

Post Graduate Diploma in Rural Development

Course Layout

Summer Term

Sl. No.	Course Code	Course Name	Credit hr.
1.	RDE 501	Personal Development and Communication	2.0+0.0
2.	RDE 509	Business and Project planning	3.0+1.0
3.	RDE 511	Rural Development Planning and Management	3.0+0.0
4.	RDE 520	Extension of Agricultural Technologies (Technical Course 01)	3.0+1.0
5.	RDE 525	ICT for Development	3.0+1.0
6.	RDE 530	Organization Structure and Culture	2.0+0.0
		6 Courses	19.0

Autumn Term

1.	RDE 533	Research Methodology	2.0+0.0
2.	RDE 534	Supply Chain Management	3.0+0.0
3.	RDE 537 RDE 538 RDE 539 RDE 540	Horticultural Crop: Livestock and Poultry Rearing Fish Culture and Management Farm Mechanization and Water Management (Technical Course 02)	3.0+1.0
4.	RDE 543	Agro-Processing and Marketing (Technical Course 03)	3.0+1.0
5.	RDE 545	Basic Accounting	3.0+0.0
		5 Courses	16.0

Winter Term

1.	RDE 561	Internship	10.0
2.	RDE 562	Report Writing and Presentation	4.0
3.	RDE 591	Board Viva	1.0
		Total	15.0

Total Credit Hour = 19.0+16.0+15.0=50.0

PGDRD Courses with Contents

RDE 501: Personal Development and Communication (Theory 2cr)

The Concepts of Self-Management, Personal Construct, Personality types, The Johari Window, SWOT Analysis, Learning Cycle, Learning Styles, Approaches to Learning, Learning Needs, Time Management, Delegation, Managing Workload and Stress, Interpersonal Communication Skills, Assertiveness, Technological (ICT) Skills, Skills Recording, Creation of A Curriculum Vitae (CV), Maintaining Work-Life Balance, Integrity and Ethics, Personal Development Planning, Training Needs Analysis, Performance Planning, Evaluate A Personal Development Plan, Introduction to Communication, Flow of Communication, Listening, Barriers of Communication, How to overcome barriers of communication.

RDE 509: Business and Project planning (Theory and Practical - 3.0+1.0 cr)

Planning Definition, Nature, Purpose, Features and Classification of Planning, Planning Process, Types of Plans, Characteristics and types of Decision Making, Decision Making Process, Characteristics of Effective Decisions, Rational Decision Making Model, Types of Business Organizations, Why do a business plan? The financial plan, Steps to be followed in registration, The procedure of starting a new business in Bangladesh, Functions of Management, Requirements for effective control, Budgetary control techniques, Purchase control, Manpower Planning, Project planning, Steps Involved in implementing a Project, Scientific Method Involved in Designing Project, Steps to Developing a Collaborative Project.

RDE 511: Rural Development Planning and Management (Theory -3cr)

Theories and Models of Rural Development, History of Rural Development: Bangladesh Perspective, Rural Development: Global context, Rural Economy, Initiatives of Bangladesh Government for Rural Development, RDA Green Innovation, SDGs and Rural Development Planning and Management, Development as a planned process, theories of local government in historical perspectives: Zilla Parishad (District Council), Upazila Parishad (Sub-District Council), Union Parishad (Union Council): Role and Functions, Contribution of local government in rural local and national Development, Good Governance for Rural Development, Problems, Prospects and current scenario of rural social organizations at the grassroots, Inventory of rural financial institutions: its role, contribution and usefulness in rural development.

RDE 520: Extension of Agricultural Technologies (Theory and Practical - 3.0+1.0 cr)

Extension education, principles and scope of extension, current approaches of extension: General agricultural extension approach, Concept of Development, Concept of sustainability, Extension Agent as a Democratic Group leader, Rural Sociology, Rural Urban Difference, Family, Group, Community, Social Stratification, Social interaction, Cooperative or positive interaction, Oppositional or negative interaction, Social institutions, Culture Values and Beliefs, Frustration and Adjustment, innovation adoption and diffusion of innovations, adoption and diffusion process, Management functions of a Extension organization, Concept of Need, People's Participation, The values which result from the participation of people at local level, The Innovation-Decision Process, Communication in Innovation-Decision Process.

