

Deccan Education Society's

Kirti M. Doongursee College of Arts, Science and Commerce (AUTONOMOUS)

Dadar (W), Mumbai -28



Affiliated to

UNIVERSITY OF MUMBAI

Title of the program

- A-** U.G. Certificate in Rural Studies (Rural Development)
- B-** U.G. Diploma in Rural Studies (Rural Development)
- C-** B.A. Rural Studies (Rural Development)

Syllabus for

Semester – Sem I & II

**Ref: GR dated 20th April, 2023 for Credit Structure of UG
(With effect from the academic year 2026-27 Progressively)**

PROGRAM OUTCOMES

PO	Description
A student completing Bachelor's Degree in Arts Program will be able to	
PO1	Disciplinary Knowledge: Demonstrate a blend of conventional discipline knowledge and its applications to the modern world. Execute strong theoretical and practical understanding generated from the chosen programme.
PO2	Critical Thinking and Problem solving: Exhibit the skill of critical thinking and use higher order cognitive skills to approach problems situated in their social environment, propose feasible solutions and help in its implementation.
PO3	Social competence: Express oneself clearly and precisely to build good interpersonal relationships in personal and professional life. Make effective use of linguistic competencies to express themselves effectively in real and virtual media. Demonstrate multicultural sensitivity in group settings.
PO4	Research-Related Skills: Seeks opportunity for research and higher academic achievements in the chosen field and allied subjects and is aware about research ethics, intellectual property rights and issues of plagiarism. Demonstrate a sense of inquiry and capability for asking relevant/appropriate questions; ability to plan, execute and report the results of a research project be it in field or otherwise under supervision.
PO5	Personal and professional competence: Equip with strong work attitudes and professional skills that will enable them to work independently as well as collaboratively in a team environment.
PO6	Effective Citizenship and Ethics: Demonstrate empathetic social concern and equity centered national development; ability to act with an informed awareness of moral and ethical issues and commit to professional ethics and responsibility.
PO7	Environment and Sustainability: Understand the impact of the scientific solutions in societal and environmental contexts and demonstrate the knowledge of and need for sustainable development.
PO8	Self-directed and Life-long learning: Acquire the ability to engage in independent and life-long learning in the broadest context of socio-technological changes.

PROGRAM SPECIFIC OUTCOMES

PSO	Description
PSO1	Students will understand the basic concepts, principles, and importance of Rural Development in India.
PSO 2	Students will gain knowledge about rural society, agriculture, village economy, and government schemes related to rural development.
PSO 3	Students will develop awareness about rural problems such as poverty, unemployment, illiteracy, and health issues, and explore possible solutions.
PSO 4	Students will acquire skills for community participation, rural planning, and sustainable development, enhancing employability opportunities in rural sectors.

Sr.	Heading	Particulars
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No.			
1	Title of program	A	U.G. Certificate in Rural Studies
	O: _____ A	B	U.G. Diploma in Rural Studies
	O: _____ B		
	O: _____ C	C	B.A. (Rural Studies)
2	Eligibility	A	12 th std. Passed OR Passed Equivalent Academic Level 4.0
	O: _____ A	B	Under Graduate Certificate in Rural Studies OR Passed Equivalent Academic Level 4.5
	O: _____ B		
	O: _____ C	C	Under Graduate Diploma in Rural Studies OR Passed Equivalent Academic Level 5.0
3	Duration of program R: _____	A	One Year
		B	Two Years
		C	Three Years
4	Intake Capacity R: _____	120	
5	Scheme of Examination R: _____	NEP 40% Internal 60% External, Semester End Examination Individual Passing in Internal and External Examination	
6	R: _____ Standards of Passing	40%	
7	Credit Structure R: _____	Attached herewith	
8	Semesters	A	Sem I & II
		B	Sem I, II, III & IV
		C	Sem I, II, III, IV, V & VI
9	Program Academic Level	A	4.5

		B	5.0
		C	5.5
10	Pattern	Semester	
11	Status	New	
12	To be implemented from Academic Year Progressively	From Academic Year: 2026-27	

**Sign of the HOD &
Coordinator
BOS in Rural Studies (Rural
Development)**

**Sign of the NEP Coordinator, DES's
Kirti M. Doongursee College**

**Sign of Principal
DES's Kirti M. Doongursee
College, Mumbai 28.**

Preamble

1) Introduction

National Education Policy tailored to the needs of rural communities is crucial for fostering sustainable development, reducing inequalities, and empowering individuals to contribute positively to their local contexts. It recognizes the importance of education as a fundamental right and a powerful tool for social and economic transformation. It considers the unique needs and challenges of rural areas which have several positive impacts on rural communities. It also ensures that there is a commitment to providing quality education to all, including those in rural areas. It addresses disparities in access to educational resources and opportunities, promoting inclusivity.

Rural communities face distinct challenges that are often different from those in urban areas. These challenges may include issues related to agriculture, economic opportunities, healthcare, education, infrastructure, and environmental sustainability. A specialized subject on rural studies allows for an in-depth understanding and analysis of these challenges. Focusing on rural studies as a subject emphasizes the importance of rural development. It enables the exploration of strategies and policies that can contribute to the improvement of living conditions, economic opportunities, and overall well-being in rural areas. Establishing rural studies as a distinct subject allows for a comprehensive and integrated exploration of the complexities of rural life. The subject of rural studies contributes to a clear understanding of urban-rural disparities. This understanding is essential for formulating policies that aim to bridge these gaps. Thus, the subject of rural studies prepares individuals to navigate and respond to these changes, ensuring that development efforts remain relevant and adaptive.

2) Aims and Objectives

Recognizing and integrating local knowledge and practices is crucial for effective development in rural areas. A subject dedicated to rural studies

facilitates the exploration and incorporation of indigenous and traditional knowledge into development strategies. It aims the exploration of strategies and policies that can contribute to the improvement of living conditions, economic opportunities, and overall well-being in rural areas. The subject of rural studies aims to provide an in-depth understanding and analysis of various challenges faced by rural community.

