



**RAMAKRISHNA MISSION
VIVEKANANDA Educational and Research Institute
(RKMVERI)**

**FACULTY CENTRE FOR
INTEGRATED RURAL DEVELOPMENT AND MANAGEMENT (IRDM)**

SYLLABUS

**Two-year (Four Semester) M.Sc. in “Agriculture and Rural Development
(ARD)”**

**RAMAKRISHNA MISSION ASHRAMA
Narendrapur, Kolkata-700 103**

Course Content of Two year M.Sc. course in 'Agriculture and Rural Development'

COMPULSORY COURSES			OPTIONAL/ SPECIAL COURSES	
Module No.	Title of the Module	Credit Credits (Th + Pr)	(Minimum 12 credits to be covered from below in different semesters)	
ARD 101	Rural Sociology and Integrated Rural Development	4+2 = 6	ARD 251	Forest and Tribal Livelihoods Development
ARD 102	Basic Economics	2 +0 =2	ARD 252	Tribe and Tribal Development
ARD 103	Extension Education-I	3 +2 =5	ARD 253	Land and Land Reforms
ARD 104	Fundamentals of Crop Production	4 +3= 7	ABT 385	Organic Farming System- an advance course
ARD 105	Research Methodology-I	3 +2=5	ARD 351	Environment and Disaster Management
ARD 106	Spiritual and cultural Heritage of India-I	1+0=1	ARD 352	Indigenous Technical Knowledge System
		26	ARD 353	Rural Water & Sanitation Management
ARD 201	Human Resources and Organisation Management	2+2 = 4	ARD 354	Project Management
ARD 202	Demography, Social Problem and Intervention	3+1 =4	ARD 355	Extension Education-II
ARD 203	Rural Economics, Cooperation & Microfinance	3 +1 =4	ARD-356	Social Problem Intervention
ARD 204	Fundamentals of Crop Protection	3 +2= 5	ARD 451	Natural Resource and Watershed Management
ARD 205	Research Methodology-II	2+2=4	ARD 452	Panchayati Raj Institution
ARD 206	Agribusiness Management and Entrepreneurship Development	3+1=4	ARD 453	Community-based Organization (CBO)
ARD-207	Spiritual and cultural Heritage of India-II	1+0=1		
ARD 208	Rural Living and Learning Experience –I	0+2=2		
		33		
ARD 301	Rural Development Management	3+2 = 5		
ARD 302	Rural Development and Extension Programmes & Organizations	2+2 =4		
ARD 303	Rural Health Management	2 +1 =3		
ARD 304	Rural Women and Child Development	4 +1= 5		
ARD 305	Technologies in Agriculture and Allied Sectors	3 +3=6		
ARD 306	Rural Living and Learning Experience-II	0+2=2		
		29		
ARD 401	Rural Development Administration	2+1=3		
ARD 403	Seminar I	0+1=1		
ARD 404	Seminar II	0+1=1		
ARD 405	Dissertation(15) + Research Paper Submission (1)	0+16=16		
ARD 406	Learning through Organisational Attachment	0+8=8		
		32		
	Comprehensive Test			
Total		120		

Course Content for the Four Semesters Leading to M.Sc. in ARD

Note: In calculating the number of credits, the European Credit Transfer System (ECTS) has been followed, in which 1 credit = 20 hours [for both Theoretical (Th) and Practical (Pr) classes]

*Shaded courses are presently being offered at the Faculty Centre

SEMESTER-I

Module No.	Title of the Module	Credits (Th + Pr)
ARD 101	Rural Sociology and Integrated Rural Development	4+2=6
ARD 102	Basic Economics	2+0=2
ARD 103	Extension Education-I	3+2=5
ARD 104	Fundamentals of Crop Production	4 +3=7
ARD 105	Research Methodology-I	3+2=5
ARD 106	Indian Culture and Spiritual Heritage-I	1+0=1
TOTAL		17+09= 26

SEMESTER-II

Module No.	Title of the Module	Credits (Th + Pr)
ARD 201	Human Resources and Organisational Management	2+2=4
ARD 202	Demography, Social Problem and Intervention	3+1=4
ARD 203	Rural Economics, Cooperation & Microfinance	3+1=4
ARD 204	Fundamentals of Crop Protection	3 +2=5
ARD 205	Research Methodology-II	2+2=4
ARD 206	Agribusiness Management and Entrepreneurship Development	3+1=4
ARD-207	Indian Culture and Spiritual Heritage-II	1+0=1
ARD-208	Rural Living and Learning Experience-I	0+2=2
TOTAL		17+11=28
Special Modules (5 credit)		
ARD 251	Forest and Livelihood Development	3+2=5
ARD 252	Tribe and Tribal Development	1+1=2
ARD 253	Land and Land Reforms	2+0=2
		20+13=33

SEMESTER-III

Module No.	Title of the Module	Credits (Th+Pr)
ARD 301	Rural Development Management	3+2=5
ARD 302	Rural Development and Extension Programmes & Organizations	2+2=4
ARD 303	Rural Health Management	2+1=3
ARD 304	Rural Women and Child Development	4+1=5
ARD 305	Technologies in Agriculture and Allied Sectors	3+3=6
ARD 306	Rural Living and Learning Experience-II	0+2=2
		14+11=25
Special Modules (minimum 4 credit)		
ARD 351	Environment and Disaster Management	3+1=4
ARD 352	Indigenous Technical Knowledge System	2+0=2
ARD 353	Rural Potable Water & Sanitation Management	1+1=2
ARD 354	Project Management	1+1=2
ARD 355	Extension Education-II	3+1=4
ARD-356	Social Problem Intervention	6+0=6
ABT 385	Organic farming System- an advance course	3+4=7
		17+12=29

SEMESTER-IV

Module No.	Title of the Module	Credits (Th + Pr)
ARD 401	Rural Development Administration	2+1=3
ARD 403	Seminar-I	0+1=1
ARD 404	Seminar-II	0+1=1
ARD 405	Dissertation + Research Paper Submission	0+15+1=16
ARD 406	Learning through Organisational Attachment	0+8=8
	Comprehensive Test	NC
TOTAL		02+27=29
SPECIAL MODULES (minimum 4 credit)		
ARD 451	Natural Resource and Watershed Management	2+1=3
ARD 452	Panchayati Raj Institution	2+0
ARD 453	Community-based Organization (CBO)	2+0
		04+28=32

Two year MSc in Agriculture and Rural Development' (ARD) Semester wise course design:

Sem	Mod No	Credit (hours)						ICS* (wks)	RL LE	Dissertation	LOA (wks)	Total (wks)
		Th	hrs	Prac	hrs	Total	Hrs					
1	6	17	340	09	180	26	520	20	-	-	-	20
2	9	20	400	13	260	33	660	18	02	-	-	20
3	7	17	340	12	240	29	580	16	02	02	-	20
4	6	4	80	28	560	32	640	04	-	08	08	20
Total	28	58	1160	62	1240	120	2400	58	04	10	08	80

Note: ICS- Interactive Classroom Session, LOA- Learning through Organisational Attachment, RLLE – Rural Living and Learning Experience

*Includes both theory and practical sessions; the practical sessions include classroom practical, field works, assignments and extensive field placements.

Total Credit in MSc in ARD : 26 (1st) + 33 (2nd) + 29 (3rd) + 32 (4th) = 120

SYLLABUS

MSc in Agriculture and Rural Development (ARD)

COMPULSORY COURSES

ARD 101: Rural Sociology and Integrated Rural Development

Total (80 + 40) hours /Credit-(4+ 2)

1. Meaning, concepts and objectives of Rural Development with special reference to India (4).
Early attempts of Rural Development initiated by Mahatma Gandhi, R. N. Tagore and others (4).
Social reform and rural development movements in the 19th and 20th century at a glance (4)
Total-12 hrs
2. Developmental Philosophy of Swami Vivekananda and Role of Ramakrishna Mission in RD-
Swami Vivekananda's concept of rural development in India, IRDM-concept and definition,
levels of self reliance, basic postulates of Swamiji's development philosophy, guidelines and
vision of RD, cases and success story- 10. Total-10 hours
3. Society, its concept, relation to rural development -2; Primitive and contemporary society-2;
rural and urban society-2; agrarian, modern societies-2; family, marriage and kinship system
Total-8 hours
4. Scope, strategies, importance of rural development – 4; Problems of rural people-2; Brief history
of rural development of SAARC countries -2; Social welfare services in India-2;
Total-10 hours
5. Local Self-Govt. in India: concept & evolution-2; Present structure of Panchayati Raj Institution
(PRI), its function and duties-4; Special features of the Constitution of India Act in relation to
'Local Governance', specially, 73rd. amendment-4; Total-10 hours
6. Integrated Rural Development and Management, its relation with other social sciences (special
reference to Sociology, Social Work, Political Science and Psychology)-6; multidisciplinary and
interdisciplinary approach-2 Total-08 hours
7. Rural society, its characteristic features-2; village, its role and importance in rural lives-2; rural
management and rural development in 21st Century-4 Total-08 hours
8. Culture-definition, function; impact of Culture in Rural Development-4; norms, values-2; culture
and civilization, Culture and personality-2 Total-08 hours
9. Social change as the product of Industrialisation, Urbanisation, Sanskritisation; Westernisation;
Social change in Rural India. Total-06 hours

Each student will go through: The Philosophy and concept of Ramakrishna Mission along with life and says of Sree Ramakrishna, Saradadevi and Swami Vivekananda. The Role of Ramakrishna Mission in relation with Indian Social Reform / Rural Development / Social Change / Value Education and will submit a paper on the issue.