Fishery and Fisheries Resources of Bangladesh, Water bodies and Cultural fish species, Common Agriculture Technology in Bangladesh, Importance of Water Quality Management for Aquaculture, Pond Presentation and Aquaculture (in Pond) Management, Fish Feed Preparation, Different Problems in Aquaculture, Fish Farm Production Plan.

Soil Fertility and Productivity, Different Methods of Fertilizer Application, Seed and Seed Technologies, Irrigation, Drainage and Weed Management Methods in Field Crops, Insect, Pest and Disease Management of Common Field Crops, Production Technologies of Rice, Wheat and Jute, Basic Inter Cultural Operation of Crop Production.

Concept and Definition of Horticulture, It's Branches and Importance, Concept of Nursery, Definition and Methods of Plants Propagation, Lay out of Fruit Orchard, Basic Concept of Pest Management, Methods of IPM.

Importance of cow rearing in Bangladesh, types of cattle breeds and breed development processes, Cattle feed management, Basics of Cow and Calf Management, Different diseases of cattle: causes, symptoms and Care, Importance of poultry rearing in Bangladesh, breed identification and Bio-security management of livestock farms, Poultry feed management, Diseases of poultry: Causes, symptoms and Care, Importance of goat rearing in Bangladesh and it's breeds, Feed and management of goats and sheep, Diseases of goats and sheep: causes, symptoms and care

RDE 525: ICT for Development (Theory and Practical - 3.0+1.0 cr)

Introduction of ICT, freelancing, Up work, Fiver r discussion, Fiver r registration, Fiver r key analysis and Setup, Fiver r Setup, Basic configuration of XMAP, Word Press Installation and Configuration, Word Press menu created, Word Press SEO, Affiliate Marketing Key, HTML, Website marketing, E- mail marketing, Banner marketing,

Mobile marketing, Blog marketing, Affiliate Marketing, Article marketing, Cascading Style Sheets (CSS), SEO : Definition, importance, Types, On- page SEO, Off- page SEO, Create Amazon Affiliate Account, Tax Information on Amazon, Affiliate link, Affiliate link check, Amazon Banner Link, Amazon Payment Method(Practical), Social media marketing, Definition of Back links, Types of link building, Social book marking, Forum posting, Ad sense registration, Web Analytics and Reporting, Google Webmaster Tools, Google Analytics, The site of the event, Excel data entry method, Mobile Commerce, Mobile marketing, Payment gateway, Strategies to add a bank account, Out sourcing company inspection, Project bit rules, Project bit problems and solutions, Project: How to Win, How to work on the received project, Voice typing, Project presentation.

RDE 530: Organization Structure and Culture (Theory 2cr)

Vision and Mission, Developing a Mission Statement, Organizational Values, Introduction to structure, Need for Structure, Choice of Structure, Examples of Structures, Approached to Coordination, organizational learning procedure, Introduction Organizational Culture, Key Cultures, Determinants of Culture, Changing Cultures, Relationship between organizational culture and organizational structure, organizational culture and motivation.

Code – RDE 533: Research Methodology (2cr)

Research Methodology: An Introduction, Meaning of Research, Objectives of Research, Significance of Research, Research methodology concept, Types of Research, procedural guideline regarding the research process, Criteria of Good Research, Developing a Research Plan, Research Proposal, Literature Review and Referencing, Sampling, Measurement Scales, Preparation Tools, Methods of Data Collection, Case study method, Processing and Analysis of Data, Use of Statistics in research, Layout of the Research Report and Report Writing.

RDE 534: Supply Chain Management (Theory 3cr)

Concept of Supply Chain Management, Future Trend of Supply Chain Management (SCM), Purchasing Management, Purchasing Process, The Material Requisition, Electronic Procurement Systems, Small Value Purchase Orders, Reasons for Buying or Outsourcing, Reasons for Making Own Product, Roles of Supply Base, Supplier Selection, Forecasting Techniques, Inventory Management, Master Production Scheduling, Materials Requirement Planning, Supply Chain Integration.