Objectives:

1. To contribute to the capacity building of individuals who can actively participate in and contribute to rural development initiatives.
2. To gain insights into effective strategies for addressing unique needs and challenges including rural issues related to agriculture, education & healthcare etc.
3. To encourage research activities to generate new knowledge about needs and challenges of rural communities.
4. To equip students with the skills to formulate, apply & evaluate policies that address the specific needs of rural communities, considering local contexts & priorities.
5. To emphasize the importance of preserving and promoting rural cultural heritage of recognizing the value of indigenous knowledge, traditions, and practices.
6. To understand the role of technology and innovation to promote rural development.
7. To prepare individuals to navigate and respond to changing dynamics in rural areas, including technological advancements, globalization, and environmental shifts.
8. To instill a sense of responsible citizenship by emphasizing the importance of contributing to the well-being of rural communities and addressing societal challenges.

3) Learning Outcomes

The learning outcomes reflect the multifaceted nature of rural studies, encompassing knowledge, skills, and attitudes that are essential for individuals to contribute meaningfully to the sustainable development of rural communities.

The students are expected to:

1. Demonstrate a comprehensive understanding of the social, economic, cultural, and environmental dynamics of rural areas.
2. Identify and analyze the unique challenges faced by rural communities, including issues related to agriculture, healthcare, education, infrastructure, and environmental sustainability.
3. Conduct fieldwork and community-based research to gain firsthand insights into unique needs and challenges faced by rural communities.
4. Formulate and assess policies that address the unique needs of rural communities, considering social equity, environmental sustainability, and economic development.
5. Propose and assess the adoption of innovative technologies for sustainable rural development.
6. Recognize the importance of preserving and promoting the cultural heritage of rural areas, incorporating local languages, traditions, and practices in development strategies.
7. Analyze the global context of rural development, considering the impact of global trends, trade, and environmental changes on rural communities.

4) Any other point (if any)

The need for a subject on rural studies is grounded in the recognition of the unique nature of rural communities, their challenges, and the importance of developing targeted knowledge and strategies for their sustainable development. This subject can serve as a catalyst for positive change, promoting a holistic understanding of rural issues and fostering informed and effective interventions.

Semester	Course Code	Course Title	Vertical	Credit
	26 R D MJ 1 1 1	Introduction of Rural Development	Major	4

I	26 R D OE 1 3 1	Agriculture Management and Development	OE	2
	26 R D VSC 1 4 1	Agriculture Allied Activities	VSC	2
	26 R D SEC 1 5 1	Ornamental Fishery and Geo-tagging in Agriculture	SEC	2
II	26 R D MJ 2 1 1 II	Introduction of Rural Administration	Major	4
	26 R D OE 2 3 1	Industry and Technology in Rural Development	OE1	2
	26 R D OE 2 3 2	Modern Technology Agriculture and Natural Resources	OE2	2
	26 R D VSC 2 4 1	Aquaculture & Floriculture	VSC	2
	26 R D SEC 2 5 1	Land Survey and Insurance Agriculture in Rural Development	SEC	2

Course Code	MAJOR SEM – I Introduction of Rural Development	Credits	Lectures/ Week
26 R D MJ 111	Paper I	4	4

Course Objectives (CO):

CO1. To understand the concept, nature, scope, need, and importance of Rural Development.

CO2. To study the concept, nature, features, and classification of Rural Society.

CO3. To understand the concept, scope, features, and importance of Agriculture in rural areas.

CO4. To identify and examine key issues in rural development such as economic, social, infrastructural, and environmental problems.

Course Outcomes (OC):

OC1. Remember the basic concepts of rural development

OC2. Understand the nature and characteristics of rural society

CO3. Apply basic knowledge of agriculture in understanding rural livelihoods

CO4. Analyse key issues in rural development

Unit	Topics	No of Lectures
I	Introduction of Rural Development - Nature of rural development - Scope of rural development - Need of rural development - Importance of rural development	15
II	Introduction of Rural Society - Concept and Nature of rural society - Features of rural society - Classification of rural society - Changes and Challenges of rural society	15
III	Introduction of Agriculture - Concept of Agriculture - Scope of Agriculture - Features of Agriculture - Importance of Agriculture	15
IV	Key Issues in Rural Development - Economic issues – Unemployment, Migration, Poverty, Indebtedness - Social issues – Caste/Class/Gender based issues - Infrastructural issues - Education, Health, Water, Transport, Electricity - Environmental Issues – Pollution, Loss of Biodiversity, Global Warming	15

References:

1. Rural Development: Principles, Policies and Management, Katar Singh, Sage Publications India Pvt. Ltd., 2009.
2. Indian Economy, Ramesh Singh, McGraw Hill Education, 2023.
3. Rural Sociology in India, A.R. Desai, Popular Prakashan, 2016 (Reprint Edition).
4. Agricultural Economics, S.S. Acharya & N.L. Agarwal, New Age International Publishers, 2018.
5. Introduction to Rural Development, S.K. Singh, Deep & Deep Publications, 2012.
6. Rural Development, G. Parthasarathy, Pearson Education India, 2011.
7. Agriculture and Rural Development, R.K. Sharma, Atlantic Publishers & Distributors, 2010.
8. ग्रामीण विकास (Gramin Vikas), B. B. Jadhav (or similar university authors), Publisher: Nirali / Vidya Books (varies by edition), Covers: ग्रामीण बेरोजगारी, स्थलांतर, दारिद्र्य
9. भारतीय ग्रामीण अर्थव्यवस्था, Datt & Sundaram, Publisher: S. Chand, Focus: Rural economy, Employment & migration

Additional References:

1. Ministry of Rural Development
 - Provides official data, policies, and schemes like MGNREGA, PMAY-G
 - Website: <https://rural.nic.in>
 - Useful for current rural development programs in India
2. Food and Agriculture Organization
 - Publishes global reports on agriculture, food security, and rural livelihoods
 - Key report: *State of Food and Agriculture (SOFA)*
 - Website: <https://www.fao.org>
3. World Bank
 - Offers data on rural poverty, infrastructure, and development indicators
 - Publishes World Development Reports
 - Website: <https://www.worldbank.org>
4. NITI Aayog
 - Provides policy recommendations and strategy papers on rural transformation
 - Focus areas: agriculture reforms, sustainable development
 - Website: <https://www.niti.gov.in>
5. UNDP
 - Publishes Human Development Reports and sustainability studies
 - Focus on poverty reduction and gender equality
 - Website: <https://www.undp.org>
6. ICAR
 - Apex body for agricultural education and research in India
 - Provides innovations in farming and rural technologies
 - Website: <https://icar.org.in>
7. National Sample Survey Office
 - Conducts large-scale surveys on rural employment, consumption, and economy
 - Data used for policy planning and research
 - Website: <https://mospi.gov.in>