Practical: Rural Sociology and Integrated Rural Development

1. Visit to different units of RKM Ashrama including the units working for rural development.
2 FW
2. Library/review work, preparation and presentation of an article on any successful rural
development experiment/programme/approach - 5 hrs
3. Visit to a village – study on different components of a village 1 FW
4. Group presentation on the concept of village and possible measures for its development
- 5 hrs
5. Study of a village - settlement pattern; socio-economic condition; Culture/Social change etc.
(2 FW)
6. Students in groups will prepare a summary of the whole module and give a presentation just
before the study leave

ARD-102: Basic Economics

Total (40 +00) Hours/Credit (2 +0)

1. Supply and Demand Analysis
Demand curve – Demand shifts – Elasticity of demand – Supply curve – Shifts in supply – Price elasticity of supply – Equilibrium of supply and demand – Effects of a shift in supply or demand – Impact of a tax. 4 hours
2. Consumer Behavior
Law of diminishing marginal utility – Indifference curve analysis – Indifference curve, budget line, equilibrium condition 5 hours
3. Production Analysis
Production function – Total product, average product, marginal product – Law of diminishing returns – Return to scale – Least cost factor combination for a given output 3 hours
4. Analysis of Cost
Cost concepts – Link between production and cost – Total cost, average cost, marginal cost 3 hours
5. Market Structure
Types of market – Perfect competition – Monopoly 5 hours
6. Measuring National Income
Different concepts – Problems – Price indices 5 hours
7. Determination of National Income
Aggregate demand, aggregate supply curve – Concept of multiplier 4 hours
8. Inflation
Meaning – Causes – Effects – Remedial measures 4 hours
9. Introduction to Government Budget
Revenues – Expenditures – Deficits 2 hours
10. International Trade
Basis of trade – Absolute advantage, Comparative advantage – Gains from trade – Balance of payment 5 hours
11. Students in groups will prepare a summary of the whole module and give a presentation just before the study leave

ARD 103: Extension Education-I

Total Hours – (60+ 40) / Credit- (3 +2)

1. Fundamentals of Agricultural Extension and Communication (20)

Meaning, certain concepts of agricultural extension and communication; History of agricultural extension in India and other countries (USA, China, Japan, Israel etc); relevance and scope of extension education in ARD; Agricultural Extension, Veterinary Extension, Fishery Extension, Home Science Extension- scope and role in rural development; Agricultural Extension and Rural extension; Conceptual and philosophical similarities and differences among extension education, adult education and continuing/distance education; Philosophy of extension; Objectives of extension, Functions of extension, Principles of extension; Human behavioral dimensions related to agricultural extension; The Extension Education process, Teaching- Learning process, steps in extension teaching; An effective learning situation, Principles of learning as applicable to extension; Technology – concept, typology; technology transfer – concept, components; appropriate technology

2. Basics of Rural Sociology and Educational Psychology (10)

Basics of rural sociology- basic concepts, relationship with extension; characteristics of Indian, rural society, differences and relationships between rural and urban society;

understanding of basic rural institutions, social structure, culture and norms; social values and social control; social stratification-meaning, form, class and caste system; Social and technological change processes; Group – social group and their classification, group dynamics, groups in extension; Concept, theories, typology and functions of rural leadership, opinion leader; identification and development of rural leadership

Basics of Educational Psychology- meaning, scope and importance; intelligence, personality, perception, emotion, frustration, motivation

3. **Communication and its application in extension (20)**

Definition, Concept, Elements, Purpose and Types-Verbal, Non-verbal; credibility, fidelity, empathy and feedback in communication in communication; Models of communication, Function and Effectiveness of Communication; problems in communication; Communicator-Communiquee relationship; organizational communication; Effective Communication for technology transfer – spoken, written and audio-visual; Development communication

Extension communication/teaching Methods- Individual, Group, Mass with examples – Farm and Home visit, Minikit trial, Farm Clinics, Trial and Demonstration, Field Day, farmers' Day, Kisan Mela, campaign, Exhibition etc; Selection and effective use of Extension Teaching Methods; Audio-visual aids – classification, selection, use; Basics of agricultural journalism – newspaper, radio and television; types of farm publications – bulletins, folders, leaflets, booklets, newsletters, popular and scientific articles in magazines and journals, Annual report

Agricultural Journalism - Concepts of agricultural journalism and agricultural communication, agricultural Journalisms as mean of mass communication, its forms and role in rural development programmes. Readability of literature - readability tests, clarity and brevity in writing; Principles and techniques of writing, news stories features, articles, magazine articles, farm bulletins and folders. Fundamentals of layout- various elements and their balancing, techniques of editing and publishing technical journals, research agricultural Journalism and its applications.

Adoption and Diffusion of Innovations - Concept and elements of diffusion and adoption; Concept and stages of Innovation - Decision Process; Innovation attributes and consequences of Innovations; adopter categories; nature of channels; measurement and factors of adoption

4. **Extension Systems and Programmes (10)**

Extension systems: National Agricultural Extension System and networking of state development departments, State Agricultural Universities, Indian Council of Agricultural Research, NGOs, cooperatives and private organizations.

First line extension- early efforts and KVK system; T & V Extension; NARP/NAEP; NATP and ATMA model of extension system

Practical: Extension Education-I

(40 hrs)

1. Extension teaching methods/communication Methods in Extension: Farm & Home visit; Organising Result Demonstration and Method Demonstration; Organising group discussion; Farm publication - preparing Leaflet, Folder, Bulletin or Pamphlet, Newsletter; Organising exhibition; Reporting to News Paper/Govt. office; writing for radio and television 18 hours
2. Audio-visual Aids: Preparation and use of non-projected Visual Aids- Posters, Diagram, Map, Chart, Graph, Model and Specimen- 06 hours

3. Handling of still and video camera 04 hours
4. Visit to an extension agency (line department/SAU/KVK/SAMETI/ATMA district etc.) and study of its extension programmes 2 Field Works
5. Study of ongoing extension programmes, visit to village institutions, social organizations, interaction with rural leaders (during village study) 06 hours
6. Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

ARD 104: Principals of Crop Production

Total Hours – (80 + 60) hours / Credit- (4 +3)

1. Agro-climatic Zones of West Bengal. 1
2. Classification of Crops on Different basis. 1
3. General principles of Crop production: Climate, soil preparation and Tillage, seed Sowing and Seed Treatment, Nutrient Management, Water management, Intercultural Operations, plant protection measures, harvesting, threshing and storage. 8
4. General principles of Seed Production : characteristic of good quality seed; quality seed production, Seed certification, Hybrid seed production, Seed storage, 8
5. Crop rotation, Principles, Advantages and Factors affecting the selection of crop rotation. Crop sequences and system with emphasis on mixed cropping, inter cropping and multiple cropping 2
6. Basics of Soil Science: Basic concept of soil, Soil formation, Soil Components, Soil elements, soil texture, structure, Soil organic matter, Soil water, C: N ratio and its importance, Problem soils and reclamation , Plant nutrients, essentiality criteria, role of essential nutrients , Soil testing , Fertilizer and manure. 16 Hours
7. Basics of Horticulture and Medicinal plant: Sub disciplines of horticulture, Techniques for horticultural plant propagation through Cutting, Budding, Grafting, Common medicinal plants, their medicinal uses, Extraction, isolation and purification of bioactive compound of plant origin and general cultivation practices. 14 hours
8. Organic Farming: concept, principles and methodology, Quality, certification, Marketability and export of Organic product, Different low cost input like Panchagavya, Amritpani, preparation of cow dung and cattle urine, concepts of biodynamic agriculture: BD500 and 501. 10 hours