Meaning of Market and Marketing, Characteristics of a good marketing system, Classification of market, Rural Marketing: Concepts and Practices, Evolution of rural marketing, Requirements for markets segmentation, Different approaches for segmenting the rural market, Challenges of rural market, Concept of Demand and Supply, Factors which influence rural consumers during purchase of a product, Marketing Functions, Creating a Brand, Marketing Channels, Co-

operative marketing, Responsibilities and Duties of Sales Managers, Customer Relationship Management (CRM) and Selling, Developing Sales Managers for the New Millennium, Business Ethics.

RDE 537: Horticultural Crop: (Theory and Practical - 3.0+1.0 cr)

Introduction to Horticulture: Definition, history, branches, importance and scope of horticulture. Principles and practices of horticulture: planting method and raising of seedlings, soil and land preparation, plant spacing, manure and fertilizer application, irrigation and drainage, intercultural operations. Nursery management: Definition, types, objectives, establishment and management of nursery and its structure. Propagation of horticultural crops: Definition, importance, methods and techniques, advantages and disadvantages, use of growth regulators in propagation. Training and pruning: Concept, objectives, principles, types, methods and their effects on plant structure and bearing. Production technology of vegetables: Technology of production and storage of fresh vegetables: Cabbage, cauliflower, potato, tomato, carrot, sweet gourd, pointed gourd, cucumber, watermelon, leafy vegetables. Establishment and management of fruit orchards and homestead gardens: Concepts, site selection, land development and planting plans and orchard management practices, bearing habits and its implications. Unfruitfulness – causes and remedies, use of growth regulators in fruit industry. Production technology of fruits: Origin and morphology, soil, climate, varieties, propagation, cultural practices, pest management, harvesting, yield and improvement: Banana, Papaya, Mango, Jackfruit, Litchi, Guava, Jujube, Coconut, Citrus fruit. Post-harvest management of fruits: Harvesting, sorting, washing, cleaning, grading, pre cooling, packaging, transportation and marketing of horticultural crops.

Practical

Layout of a nursery, Identification and use of nursery equipment, Methods of planting horticultural crops, Preparation and seedbed and nursery bed, Practices on potting, de-potting and repotting, Propagation practices of different horticultural crops, Pruning and training of important horticultural crops, Practicing different methods of application of manures and fertilizer, Practices on different intercultural operations, Harvesting methods of horticultural crops.

RDE 538: Dairy Production (Theory and Practical - 3.0+1.0 cr)

Livestock resources in Bangladesh, Introduction to breeds of cattle and buffalo, Breeding Techniques, Housing, feeds and feeding techniques, Economic concept of animal rearing, Dairy Products and Technology, Beef Cattle Rearing, Meat Processing, Drugs and its administration, Livestock diseases and their control measures, Small scale livestock project, Improved production technology for livestock (waste management, natural disaster, machineries uses).

Practical

Methods of control of animals, Grooming, washing and cleaning, Administration of drugs, Vaccination, Formulation of ration and supply, Milk replacer and calf starter, Feed quality

improvement, Fodder production, processing and preservation, Maize Stover silage preparation, Milking processes, Dairy products and its processing, Slaughter of animal and meat inspection, Beef processing, Estrus, estrus cycle and silent heat, Artificial insemination, Diagnosis of mastitis: CMT, Blood and feces sample collection and sending to laboratory, Body condition scoring (BCS), Herd book management, Record keeping in dairy farm.

RDE 538: Livestock and Poultry Rearing (Theory and Practical - 3.0+1.0 cr)

Livestock resources- Importance, problems and prospects of livestock rearing/farming system in Bangladesh, **Introduction of breeds-**Introduction to available breeds of dairy cattle, buffalo, goat & sheep, **Livestock Breeding Techniques-** Animal breeding and system of breeding, Techniques of improving the breed quality, Use of Artificial Insemination and its advantages and disadvantages, Selection and culling methods, **Livestock housing-** Principles of construction of livestock houses, Techniques and design of building cattle, goat and sheep houses, **Livestock feeds and feeding techniques-** Introduction and classification of feed stuff, Feed elements: sources, functions and deficiency symptoms, Ration and types of ration, Formulation of ration according to breed, age and purposes, Feed processing and preservation. a). Aerobic: UMS, UMB; b) Anaerobic: silage, maize stover silage, urea treated straw etc. **Economic concept of animal rearing-**Calf, Heifer, Cows, Bull. **Dairy Products and Technology-** Milk, Constituents of milk, Milk processing and preservation, Value addition, marketing. **Beef Cattle Rearing-** Selection and purchase of beef cattle, Care and Management, Housing, Feeding, Fattening period and record keeping, Transportation and marketing. **Meat Processing-** Meat inspection, processing and preservation, Value addition, Marketing. **Livestock diseases and their control measures-**Viral diseases, Bacterial diseases, Protozoal diseases, Parasitic diseases, Metabolic diseases, Biosecurity, Vaccination, Treatment. **Goat/Sheep Rearing-** Selection and purchase, Housing, Feeding, Care and other management, Vaccination programme, Goat/Sheep diseases, Treatment, **Small scale livestock project-** Dairy project design, Beef project design

