Credits		12

9. **SLM-** No hard copies of SLM will be provided by the university to the learners. Only online links will be provided.

iii. Certificate in Livestock Production System (CLPS)

Introduction: Livestock are part and partial of agriculture which are reared on a farm to make use of them for varied purposes such as for draught power, milk, meat, wool etc. In early days they were reared as a supplementary activity but now these days this activity has become a subsidiary occupation on some of the farms. It shall be a remunerative business because of the low capital investment and quick and regular income and employment generation throughout the year. It has a significant role in the eradication of malnutrition and poverty especially in the rural area. However, due to extensive use of days old primitive technology on most of the farms this business still remains unproductive and economically unviable. The present programme aims to impart knowledge and skill to the farmers to make livestock production a viable business. The target group includes Existing Farmers, unemployed or underemployed Rural youth, Women, other Farmers and Entrepreneurs.

Objectives:

The main objectives of the programme are:

- to develop and strengthen Human Resource by infusing/imparting knowledge and skill in Livestock Production System through Open and Distance Learning (ODL) Mode;
- to create awareness about the opportunities of employment and livelihood in Livestock Production; and
- to impart basic knowledge and technical proficiency in Livestock Production, Breeding, Nursing, and Management.

Details of the programme are as under:

1. **Programme Code** :403
2. **Programme Duration** :Minnimun 06 Months Maximum 02 Year
3. **Eligibility for Admission:**10+2 Pass or Equivalent
4. **Admission Procedure** : Open
5. **Medium** : Hindi
6. **Assignment Work** : Not Essential
7. **Programme Fee** :3,000/-
8. **Programme Structure** : Programme will be of 12 credits.Course Design will be such as decided by the board of studies time to time.

Course Code	Title of the Course	Credits
CLPS-01	Livestock: Significance in Agriculture	4
CLPS-02	Animal Nutrition: Feed and Fodder Management	4
CLPS-03	Animal Husbandry: Management and Reproduction	4
Total Credits		12

9. **SLM-** No hard copies of SLM will be provided by the university to the learners. Only online links will be provided.

iv. **Certificate Programme in Poultry Farming (CPF)**

Introduction:Poultry Farming has been one of the most important subsidiary occupations of the farming community in India. It is a remunerative business both in rural and urban areas due to the requirement of small space, low capital investment and generates quick and regular income and employment throughout the year. It has a significant role in the eradication of malnutrition and poverty especially in the rural area. However, due to extensive use of days old primitive technology on most of the farms this business still remains unproductive commercially unviable. The present programme aims to impart knowledge and skill to the poultry farmers to make Poultry Farming a viable business. The target group includes Existing Poultry Farmers, unemployed or underemployed Rural youth, Women, other Farmers and Entrepreneurs.

Objectives:

The main objectives of the programme are:

- to develop and strengthen Human Resource by infusing/imparting knowledge and skill in Poultry Farming through Open and Distance Learning (ODL) Mode;
- to create awareness about the opportunities of employment and livelihood in Poultry Sector; and
- to impart basic knowledge and technical proficiency in Poultry Housing, Breeding, Nursing, and Management.

Details of the programme are as under:

1. **Programme Name** : 1051
2. **Programme Duration** :Minnimun 06 Months Maximum 02 Year
3. **Eligibility for Admission:** 10th Pass or Equivalent or Professional Poultry Farmers
4. **Admission Procedure** : Open
5. **Medium** : Hindi and English
6. **Assignment Work** :Not Essential

7. **Programme Fee** : 3000/-

8. **Programme Structure:** Programme will be of 16 credits. Course Design will be such as decided by the board of studies time to time.

Course Code	Title of the Course	
CPF -01	Introduction to Poultry Farming	4
CPF -02	Poultry Housing and Management	4
CPF -03	Poultry Feeds and Feeding	4
CPF -04	Poultry Health Care and Bio-security Measures	2
CPF -05	Practical Work	2
Total Credits		16

9. **SLM-** No hard copies of SLM will be provided by the university to the learners. Only online links will be provided.

v. **Certificate in Bee Keeping (CIB)**

Introduction: Honey production provides nutritional and economic security to the farmers and their family members, and rural youth who are directly or indirectly engaged in farming business. Because of nutritional and medicinal values of honey it has an ever increasing demand across the world. Honey in India is mostly being collected from the wild sources and a very little is produced through rearing honey bees. There exists a great potential in this area which can be tapped through imparting improved technical knowhow and skill to the traditional beekeepers, rural youth and others interested in this business. The certification may be required to the beekeepers to seek any financial help from any bank, non-governmental or governmental agencies, etc.

Objectives:

The main objectives of the programme are:

- to impart education about modern methods of beekeeping through ODL mode and hence build human resource in the beekeeping sector;
- to create awareness about apiculture and its benefits as a supplementary business to increase income and employment; and
- to develop entrepreneurial skills in the existing beekeepers.