Practical: 2 Credits/ 40 hrs

1. Identification of seeds, crops, implements etc 4 hours
2. Crop production practices (Chemical and Organic Farming) Season long
3. Practice of techniques for horticultural plant propagation in different types of plants 4 hours
4. Visit to any seed production farm. 4 hours
5. Seed germination test. 2 hours
6. Seed viability test. 2 hours
7. Soil sampling, Soil testing (pH, EC, Org C, N, P, K). 8 hours
8. Fertilizer calculations. 2 hours
9. Study of common medicinal plants and their effective parts 2 hours
10. Methods of extraction of bio-reactive compound of medicinal plants 6 hours
11. Preparation and use of Panchagavya, Amritpani, PoudhSanjibani, Homemade pesticides and fungicides etc. Preparation of BD500 and 501. 6 hours

ARD 105: Research Methodology-I

Total Hours (60+ 40) / Credit- (3 +2)

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| 1.1 Fundamental concepts related to Research – Definitions, Aims, Characteristics, Types; Scientific research vs. Commonplace explanation | 2 |
| 1.2 Methods, Methodology, Techniques – Concepts only | 1 |
| 1.3 Social Research: Definition; Types, Functions, Limitations | 1 |
| 1.4 Field Research: Definition. Types, Functions, Limitations | 1 |
| 1.5 Research Methodologies in Rural Development (Concept & Applicability):
Social Survey, Community Survey, Diagnostic Study, Prognostic Research, Evaluative Research, Case Study, Comparative Studies- Synchronic and Diachronic, Participatory Research, Action Research, Field Research, Lay-out of experiments | 7 |
| (Total-12 hours) | |
| 2.1 Research Process: Major Steps of Research- Selection of Research Problem, Formulation of Research Problem | 4 |
| 2.2 Hypothesis-Definitions, Types, Sources, Utility, and Characteristics of good hypothesis | 4 |
| (Total-8 hours) | |
| 3.1 Tools of Data Collection: Skills and techniques; Observation – Participant and Non-participant | 2 |
| 3.2 Interview- Group interview, Panel interview, Focused interview, Repetitive interview; Focus Group Discussion; Questionnaire – Open ended and Close ended questions- Mailed Questionnaire | 4 |
| 3.4 Participatory methods of data collection – RRA, PRA, PLA etc; Different tools of PRA | 6 |
| 3.5 Psychometry, Sociometry | 4 |
| 3.6 Measurements, Types and problems of measurement; Scaling techniques - Thurstone's Equal Appearing Interval Scale, Likert's Summated rating Scale; | 08 |
| 3.7 Different Rural/Human Development Indices; Recent trends in research methodology | 2 |
| (Total-24 hrs) | |
| 5.1 Analysis and interpretation of data: Data- Definition, types (Qualitative vs. Quantitative), Coding vs. Scoring | 2 |
| 5.2 Presenting quantitative Data - Graphical presentation (Bar diagram, Histogram, Frequency Polygon, Ogive, Pie chart etc.); Tabular presentation (Simple, Bivariate, Multivariate) | 4 |
| 5.3 Statistical analysis – use of basic Univariate Statistics – Measures of Central Tendency, Dispersion, Skewness and Kurtosis, Interpretation and Conclusion | 6 |
| 5.4 Writing technical/scientific reports: Aims, Types, Format, Language; Concepts: Abstract vs. Review, References vs. Bibliography, Preparation of Manuscript | 4 |
| (Total-16 hours) | |

Practical: Research Methodology-I

(03 days village placement, 22 hrs classroom practical)

1. Field Application/Case illustration of one each of Case Study; Comparative study; Synchronic and Diachronic; Evaluative studies; Diagnostic studies- 06 hrs
1. Participatory Research; Action Research; Sampling of a village population for a specific study through Case Illustration/Field placement 06 hrs
2. Collection of data through- Personal Interview, Group interview, Questionnaire; Attitude measurement and Scales; Practice of different tools of PRA- Resource Mapping, Transect Diagram, Seasonality Diagram, Time line, Livelihood Analysis, Matrix Ranking, Venn Diagram etc.; Study of different Human Development Indices (preferably in a village) - 03 days
3. Data entry; Data Presentation and Analysis using descriptive statistics, graphs & charts- 08 hrs
4. Content analysis (in brief)- 2 hrs
5. Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

ARD 106: Indian Culture and Spiritual Heritage-I

Total Hours -20 / Credit- (1 +0)

1. Personality Development – Western view – Freud (Id, Ego, the Super ego - Instinctual energy (Libido) Alfred Adler (some ethical value), Carl Jung (Ego-conscious mind-personal unconsciousness, collective unconscious etc.)
2. Oriental view: Necessity to know our mind – four fold functions of mind; Personality-- An introduction; ‘it is personality that matters’; Laws of personality development; Different layers of personality; Man is divine; ‘Pleasure is not the goal’; How to change our character; control of our negative emotions, subjective changes.
3. What is service? Concept of service in Religions (Hinduism, Buddhism, Jainism, Christianity and Islam).
4. Three tier of organization for conducting rural development – what upper class should do? Ramakrishna Mission’s approach to rural development.
5. Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

Reference books:

1. Service: Ideal and Aspects – A Vedanta Keshari Presentation
2. Personality Development: Swami Vivekananda, published by Advaita Ashrama, Kolkata.
3. Shaping the Personality – Vedanta Keshari (December 2009)
2. A compilation from complete works of Swami Vivekananda.

ARD 201: Human Resources and Organisational Management

Total- (40 + 40) hrs/ (2+2) credit

1. Management- meaning and concept, principles and its relevance in development and organization-2; Administration – concepts & principles; Process of management-2, levels of management; challenges of management in development work, changes in management thoughts-different schools-2; Functions of management – planning, organizing, staffing, directing and leading, controlling, coordinating, reporting and budgeting, Monitoring and evaluation.; Management type: Functional management, Participation management-2, role of managers in participation management, role of participants-2; problem solving, strategic management; Traditional management versus participation management-2; strategic management (Total- 12 hours)
2. Organizational development: Meaning and assumption of organizational development-2, Value system concept, structure and design-2, value-based organizational development-2; Management of extension Organizations: concept-2; Decision-making in organization. Organizational effectiveness, organizational climate, organizational behaviour, organizational development. Management by Objective (MBO) (Total- 12 hours)
3. Personality and Motivation; team building, leadership development; negotiation skill
4. Human Resources & Their Management: Rural Human Resources: Concept of ‘Human as resource’, Present status of rural human resource in India, Role of Human Resource Development (HRD) in sustainable rural development, HR planning, job analysis, recruitment & selection, training & development, motivation & employee compensation. The topics included in the legal issues are; grievance management, managing employee discipline, industrial relations, industrial disputes, contract labour/ apprentice, trade unionism, collective bargaining, and safety and health. Training- Training typology etc.; (Total-16 hours)

Practical: Human Resources and Organisational Management

(3day-village placement and 4FW = 40 Hours)

1. Case studies on organizational management- 3 days Organization/Agency Placement
2. Preparation of Training Schedule,
3. Preparation of Budget for viable projects
4. Practicing of Recruitment Process
5. Preparation of Action plan on Rural Development Programme
6. Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

ARD 202: Demography, Social Problem and Intervention

Total- (60+ 20) hrs/ (3+1) credit

1. Population Education & Demography- Concept & definition-2; Sources of Demographic data, Indian Census- Methodology & Enumeration-2; Growth of Indian population during different Census period-2; Factors responsible for increase in population-2; demographic situation in Rural India and West Bengal-2 (Total-10 hours)
2. Population theories: Malthus and Marx- 2 Theory of Optimum population – Biological and Sociological theories-2 Theory of Demographic Transition- Indian case study-2, Population Growth Index-2 (Total-8 hours)
3. Social Stratification-Caste and Class -4: Concept and Different views of Social Inequality: Caste, Class and Power-4, Social Mobility-2: Changes in Caste system-2 (Total-10 hours)
4. **Social Change, Social Disorganization and Social Problems;** Factors responsible for Social Problem: Illiteracy, Beggary, Crime, **Victimless Crimes : Alcoholism, Drug Addiction, Beggary, Commercial Sex, Suicide; Family centred Crimes : Dowry, Domestic Violence, Child Abuse; Community Problems : Inter – religion and Inter – caste tensions and conflicts. (16 hours)** Old age, AIDS etc.-10; Ameliorative measures to combat these problems- Social Work Intervention-2; (Total-12 hours)

Practical: Demography, Social Problem and Intervention

1. Study of community, its Demography, social disintegration of a village (1 FW)
2. Social work intervention – casework method, group work method, community organisation, social welfare administration etc. (15 hours)
3. Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