	OPEN ELECTIVE		
Course Code	SEM – I	Credits	Lectures /Week
	Agriculture Management and Development		
26 R D OE 131	Paper I	2	2
Course Objectives (CO):			
CO1. To understand the concept, need, and importance of Water Management in sustainable rural development.			
CO2. To examine various water conservation methods and their role in efficient utilization of water resources.			
CO3. To understand the concept, factors, and significance of Horticulture Development in improving rural economy.			
CO4. To analyze different horticultural techniques and their application for increasing productivity and sustainability.			
Course Outcomes (OC):			
OC1. Remember the concept and meaning of Water Management and Horticulture			
OC2. Understand management and development water conservation and techniques.			
OC3. Apply his skills and techniques in the development of rural area.			
OC4. Analyze the ongoing rural development schemes various programmes.			
Unit	Topics	No of Lectures	
I	Water Management • Concept • Need • Importance • Water Conservation	15	
II	Horticulture Development • Concept • Factors • Significance • Various Techniques	15	
References:			
• डॉ. तानाजीराव निकम, उद्यान विद्या, रोपवाटिका व फळबाग व्यवस्थापन, अजिंक्यतारा पब्लिकेशन मुंबई.			

- श्री. थिटे, प्रसाद रसाळ पाणलोट क्षेत्र विकास, अक्षय २१६ नारायण पेठ, केळकर मार्ग मार्ग पुणे.
- Dr. A.V. Patil, Horticulture, Maharashtra State Board Or HSC1991, Marathi
- अ. व्य. पाटील, प. पा. भोरे, कोरडवाहू फळझाडे, कोन्तीनेटल प्रकाशन पुणे,
- डॉ. वा. ब. राहुडकर, फळझाडे, प्रेस्टीज पब्लिकेशन पुणे.

Additional References:

- "जल संसाधन | ब्रिटानिका" . www.britannica.com
- "पृथ्वीचे पाणी वितरण" . युनायटेड स्टेट्स जिओलॉजिकल सर्व्हे
- "पाण्यावरील वैज्ञानिक तथ्य: संसाधनाची स्थिती" . ग्रीनफॅक्ट्स वेबसाइट
- ग्लीसन, टॉम; वाडा, योशिहिडे; बियरकेन्स, मार्क एफपी; व्हॅन बीक, लुडोविकस पीएच (9 ऑगस्ट 2012). "भूजलाच्या पाऊलखुणाद्वारे प्रकट झालेले जागतिक जलचरांचे जल संतुलन"
- "भूजल म्हणजे काय? | आंतरराष्ट्रीय भूजल संसाधन मूल्यांकन केंद्र" . www.un-igrac.org
- शफेयन, नफीसे; रंजबर, ए.ए.; गोर्जी, ताहरेह बी. (जून २०२२). "वातावरणातील पाणी निर्मिती प्रणालीमध्ये प्रगती: एक पुनरावलोकन". अक्षय आणि शाश्वत ऊर्जा पुनरावलोकने
- जरीमी, हसिला; पॉवेल, रिचर्ड; रिफत, साफा (18 मे 2020). "वातावरणातील पाणी साठवणीसाठी शाश्वत पद्धतींचे पुनरावलोकन". इंटरनॅशनल जर्नल ऑफ लो-कार्बन टेक्नॉलॉजीज.
- रवीश, जी.; गोयल, आर.; त्यागी, एसके (जुलै २०२१). "वातावरणातील पाणी निर्मिती तंत्रज्ञानातील प्रगती". ऊर्जा रूपांतरण आणि व्यवस्थाप.

Course Code	VOCATIONAL SKILL COURSE SEM – I Agriculture Allied Activities	Credits	Lectures /Week
26 R D VSC 141	Paper I	2	2
Course Objectives (CO): CO1. To understand the concept, types, and importance of Animal Husbandry in rural areas. CO2. To examine the role of Animal Husbandry in supporting rural livelihoods and identify its challenges. CO3. To understand the concept, techniques (grafting), and importance of Horticulture. CO4. To analyse the challenges and opportunities in Animal Husbandry and Horticulture for rural development.			
Course Outcomes (OC): OC1. Remember the basic concepts and types of animal husbandry OC2. Understand the role of animal husbandry in rural livelihoods OC3. Explain the concept and basic techniques of horticulture OC4. Analyse the challenges in animal husbandry and horticulture			
Unit	Topics	No of Lectures	
I	Animal Husbandry • Concept • Types • Significance • Challenges	15	
II	Horticulture Management • Concept • Types of grafting • Significance • Challenges	15	
References: • Animal Husbandry in India, G.C. Banerjee, Oxford & IBH Publishing Co. Pvt. Ltd., 2013. <i>(Covers concept, types, and importance of animal husbandry in India)</i> • Textbook of Animal Husbandry, G.C. Banerjee, Oxford & IBH Publishing, 2018.<i>(Detailed explanation of livestock management and challenges)</i> • Livestock Production and Management, N.S.R. Sastry & C.K. Thomas, Kalyani Publishers, 2015. <i>(Explains types of livestock systems and management practices)</i> • Fundamentals of Horticulture. J.B. Edmond, T.L. Senn, F.S. Andrews & R.G. Halfacre,			

McGraw Hill Education, 2014 (Reprint Edition)

(Includes grafting techniques and horticulture basics)