Poultry Rearing: Fundamental of poultry science- Importance of poultry industry, Present status of poultry in Bangladesh, Breeds of chicken, Modern varieties and strain of chicken, Location of poultry farm and its infrastructure, **Hatchery operation and Management, Poultry houses and equipments-**Principles for construction of poultry farm, Techniques and design of building poultry house (Brooder, pullet and layer), Techniques of making cages for poultry, **Brooding and Rearing, Poultry feeds and feeding-** Feed elements: Sources, functions and deficiency symptoms, Poultry ration and their types, Formulation of ration according to age and purposes, Techniques of feeding, **Economic concept of poultry rearing-** Broiler production, Layer and egg production, Sonali chicken rearing, Duck production, Quail production, **Poultry products and technology-** Egg collection, storing and preservation, Meat processing, Value addition, Marketing, **Poultry diseases and their control measures-** Nutritional diseases, Viral diseases, Bacterial diseases, Protozoal diseases, Parasitic diseases, Biosecurity, Vaccination, Treatment, **Small scale poultry project-** Broiler, Layer, Sonali chicken, Quail, **Improved**

production technology for livestock and poultry-Waste Management through biogas production, Measures taken during natural disaster, Machineries uses in dairy and poultry farm

Practical

Dairy related practical, Poultry related practical, Product processing

RDE 539: Fish Culture and Management (Theory and Practical - 3.0+1.0 cr)

Fish, Fishery and Fisheries Resources of Bangladesh, Fish Nutrition, Importance of Aquaculture, Water bodies and Cultivable Fish Species of Bangladesh, Pond Classification, Design and Digging of Pond, Aquaculture Technologies in Bangladesh for Carp, Monosex Tilapia Culture, Koi, Gulsha-khali, Pangus, Prawn aquaculture, Pond Preparation, Fish Fry Transportation and Stocking, Aquaculture Management, Fish Feed and Feed Application, Fish Diseases, Prevention and Treatment, Water Quality Management for Aquaculture, Fish Hatchery Establishment and Operation, Breeding and Fry Production of Crop Fish, Fish Fry Rearing, Breeding and Fry Production of Monosex Tilapia, Rice cum Fish Culture, Cage Culture, Pen Culture, Common Problems in Aquaculture, Coastal Aquaculture, Fish Harvesting, Transportation and Marketing, Fish Farm Production Plan Preparation, Inland open water fisheries resources of Bangladesh, Fish bio diversity and conservation, Coastal and Marine water resources of Bangladesh, Blue Economy.

RDE 540: Farm Mechanization and Water Management (Theory and Practical - 3.0+1.0 cr)

Introduction to various farm tools: Measuring Tools, Cutting Tools, Power Tools, Special Tools, Definition and Classification of Engine, Engine Parts, Diesel Engine and Petrol Engine (2-Stroke &4-Stroke), Agricultural Machinery: Introduction to Agricultural Machinery, Scope Agriculture mechanization in Bangladesh. Introduction to Power Tiller, Spare Parts and Its Function, O & M of Power Tiller, Tractor and other machine: Spare Parts, Introduction to Tractor and Its Function, O & M of Tractor, Combine Harvester and Its Function, Rice Trans planter and Its Function, Thresher and Its Function, Reaper and Its Function, Attachment System of Power Tiller &Tractor, Pumps and Accessories, Duty and Responsibilities for pump operation, Troubleshooting of pump, Connection of Motor or Engine with Pump, Motors and Accessories, Concept of irrigation and water management, Irrigation methods, Source of irrigation, Water management, Component of water management, Soil and classification of soil, Soil-Plant-Water Relationships, Water balance technique, Irrigation, types of Irrigation, water conservation, On-Farm Water Saving Technologies for Crop Production, AWD (Alternative Wetting and Drying Technology) for rice cultivation, Benefits of AWD, mulching, Water Saving Through Using Plastic pipe, Raised Bed Technology.