ARD 203: Rural Economics, Cooperation and Microfinance

Total (60+ 20) hrs/ (3+ 1) credit

1. Rural economics of India :
Sphere of rural economics of India-2, Paradigms of rural development from economic point of view-2; theories of development modernization; Ruseustein - Roden's Theory of Big Push; Lewis model, Lenbestentis model and Gandhian model of development-4 (Total-8 hours)
2. Role of Agriculture in Economic Development
Product contribution, factor contribution, market contribution, GDP share, foreign exchange contribution-4; agricultural growth in pre and post –independence period in India-2, Recent trends in agricultural development from economic point of view-1; Agricultural trade structure in India (Total- 7 hours)
3. Poverty: Meaning and concepts, measurement of poverty and poverty-line criteria-2; Rural unemployment: types, causes, disguised unemployment-2; Rural Employment generation schemes; Govt. poverty alleviation and employment-generation scheme-2 (Total-6 hours)
4. Economic Planning
Concept of Indian economic planning (5-yr. plan)-2, Rural development in annual budget-1, Price index-1, WTO: Rules, regulation, impact in Indian and rural economy-2 (Total-6 hours)

5. Cooperation:

Introduction to Managing Cooperatives - Why a Cooperative, Technology: Production and Marketing, Agri-business Cooperatives, Coordination Strategy; Emergence, Endurance and Growth of Cooperatives - Evolution of Cooperative Enterprise, Enabling conditions, Disabling conditions – Politics of Social Management, Issues in establishing agricultural cooperatives; Cooperatives Principles - Impact of Democratic Governance in Cooperatives, Cooperative Principles & Economic Rationality; Understanding Performance of Cooperatives - Problem of Multiple Objectives & Equitable sharing, Problem of ensuring compliance, Problem in Mobilizing Capital; Understanding Performance of Cooperatives (contd.) - Excellence in Cooperatives, Drive for Enduring Performance, Sickness in Cooperatives, Analyzing Performance of Cooperatives; Issues and Approaches in Design of Cooperatives - Energetic Farmers Organization, Design of Anand Pattern, Issues in Federal Cooperatives, New Generation Cooperatives, Viability of an Agribusiness Cooperative, Decision Making in Cooperatives; Leadership in Cooperatives - Understanding Role of a leader, Leadership and Cooperation in Groups, Learning Process Approach

(Total-13 hours)

6. Credit system: Sources/institutions, SHG- opportunity of SHG in Entrepreneurship development, NABARD etc.-4, Village industry: types, problems, scope, Govt. agencies, trends-2; Banking system

(6 hours)

7. Micro-finance-

(Total-10 hrs)

8. Public distribution system

4 hours

Practical: Rural Economics, Cooperation and Microfinance

(4FW ~ 20 hours)

1. Rural Credit Organization Study: Gramin Bank/ Nationalized Bank/ Co-opt Bank/ Money lender etc.: System of money flow, approachability by the villagers, monitoring system, developmental programmes, beneficiary study/ study of micro project- 1FW
2. Study of SHG groups- 1FW~3Hrs
3. Study of Rural Cooperative- 1FW
4. Study of Micro-credit organisation – 1FW
5. Poverty Measurement – 1FW~3Hrs
6. Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

ARD 204: Fundamentals of Crop Protection (3+2) credits

Theory: 3 credits/ 60 hours

1. Concept of pests and Pesticides- 2
2. Insect Pest: Concept and Classification of Pest with Examples; Life cycle of pest of different order. Nature of damage and damage symptoms of agriculturally important Insect Pests of some important field crops. Mite: Characteristics and their damage symptom, nematodes: Characteristics and their damage symptoms; Resistance, resurgence and residual toxicity due to pesticide application 12
3. Plant Diseases: Basic knowledge of Fungi, bacteria and Virus (morphology and mode of reproduction), mode of action, Important Fungal/ Bacterial/ Viral diseases and symptoms of some important field crops. 8
4. General concept, mode of action, application in Agriculture and limitation of some important Bacterial/ Fungal/ Viral and Botanical pesticides. 8
5. General concept, mode of action, application in Agriculture and limitation of Predator and parasitoids 6

6. Insect-Pest Management: IPM with special reference to Chemical control, biological control, Botanical pesticides, Non-insecticidal-chemicals for pest control: Antifeedent, repellent, attractant, hormonal, semio-chemicals etc to control different types of crop pests. **8**
7. Disease management: with special reference to chemical control, Biological control, antagonistic fungi and bacteria to control different types of plant diseases. **8**
8. Basics of weed science and their control: weed classification, crop-weed competition, Example of associated weed of different field crops, Principles of weed management (preventive, control and eradication), Herbicides: classification: mode and mechanism of action of herbicides, bio-herbicides. **8**

Practical: 2 credits/ 40hours

- | | |
|---|--------------------------------|
| 1. Study of Life cycle of insects. | Throughout the semester |
| 2. Dose calculation and application of chemical pesticides. | 2 hours |
| 3. Identification of different types of damage/ symptoms by insect pest/ diseases. | 4 hours |
| 4. Collection of insect pest, natural enemy, plant parts damaged by insects or diseased plant parts and preservation. | 6 hours |
| 5. Methods of sampling and data collection from insect infested/ diseased plants. | 2 hours |
| 6. Production procedure of botanical pesticides and Testing on target group. | 6 hours |
| 7. Isolation, mother culture development, production, formulation and testing efficiency in laboratory of antagonistic/ entomo-pathogenic fungi and Bacteria. | 10 hours |
| 8. Multiplication of parasitoids and Predators. | 6 hours |
| 9. Identification of important weeds of agricultural crops and preparation of weed herbarium. | 4 hours |

ARD 205: Research Methodology-II

Total- (40 + 40) hrs / (2 +2) credit

1. Sampling: Meaning and Significance, Types, Sampling methods, Sampling errors and biases, sample selection; solving practical problems-10 (Total-10 hours)
2. Correlation-regression-4, Elementary concept of Normal Distribution; bias and standard errors of estimates-4; Test of hypothesis: 'T Test', 'Chi square Test' - 4, Design of field experiment - 6, Calculation of cost –Benefit ratio-6 (Total-20 hours)
3. Non-parametric statistics - (Total -6 hours)
4. Use of Computer in Research (Concepts only).-4 (Total-4 hours)

Practical: Social and Field Research and Methodology-II (40 hrs./2 credits)

1. Computer Application: Advanced Practical-6; Use of statistical packages for analysis of data-14 (Total- 20 hrs)
2. Practical on –Correlation-regression-3, 'T Test', Chi square Test-4', Design of field experiment -4, Non-parametric Statistics (Total- 20hrs)
3. Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

ARD 206: Agribusiness Management and Entrepreneurship Development

Total- (60 + 20) hrs / (3 +1) credit

1. Entrepreneurship Development and Agri-Business Plan: Introduction, why a business plan? Business plan, types of business firms, types of plan; writing the agri-business plan (04 hrs)

2. Cash Management: Introduction, problems of cash management; cash planning; cash budget (04 hrs)
3. Marketing Management for Agri Business: Introduction; agricultural marketing; need to study marketing, marketing criteria; Marketing concept vs. selling concept; Marketing environment; Market segmentation, target markets; Marketing mix (The 4 P's of marketing) (04 hrs)
4. Rural Markets- concept, types, channels and distribution, agents, price spread - marketing margins and efficiency; Traditional Marketing system in Rural Areas; Modern marketing systems in rural areas – its characteristics; agencies involved including corporate sector; problems of rural marketing; Producer' surplus—meaning, types of producer's surplus, marketed and marketable surplus. Factors affecting marketable surplus; Steps taken by Government to improve the marketing system; Legislative measures; Different agencies/institutions started by the Govt.: outcome, defects and remedies; Regulated markets; market intelligence; Information and Communication Technology (ICT) in marketing]Rural Marketing: Introduction; Rural marketing; Profile of Indian rural market; Rural vs urban consumers – challenges; Marketing strategies; Rural market needs; (16 hrs)
5. Procurement: Importance, Procurement and marketing; Difference between industrial raw materials and agricultural raw materials; Scope of agriculture; Procurement management environment; Procurement function; Types of purchasing; Procurement objective; right quality/ right source of supply/ right price/ right time/ right quantity; Transportation; Receiving and storage; Planning technique for procurement; General procedure for a typical purchase; Ethics in purchasing (06 hrs)
6. Supply Chain Management (SCM): Introduction, Key issues, evolution, importance; logistics (10 hrs)
7. Commodity Market: Classification of markets, Market players and motives, Forward and backward linkages in markets, Regulation of commodity markets; innovation in commodities markets (06 hrs)
8. Commodity Exchanges: Introduction to derivatives, Instruments available for trading; Commodity exchanges and futures trading; Evolution of futures trading; Commodity exchanges at global and national level; Exchange transactions (04 hrs)
9. *Futures Exchange and Risk Management: Price risk, Causes of price risk; Methods of tackling price risks; Evaluation of methods for their efficiency and limitation; Hedging- advantages, principles, types, hedge ratio* (04 hrs)
10. *Warehouse Receipts and Collateral Management: Introduction, function, classification; warehouse receipt, Collateral management and its functions; Issues related to warehouse receipts: negotiability; warehousing (Development and Regulation) Bill, 2005* (05 hrs)
11. Business law and ethics: Sales of Good Act, Property Act, Company Act., APMC Act; Rural Consumer Behaviour; Agri-marketing structure and Law in India; WTO and its implication in Rural India, norms of world trade. (06 hrs)