- Introduction to Horticulture, N. Kumar, Rajalakshmi Publications, 2010. *(Concept, types, and management of horticulture)*
- Principles of Agronomy, T.Y. Reddy & G.H.S. Reddy, Kalyani Publishers, 2016. *(Covers allied agricultural activities and management practices)*
- शेती करू फायदेशीर (Sheti Karu Faydyachi), A.B. Patil, Mehta Publishing House, 1996. *(शेती व्यवस्थापन, आधुनिक तंत्रज्ञान, आणि कृषी विकासासाठी उपयुक्त)*
- लाभदायक शेळीपालन (Labhadayak Shelipalan), विलास गाजरे, Saket Prakashan, 2015. *(पशुपालन - विशेषतः शेळीपालन, प्रकार, व्यवस्थापन व अडचणी)*
- फळबाग व्यवस्थापन (Phalbag Vyavasthapan), महाराष्ट्र कृषी विभाग, Government of Maharashtra, 2014. *(हॉर्टिकल्चर, ग्राफ्टिंग, बाग व्यवस्थापन तंत्र)*
- दुग्धव्यवसाय मार्गदर्शक, पशुसंवर्धन विभाग, महाराष्ट्र, Government Press, 2016. *(दुग्धव्यवसाय, पशुपालन प्रकार आणि समस्या)*
- भाजीपाला उत्पादन तंत्रज्ञान, ICAR तज्ञ मंडळ, Indian Council of Agricultural Research, 2013. *(भाजीपाला, बागायती पिके, तंत्रज्ञान व व्यवस्थापन)*

Additional References:

- Additional References (Detailed)
- Department of Animal Husbandry and Dairying
- Provides policies, schemes, and data on livestock development
- Covers dairy, poultry, and fisheries sectors
- Website: <https://dahd.nic.in>
- Indian Council of Agricultural Research
- Apex body for agricultural and livestock research in India
- Provides training, publications, and innovations
- Website: <https://icar.org.in>
- National Dairy Development Board
- Promotes dairy development and milk production
- Key role in “Operation Flood”
- Website: <https://nddb.coop>
- Food and Agriculture Organization
- Global reports on livestock, food systems, and horticulture
- Focus on sustainability and food security
- Website: <https://www.fao.org>
- National Horticulture Board
- Supports horticulture production and management practices
- Maharashtra Agriculture Department
- कृषी योजना, पाणी व्यवस्थापन, बागायती योजना
- शेतकऱ्यांसाठी मार्गदर्शक पुस्तिका
- Department of Animal Husbandry and Dairying
- पशुपालन, दुग्धव्यवसाय, पोल्ट्री माहिती

- राष्ट्रीय योजना व धोरणे
- National Horticulture Board
- बागायती विकास, ग्राफिटिंग तंत्र, उत्पादन माहिती
- शेतकरी प्रशिक्षण व डेटा
- Krishi Vigyan Kendra
- स्थानिक पातळीवर प्रशिक्षण, प्रात्यक्षिके
- पाणी व्यवस्थापन व शेती तंत्रज्ञान
- Food and Agriculture Organization
- जागतिक स्तरावर कृषी, पाणी व्यवस्थापन, शाश्वत शेती
- संशोधन अहवाल व मार्
- ICAR
- कृषी संशोधन, हॉर्टिकल्चर, पशुपालन
- शेतकऱ्यांसाठी नवीन तंत्रज्ञान

Course Code	SKILL ENHANCEMENT COURSE SEM – I Ornamental Fishery and Geo-tagging in Agriculture	Credits	Lectures /Week
26 R D SEC 151	Paper I	2	2
Course Objectives (CO): CO1. To understand the basic concepts, benefits, and types of Ornamental Fishery and its role in rural development. CO2. To analyze the status, importance, and infrastructure requirements (aquarium accessories and equipment) in ornamental fish farming. CO3. To understand the concept, benefits, and applications of Geo-tagging in Agriculture. CO4. To evaluate the future scope and management of geo-tagging technologies for efficient agricultural planning and monitoring.			
Course Outcomes (OC): OC1. Remember the growth promoters and live feed significance OC2. Understand the Identify cultivable fishes and apply aquatic weeds OC3. Apply the knowledge on harvesting, preservation and export through agencies OC4. Analyze feeding, disease diagnosis in shrimp culture and methods of treatment			
Unit	Topics	No of Lectures	
I	Ornamental Fishery • Introduction • Benefits and types • Status and importance of Ornamental fish farming • Aquarium accessories and equipment	15	
II	Geo-tagging in Agriculture • Introduction • Benefits • Future Scope of Geo-tagging in Agriculture • Management	15	
References: • Ornamental fishery, Aquaculture Technology • Sreekant G. B., Trivesh S. Mayekar, Sudhir Kumar, Purva Rivonkar, Tincy Varghese, Sikendra Kumar, Chakurkar E. B., Fresh Water Ornamental Fish Culture and			

Management, Director, ICAR- Central Coastal Agriculture Research Institution, Goa.

- Government of India, Ministry of Fisheries, Animal Husbandry and Dairying, Department of Fisheries.

Additional References:

- **V. Ramachandra Murty, Marine Ornamental Fishes of india, Central Marine Fisheries Research Institution, Cochin.**
- **Archana Sinha and Pramod Kumar,(2021) <https://www.nipabooks.com> Breeding and Culture of Freshwater Ornamental fish,**
- **<https://www.dailypioneer.com>**
- **Rushi Sheth, Keyur Brahmabhatt,(2021), Geo- Tagging of Agricultural Products Using Mobile Application in Remote Areas.**
- Welsh, Katharine & France, Derek & Whalley, Brian & Park, Julian. (2012). Geotagging Photographs in Student Fieldwork. Journal of Geography in Higher Education - J GEOGR HIGHER EDUC. 36. 1-12. 10.1080/03098265.2011.647307.
- Yu, Q., Shi, Y., Tang, H., Yang, P., Xie, A., Liu, B., & Wu, W. (2017). eFarm: A Tool for Better Observing Agricultural Land Systems. Sensors (Basel, Switzerland), 17(3), 453. <https://doi.org/10.3390/s17030453>
- Flatow, David & Naaman, Mor & Xie, Ke & Volkovich, Yana & Kanza, Yaron. (2014). On the Accuracy of Hyper-local Geotagging of Social Media Content. WSDM 2015 - Proceedings of the 8th ACM International Conference on Web Search and Data Mining. 10.1145/2684822.2685296.
- Huang, Binxuan & Carley, Kathleen. (2019). A Large-Scale Empirical Study of Geotagging Behavior on Twitter.
- Maeda, Takashi & Yoshida, Mitsuo & Toriumi, Fujio & Ohashi, Hirotada. (2016). Decision Tree Analysis of Tourists' Preferences Regarding Tourist Attractions Using Geotag Data from Social Media:. 61-64. 10.1145/2962735.2962745.
- Luo, Jiebo & Joshi, Dhiraj & Yu, Jie & Gallagher, Andrew. (2011). Geotagging in multimedia and computer vision—a survey. Multimedia Tools Appl.. 51. 187-211. 10.1007/s11042-010-0623-y.
- Wikipedia contributors. (2020, August 19). Agriculture in India. In Wikipedia, The Free Encyclopedia. Retrieved 17:32, August 20, 2020, from https://en.wikipedia.org/w/index.php?title=Agriculture_in_India&oldid=973864269
- T. (2017, April 7). Geo-tagging of agriculture assets: Radha Mohan Singh. The Times

