

# **Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal (M.P.)**

## **HC 301-APPLIED DEMOGRAPHY&POLULATION DYNAMICS:-**

**COURSE OBJECTIVES:** The Objective of this courses it to help the students understand the advanced concepts of population and demography. The course will help students to understand various population programmes and policies of country.

- UNIT I            Overview of Population Policies and Programmes:-**
- Population policy of India 2000, RMNCH+A, Family welfare programme, Group exercise
- UNIT II            Analysis of various Programmes from Managerial Perspective:-**
- Dash broad indicators for RMNCH+A, Gender, issues and health, Sex ratio, juvenile sex ratio, causes and consequences of adverse sex ratio, Construction of GEMI ,Assignment 2
- UNIT III            Urbanization and health:-**
- Definitions and explanations of terms and concepts used in urban studies, Measure of urbanization, Urbanization and Health.
- UNIT IV            Population Ageing and Mortality:-**
- Importance of ageing studies in public health, Age dependency, Demographic dividend, Social, economic and health issues of the elderly in India, Probabilistic measures of IMR, Group exercise.
- UNIT V            HIV/AIDS:-**
- Concepts, definition, Modes of transmission, Myths and misconceptions, High focus states, NACP various rounds.

## **SUGGESTED READINGS**

- Hospital Administration and Human Resource Management
- Fundamentals of Human Resource Management, 9th Edition David A. DeCenzo (Coastal Carolina University ), Stephen P. Robbins
- Human Resource Management Text and Cases (Paperback)- VSP RAO
- Hospital Administration and Human Resource Management R.C. Goyal
- Designing and Managing Human Resource Systems- Udai Pareek & T. V. Rao (Oxford& IBH Pub. Co. Ltd., New Delhi)
- Managing Human Resources: Productivity, Quality of Work Life, Profits- Wayne F. Cascio (Tata McGraw-Hill Pub. Co. Ltd., New Delhi)
- Personnel and Human Resource Management- Gerald Cole (Continuum, London) ii. List of Journals/ websites / Cases/ articles

# **Rajiv Gandhi Proudhyogiki Vishwavidyalaya, Bhopal (M.P.)**

## **HC-302 –APPLIED EPIDEMIOLOGY:-**

### **COURSE OBJECTIVES:**

The objective of this course is to help the students in understanding the application of Epidemiology; it includes estimating risk, dealing with threat validity and approaches to analysis and interpretation of epidemiological data.

#### **UNIT– I      Review of Basic Concepts Epidemiology:-**

- Concepts covered in Essentials of Epidemiology

##### **Measures of disease outcomes –Morbidity and Mortality**

- Rate, ratio and proportion, Tools of measurement, Morbidity Rates-incidence and prevalence rates, Morbidity Rates-crude, specific and adjusted rates ,Significance of time value of money in taking business decisions.

#### **UNIT– II      Disease Screening Program:-**

- Design and conduct screening program o disease Analysis of data  
-Sensitivity, Specificity, and positive predictive value operational issues.

#### **UNIT– III      Disease Surveillance: Design and Management:-**

- Definition and purpose of surveillance, Elements and process of surveillance, Analysis and interpretation of surveillance data, Monitor the established surveillance system, National Surveillance system – operational issues.

#### **UNIT– IV      Outbreak Investigation:-**

- Design and conduct outbreak investigation Containment measures, Analysis and interpretation of data- Attack rates and relative risk, Epidemic curve, its interpretation and use.

##### **Application of Epidemiological Studies: Methods and Interpretation**

- Observational and interventional studies Descriptive studies  
Design conduct and analysis, uses, Advantages and disadvantages.

#### **UNIT- V      Risk Measurement in Epidemiology:-**

- What is risk and risk factors,Measurment of risk, Categories of risk measures ,Attributable risk, Attributable fraction ,Population attributable risk ,Relative risk, Measuring of absolute risk ,Threats to validity-bias,confounding,effect medication Approaches to deal with threats to validity

### **SUGGESTED READINGS**

- .Prassana Chandra – Financial Management
- . IM Pandey – Financial

# **Rajiv Gandhi Proudhyogiki Vishwavidyalaya,**

## **HC- 303 HEALTH SURVEY RESEARCH METHODS**

### **COURSE OBJECTIVE**

The course aims to focus on developing skill to undertake a survey and also provide technical inputs in organizing and monitoring health survey with a focus on Identifying the health survey subjects and related variable, Development of health survey tools: questionnaire, assessment checklist, Undertake data collections using different techniques, Preparation of survey reports for different audience.

#### **UNIT– I Health Survey: An Overview:-**

Definition, objective and types of health survey steps of planning a health survey.

**Research Questions:** Survey objectives: defining problems, establishing a research question/hypothesis and identification different types of variable, Group work and exercise on identification of subjects and objectives, research question and variables.