Practical: Entrepreneurship Development, Marketing, Cooperation and Agribusiness Management [3 FW + 05 hrs classroom practical = 20 hrs]

1. Flow of commodities (in and out) in the villages, Identification of surplus and marketable produces, Rural markets, flow of the produces through the markets, middleman, linkages, study of market spread and market efficiency - 2 FW
2. Study of Agriprenureship- 1 FW
3. Classroom practical 05 hrs
4. Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

ARD-207: Indian Culture and Spiritual Heritage-II (1 + 0)
(20 + 00 hours)

1. Difference between Service and Charity, Types of Service, Gradation of Service, Why should we serve others? A. Practical Reasons B. Scientific Reasons Biology, Physics, C. Ethical Reasons D. Religious Reasons – Islam, Christianity, Hinduism E. Philosophical Reasons.
2. Philosophy of Service- Service of God in Man and Karma Yoga.
3. India – Her Eternal Glory, Her Life Center, Causes for the decay of India, Regeneration of India and Her Future.
4. Swamiji's view on Social Reforms, Condition of the masses and ways for their uplift, Condition of the Women and ways for their uplift, Social evils and their eradication, All round development of the society, Swami Vivekananda on Organization, Qualities of a successful reformer.
5. Related topics to be selected by the concerned teacher
6. Students in groups will prepare a summary of the whole course and give a presentation of their respective portions just before the study leave

Ref. a) Swamiji on Service- Swami Vedapurushananda,

b) India and her people (English) --- A compilation from the teachings of Swami Vivekananda

c) Swami Vivekananda on Rural Development- A compilation from the complete works of Swami Vivekananda

d) Bharat Kalyan (Bengali),

Note: Unit test includes written test, PP presentation and/ or speech on some selected topic, assignment etc

ARD 301: Rural Development Management

Total-(60 + 40) hrs./ (3+ 2) credit

1. Planning Extension Programme: concept, principle, steps, approach, limitations, critical issues and their strategic refinement (Total- 4 hours)
2. Project Formulation and Management : Elements of Project Formulation; Micro plan for individual beneficiary/group-2; Goal, Objective, Problem -1; Strategy and Formulation-1; Budgeting-1; Log frame/Project Planning Matrix-2; PERT/CPM; Network Analysis-4; Plan of Implementation/Operation -1: Project Management: Monitoring, Evaluation and Follow up-4; (Total-16hours)
3. Programme Management and Evaluation: Programme implementation, Monitoring: Objectives and methods; indicators; Impact assessment of extension programmes-8 (Total-8 hours)
4. Project Evaluation-2: Criteria for Project Evaluation and Decision Rules-2: Pay-Back Period Method, Net Present Value Method-2, Internal Rate of Return; Cost -Benefit Ratio-2; Before and After Project Situation; With and Without Project Situation-2; Participatory Evaluation Process-2 (Total-14hours)
5. Social Valuation of Costs and Benefits of a Project-2; Detail steps in Social Cost-Benefit Analysis with case studies-4; Coordination: meaning and concept-2; Nature of coordination-2; importance of coordination in rural development programme management-4; Coordination at different levels of extension management, methods of coordination (Total-12hours)
6. Scope of Agri-Business Management and Institutions - National Institute of Agricultural Extension and Management (MANAGE). Indian Institute of Plantation Management (IIPM), NIRD, EEl and NAARM. Monitoring, evaluation and impact analysis of extension programmes.

7. Information and Communication Technology in Rural Development

(Total-6 hours)

Practical: Rural Development Management

(7-days village placement /40 hours)

1. Preparation of project proposal on Integrated Rural Development of a specific village after collection of data applying different field methodology including PRA –
Class assignments (20 hrs)/4 days village placement.
2. Practice on participatory evaluation of a specific rural development activities of a project/ organization-
2 days Evaluation placement/class assignment (12 hrs)
3. Assignment on stakeholder analysis, logical framework analysis, network analysis, development of Gantt Chart etc. 08 hours
4. Visit to a Village Resource Centre and Preparation of Report 1 day field work/06 hrs
5. Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

ARD 302: Rural Development and Extension Programmes & Organizations

Total- (40 + 40) hrs./ (2 + 2) credit

1. Rural Development Schemes: Extension programmes in India: Early Extension Efforts, Post-independent Government managed extension programmes – Community Development Programme, NES, Panchayati Raj; Agricultural development programmes – IAAP, IADP, HYVP etc; Area and target group oriented programmes – SFDA, MFAL, CADP, DPAP, NRLM etc.; Social justice and poverty alleviation programmes – IRDP, SGSY, MGNREGA etc. Social security programmes – NSAP etc.
(Total-12 hours)
2. Agricultural Development Programmes – RKVY, NHM, NFSM, Technology Mission, NAIP, Watershed Development Programme; Animal Husbandry, Dairy and Fishery Development programmes in India
(Total-08 hours)
3. NGO administration/fund raising for the NGO
(Total - 04 hours)
4. Rural Development Programmes by Ramakrishna Mission (Narendrapur, Ranchi, Samaj Sevak Sikshan Mandir-Belur etc.): concept, approach, structure/ network, replicability etc.-10
(Total-10 hours)
5. Policies for Rural Development: need for future rural development policy; goals of rural development policy; strategy for future rural development in India-6
(Total-06 hours)

Practical: Extension Programmes & Organizations

(2 day organization/ Agency placement = 10 hours + 10 hours)

1. Visit of Central/ State Agencies related with Rural Development: Information on current programmes, interviews with beneficiaries/ Group/ micro projects to study impact of the programme-
1 day Organization/ Agency Placement
2. Visit of one NGO related with Rural Development: Information on current programmes, interviews with beneficiaries/ Group/ micro projects to study impact of the programme- to be covered during Rural Living and Learning Experience (RLLE) - 1 field work
3. Information on different current Rural Development Project under RKM; Visit of any RKM Rural Development project area to study programme implementation, monitoring, evaluation, reporting system; interview to beneficiary to study impact of the programme- 10 hours
4. Study of ongoing Programmes under different Ministries (related to the broader area of rural development) of Government of INDIA
(Total 08 hours)
5. Study and presentation on different National and International Agencies and their rural development work: CAPART, ICSSR, NIDH, CSWB, NISD, SC and ST Commission, NABARD, NIRD, NIPCCD, MYRADA, Tagore Society, CWS, European Union (EU),

German Agro Action, DFID, ODA, Ford Foundation, UNICEF, UNESCO, UNDP, WHO, NORAD, DFID, USAID, GTZ, IDRC, SIDA etc.- (Total-10 hours)

- Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

ARD 303: Rural Health Management

Total- (40 + 20) hrs. / (2 +1) credit

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|---|------------------|
| 1. Concept of Health, Disease; Health for All and Primary Healthcare | 1 |
| 2. Hygienic practices and environmental sanitation in relation to occurrence of diseases. How to improve the present situation? | 2 |
| 3. Rural health problem in India and how to combat them? | 2 |
| 4. Microbes, infectious diseases; modes of infection and general measures for prevention and control of communicable diseases. | 2 |
| 5. Common non-infectious diseases like cardio-vascular diseases, diabetes, kidney diseases, cancer, mental diseases etc. – measures for prevention and control. | 3 |
| 6. Defense mechanism of body; immunity and UIP Schedule | 2 |
| 7. Common infectious diseases of India, e.g. diarrhoeal diseases, worm infestation, A.R.I., acute Conjunctivitis, scabies, fever, cut-injury, dog bite- their causation, preventive and control measures | 3 |
| 8. Food and nutrition – adequate but at low cost for different groups of population. | 3 |
| 9. Reproduction and child health (RCH) including F.P. | 3 |
| 10. National Health Programmes of India. | 1 |
| 11. Health services organizations at the central and state levels; delivery of Healthcare Services in the rural areas vis-à-vis urban areas; concept of Health Centre | 2 |
| 12. Emerging infectious diseases e.g., HIV, SARS, Bird Flu etc. – their preventive and control measures | 1 |
| 13. Elementary health statistics | 1 |
| 14. Health education – topics and methods | 2 |
| 15. Requirements of a HEALTHY VILLAGE | 2 |
| 16. Safe Drinking Water: Concept, quality aspects, source, Drinking Water policy of Government, Concept of water-borne diseases and preventive measures | (Total-04 hours) |
| 17. Sanitation –concept, need, approach; Eco-sanitation – Concept; methods: drainage system; Sewerage system; Rural sanitation Programmes – Sanitary Mart Concept and Government Policy; Ramakrishna Mission Approach | (Total-06 hours) |