of India. <https://timesofindia.indiatimes.com/centre/geo-tagging-of-agriculture-assets-radha-mohansingh/articleshow/58061522.cms>

- Philippines: Geo-tagging for Efficient, Cost-Effective Project Management. (2013, February World Bank. <https://www.worldbank.org/en/news/feature/2013/02/19/geo-tagging-forefficient-cost-effective-project-management>
- Ministry of agriculture, cooperation and farmer welfare. (2018). Monitoring of Pesticide Residues at National Level. http://agricoop.nic.in/sites/default/files/MPRNL%20Guidelines_0.pdf
- Singh, I. (2020, April 27). Survey of India's geotagging app to help steer lockdown for 1.3 billion people. Geoawesomeness. <https://www.geoawesomeness.com/survey-of-india-map-app>

Course Code	MAJOR SEM – II	Credits	Lectures /Week
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	Introduction of Rural Administration		
26 R D MJ 211	Paper I	4	4
Course Objectives (CO): CO1. To understand the background, evolution, and committee recommendations of the Panchayat Raj system and its role in rural and tribal development. CO2. To examine the structure, functions, roles, and challenges of Grampanchayat, including the responsibilities of Gramsevak, Talati, and Sarpanch. CO3. To analyze the structure, functions, roles, and challenges of Panchayat Samiti, including the roles of Tahasildar, BDO, and Sabhapati. CO4. To evaluate the structure, functions, roles, and challenges of Zila Parishad, including the roles of Collector, CEO, and ZP President in rural governance.			
Course Outcomes (OC): OC1. Remember the concepts of rural administration OC2. Understand the three-tier system of rural administration OC3. Apply his skills in the development rural administration OC4. Analyze the various programmes of rural administration			
Unit	Topics	No of Lectures	
I	Panchayat Raj • Background of Panchayat Raj • Various committees • Role of Panchayat Raj in Rural Administration • Role of Panchayat Raj in Tribal Development	15	
II	Grampanchayat • Structure of Grampanchayat • Functions of Grampanchayat • Role of Gramsevak & Talati • Sarpanch (Eligibility & Responsibilities) • Challenges of Grampanchayat	15	
III	Panchayat Samiti • Structure & Functions of Panchayat Samiti • Role of Tahasildar & BDO • Sabhapati (Eligibility & Responsibilities) • Challenges of Panchayat Samiti	15	
IV	Zila Parishad • Structure & Functions of Zila Parishad • Role of Collector & CEO • ZP President (Eligibility & Responsibilities)	15	

- | | | |
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| | <ul style="list-style-type: none"> Challenges of Zila Parishad | |
|--|---|--|

References:

- Rural Development, Dr. I. Satya Sundaram, Himalaya Publishing House-2007
- Rural Development Vol. I Issues & Problems, Desai Vasant, Himalaya Publishing House-1988
- Rural Housing & Infrastructure Problems in India, Dr. Prabhu Dayal Chaudhary, Prateeksha Publication-2010
- पंचायतराज, Kishor Lavate, Kishor Lavate Publications, 2024 (8th Edition)
- समग्र पंचायत राज, Pradeep Sanap, Abhinav Prakashan
- पंचायत राज, Manoj Raut, Chanakya Mandal Publication
- पंचायतराज, Mahesh Gharge, Future Publication, 2024-2025 editions
- पंचायती राज, N. B. Inamdar, N. G. Satish, Anil Takalkar, Concept Publishing Company, 1991.
- पंचायती राज संस्था: ग्रामपंचायती संदर्भात, Dr. Shatrughan Bhardwaj, Indian Books & Periodicals, 2021.
- पंचायती राज, प्रा. व्ही. बी. पाटील, प्रशांत पब्लिकेशन्स

Additional References:

- Rural Development in India Povert & Development Ist Ed., Reddy Venkata, Himalaya Publishing House-1988**
- Rural Development in India-Past Present & Future, Himalaya Publishing House-2005**

Rural Development in India, Lalitha N., Dominant Publishers-2004

Course Code	OPEN ELECTIVE COURSE Industry and Technology in Rural Development SEM-II	Credits	Lectures /Week
26 R D OE 231	Paper I	2	2
Course Objectives (CO): CO1. To understand the concept, nature, and importance of Small-Scale Industries (SSI) in promoting rural development. CO2. To analyze the problems faced by small scale industries and their impact on rural economy CO3. To understand the concept and role of Information Technology in rural development. CO4. To evaluate the issues and impact of science and technology in rural areas for sustainable development.			
Course Outcomes (OC): OC1. Remember the concept of Small-Scale Industries and Information Technology for Rural Development OC2. Understand the prospects and problems of rural development in india. OC3. Apply his skills and Techniques in the development of rural area OC4. Analyze Rural Industrialization and appropriate technologies for Rural Industrial Development			
Unit	Topics	No of Lectures	
I	Small Scale Industries and Rural Development • Concept • Problems • Importance • Nature	15	
II	Information Technology for Rural Development • Concept • Role of Information Technology in Rural Development • Issues Regarding use of Science and Technology in rural area • Impact of technology in rural area	15	
References: • शरद कुलकर्णी, डॉ. वसुधा कामात, शैक्षणिक तंत्रज्ञान, ऑल इंडिया असोसिएशन ऑफ एज्युकेशन टेक्नोलोगी मुंबई. • Micro, Small and Medium Enterprises, (2022), Taxman Publication			

- Vasant Desai, Small-Scale Industries and Entrepreneurship, Himalaya Publication.
- पंकज गोयल, कैसे करे स्टार्ट अप बिज़िनेस शुरू.