Details of the programme are as under:

1. **Programme Name** :1052

2. **Programme Duration** :Minnimun 06 Months Maximum 02 Year

3. **Eligibility for Admission:**8th Pass or Equivalent or Professional Bee Keepers

4. **Admission Procedure** : Open

5. **Medium** : Hindi and English

6. **Assignment Work** :Not Essential

7. **Programme Fee** : 3000/-

8. **Programme Structure:** Programme will be of 16 credits. Course Design will be such as decided by the board of studies time to time.

Course Code	Title of the Course	Total Credits
CIB -01	Introduction to Bee Keeping	4

CIB -02	Management of Honey Bee Colonies	6
CIB -03	Hive Products and Economics of Bee Keepings	4
CIB -04	Practical Work	2
Total Credits		16

9. **SLM-** No hard copies of SLM will be provided by the university to the learners. Only online links will be provided.

vi. Certificate Programme in Gardening (CPIG)

Introduction: Maintaining gardens now a day has become hobby of some of the citizens specially hailing in cities. It creates demand for trained personnel, ornamental plants as well as inputs like fertilizers and pesticides. Further, on larger scale development of parks, personal and institutional gardens also requires expertise in this field. Thus, the gardening these days has been one of the most important globally recognized occupations. It is a remunerative business both in rural and urban areas because of its increasing demand and availability of consumer base. Capital investment in this business generates quick and regular income and employment throughout the year. It has a significant role in the eradication of poverty both in rural and the urban areas. Rational use of modern technology makes this business highly productive and economically viable. The present programme aims to create awareness with imparting basic knowledge to the people regarding viability gardening as a business. The target group includes existing untrained gardeners, unemployed or underemployed rural youth, other farmers and entrepreneurs.

Objectives:

The main objectives of the programme are:

- to make people aware of the gardening as an occupation;
- to infuse/impart basic knowledge of practices and operations in gardening through Open and Distance Learning (ODL) Mode;
- to create awareness about the opportunities of employment and livelihood in horticultural sector; and
- to impart basic knowledge in nursery raising and its management.

Details of the programme are as under:

1. **Programme Code** :.....
2. **Programme Duration** :Minnimun06 Months Maximum 02 Year
3. **Eligibility for Admission:**8th Pass or Equivalent
4. **Admission Procedure** :Open
5. **Medium** :HindiProgramme
6. **Assignment Work** :Not Essential
7. **Programme Fees** : 3000/-
8. **Programme Structure:** Programme will be of 16 credits. Course Design will be such as decided by the board of studies time to time.

Course Code	Title of the Course/ पाठ्यक्रमका शीर्षक	
CPIG -01	बागवानी के मूलतत्व	4
CPIG -02	फल, सब्जी एवंपुष्पों की खेती	4
CPIG -03	पौधशालाव्यवस्थापन एवंप्रबन्धन	4
CPIG -04	वाटिकाव्यवस्थापन : प्रायोगिककार्य	4

9. SLM-प्रस्तावितपुस्तकें :-

1. उद्याननर्सरी-आयोजन एवंकार्यप्रणाली : लेखक- श्यामसुन्दरश्रीवास्तव
प्रकाशक-किताबमहल एजेन्सीज 22, सरोजनीनायडूमार्ग, इलाहाबाद
2. आधुनिक शाक एवंपुष्पउत्पादन : लेखक- जी0एस0 सैनी
प्रकाशक-रामापब्लिषिंगहाउस,अग्रवालकालोनी (राम लीलामैदानके सामने) दिल्लीरोड़, मेरठ
(उ0प्र0)
3. फलोत्पादन-लेखक- डॉ0 हरेन्द्र सिंह सेठी एवं डॉ0 कृष्णपाल सिंह
प्रकाशक-भारतीभण्डार, 6 सुनीलकाम्प्लैक्स, बैस्टर्नकचहरीरोड़, मेरठ, (उ0प्र0)

vii. Certificate in Organic Farming (COF)

Introduction: Organic Farming is an approach of agricultural production system wherein agronomic operations do not make use of chemical fertilizers and synthetic pesticides. The food items produced in this system are hygienic, safe to consume and nutritionally secure. Thus, the organic farming is considered a socially desirable and environmentally conscious approach to agriculture. Hence it is currently experiencing rapid growth in the sector. India is fast becoming a major base for production and supply of organically produced agricultural products to the world market. The programme has been launched on the lines of the Indira Gandhi National Open University (IGNOU) to maintain the uniformity in Syllabus.

Objectives:

Main objectives of the programme are:

- To impart knowledge and proficiency in organic production practices in agriculture, it's certification process and marketing;
- To promote self-employment and income generation through organic farming.