#### **UNIT– II Develop Analysis Plan:-**

Definition, purpose, creating monk tables based on identified variables and their relationship.

##### **Method of Data Collection:-**

Method of data collection (quantitative and qualitative): Individual, telephonic interview, FGD, electronic etc.

#### **UNIT– III Sample Design:-**

Overview of sampling technique, cluster sampling, identification of clusters, overview of MICES

**Developing Data:** collection tool: types of questions, formatting questionnaire.

#### **UNIT– IV Preparing for survey field Work:-**

Selection and training of investigator tools and method and use of electronic gadgets, pilot testing, field investigation kit, supervision of data collection Developing data collection schedule and teams.

**Data Collection Exercise:** Virtual/real field work, Execution of survey.

#### **UNIT– V Data Analysis:-**

Data cleaning, Missing data, use of software for data analysis, data entry, applying data analysis plan, developing charts and tables, interpretations of data

**Report Writing:** Outline of report as per need of client as such as dissertation, thesis, monograph, article

### **SUGGESTED READINGS**

1. Designing and Conducting Health Survey: LU Ann Aday and Llewellyn j. Cornelius 3<sup>rd</sup> edition by Y Jassy Bass A Wiley Print
2. Survey Fundamental: A Guide to designing and implementing surveys: office of quality improvement University of Wisconsin.

# **Rajiv Gandhi Proudyogiki Vishwavidyalaya,**

## **HC-304 LOGISTIC AND SUPPLY CHAIN MANAGEMENT**

**Course Objectives:** The course aims to develop requisite, knowledge and skills in managing medicines and health products supplies, equipment, and inventory control among the students

The student will also learn store management and basic logistic and supply management at the facility level.

### **UNIT- 1 Introduction:-**

- Introduction to logistics, inventory and supply chain management in health care
- Roles of logistics, inventory and supply chain in health care institutions
- Operational issues and problems in logistics, inventory and supply chain management.

### **UNIT- 2 Store and Inventory Management:-**

- Inventory Management Cycle, Selection, procurement, storage, distribution and use
- Procurement/Purchase Procedures**  
Basic principles, Formulation of standard rate list and specifications, procurement planning, concept and key steps of quantification, demand estimation- methods and approaches.
- Storage and Distribution**  
Storage layout and location, storage methods, codification, FEFO, Warehousing, ensuring product quality during storage.
- Information and Documentation**  
Use of computer in logistics and supply chain management information system (logistic management information system) record keeping and documentation
- Inventory Control**  
Types of inventory control, inventory analysis, lead time, safety stock, economic order quantity (EOQ)

### **UNIT – 3 Equipment Management:-**

**Planning for Equipment:** Standard Equipments lists for various services at different levels in the health system Procurement Procedures and package deals

- Incoming inspection, inventory and document, Equipment audit: monitoring use and performance of equipment, Maintenance and repair- preventive maintenance, periodic, calibration, equipment service history, maintenance training, operational training, condemnation and disposals Information and documentation.

### **UNIT -4 Drugs and Medicines:-**

- Essential Medicines: meaning and the context, Essential medicines list and generic drugs
- Rational use of Medicines :current practices of prescribing and implications, standard treatment guidelines and prescription audit
- Antimicrobial resistance (AMR)

### **UNIT -5 Miscellaneous Issues Concerning Health System:-**

- Legal and ethical issues in logistics and supply chain management
- Knowledge of regulatory provisions like AERB, BARC, Narcotics, PCPNDT's Act
- Environmental and other provisions in relation to equipment installations and use

### **Suggested Readings**

1. WHO(1998). District Health Facilities: Guidelines for Development and Operations. Western
2. Pacific Series No.22
3. Embrey Martha, MDS-3(2016). Managing Access to Medicines and health Technologies, Management Science for health, Inc, USA.

# **Rajiv Gandhi Proudyogiki Vishwavidyalaya,**

## **HC - 305 PROGRAMME PLANNING,IMPLEMENTATION** **MONITORING AND EVALUATION**

**Course Objectives** – The course would aim at developing project management skills and provide opportunity to translate the modern management concepts in to project planning and management using a log Frame Approach(LFA).This course develops the competencies and skills for planning and controlling projects and understanding interpersonal issues that drive successful project outcomes.

### **UNIT- I**

#### **Principles of Project Management and Results Based Management:-**

- Situational Analysis- concepts and Approaches, organizational analysis,social,demographic,economic Analysis, health problems and impact. Future implications, Application SWOT Analysis, Group exercise.

### **UNIT- II**

#### **Managing Human Resource:-**

- Categories of personnel and skills, job responsibilities, task assignment, Performance Standards, skills training, shared vision and team building, coordination, reporting and control system.