Additional References:

has sufficient

- **Chakravarthy R.C. Information Technology and Rural Development Hardcover 3 September 2012**
- **Seetha I. & Abilay Ma. Wickremasinghe Science and Technology for Rural Development/Nam S&T Centre.**

	OPEN ELECTIVE COURSE Modern Technology Agriculture and Natural Resources SEM-II		
Course Code		Credits	Lectures /Week
26 R D OE 232	Paper II	2	2
Course Objectives (CO): CO1. To understand the introduction, importance, and role of modern technology in agriculture. CO2. To examine the various uses of modern technology in improving agricultural practices. CO3. To analyze how modern technology enhances agricultural productivity and efficiency. CO4. To understand the concept, types, factors, and importance of rural natural resources in sustainable rural development.			
Course Outcomes (OC): OC1. Remember the latest tools of modern agriculture OC2. Understand the use of newly invented techniques of modern agriculture OC3. Apply their knowledge in increasing agriculture production hassle free OC4. Analyze the ability of available resources in taking quality production			
Unit	Topics	No of Lectures	
I	Role of Modern Technology agriculture • Introduction • Importance • Uses in Modern Technology agriculture • Improve Productivity	2	
II	Rural Natural Resources • Concept • Types • Factors • Importance	2	
References: • Digital Technologies For Agriculture by Rathore,Narendra Singh, Sunil Joshi, New India.			

- **Digital Technologies in Agriculture by Rathore, Surya & Vijayalakshmi B. & V.V. Sumanth Kumar, Biotech.**
- **Modern Technologies for Sustainable Agriculture by Kumar Sunil, New India Publishing Agency**
- **Daniel R. Lynch, Sustainable Natural Resource Management: For Scientists and Engineers**

Additional References:

- **Sehgal Foundation, (2023) Role of Modern IN Agriculture,**
- **Website of Ministry of agriculture and farmers welfare**
- **<https://agricoop.nic.in/>**

Course Code	VOCATIONAL SKILL COURSE SEM – II Aquaculture & Floriculture	Credits	Lectures /Week
26 R D VSC 241	Paper I	2	2
Course Objectives (CO): CO1. To understand the concept, types, and significance of Aquaculture. CO2. To examine the role and challenges of Aquaculture in rural development. CO3. To understand the concept, types, and significance of Floriculture. CO4. To analyse the importance and challenges of Floriculture in rural development.			
Course Outcomes (OC): OC1. Remember the basic concepts and types of aquacultures OC2. Understand the importance and challenges of aquaculture OC3. Apply basic knowledge of floriculture in rural development OC4. Analyse the challenges in floriculture			
Unit	Topics	No of Lectures	
I	Aquaculture • Concept • Types • Significance • Challenges	15	
II	Floriculture • Concept • Types • Significance • Challenges	15	
References: • Understanding Aquaculture, Erin Butcher, Publisher: Callisto Reference, 2020. (Explains concept, types like mariculture, aquaponics, and challenges) • Floriculture and Ornamental Plants, S.K. Datta & Youdh Chand Gupta, Publisher: Springer Nature. 2022. (Advanced knowledge of floriculture, production, and management) • Floriculture: Fundamentals and Practices, Laurie Alex & Ries V.H., Publisher: Agrobios (India), 2021. (Covers cultivation techniques, greenhouse management, and challenges) • Four Fish: The Future of the Last Wild Food, Paul Greenberg, Publisher: Penguin Books, 2010, (Discusses aquaculture importance and sustainability issues). • मत्स्यपालन मार्गदर्शक, लेखक: महाराष्ट्र शासन, प्रकाशक: Government of Maharashtra, 2016. (मत्स्यपालन संकल्पना, प्रकार, आणि अडचणी) • मत्स्यशेती तंत्रज्ञान, डॉ. बी.के. पाटील, प्रकाशक: Agricultural Publications, 2014. • फुलशेती मार्गदर्शक, लेखक: महाराष्ट्र शासन, प्रकाशक: Government Press, 2015. • फुलशेती व बागायती तंत्रज्ञान, डॉ. आर.के. शर्मा, प्रकाशक: Agri Books India, 2013.			

- आधुनिक बागायती शेती, सुभाष पालेकर, प्रकाशक: विविध प्रकाशन, 2010.

Additional References:

1. Food and Agriculture Organization
 - Global data on aquaculture production and sustainability
 - Reports on fish farming, food security, and climate impact
2. World Bank
 - Studies on aquaculture economics and rural development
 - Supports fisheries and floriculture projects
3. Indian Council of Agricultural Research
 - Research on fish farming, horticulture, and floriculture
 - Provides training and publications
4. National Fisheries Development Board
 - Promotes aquaculture and fisheries sector in India
 - Provides schemes and training
5. National Horticulture Board
 - Development of floriculture and ornamental plants
 - Market data and production techniques
6. महाराष्ट्र कृषी विभाग
 - मत्स्यपालन व फुलशेती योजना आणि मार्गदर्शन
7. कृषी विज्ञान केंद्र
 - स्थानिक प्रशिक्षण, प्रात्यक्षिके (fish farming & floriculture)
8. राष्ट्रीय मत्स्य विकास मंडळ
 - मत्स्यपालनासाठी योजना व अनुदान
9. ICAR
 - मराठी व इंग्रजी दोन्ही भाषेत माहिती व संशोधन
10. Godwa Krushi Prakashan
 - मराठी कृषी पुस्तके, मासिके, मार्गदर्शक