Practical

Introduction to machine Tools, Basic operation and maintenance of pumps and motors, Field practical of pump-priming, Water Table, Drawdown, Static Water Level (SWL), Pumping Water Level (PWL), Filter cutting (filter Design) for both STW & DTW and Its Related Accessories, Troubleshooting, Engine and different operation and maintenance of engine parts, power tiller, tractor, Combine Harvester and Its Function, Rice Trans planter and Its Function, O & M of Rice Trans planter, Thresher, Common troubleshooting of Agri machine , water testing lab, and Equipment, pH, Iron, Arsenic, Color, Turbidity, Total Hardness Total Dissolved Solids, Conductivity, Lead (Pb), Preparation of irrigation canal, Joining of Buried Pipe System and measurement of irrigation water using flume and other methods.

Measurement of Trapezoidal Canal, Water Treatment method, Filtration Plant, Design of Domestic Pipeline System, Irrigation water measurement: Pipe orifices, Practical on the On-Farm, Basic operation of solar power irrigation system and Troubleshooting.

RDE 543: Agro-Processing and Marketing (Theory and Practical - 3.0+1.0 cr)

Introduction and definition of Agro processing, Food additives, composition and nutritive value of fruits and vegetables, Milk and milk products, sugar; fats, oil and nuts; Spice and beverages and their roles, Common food proteins, Minerals and Vitamins: Sources and structures of minerals and vitamins; Low temperature preservation: cold storage and freezing, Preservation by fermentation: curing and pickling, Use of preservative in foods: Storage of cereals, Infestation control, drying of grains, processing of rice and wheat products, Preservation of fruits and vegetable by heat treatment, Production and preservation of fruits and vegetable juices, preservation of fruit juice, Preparation of Jam, Jelly and marmalade, Preparation of pickles, vinegar and tomato product, Commercial handling, storage and transport of raw fish, Methods of Preservation of fish, Frozen meat and meat storage, Handling of fresh milk, Pasteurization of milk, HTST and UHT techniques, Fermentation of milk and fermented milk products, Manufacture of milk products like evaporated milk, powder milk, condensed milk, Preparation of cream butter, cheese, yogurt, ice cream, ghee, Introduction to baking, Bakery ingredients and their functions; Machines and equipment for batch and continuous processing of bakery products, Manufacture of bread, cake and biscuits, Manufacture of bread rolls, sweet yeast dough products, cake specialties, chocolates and candies, , Selection of land and factory sheds, Basic concepts of plant layout and design with special reference to food process industries, Application of HACCP concept, ISO, BSTI standards, Trade license and registration marks, Food transportation and Marketing of perishable goods, E-Commerce for processed food, Small project design.

Practical

Food Chemistry Lab: Determination of Moisture in food sample, Determination of Protein in food sample, Determination of Ash in food sample, Determination of TSS, Determination of

Acidity and pH in food sample/beverages, Determination of total, non-reducing and reducing sugars, Determination of Vitamin C in food sample, Determination of Pigments in food sample, Determination of preservatives in food sample. Formulation of Bakery products, Formulation of snacks food, Milk products processing, post harvest processing of agricultural products, Water bottling and purification, plastic bottle making, food equipments design, Food factory visit

RDE 545: Basic Accounting (Theory 3cr)

Accounting- Definition, Objective, Importance, Functions, Advantages and Limitations, Accounting cycle, Account and Accounting, The steps in the accounting process, Roles of Accounting, Generally Accepted Accounting Principles (GAAP), Accounting Equation, Items affect owner's equity, The Ethical Issues of Accounting, Double Entry System of Book Keeping, Debit and Credit, Rules of determining debit and credit, Recording under the double entry system (or Journalizing), Sub-Division of Journal, Preparation of Ledger accounts, Meaning and Kinds of subsidiary books, Procedure of preparation of trial balance, How to prepare a balance sheet, income statement, cash flow statement and owner's equity statement, The Comparison of Financial Statement, Practicing of preparing different financial statements.