Details of the programme are as under:

1. **Programme Name** : Certificate in Organic Farming (COF)
2. **Programme Duration** : Minimum 06 Months Maximum 02 Year
3. **Eligibility for Admission** : 10+2 Pass or Equivalent
4. **Admission Procedure** : Open
5. **Medium** : Hindi and English
6. **Assignment Work** : Not Essential
7. **Programme Fee** : 4,000/-
8. **Programme Structure:** Programme will be of 16 credits. Course Design will be such as decided by the board of studies time to time.

Course Code	Title of the Course	Credit
COF-01	Introduction to Organic Farming	4
COF-02	Organic Production System	4
COF-03	Inspection and Certification of Organic Produce	4

COF-04	Economic and Marketing of Organic Produce	4
Total Credits		16

9. **SLM-** No hard copies of SLM will be provided by the university to the learners. Only online links will be provided.

C. Diploma Programmes:

Diploma programmes in the discipline of Agriculture are designed in such a way that it may impart knowledge and skill of related field to its learners. A diploma programme also modifies/updates the existing store of knowledge of its learners and certifies it. After successful completion one shall be capable to use modern technologies rationally and exploit the full benefits of his investment in related agro-enterprise. Learners may be encouraged to adopt new business or expand the size of their existing ones. Basic purpose of offering diploma programmes in ODL mode is to make people aware of the events and if interested get enrolled for getting knowledge and skill. Such programmes would make significant contribution in reviving/establishing subsidiary occupations as a profitable venture in farming community of India. These programmes may be offered in addition to a degree programme for enhancing the value of a degree. For certification of his/her knowledge the learner is required to appear in the examinations and pass it successfully. To pass the examinations and getting awarded the divisions criteria laid down by the University are as under:

1. **Examination:** As per University norms
2. **Assessment:** In theory papers 100% weightage will be given through Terminal examinations, while in Practical examinations equal weightage (50% each) will be given through internal and external evaluations.
3. **Passing Marks:** 36% marks in external assessments of each paper separately.
4. **Division:** I Division – 60% or above of the total marks.
II Division – 48% or above but below 60% of the total marks.
III Division – 36% or above but below 48% of the total marks.

Some of the programmes designed and offered in the School of Agricultural Sciences are given on pages to come.

i. Diploma in Dairy Technology (DDT)

1. **Programme Name** :
2. **Programme Duration** : Minimum 01 year Maximum 03 Year
3. **Nature of Programme** : Semester System
4. **Eligibility for Admission** : 10+2 Pass or Equivalent
5. **Admission Procedure** : Open
6. **Medium** : Hindi and English
7. **Assignment Work** : Not Essential
8. **Programme Fee** : 12,000/-
9. **Programme Structure** : Programme will be of 32 credits. Course Design will be such as decided by the board of studies time to time.

Duration	Course Code	Title of the Course	
Semester-I	DDT-01	Milk Production and Quality of Milk	4 (2+2)
	DDT-02	Dairy Equipment and Utensils	4 (2+2)
	DDT-03	Milk Processing and Packing	4 (2+2)

	DDT-04	Dairy Products-I	4 (2+2)
	Total Credits		16
Semester-II	DDT-05	Dairy Products-II	4 (2+2)
	DDT-06	Dairy Products-III	4 (2+2)
	DDT-07	Quality Testing and Assurance	4 (2+2)
	DDT-08	Dairy Management and Entrepreneurship	4 (2+2)
	Total Credits		16
Total Credits of both semester			32

Note – Numbers in brackets indicate the credits for theory and practical respectively.

10. **SLM-** No hard copies of SLM will be provided by the university to the learners. Only online links will be provided.

ii. **Diploma in Value Added Products from Fruits and Vegetables (DVAPFV)**

- Programme Code** :.....
- Programme Duration** :Minnimun01 year Maximum 03 Year
- Nature of Programme** : Semester System
- Eligibility for Admission:** 10+2 Pass or Equivalent
- Admission Procedure** : Open
- Medium** : Hindi and English
- Assignment Work** :Not Essential
- Programme Fee** :12,000/-
- Programme Structure** : Programme will be of 32 credits. Course Design will be such as decided by the board of studies time to time.

Duration	Course Code	Title of the Course	
Semester I	DVAPFV-01	Food Fundamentals	4 (2+2)
	DVAPFV-02	Principles of Post-Harvest Management	4 (2+2)
	DVAPFV-03	Food Chemistry and physiology	4 (2+2)
	DVAPFV-04	Food Processing and Engineering –I	4 (2+2)
	Total Credits		16
Semester II	DVAPFV-05	Food Microbiology	4 (2+2)
	DVAPFV-06	Food Processing and Engineering –II	4 (2+2)
	DVAPFV-07	Food Quality and Valuation	4 (2+2)
	DVAPFV-08	Entrepreneurship and Marketing	4 (2+2)
	Total Credits		16
Total Credits of both semester			32

Note – Numbers in brackets indicate the credits for theory and practical respectively.