Course Code	SKILL ENHANCEMENT COURSE SEM – II Land Survey and Insurance Agriculture in Rural Development	Credits	Lectures /Week
26 R D SEC 251	Paper I	2	2
Course Objectives (CO): CO1. To understand the concept, processes, and basic principles of land surveying. CO2. To analyze the types of surveying and classification of surveyors in practical applications. CO3. To understand the concept, benefits, and consumer protection aspects of agricultural insurance. CO4. To evaluate the classification of risks in agricultural insurance and their importance in safeguarding farmers.			
Course Outcomes (OC): OC1. Remember the concept of land survey OC2. Understand the need of land survey and insurance OC3. Apply their knowledge in poverty alleviation through land reforms OC4. Analyze the requirements of land in perspective of disasters			
Unit	Topics	No of Lectures	
I	Land Surveyor Skills • Concept • Types of process of surveying • Classification of surveyors • Basic principles in surveying	15	
II	Insurance Adviser Training for Agriculture • Introduction • Insurance of Benefits • Consumer Protection • Classification of risks	15	
References: 1. Saswat Suman Sharma, Leture notes on Surveying and Levilling, Dept. of Civil Engineering 2. Surveying and Levelling, N.N. Basak, Publisher: McGraw Hill Education, 2022 (Detailed explanation of surveying methods, instruments, and classification) 3. Surveying (Volume 1), B.C. Punmia, Ashok Kumar Jain & A.K. Jain, Publisher: Laxmi Publications, 2005. (Covers plane surveying, processes, and practical applications)			

4. Agricultural Insurance: Theory and Practice, P.K. Ray, Publisher: Kalyani Publishers, 2017. (Concept of agricultural insurance, benefits, and risk classification)
5. Crop Insurance in India, Author: P.C. James, Publisher: Oxford University Press, 2012. (Explains crop insurance schemes, risk types, and farmer protection)
6. Principles of Insurance, Author: George E. Rejda, Publisher: Pearson Education, Year: 2018. (Basic insurance concepts, consumer protection, and risk classification)
7. जमीन मोजणी व सर्वेक्षण, लेखक: महाराष्ट्र शासन, प्रकाशक: Government of Maharashtra, 2015. (जमीन सर्वेक्षण प्रक्रिया, तत्त्वे आणि प्रकार)
8. कृषी विमा मार्गदर्शक, लेखक: कृषी विभाग महाराष्ट्र, प्रकाशक: Government Press, 2018. (कृषी विमा योजना, फायदे आणि जोखीम वर्गीकरण)
9. सर्वेक्षण तंत्रज्ञान, लेखक: डॉ. बी.के. पाटील, प्रकाशक: Agricultural Books India, 2014. (Surveyor skills, methods, and practical techniques)
10. ग्रामीण विकास व कृषी विमा, लेखक: डॉ. आर.के. शर्मा, प्रकाशक: Sahitya Prakashan, 2016. (ग्रामीण विकास आणि विम्याची भूमिका)

Additional References:

1. **Agriculture Insurance Training Manual and Lesson Plans, Sept, 2012, Federal Ministry for the Environment, nature conservation and Nuclear safety.**
Introduction to Agricultural insurance and risk management, 2014.
2. Survey of India
 - a. Official agency for land surveying and mapping
 - b. Provides data on land records and survey standards
3. Insurance Regulatory and Development Authority of India
 - a. Regulates insurance sector in India
 - b. Provides guidelines on agricultural insurance and consumer protection
4. Food and Agriculture Organization
 - a. Publishes reports on agricultural risk management and insurance
5. World Bank
 - a. Research on crop insurance, rural risk, and financial inclusion
6. महाराष्ट्र महसूल विभाग
 - a. जमीन नोंदी, सर्वेक्षण आणि मोजणी माहिती
7. प्रधानमंत्री फसल बीमा योजना (PMFBY)
 - a. शेतकऱ्यांसाठी पीक विमा योजना
 - b. जोखीम संरक्षण आणि आर्थिक मदत
8. कृषी विज्ञान केंद्र (KVK)
 - a. स्थानिक पातळीवर प्रशिक्षण (survey basics, insurance awareness)
9. ICAR
 - a. कृषी विमा, जोखीम व्यवस्थापन आणि संशोधन

Evaluation Scheme for First Year (UG) under NEP (4 credits)

I. Internal Evaluation for Theory Courses – 40 Marks

1) Continuous Internal Assessment (CIA) Assignment - Tutorial/ Case Study/ Project / Presentations/ Group Discussion / Ind. Visit. – 20 marks

2) Continuous Internal Assessment (CIA) ONLINE / OFFLINE Unit Test – 20 marks - 30 Minutes

II. External Examination for Theory Courses – 60 Marks

Duration: 2 Hours

Theory question paper pattern:

Question	Based on	Pattern	Marks
Q.1	Unit I	A OR B	08
		C OR D	07
Q.2	Unit II	A OR B	08
		C OR D	07
Q.3	Unit III	A OR B	08
		C OR D	07
Q.4	Unit IV	A OR B	08
		C OR D	07

- All questions shall be compulsory with internal choice within the questions.
- Each Question may be sub-divided into sub questions as a, b, c, d, etc. & the allocation of Marks depends on the weightage of the topic.

Evaluation Scheme for First Year (UG) under NEP (2 credits)**I. Internal Evaluation for VSC Courses - 50 Marks**

- 1) Journal - 20 marks
- 2) PPT - 20 marks
- 3) Viva-Voce – 10 marks

II. Internal Evaluation for Field Project (2 Credit) - 50 Marks

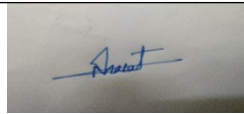
- 1) Journal - 20 marks
- 2) PPT - 20 marks
- 3) Viva-Voce – 10 marks

NOTE:

1. To pass the examination, attendance is compulsory in both Internal & External (Theory + Practical) Examinations.
2. Separate passing is applicable.