Practical: Rural Health Management

(14 hrs. Practical, 1FW)

- Study of models on sanitation, safe drinking water suitable for rural areas, causes of acceptance and rejection, component of future planning- 4 hrs.
- Identification of different essential vaccines - 4 hrs.
- Study of sanitation and potable water facilities of a village followed by presentation 1 FW+6hrs
- Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

[Practical Demonstrations on Sl. No. 2, 6, 8, 9, 11, 15 of theory portion may be organized subject to the availability of facility]

ARD 304: Rural Women and Child Development

Total- (80 +20) hrs / (4 + 1) credit

- Historical background of rural women and children, Status of Women in Rural Society: Sex-Ratio, Work Force, -4, Age at Marriage, Female Child labour and Access to Health services-

- 4; Gender discrimination in different spheres of Social and Economic life-4: rural life, tribal & non-tribal life- 6 (Total- 18 hours)
2. Problems related to women : Dowry-3; Abuse of Women and Female Child; Marital Sex Assault-4; Female Infanticide, Low literacy rate-3 (Total- 10 hours)
3. Rights, Policies, & Programmes on Women: Women empowerment- Govt. policy & programme including Acts-6; Legal Provisions for protection of women rights & interests (health, education & economy) Government policies & programmes for Women-6 (Total-12 hours)
4. Education and Literacy – Present status with special reference to West Bengal; existing policy and programmes, Sarba Siksha Avijan, Right to Education Act etc. (Total-4 Hours)
5. Rights, Policies & Programmes on Children: National Policy & programmes and present status for Children, education, nutrition-4, Child labour-2 : Child Labour Act , JJCP Act, Juvenile Justice Care & Protection Act– Child Welfare and Child Welfare activities- 4 ; Role of different National and International level NGOs in Child Development -4 ; Ramakrishna Mission Approach in Child Development-4 (Total-16 hours)
6. Juvenile Delinquency: Concept and Causes; Pre – delinquency stages : Truancy and Vagrancy; U.N. Standard Minimum Rules for Juvenile Justice (Beijing Rules); Main Features of Juvenile Justice Act; Institutional Services : Observation Homes, Juvenile Homes, Special Homes, and ‘fit’ Institutions; Juvenile Aftercare Services. (16 Hours)

Practical: Rural Women and Child Development

- | | |
|---|-------------------|
| | 3 FW+5 hrs |
| 1. Study on status of child education and nutrition of a village- | 1FW |
| 2. Study on status (sex ratio, social amenities, rights etc.) of women in a specific village and in a specific Community followed by presentation - | 2 FW+5 hrs |
| 3. Students in groups will prepare a summary of the whole module and give a presentation just before the study leave. | |

ARD 305: Technologies in Agriculture and Allied Sectors

Total- (80 + 60) hrs / (4+ 3) credit

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|---|------------------|
| 1. Animal Husbandry: Animals & their major breeds, Basic concept of Dairy and Poultry management, Important animal diseases and their Management; Artificial Insemination in cattle | (Total-20 hours) |
| 2. Fishery: Role in rural development, Basic concept of management, fish breeding- | (16 hours) |
| 3. Vermi-compost- Nadep Compost- | 06 |
| 4. Bee- keeping- | 06 |
| 5. Modern Agri-implements/irrigation- | 10 |
| 6. Crop Insurance, Kishan Credit Card- | 04 |
| 7. Agri-clinic and agri-business centre- | 04 |
| 8. Nutritional garden: Concept, basic technologies- | 04 |
| 9. Seed Village- | 04 |
| 10. Mushroom cultivation- | 08 |
| 11. Any other rural technology | 02 |

Practical: Technologies in Agriculture and Allied Sectors (48 hrs. & 2 FW = 60 hours)

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|--|--------|
| 1. Vermi-compost preparation- | 12 hrs |
| 2. Visit to a Agri-clinic/Agri-entrepreneurship- | 1 FW |
| 3. Study of different steps and equipment of bee-keeping- | 06 hrs |
| 4. Mushroom cultivation | 06 hrs |
| 5. Agri-implements' identification and study of functions, Power-tiller driving- | 06 hrs |
| 6. Visit to dairy and poultry farm to have an overall idea about breeds, system of keeping, production etc.; Study of Artificial Insemination of Cattle- | 18 hrs |

7. Visit to a fishery farm – identification of fishes, infrastructure and management of the farm etc. 1 FW
8. Students in groups will prepare a summary of the whole module and give a presentation just before the study leave

ARD 401: Rural Development Administration

Total- (40 + 20) hours / (2 + 1)credit

1. Overview of PRI in India; Role of State Election Commission, State Finance Commission and District Planning Commission in PRI system -4; Role of PRI in implementation of different rural development schemes; Financing of PRI; Status of PRI in different states of India-2; Constraints of PRI-2 [with special reference to West Bengal] (Total-08 hours)
2. Social Legislation, Rights and Programme: Rural Development Department under State and Central Govt.- structure, role and programme-8 ; Social Legislation: Kinship, Marriage etc.-6; Rights of rural people to social justice, security, welfare etc.-8 (Total-16 hours)
3. Tribal development administration: constitutional provisions-4 ;traditional administrative set up in tribal region-4, Sub-plan and organizational change for tribal development-4 (Total-12 hours)
4. Land reform/Acts (2 hours)
5. Community Based Organisation in Rural Development (2 hours)
6. Right to Information Act (2 hours)

Practical: Rural Development Administration

(3 FW= 15 hours)

1. Attendance in a ‘Gramsabha’ (if possible) and preparation of report on Gramsabha functioning- 1FW
2. Visit to a Gram Panchayat Office and study on its functioning- 1FW
3. Report/presentation on functioning of a CBO based on past visit experience 5 hours
3. Visit and study on traditional tribal village administration- 1FW
4. Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

ARD 403: SEMINAR I

Total- 20 hours / 1 credit

ARD 404: SEMINAR II

Total- 20 hours / (0+1) 1 credit

ARD 405: DISSERTATION and Research Paper Submission

Total- 320 hours / 15+1=16 credits

ARD-406: Learning through Organisational Attachment-II

Optional Courses

ARD 251: Forest and Tribal Livelihood Development

Total – (60 + 40) Hours / (3+2) Credits

1. Forests – Types of Forest (Natural and Plantation) and forest land in India-2 : Importance of the forest in Ecology, Indian Economy and Rural Livelihood -4 : Forest Fringe Dwellers/ Tribes and Forests in Different areas – 2 (Total -8 hours)
2. Tribe : Constitutional definition , Concept-1, Characteristic features of tribe and tribal society -2; Tribal distribution in India-1, with special reference to West Bengal- 1, Comparison of tribal society with Contemporary society -2; social organisation and material culture of Toda, Khasi, Santal, Andamanese, etc. (Total -7 hours)
3. Forest and Tribes: Interrelations between Forests and Forest fringe dwellers-3, Forest resources and Forest based Tribal Livelihood Opportunities-2: Lac Cultivation, Tasar Cultivation, NTFP Collection etc.- 2 ; Jhum Cultivation, Slash and Burn Cultivation-2 , Animal Husbandry, Forest based cottage industries –Sal Leaf Plate making, bamboo works, cane works, Rope making , Bidi making , Oil making etc.-4 (Total-13 hours)
4. Problems of tribal society: social, cultural, economical etc.-3; Impact of Industrialization and Modernization on Tribal Society; problems of tribal women -4; Ethnicity and Tribalism : Tribal Elites -1, Tribal Movements- 2 ; (Total – 9 hrs)
5. Deforestation: its extent, causes, Impact on livelihood and Environment-3: Necessity and procedure of Forest Protection and Afforestation -3 (Total - 7 hours)
6. Forest Policy, Forest and Tribal Policy, Forestry and Biodiversity, Constitutional safe guards for the forests and tribal livelihood (Total -7 hours)
7. Joint Forest Management (JFM) : Concept , History -1; Forest Protection Committee, Methodology of JFM, Impact of JFM on livelihood and ecology , Present status and trend of JFM- 6 ; Factors in relation to JFM affecting the Livelihood systems of the Forest Fringe Dwellers –Social, Cultural, Political and other Changes.-2 (Total -9 hours)