### **UNIT- III**

#### **Developing Monitoring Systems and Supervision:-**

- Input, Process, Outcome and project management indicators Information, management system, reporting systems and flow of information. Mechanism and Periodicity of supervision.

### **UNIT- IV**

#### **Project Evaluation- Need, Input, Process, and Outcome and Impact evaluation:-**

- Baseline information, mid-term and endline evaluation Concurrent evaluation.

### **UNIT- V**

**Project Management: organizational structure (project Management unit, Steering Committee, Strategic Planning Unit :-**

- Coordination mechanism- external and internal stakeholders.

### **READINGS**

- Young,Trevor(2003),The Project Management Manual:Mananger's Pocket Handbook. Penguin Books India Pvt.New Delhi

# **Rajiv Gandhi Proudtyogiki Vishwavidyalaya,**

## **HC-306 OPERATION RESEARCH**

### **Course Objectives :**

- This course also referred to as decision science ,or management science. An interdisciplinary mathematical science that focuses on the effective use of technology by organizations. Employing techniques from other mathematical sciences, such as mathematical, modeling,statistical analysis and mathematical optimization, operations research arrives at optimal or near-optimal solutions to complex decision-making problems.

### **Course Contents :**

#### **UNIT -1 Introduction to Operations Research:-**

- History of operations research, objective of OR, Definition of OR, Characteristics and Scope of OR, Types of Models and steps in solving OR Problems
- **Linear Programming Models**  
Introduction ,Structure of LP model, advantage of LP, Limitations, mathematical model of LPP, Integer Linear Programming Branch and bound method, maximization and minimization cases, solution through QM for windows

#### **UNIT – 2 Game Theory for Competitive Strategies:-**

- Two-Person Zero-sum Games, pure strategies, minimax and maxim in principles  
Games with saddle point,Mixed strategies-games without saddle point, rules of dominance, solution of games without saddle point-Algebraic method, Arithmetic method, matrix method,graphical method.

#### **UNIT – 3 Queuing Models and Capacity Planning:-**

- Queuing system characteristics, measures of Queuing system performance, single channel, multiple channel models Queuing cost analysis.
- **Simulation**  
Definition,types,steps in process, advantages and disadvantages of simulation, Monte Carlo simulation,simulation of inventory problems,simulation of queuing problems,investment problems,maintenance problems in pharma industries.

#### **UNIT – 4 Decision Analysis:-**

Types of decision making environment, decision tree analysis,markov chains, Applications of Markov analysis.

#### **UNIT – 5 Operational Research in Healthcare:-**

- Introduction and use of OR IN Health care Approaches and types of OR in health Care Exercise.

### **Suggested Reagarding :-**

1. L.C Jhamb, : Everest publishing
2. Dr. Kasande : Nirali Prakashan
3. Dr.V. Venkat Reddy Vagvala : BSP Books

# **Rajiv Gandhi Proudhyogiki Vishwavidyalaya,**

## **HC-307 NGO MANAGEMENT**

### **Course Objectives :**

- The main objective of the course is to provide students with working knowledge of the administrative, Financial and Organizational aspects of non-profit organization. it focuses on the managerial challenges faced by non-profit organization. it focuses on the managerial challenges faced by non-governmental, their unique features and their interrelationship with other public management actors.

### **Course Contents :**

#### **UNIT – 1**

- Community organization and community based organization in India, Principles in group formation.

#### **UNIT – 2 Introduction:-**

Definition, Relevance of PRA, Principles, Advantages, Need, Purpose, Techniques, The checklist approach, Semi-structured dialogue, Transact walk, Indigenous technical Knowledge (ITK), Time line, Matrix ranking, Seasonality, Venn diagram, wealth ranking, outcomes of using these techniques, Guidelines for PRA field work, Guideline for analysis of PRA findings, Writing PRA report, Report outline, Steps of report writing.

#### **UNIT – 3 Organisation Excellence and Performance Assessment of NGOs:-**

Model for organization excellence, HR issues in achieving excellence, Sustainable competitive development of excellent organization, Evaluation of NGOs performance process, A model for performance assessment of NGOs, Need for performance assessment of NGOs, NGO-map model for performance assessment, Applicability of the model.

#### **UNIT – 4 How to Write Funding Proposal:-**

Introduction, Objective, How to write funding Proposal

#### **UNIT – 5 Super-specialty Services :-**

Objectives, Functions, Design consideration, Management of super specialty departments  
Super-specialty 1, Super-specialty 2, Super-specialty 3, Super-specialty 4

- **Control of Hospital Associated Infections :-**

Introduction, Infection Control Program, Hospital environment and hospital associated Infections, Prevention of Hospital, Associated Infections, Surveillance, Investigation of an outbreak, healthcare staff, Containment of Community acquired Infection.

### **Suggested Readings**

1. Administration And Management of NGOs: Text And Case Studies -2005 by R.Kumar(Author), S.L Goel(Author).