10. **SLM-** No hard copies of SLM will be provided by the university to the learners. Only online links will be provided.

iii. Diploma in Watershed Management (DWM)

Introduction: Diploma Programme in Watershed Management aims at developing competent human resource in the field of Watershed Management. In addition to extension and communication skills for long term socio-economic development of the society, this programme intends to impart basic knowledge and skills for water harvesting and its conservation and utilization; basics of soil erosion and its control measures; integrated farming systems including crop husbandry, animal husbandry, agro-forestry and fish farming; and funding, monitoring, evaluation and capacity building of watershed programmes. It will pave the ways for capacity building and developing human resources in different aspects of watershed management for overall socio-economic development of rainfed regions where people are bound to face problems like low agricultural productivity and economic deprivation. The programme also intends to address the workforce requirement of the watershed management and focus on upgrading the knowledge and skills of existing personnel in the watershed development.

Objectives:

Specific objectives of the programme are as under:

- To generate awareness about the importance of sustainable development and conservation of natural resources like soil, water etc;
- To delineate different techniques for accessing and predicting physical, chemical and socio-economic conditions within a watershed including water quality;
- To mobilize rural people and educate them for capacity building in soil and water conservation practices; and
- To develop skills for development of small scale irrigation and water supply structures for human being and livestock through water and soil conservation strategies.

Details of the programme are as under:

1. **Programme Code** :
2. **Programme Duration** : Minimum 01 Year Maximum 03 Year
3. **Nature of Programme** : Semester System
4. **Eligibility for Admission** : 10+2 (Senior Secondary) Pass outs are or Equivalent
5. **Admission Procedure** : Open
6. **Medium** : English
7. **Assignment Work** : Not Essential
8. **Programme Fee** : 11,000/-
9. **Programme Structure:** Programme will be of 32 credits. Course Design will be such as decided by the board of studies time to time.

Duration	Course Code	Title of the Course	Credit
Semester – I	DWM -01	Fundamental of Watershed Management	4 (2+2)
	DWM -02	Elements of Hydrology	6 (4+2)
	DWM -03	Soil and Water Conservation	6 (4+2)
	Total Credits		
Semester – II	DWM -04	Rainfed Farming	4 (2+2)
	DWM -05	Livestock and Pasture Management	4 (2+2)

	DWM -06	Horticulture and Agro-Forestry system	4 (2+2)
	DWM -07	Funding, Monitoring, Evaluation and Capacity Building	4 (2+2)
	Total Credits		16
Total Credits in both the semesters			32

Note – Numbers in brackets indicate the credits for theory and practical respectively.

- 10. SLM:**No hard copies of SLM will be provided by the university to the learners. Only online links will be provided.

Note:

This programme has been developed by IGNOU in collaboration with the Department of Land Resources, Ministry of Rural Development, Govt of India. School Board of Agricultural Sciences of UPRTOU has proposed to run this programme as such keeping in view the uniformity of syllabus in open universities. However the practical and projects will be based on the local conditions of UP state. In beginning the study materials of IGNOU is proposed to be used to start the programme else the books available in market will be used.

D. Post Graduate Diploma Programme:

Post Graduate Diploma Programmes are offered for such aspirants who after completing Bachelor Degree wish to get advance level of knowledge and skill in a particular field. In agricultural Sciences it requires some preliminary level of knowledge in specific field that is why the eligibility criteria for admission is different for different programmes.

- 1. Examination:**As per University norms
- 2. Assessment:**In theory 70% weightage will be given through Terminal examination and 30% through Assignment. In Practical examination 100% weightage will be given through terminal examination.
- 3. Passing Marks:** 36% marks in external assessments of each paper separately.
- 4. Division:** I Division – 60% or above of the total marks.
II Division – 48% or above but below 60% of the total marks.
III Division – 36% or above but below 48% of the total marks.

i. Post Graduate in Agricultural Extension (PGDAE)

The basic objective of Post Graduate Diploma programs in Agricultural Extension is to develop Scientific and Research minded human resource, personnel to handle new challenges of using Information Communication Technologies in Agricultural Development, while working in the Department of Agriculture, KrishiVigyanKendras, ZillaParishads, Nationalized Banks, Rural Development Banks, Non Governmental Organizations, State Agricultural Universities and the other stake holders.

- 1. Programme Name** : 1001
- 2. Programme Duration** : Minimum 01 Year Maximum 03 Year
- 3. Nature of Programme** : Semester System
- 4. Programme Fee** : 8000/-
- 5. Eligibility for Admission** : Graduate in Agriculture, Horticulture, Forestry, Fisheries, Animal Sciences, Veterinary Sciences, Agricultural Engineering, Agri-business Management, Agricultural Biotechnology, Food Sciences and Technology, Home Sciences, Information Communication Technology in Agriculture and Other Allied & Applied Agricultural Sciences listed in purview of Agricultural Universities and Open Universities in India.
- 6. Admission Procedure** : Open
- 7. Medium** : English
- 8. Programme Structure:** Programme will be of 48 credits. Course Design will be such as decided by the board of studies time to time.