Practical: Forest and Tribal Livelihood Development

(4 days village Placement = 20 hours+ Report Preparation)

1. Sample Study of Forest Resources in a particular forest area, Forest resource mapping, Study of interrelationship between Forest fringe tribes and Forests resources, Study of tribal community- 2 days village placement+ Report preparation (10 hrs)
2. Study and comparison of FPC and Non- FPC forest fringe villages to understand the role of JFM in livelihood systems - 2 days village placement+ Report preparation (10 hrs)
3. Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

ARD 253: Land and Land Reforms

Total- (40 Hours) / 2credit

Different types of land holdings; relationship between farm size and resource utilization; sub division and fragmentation of land holding; Land reforms- needs, scope of land reform; tenancy reform; Status of Land Reform in India, land reforms in West Bengal, Brief idea about different types of land reforms in specific countries (Total- 40 hours)

** Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

ARD 351: Environment & Disaster Management
(Total- 60 hrs.+ 20 hrs)/ (3+1) credit

1. Environment & Ecology: Concept of environment and ecology-2, Resources vis-a-vis environment-2, Continuum, depletion, destruction, scarcity and abundance-2; Nature and Scope of Resource study-2, Man, Nature, and Cultural interaction in Resource Development-2, Environment and Resource utilization-2 (Total-10 hours)
2. Bio-diversity and its Management: Biodiversity and its Values, World zones, Richness in India's biodiversity, Hotspots of Bio-diversity National Biodiversity Act, Threats in biodiversity, IPR, Role of Bio-diversity management in sustainable development. (Total- 09 Hours)
3. Environment-Conservation Awareness & Education
Need, Role of Government, role of NGOs-2; Environmental audit and accounting-2, Environmental impact analysis-2, Environmental Ethics-, Need to develop a shared vision of a sustainable earth-2, Environmental and Regional Conflicts (Political, Technical and Economic), Different movements on environmental issues in India-2 (Total-10 hours)
4. Misuse of Rural Resource, Pollution & Measures
Land, Air & Water pollution: Measures- (Total-5 hours)
5. Natural Disaster Management: (20 Hrs.)
Definition of Vulnerability, Hazards and Disaster and their inter relationships, vulnerable groups – 1; Types of Disaster, Global Disaster Scenario, Indian Disaster scenario, West Bengal Overview-3; Risk & vulnerability assessment-1 (Total-5)
6. Understanding of various Ecosystem within the state and its vulnerability to various hazards-2; Global warming and climate change & possible increase of frequency and intensity of Disaster-2; its forecasted impact on India-1 (Total- 5)
7. Disaster Preparedness (DP): Definition, Role of different stake holders including community-1, Various modules of DP and present laws, policy code, Act etc.-2; Early warning system & its utilization-1. (Total- 4)
8. Community Based Disaster Preparedness (CBDP): Steps- Awareness generation, PLA, Taskforce formation, TF activation, Mockdrill-3; Disaster Mitigation: role of different stakeholders-1 (Total- 4)
9. Energy Resource Management: Energy and Environment, Energy as Resource, different Sources, Conventional and Non conventional Energy, Energy and Fuel, Future of use of energy, Brief about Technologies of Non-conventional energy use. (Total- 08 Hours)

Practical: Environment & Disaster Management (2FW + 10 hrs = 20 hours)

1. Natural Disaster Management:

Nature of natural Disaster occurred, frequency, effect on rural life, concepts of rural people about its mitigation, existing system etc. – Assignment based. 04 hrs

PLA Exercise (Timeline, Risk assessment, Mapping, prioritization, Lively hood pattern, study of housing pattern, its relation to vulnerability, Identification of other problems related to disaster)Task force formation, responsibility distribution etc.)

Developing plan of action along with community & local leaders **06 hrs**
[Visit/Case study to a site where disaster management work has been/is being implemented]

2. Energy Resource Management: 2FW

Study of different Non-conventional energy trapping technology/visit or assignment based

3. Identification of Rural Resources by using different PRA tools/ questionnaire/ survey etc.

3.1 Stratification of Land (topography) and its Utilization

3.2 Soil its nature and distribution

3.3 Water resources, distribution and utilization (Irrigation, fishery etc.)

3.4 Forest/ Orchard distribution

3.5 Animal resource: types, distribution, contribution to rural economy

3.6 Environmental Case studies

5. Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

ARD 352: Indigenous Technical Knowledge System

Total- (20 +20) Hours) / (1+1) credit

Concept of ITKS, Importance and values of ITKS, Source of ITKS, Research with ITKS and Process of ITKS Validation, ITKS related to agriculture etc. Role of ITKS in sustainable rural development
(Total- 40 hours)

Practical: Indigenous Technical Knowledge System

Total- 4FW

1. Study of different Indigenous Knowledge System during village FW and documentation-2 FW
 2. Study of Indigenous Knowledge System on a specific crop - 2 FW
- ** Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

ARD 353: Rural Potable Water & Sanitation Management

Total- (20 + 20) hrs./ (1+ 1) credit

1. Concept of 'safe water' and sanitation, history & development of sanitation management-2; components of sanitation and safe water (quality, ingredients etc.)-6, different Govt. programmes on 'safe water and sanitation' in India-4
(Total-12 hours)
2. Various technology for development of safe water and sanitation-5, role and functions of different agencies and civil societies (Govt., PRI, NGO, CBO) for management of safe water and sanitation-3
(Total-8 hours)

Practical: Rural Potable Water & Sanitation Management

(12 hrs, 2FW = 20

hours)

1. Laboratory test of quality of water: Arsenic, Fluoride, Nitrate, Bacterial count, pH etc. 6 hrs.
 2. Safe- water -Project site visit and documentation- 1FW
 3. Surface water purification plant , on-field demonstration of various technology, options, Sanitation technology- 6 hrs
 4. Sanitation-programme project site visit to learn managerial aspects- 1FW
- ** Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

ARD 354: Project Management

(Total 40 hrs / 2 credit)

ARD 355: Extension Education-II (3+1=4)

Information Communication Technologies in Agricultural Extension (20 hours)

Definition and meaning of information, information as a strategic resource, changing conceptions of information and information systems. Concepts, approaches and types, principles and fundamentals of computers, networks, and peripherals as tools to understand the applications and limitations of computer technology, search processes and data retrieval using search engines, downloading, uploading, Networking (Hardware, Software, Connectivity, LAN, WAN, Internet), troubleshooting (Hardware, OS, Security), development of simple web sites using HTML, XML, and tools.

Concept of Information Communication Technology and its role in agricultural development; concept of cyber extension; Information Communication Technologies - print and electronic media, e-mail, Internet, use of multimedia, video and teleconferencing, computer-assisted instructions, touch screens, micro-computers and web technologies; Networking system of information, problems and prospects of Information Communication Technologies; Information Kiosks; Agricultural Technology Information Centers (ATIC); Technology Parks; Management Information System in agricultural extension; Management of Agricultural Knowledge System (MAKS) and use of Expert System in agricultural extension; Kisan Call Centre; Agri-clinics; National e-Governance plan and VRC/CSC; major ICT experimentations in India - Drishtee, Aksh, n-Logue, ITC's e-Choupal, TARahaat, Akshaya etc. Designs of delivery systems etc.

Concepts and notations of Unified Modeling Language (UML), uses to construct models, types of information systems, data collection and recording methods, visual modeling and UML, identification of actors, use cases, activity diagram, identification of classes, relationships, behavior and structure, inheritance, analyzing object behavior, designing the system architecture, domain specific model to enable rapid implementation of new, industry-specific applications over diverse platforms, agricultural information systems: current situation and perspectives in India, development of ontology, and multi-lingual framework.

Agricultural Human Resource Development (20 hours)

Human resources and their importance in agricultural development; Concepts of human resource and human resource management in extension; Training and development of human resources; Training process (capacity building); Human resource planning – concept, steps, HRP in agriculture and allied sectors; Performance appraisal – concept, methods; Training as HRD; Phases of training – pre training, during training and post training; Training need assessment, concept and types, developing training modules, training requirements, training methods – Lecture cum demonstration method, case method, group brain storming, syndicate method, business games, simulation exercises, in basket exercise, programmed instruction, experiential learning techniques such as sensitivity training, T-group, transactional analysis and fish bowl exercise; Evaluation of training – types and techniques of training evaluation.