SEM-II

Evaluation Scheme for First Year (UG) under NEP (4 credits)

Sr. No.	I. Internal Evaluation for Practical Courses - 40 Marks	Designation	Position	Contact No.	Signature
1	1) Internal Examination for Practical Field Visit - 20 marks Journal - 10 marks Viva-Voce - 10 marks Head of the Department Dr. Nitin Kharat	Associate Prof.	Chairperson	768031265	
	II. External Examination for Theory Courses - 60 Marks				

1) Duration: 2 Hours

Theory question paper pattern:

Question	Based on	Pattern	Marks
Q.1	Unit I	A OR B	08
		C OR D	07
Q.2	Unit II	A OR B	08
		C OR D	07
Q.3	Unit III	A OR B	08
		C OR D	07
Q.4	Unit IV	A OR B	08
		C OR D	07

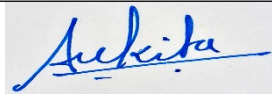
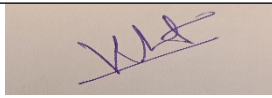
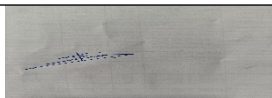
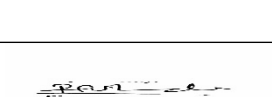
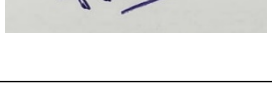
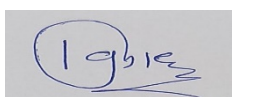
Evaluation Scheme for Third Year (UG) under NEP (2 credits)**I. Internal Evaluation for VSC/SEC Courses - 50 Marks**

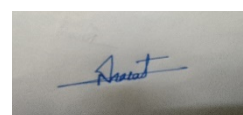
- 1) Journal - 20 marks
- 2) PPT - 20 marks
- 3) Viva-Voce – 10 marks

NOTE:

1. To pass the examination, attendance is compulsory in both Internal and External (Theory + Practical) Examinations.
2. Separate passing is applicable.

Signature of BoS Members

2	Entire Faculty	Dr. Ankita Vartak	Assist. Prof.	Entire Faculty	7020814769	
		Mr. Vaibhav Raut	Assist. Prof.	Entire Faculty	7718086577	
3	Subject experts from outside the University nominated by the Academic Council	Dr. Satish Desai	Principal Prof. Shivaji University	Member	9423035675	
		Dr. Deepak Shinde	Prof. Pune University	Member	9767522391	
4	Expert nominated by the Vice-Chancellor	Dr. Anil Patil	Principal Associate Prof.	Member	9422666366	
5	Representative of Industry / Corporate / Allied Area	Dr. Vilas Jadhav	Sr. Scientist (KVK Kosbad, Palghar)	Member	8552882712	
6	Post Graduate Meritorious Alumnus	Dr. Gaurav Raut	Personal Assist. To President Shri. Vile Parle Kelvani Mandal Mumbai.	Member	9004397057	


CHAIRPERSON

Board of Studies in Rural Development

Letter Grades and Grade Points:

Semester GPA/ Programme CGPA Semester/ Programme	% of Marks	Alpha-Sign/ Letter Grade Result	Grading Point
9.00 - 10.00	90.0 – 100	O (Outstanding)	10

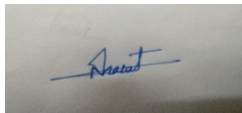
8.00 - < 9.00	80.0 - < 90.0	A+ (Excellent)	9
7.00 - < 8.00	70.0 - < 80.0	A (Very Good)	8
6.00 - < 7.00	60.0 - < 70.0	B+ (Good)	7
5.50 - < 6.00	55.0 - < 60.0	B (Above Average)	6
5.00 - < 5.50	50.0 - < 55.0	C (Average)	5
4.00 - < 5.00	40.0 - < 50.0	P (Pass)	4
Below 4.00	Below 40.0	F (Fail)	0
Ab (Absent)	-	Ab (Absent)	0

Justification for Bachelors in Rural Studies (Rural Development)

1.	Necessity for starting the course:	The Bachelor's program in Rural Studies (Rural Development) is essential to address the socio-economic challenges faced by rural areas, which form a significant part of the population. The course aims to develop
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		skilled human resources equipped with knowledge of agriculture, rural economy, sustainable development, and community participation. It helps students understand rural problems such as poverty, unemployment, lack of infrastructure, and environmental issues, and prepares them to design and implement development programs effectively. The course also supports government initiatives and policies related to rural development, self-employment, and entrepreneurship. Furthermore, it creates opportunities for employment in government, NGOs, cooperative sectors, and rural industries, thereby contributing to inclusive growth and balanced regional development.
2.	Whether the UGC has recommended the course:	Yes
3.	Whether all the courses have commenced from the academic year 2023-24.	The course has already commenced in the university and in the academic year 2023-24 it is restructured under NEP 2020
4.	The courses started by the University are self-financed, whether adequate number of eligible permanent faculties are available?	This course is aided / self-financed based on the sanction given by University of Mumbai to affiliated colleges time to time.
5.	To give details regarding the duration of the Course and is it possible to compress the course?	The duration of the program is three years (6 semesters). It is not possible to compress the course.
6.	The intake capacity of each course and no. of admissions given in the current academic year:	120 per division
7.	Opportunities of Employability / Employment available after undertaking these courses:	After completing the Bachelor's degree in Rural Studies (Rural Development), students have a wide range of employment opportunities in various sectors. Graduates can work in government departments such as rural development, Panchayati Raj institutions, and agriculture departments, as well as in the implementation of various government schemes. Employment opportunities are also available in non-governmental organizations (NGOs), cooperative institutions, microfinance organizations, and social development projects.

		Students can also pursue self-employment and entrepreneurship in agriculture and allied activities such as dairy farming, poultry farming, and fisheries. Career opportunities are also available in banking, rural finance, and development sectors. Furthermore, students can opt for higher education such as an MA in Rural Development or MSW, leading to careers in research, teaching, and project management.
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**Sign of the HOD &
Coordinator
BOS in Rural Studies (Rural
Development)**

**Sign of the NEP Coordinator, DES's
Kirti M. Doongursee College**

**Sign of Principal
DES's Kirti M. Doongursee
College, Mumbai 28.**