Duration	Course Code	Title of the Course	Credit
Semester-I	PGDAE-01	Principles and Practices in Distance Education	8
	PGDAE-02	Agricultural Extension and Farm Journalism	8
	PGDAE-03	Agricultural communication and Mass Media	8
	Total Credits		
Semester-II	PGDAE -04	Agricultural Information Technology	8
	PGDAE-05	Research Methods & Statistical Analysis	8
	PGDAE-06	Field Practical	8
	Total Credits		
Total Credits in both the semesters			48

Note – Numbers in brackets indicate the credits for theory and practical respectively.

- 9. SLM-** No hard copies of SLM will be provided by the university to the learners. Only online links will be provided.

Detailed Syllabus

Awareness Programme:

Awareness Programme in Dairy Farming (APDF)

APDF-01- डेयरी उद्योग जागरुकता का कार्यक्रम

खण्ड—1 परिचय

प्रस्तावना, उद्देश्य, डेयरी फार्मिंग का महत्व, समन्वित कृषि पद्धति में डेयरी फार्मिंग, पूरक व्यवसाय में डेयरी फार्मिंग का सम्बन्ध, डेयरी फार्मिंग जैविक खेती के लिए वरदान, रेषम की खेती, खुम्बी (मषरुम) की खेती, पशु पालन में महिलाओं की भूमिका, रोजगार सृजन, पशुओं का दूध, मॉस एवं कृषि कार्य से सम्बन्ध, दूध एक पौष्टिक आहार, दूध लगभग एक सम्पूर्ण आहार, दूध के पोषक तत्व, दूध की प्रोटीन, दूध की वसा, दूध में जल, दूध में विटामिन, दूध में खनिज-लवण

APDF-02- डेयरी उद्योग जागरुकता का कार्यक्रम

खण्ड—1 जनन

प्रजनन— प्रजनन अंग, नर प्रजनन अंग, वीर्य, उत्तेजित नर के लक्षण, मादा प्रजनन अंग, मद चक्र में आई मादा के लक्षण, प्राकृतिक गर्भाधान, गर्भधारण की जांच, गर्भ की अविधि, प्रसव ब्याँत के लक्षण, प्रसव ब्याँत प्रक्रिया, प्रसव ब्यात के बाद सावधोनियाँ, प्रसव ब्याँत उपरान्त मदचक्र

कृत्रिम गर्भाधान— कृत्रिम गर्भाधान के लाभ, कृत्रिम योनि, कृत्रिम गर्भाधान की विधि, वीर्य का संग्रह, गर्भाधान कराने के बाद गर्भ धारण न करने के कारण

भ्रूण प्रत्यारोपण— भ्रूण प्रत्यारोपण के लाभ, भ्रूण प्रत्यारोपण की विधि, भ्रूण प्रत्यारोपण की सीमाएं, परखनली निषेचन प्रक्रिया

प्रजनन सम्बन्धी समस्याएं एवं समाधान— मद (गर्मी) में न आना (मदहीनता), पशु का बार-बार गर्मी में आना (मद पुनरावृत्ति), पशु का जल्दी-जल्दी गर्मी में आना (कामोन्माद), गर्भ न ठहरना, बच्चा गिर जाना (गर्भपात), प्रसव ब्याने के बाद जेर न गिरना

बाझंपन— आनुवांषिक बांझपन, प्रजनन अंगों की बनावट में विकार (जननांग विकृतियाँ), हार्मोनों में कमी अथवा असंतुलन (अन्तःस्रावी असामान्यताएं), नर व मादा बच्चे का एक साथ गर्भ में पलना (फ्री मार्टिन), पौष्टिक आहार में कमी (कृपोषण), जननांगों की बीमारियाँ, व्यवस्था की कमी (अव्यवस्था), औषधियों तथा हार्मोन का दुरुपयोग

ब्रीडिंग कलेंडर— विभिन्न पशु प्रजातियों के जनन चक्र, गर्भाधान के अनुसार प्रसव की अनुमानित-तिथि

खण्ड—2 गाभिन पशु एवं बछड़ा-बछिया की देखभाल

गाभिन पशु का प्रसव के पूर्व तथा पश्चात् प्रबन्धन— गर्भधारण का समय, प्रारंभिक महीनों में गाभिन पशु की देखभाल, गाभिन पशु का आहार, अंतिम महीनों में गाभिन पशु की देखभाल, ब्याते समय पशु की देखभाल, गर्भावस्था पूरा होने के लक्षण, पशु द्वारा बच्चा देने की अवस्था में ध्यान देने योग्य बातें, जेर गिराना, गर्भाषय का बाहर आना, दुधारु पशु का आहार, प्रसव के बाद पशु का रखरखाव

नवजात बछड़ा-बछिया का पालन— नवजात बछड़ा-बछिया को दूध पिलाने की विधि, जन्म के समय बछड़ा-बछिया की देखभाल, खीस पिलाना, दूध पिलाना, दूध छुड़ाना