Entrepreneurship development in agriculture – agriclinics and agribusiness centers; Capacity Building in relation to Dairying, Poultry, Piggery, Goat and Sheep farming, cottage industries, Rabbit farming, Apiculture, Sericulture, Biofertilizer, Floriculture, and Biopesticides; Motivation, stress management and organizational behavior as facilitators of human resource development.

Recent training techniques in extension - micro-lab process work, and sensitivity training, psychological instruments as training tools: TAT, inventories, cases etc.; Participatory training techniques-Lecturette, Brainstorming, Group Discussion and Training, Role play, case analysis etc.

Developmental Strategies and Issues in Agricultural Extension (20 hours)

Issues related to extension policies and developmental strategies-Extension Policy; Revitalisation of extension system-ATMA-SREP; Farming System Approach; Farmers' Organisation; Research-Extension-Farmer-Market Interface; Public-Private-Partnership; Gender Issues – sensitization and mainstreaming, women in Agriculture and their empowerment; group based extension and Farmer Field School; Privatization of extension, market led extension, production to consumption and end to end innovative approaches; Issues related to globalization and IPR; Participatory extension; Farmer-First Concept, farmer-to-farmer extension; ITK in agriculture – Identification, characterization, documentation and validation of ITK.

Technology adaptation and refinement; Concepts of yield gaps, FLD and OFT in relation to TOT programmes; TAR-IVLP; Farmer Participatory Research (FPR)/Participatory Technology Development (PTD); Agricultural Extension in the context of enhancing productivity, Quality, Nutrition, Profitability, Income and Employment. Technology.

International cooperation in agriculture – SAIC, Common wealth, FAO, USAID, DFID and CGIAR system.

Practical (20 hours)

- | | |
|---|----------|
| 1. Visit to a/Classroom presentation on Common Service Centre (CSC) | 01 FW |
| 2. Planning and execution of a training event | 04 hours |

3. Visit to Krishi Vigyan Kendra (KVK)/ Farmers' Training, Centre, (FTC) and understand the TAR concept in field situation/understand training organisation 04 hrs
4. Classroom exercise on selected training methods 04 hrs
5. Documentation of IK from farmers 04 hrs
6. Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

ARD-356: Social Problems Intervention [6+0=6]

Unit – I

Criminology : Definition and Scope, Criminology and other Social Sciences; Legal, Social and Psychological Aspects of Crime; Traditional Crimes – Crimes against Property and Person; Modern Crimes : Organized Crimes, Socio – Economic Crimes, Corruption, Cyber Crimes, Environmental Crimes, Terrorism and Insurgency; Crime and Politics.

16 Hours

Unit – II

Criminological thought in Ancient India and Abroad; Classical School and Neoclassical School; Positive School; Cartographic School; Sociological Theories – Social Structural Theories and Social Process Theories; Economic Theories of Crime; Critical Criminology / Radical Criminology / Labelling perspective.

12 Hours

Unit – III

Constitutional Theories : Body Types, Hereditary Traits, Endocrine Glands; Behaviourist Theories : Drives, Motives, Attitudes, Frustrations; Psycho-analytical Theories; Psychopathic Personality; Mental Health and Criminal Liability; Application of Psychology in Police, Courts and Corrections.

16 Hours

Unit – IV

Criminological Research : Importance and Types; Research Questions and Hypotheses; Research Design; Sampling, Data Collection, Data Analysis, Interpretation and Report Writing; Statistical Application in Criminological Research; Sources of Crime Statistics in India and Crime Trends.

12 Hours

Unit – V

History and Theories of Punishment : Historical Development from Punishment to Correction and Reformation, Prison Reform since Independence; Types of Punishment – Simple and rigorous imprisonment – Capital Punishment – Views of Abolitionists and Retentionists; Current problems and challenges in Prison Administration; Indeterminate and Determinate sentence.

14 Hours

Unit – VI

Prison System in India; Correctional Programs in Jails; Aftercare Services for Adult and Juvenile Offenders; Probation, Parole – Concept and Historical Development, Probation under Different Laws.

12 Hours

Unit – VII

Legal Approaches : Accustorical and Inquisitorial; Substantive and Procedural Laws – Criminal Liability, Strict Liability; Indian Penal Code – General Exceptions, Offences Against Property; Criminal Procedure Code ; Cognizable and Non – Cognizable offences, Bailable and Non – bailable, Compoundable and Non – compoundable offences; Investigation of Crimes; Complaint, F.I.R., Powers of Police Officers, Arrest, Search, Seizure, Police Custody, Judicial Remand and Bail; Types of Evidence, Admissibility of Confession, Dying declaration; Rights of accused, Rights of victims, Rights of women in custody, Rights of prisoners.

20 Hours

Unit – VIII

Victimology : Concept, Origin and Development, Need to Study Victims, Victim Typology, Role of Victim in Criminal Phenomenon – Victim Precipitation; U.N. Declaration on the Basic Principles of

Justice for Victims of Crime and Abuse of Power; Victim's Rights – Fair Access to Justice, Restitution, Compensation, and Assistance; Victim Compensation Schemes in India; Human Rights – Protection of Human Rights Act. 20 Hours

ABT385: Organic Farming System-an advanced Course

Total- (60 +80) Hours /(3 + 4) credit

1. Concept of Organic Farming-2, Plant nutrients and its role in plant growth-6 , Role of organic matter in the availability of Plant nutrients-6 (Total-14 hours)
2. Methods of recycling of organic wastes: Green manuring- its principles and practices-6; Vermi-culture and vermi technology-8; Other composting methods-4 (Total-18 hours)
3. Concept of INM and its role in sustainable crop production -6; Concept of IPM and its role in sustainable crop Management-6 (Total-12 hours)
4. Technology for organic food production-6; Quality control of organic product, Certification-4, Marketability of organic produce-3, and Entrepreneurship development-3 (Total-16 hours)

Practical: Organic Farming System –an Advance Course (60 hrs/ 3 credit)

1. Study of technology of different composting methods- 18hrs.
2. Practice of organic vegetable cultivation- 14 hrs
3. Identification of bio-pesticide and its use- 14 Hrs
4. Identification of bio-fertilizers and their use- 14 hrs
5. Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

ARD 451: Natural Resource and Watershed Development

Total- (40 + 20) hours / (2 + 1) credit

1. Philosophy and concept of watershed, Land capability, classification and topography survey ; PRA in watershed programme and community mobilization and participatory institution building, Erosion control measures on Agricultural land and mechanical erosion control measures for non agricultural land; Greenland (Grassland) Management, Horticulture and Agro-forestry system (Total-18 hours)
2. Ground water Management in Watershed-4, Common property Resource Management in Watershed areas-4 (Total- 8 hours)
3. Social aspects, Community organization, SHGs etc.-4, Equity issues-2, empowerment of women in watershed- 2 (Total- 8 hours)
4. Financial Management and Accounting Procedures-, Monitoring and evaluation in watershed Development- (Total- 6 hours)

Practical: Natural Resource and Watershed Development (2FW= 20 Hours)

1. Study of a watershed area, activities of different committees and management aspects etc. (through video presentation/village placement)- 2FW/10 hrs
2. Preparation of a watershed development plan (agronomic, physical treatment, social etc.) on the basis of land capability classification – 5hrs
3. Classroom assignment on Agro-forestry/grassland management planning for watershed areas - 5 hrs
4. Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

ARD 452: Panchayati Raj Institution

(Total 40 hrs / 2 credit)

1. Concept of Local Governance, evolution of local self govt. institution in India-4, Present structure of local Governance in different community-2 (Total-6 hours)
 2. Special features of the constitution of Indian (73rd Amendment) Act. 1992 and the 74th Amendment Act 1992 and conforming state Acts-6; Extension of Panchayat Act in schedule (Tribal) area of Tribal Self Governance-2; Establishment of Gram Sabha; Role of Gram Sabha in Panchayati Raj-4; Self Governance vs. Panchayati Raj in the backdrop of Panchayati Raj Act.-4 (Total-16 hours)
 3. Role of State Election Commission, State Finance Commission in PRI system (Total-4 hours)
 3. PRI implementation in some prominent states-3 (Total-4 hours)
 4. Constraints and measures to strengthen PRIs-6 (Total- 6 hours)
 5. Development Programme conducted by PRI-4 (Total-4 hours) **
- Students in groups will prepare a summary of the whole module and give a presentation just before the study leave.

ARD 453: Community based Organization Development and Management

(Total 40 hrs / 2 credit)