बछड़ा-बछिया का आहार— छोटे बछड़ा-बछिया का आहार, नवजात बछड़ा-बछिया का आहार

आवास व्यवस्था व देखभाल— आवास व्यवस्था, देखभाल व पहचान के लिए नम्बर लगाना

सींग रोधन— रासायनिक विधि, लोहे के उपकरण अथवा विद्युत मशीन द्वारा

टीकाकरण, पेट के कीड़ों को मारना, बढ़ते बछड़ा-बछिया का वृद्धि एवं विकास

खण्ड-3 पशु पोषण-आहार एवं चारा प्रबन्धन

पशु पोषण-आहार एवं चारा प्रबन्धन — पशु आहार, रेषेदार चारा, दाना मिश्रण,

हरा चारा— खरीफ ऋतु की चारा फसलें, रबी ऋतु की चारा फसलें, वर्ष भर चारा उत्पादन

चारा संरक्षण— साइलेज बनाना, हे बनाना

संतुलित आहार— शुष्क पदार्थ देन के नियम, छोटे बछड़ा-बछिया व कटड़ों का आहार, दूधारु पशुओं के लिए आहार, गर्भित (गाभिनि) पशुओं के लिए आहार, साड़ों का आहार, दाना मिश्रण तैयार करना

फीड सप्लीमेंट्स (पूरक आहार)— बाई प्रोटीन पशु आहार, वाई पास वसा (बाई पास फैट) पशु आहार, यूरिया मोलासिस मिनरल ब्लॉक, खनिज मिश्रण

अमानक एवं सूखे चारे का पोषक मान बढ़ाना— सूखे चारे का यूरिया से उपचार, भूसे से सम्पूर्ण आहार का ब्लॉक

सानी बनाने के कुछ उदाहरण— गाय के लिए सानी बनाना, भैंस के लिए सानी बनाना

APDF-03- डेयरी उद्योग जागरुकता का कार्यक्रम

खण्ड-1 दुग्ध उत्पादन

दुग्ध उत्पादन-अयन संरचना तथा दुग्ध स्रवण, बाहरी संरचना, आन्तरिक संरचना, दुग्ध स्रवण विधि, दूध के संगठन को प्रभावित करने वाले कारक, अधिक गर्मी व अत्यधिक सर्दी से दुधारु पशुओं का बचाव

दूध उतरना तथा दूध दोहन की विधियाँ- दूध उतरना, दूध दोहने क विधियाँ, दूध दोहने में प्रयुक्त बर्तन और दोहने की मशीन का रखरखाव

दूध उत्पादन का लेखा-जोखा, दूध को ठंडा रखना

स्वच्छ दुग्ध उत्पादन- पशु स्वास्थ्य, दुग्ध दोहक का स्वास्थ्य, दुग्ध दोहने का स्थान, पशु का खान-पान, स्वच्छ दुग्ध उत्पादन हेतु कुछ आवश्यक बातें

थनैला रोग तथा जाँच की विधियाँ- थनैला रोग के प्रारंभिक लक्षण, थनैला रोग की अवस्थाएँ, उपचार, रोकथाम

खण्ड-2 दुग्ध परीक्षण, रखरखाव एवं भण्डारण

दुग्ध परीक्षण, रखरखाव एवं भण्डारण - दूध एवं उसका संगठन, दूध एवं उसके संघटकों की मात्रा को प्रभावित करने वाले कारक, दूध के भौतिक-रासायनिक गुण, रंग, विषिष्ट घनत्व, हिमांक, वर्तनांक सूचक, दूध का गाढ़ापन, पृष्ठ तनाव, विद्युत चालकता, बफर मान, अपचयन-उपचयन विभांकां

दूध एवं दूध पदार्थों का नमूना लेना, संग्रहण, ढलाई, आपूर्ति एवं वितरण- नमूना लेना, संग्रहण, परिवहन (ढुलाई), भण्डारण, आपूर्ति एवं वितरण

प्लेटफार्म परीक्षण- गंध परीक्षण, स्वरूप परीक्षण, तापमान, विषिष्ट घनत्व, अम्लीयता, पी0एच0, तलछट, वसा एवं वसा रहित ठोस का निर्धारण

दूध में अपमिश्रण एवं उनकी जाँच- सूक्रोज (चीनी), स्टार्च, दूध में सप्रेटा पाउडर, ग्लूकोज, यूरिया, अमोनिया सल्फेट, फारमेलिडहाइड, हाइड्रोपेरोक्साइड, बोरिक अम्ल या बोरेटस, अम्लता नाषक पदार्थ

दूध जाँचने की किट (यंत्र पेटी) एवं दूध जाँच के अभिकर्मक, दूध एवं जनस्वास्थ्य

दूध का परीक्षण - दूध को ठंडा करना, दूध का पाष्युराइजेशन

दूध उत्पादों का संगठन- क्रीम, मक्खन, बटर आयल, आईसक्रीम, खोवा, रबड़ी, दही, श्रीखंड वाडी एवं चक्का, छेना, पनीर, घी, लस्सी

भारतीय दूध उत्पाद-मक्खन, घी, दही, पनीर, छेना, खोवा, लस्सी, श्रीखंड

दूध एवं दूध उत्पादों के लिये निर्धारित वैद्यमानक

APDF-04- डेयरी उद्योग जागरुकता का कार्यक्रम

खण्ड-1 पशु आवास

पशु आवास—आवास व्यवस्था, आवास व्यवस्था के आधार, पशु आवास व्यवस्था के विभिन्न घटक, आवास की स्थिति, दिशा, दीवारें, छत, फर्ष, क्षेत्रफल

गर्मियों के लिए विशेष व्यवस्था

विभिन्न जलवायु वाले क्षेत्रों के आवास व्यवस्था— हिमालय क्षेत्र, सूखे उत्तरी क्षेत्र, उत्तरी पूर्वी क्षेत्र, दक्षिण क्षेत्र, तटवर्तीय क्षेत्र

आदर्श पशु आवास— बाजार के नजदीक, सड़क के नजदीक, पानी की आपूर्ति, धरातल की स्थिति, जल निकासी, सूरज की किरणों से सुरक्षा, टेलीफोन व बिजली व्यवस्था, तेज हवाओं से सुरक्षा, डेयरी पशुओं के आवास हेतु निर्धारित क्षेत्रफल

खण्ड—2 स्वास्थ्य प्रबन्धन

पशुआ का स्वास्थ्य प्रबन्धन—पशुओं की सफाई, खरेरा करना एवं नहलाना (स्नान कराना), सफाई एवं खरेरा करना, धोना एवं नहलाना, गौशाला की सफाई एवं विसंक्रमण, गैसीय विसंक्रमण, स्वच्छ वातावरण के लिए उपाय, बचाव कार्यक्रम, प्रक्षेत्र के कर्मचारियों का स्वास्थ्य परीक्षण

जानवरों की छंटनी— छंटनी के मुख्य कारण, वांछित हर्ड प्रतिस्थापन

खुर की देखभाल— खुर की बनावट, बिमारी के लक्षण, खुर शीथ के मुख्य कारण, पशुओं का रखरखाव एवं उपचार

बिमारी के सामान्य लक्षण—सामग्री प्राथमिक चिकित्सा की सामग्री एवं उपचार— बीमारी के सामान्य लक्षण, प्राथमिक चिकित्सा सामग्री, प्राथमिक चिकित्सा, प्राथमिक चिकित्सा के सामान्य सिद्धान्त, घाव का उपचार, विषाक्तता, प्रसूती सम्बन्धी समस्याएँ

खण्ड—3 पशु रोग, रोकथाम एवं नियंत्रण

जीवाणु से होने वाले रोग—गलघोटू रोग, लंगड़ी ज्वर, तिल्ली ज्वर (एन्थ्रैक्स रोग), थनैला रोग (मेस्टाइटिस), संक्रामक गर्भपात, पशुओं में क्षय रोग, नवजात बछड़ों में संक्रामक दस्त, निमोनिया रोग

विषाणु से होने वाले रोग— खुरपका—मुँहपका रोग, पोकनी (रिन्डर पेस्ट) रोग, रेबीज (पागलपन) रोग, चेचक (पॉक्स) रोग

परजीवी से होने वाले रोग— गेडुआ रोग, गोल कृमि रोग, जुकना रोग (लीवर फ्लू रोग), लाल पेषाब ज्वर (बेबेसियोसिस रोग), थिलेरियोसिस रोग, सर्रा रोग

फफूंद (फंगस) से होने वाले रोग, गैरसंक्रामक रोग—पेट फूलना, अफरा रोग, दुग्ध—ज्वर (मिल्क फीवर), सामान्य विषाक्तताओं (प्वाइजनिंग) का प्रबंधन, सामान्य शल्य चिकित्सा, टीकारण

APDF-05- डेयरी उद्योग जागरुकता का कार्यक्रम

खण्ड—1 गोबर तथा डेयरी अपशिष्ट का निस्तारण

गोबर व गोमूत्र-गोबर व मूत्र की खाद, उत्तम खाद बनाते समय ध्यान देने योग्य बातें, ताजा गोबर व सड़ी गोबर की खाद की उपयोगिता, गोबर की खाद के लाभ, गोबर की सफाई के तरीके

गोबर गैस संयंत्र एवं स्लरी का उपयोग- गोबर गैस, गोबर गैस संयंत्र लगाने की आवश्यकता, संयंत्र की संरचना, गोबर गैस संयंत्र के लाभ, विभिन्न कार्यों हेतु गोबर गैस की आवश्यकता, विभिन्न खादों का तुलनात्मक अध्ययन

केंचुए की खाद- केंचुओं का भोजन, केंचुओं का चयन, खाद बनाने की विधि, केंचुओं की देख-रेख, केंचुआ खाद के फायदें

मृत जानवरों से प्राप्त अपषिष्ट की उपयोगिता- मृत पशुओं से प्राप्त अपषिष्ट का उपयोग, पशुओं की खाल, खाल की बनावट, पशु खाल को निकालना, खाल का भण्डारण

खण्ड-2 डेयरी फार्म के उपकरण

कुट्टी काटने के उपकरण-चारा काटने के उपकरण, गण्डासा, हस्तचालित चारा काटने की मशीन (चैफ कटर), हस्तचालित चारा कटने की मशीन (चैफ कटर) की कार्य विधि, बैल चालित चारा काटने की मशीन, शक्ति चालक चारा काटने की मशीन, शक्ति चालित मशीन की कार्यविधि

डेयरी फार्म के अन्य उपयोगी उपकरण- स्प्रेयर, पानी निकालने का पम्प, सींग रोधन का उपकरण, कान में निषान लगाने का उपकरण, गोबर ढोने की ट्राली

दूध दुहने की मशीन- दूध दूहने की मशीन के मुख्य भाग, दूध दुहने की मशीन की कार्य विधि

प्रषीतन : दूध का ठण्डा करना- संपीडन प्रषीतन प्रणाली, संपीडन प्रषीतन प्रणाली की कार्य विधि

दूध परीक्षण के उपकरण- दूध का घनत्वमापी (लैक्टोमीटर), दूध में वसा परीक्षण के उपकरण, वसा रहित ठोस परीक्षण के उपकरण

खण्ड-3 डेयरी फार्म अर्थशास्त्र एवं लेखांकन

दूध उत्पादन लागत-दूध की लागत के घटक, अचल लागत, चल तथा परिवर्तनशील लागत, पशु आहार पर लागत, श्रमिकों पर होने वाले व्यय, औषधि एवं पशुचिकित्सा की लागत

दूध उत्पादन लागत ज्ञात करने विधि- अचल लागत ज्ञात करना, पशुओं पर मूल्य हास, आवास पर मूल्य हास, डेयरी फार्म के उपकरणों पर मूल्य हास, मूलधन पर ब्याज, चल लागत ज्ञात करना, दुग्ध उत्पादन लागत को कम करने के उपाय

विपणन अवधारणा- विपणन की परिभाषा, दुग्ध विपणन, दुग्ध विपणन का स्वभाव, दुग्ध विपणन की श्रृंखला, असंगठित क्षेत्र, संगठित क्षेत्र, दुग्ध विपणन की समस्याएँ एवं उनका समाधान

दूध का मूल्यन- दूध के मूल्य निर्धारण की दूधारी नीति, दूध के मूल्य निर्धारण की समस्याएँ

प्रक्षेत्र अभिलेख एवं खाते- अभिलेख का महत्व, प्रक्षेत्र अभिलेख का वर्गीकरण, फार्म सूची, वित्तीय-व्यवहार, प्रक्षेत्र आपूर्ति, चारा तथा आहार पर व्यय, मजदूरी पर व्यय, पशुधन पर विविध व्यय, प्रक्षेत्र उत्पादन पर व्यय, पशुधन से उत्पादन, फार्म बिक्री, व्यवसाय विप्लेषण

Detailed Syllabus of Certificate Programmes-

CPHT&VA-01 Post Harvest Management: Concepts and Processes

Block – 01: Post Harvest Management of Agricultural Products

- Unit – 01:** Introduction to Post-Harvest Management
- Unit – 02:** Importance of Post-Harvest Management
- Unit – 03:** Factors Responsible for Post-Harvest Losses

Block – 02: Post Harvest Processes/Operations

- Unit – 04:** General Principles of Post-Harvest Processing
- Unit – 05:** On farm Processes (Grading and Separations)
- Unit – 06:** Off farm Processes (Drying, storage, Transportation, Packaging)

CPHT&VA-02 Post Harvest Processing: Technological Development

Block – 01: Processing Technologies for Slow Degrading Agricultural Products

- Unit – 01:** Food grains
- Unit – 02:** Oilseeds
- Unit – 03:** Other Crop Products

Block – 02: Processing Technologies for Fast Degrading Agricultural Products

- Unit – 04:** Fruits and Vegetables
- Unit – 05:** Medicinal and Herbal Plant Products
- Unit – 06:** Other horticultural products

CPHT&VA-03 Value Addition: Processes and Products

Block – 01: Value Addition in Field Crops Products

- Unit – 01:** Food grains
- Unit – 02:** Oilseeds
- Unit – 03:** Other Crop Products

Block – 02: Value Addition in Horticultural Crop Products

- Unit – 04:** Fruits and Vegetables
- Unit – 05:** Medicinal and Herbal Plant Products
- Unit – 06:** Other Plant Products