

# P. G. Department of Population Studies

Syllabus: 2023-24

**M. A. in Population Studies**



**Fakir Mohan University**

**Vyasa Vihar, Nuapadhi**

**Balasore – 756 089, Odisha**

# About the Department

The P.G. Department of Population Studies was established in the year 2004 to cater to the needs of imparting education and carrying out research on issues of population, migration and urbanization and public health. It has been thus offering ***M. A., and Ph. D.*** programmes in ***Population Studies***.

The P.G. Department of Population Studies holds a unique position in Odisha for being the only Department of Population Studies. It draws well-trained faculties from the Universities/Institutes of international repute. It offers student-friendly environment, competitive job-oriented syllabus and development/ action-based work exposure enhance their skill and vision. Practical classes with well-equipped infrastructure and statistical packages like SPSS/ STATA helps them to handle large database such as NFHS/ DLHS/ Census etc. Further students are also trained on different data entry tools and data management softwares like KoboToolbox, which make them competent in the current job market.

## **M. A. in Population Studies**

### **OBJECTIVES AND OUTCOMES OF THE PROGRAMME:**

Population Studies explores the linkages between 'population' and 'development' in India, focusing on the intersection of population issues with areas such as health, family planning, education, opportunities for livelihoods, environmental safety and sustainable development. Further, the subject covers the new areas of employment opportunities like Monitoring and evaluation, data analytics and monitoring information system, etc. Population Studies is a professional and job-oriented programme which comprises of four semesters in two years. The students successfully completing this programme can work in different government and private sectors. The opportunities are not limited to various educational institutions like universities and research institutes. But there are opportunities at UN organisations, Philanthropic foundations, market research agencies, survey organizations and NGO/ Development sectors, etc. With the expansion of research institutes ad CSR funds, more number of job opportunities opens for the population studies students. The curriculum and pedagogic structure of this program is designed in line with the emerging needs of population scientist profession for research, monitoring and evaluation. At the end of the course, students will be able to demonstrate an understanding of the essential principles of modern demographic methods and statistical software and how to apply them. Also, students will be able to analyses, interpret and critically understand the demographic, health and public health issues which will benefit for their further research.

## **Programme Specific Outcomes (PSOs)**

- ✓ To equip the students for monitoring and evaluation of various projects/programmes
- ✓ To prepare the students in estimating sample size for large scale surveys and also hand holding experience for data collection using KoboTool Box software.
- ✓ To handle large scale data sets and data analysis in statistical packages such as SPSS and STATA.
- ✓ To build a competent demographer.

## COURSE STRUCTURE

<b>SEMESTER-WISE LIST OF PAPERS FOR M. A. IN POPULATION STUDIES</b>						
Paper	Title	Paper Type	Credit	Mark Distribution		
				Mid-Term	End-Term	Total
<b>First Semester</b>						
PS-101	Principles of Population Studies	Theory	4	40	60	100
PS-102	Sources of Demographic Data	Theory	4	40	60	100
PS-103	Computer Applications	Theory	4	40	60	100
PS-104	Quantitative Methods in Population Sciences	Theory	4	40	60	100
PS-105	Statistical Methods and Data Visualization	Practical	4	--	100	100
<b>Second Semester</b>						
PS-201	Morbidity and Mortality	Theory	4	40	60	100
PS-202	Nuptiality and Fertility	Theory	4	40	60	100
PS-203	Migration and Urbanization	Theory	4	40	60	100
PS-204	Social Research Methods	Theory	4	40	60	100
PS-205	Demographic Techniques and Measures	Practical	4	--	100	100
<b>Third Semester</b>						
PS-300	Fakir Mohan Studies	Theory	Non-Credit	40	60	100
<b>(Specialization-A: Development Studies)</b>						
PS-301A	Dynamics of Development	Theory	4	40	60	100
PS-302A	Agriculture and Food Security	Theory	4	40	60	100
PS-303A	Population Exclusion and Inclusive Policy	Theory	4	40	60	100
<b>(Specialization-B: Monitoring and Evaluation)</b>						
PS-301B	Fundamentals of Monitoring and Evaluation	Theory	4	40	60	100
PS-302B	Analytical Methods in Evaluation	Theory	4	40	60	100
PS-303B	Large Scale Data Evaluation	Theory	4	40	60	100
PS-304	Rudiments of Population Studies (CBCS)	Theory	4	40	60	100
PS-305	SPSS Fundamentals	Practical	4	--	100	100
<b>Fourth Semester</b>						
<b>GROUP-A</b>						
PS-401E	Population and Environment	Theory	4	40	60	100
PS-402E	Epidemiology and Public Health	Theory	4	40	60	100

<b>GROUP-B</b>						
PS-401F	Gender and Reproductive Health	Theory	4	40	60	100
PS-402F	Population Ageing and Health Care	Theory	4	40	60	100
PS-403	Dissertation and Viva-Voce	Project	12	--	300	300
<b>Total Marks/ Credit Hours</b>			<b>80</b>	<b>560</b>	<b>1440</b>	<b>2000</b>

**Scheme of Internal Evaluation (Theory):**

Each theory paper consists of five units and irrespective of the credit hours assigned, will be of 100 marks, out of which, 40 will be internal marks (continuous evaluation) and 60 will be end term examination marks. There will be three components of internal evaluation – Quiz, Mid Term Written Test and Home Assignment as per the details below.

<b>Component</b>	<b>Unit(s)</b>	<b>Marks</b>	<b>Remarks</b>
Quiz – I	I	10	Best of the two quizzes will be considered
Quiz – II	III	10	
Mid Term (Written)	I & II	20	There will be no internal evaluation for the last unit (V)
Home Assignment	IV	10	
<b>Total</b>	<b>I – IV</b>	<b>40</b>	<b>Q – 10 + HA – 10 + W – 20</b>

## First Semester

### **PS-101: PRINCIPLES OF POPULATION STUDIES**

**Learning objectives and outcomes:** The objective of this paper is to introduce the students the scope and importance of the discipline of population studies. At the end of this course, including lectures and assignments, the students are expected to get clear idea of the evolution and the scope of the discipline, past, present, and future scenario of population growth. Fertility, mortality, Migration and urbanization are the characteristics of structural change taking place in a society. Further, students will be familiar with various sources of demographic data with a focus on India, as well as the strengths and weaknesses of data sets.

#### **Unit-I**

Demographic Concepts and Definitions: Population, Nuptiality, Fertility, Morbidity, Mortality, Health Status, Migration, Urbanization; Basic Measures: Cohort, Period, Mid-Year Population; Nature and Scope of Population Studies; Its Relationship with Other Disciplines; Social Psychological concepts and its relevance to Population studies; Components of Population Change and Balancing Equation; Dalton's formula.

#### **Unit-II**

History of Demographic Data: Major sources of data about the population in the past; Global Population Trends-Past, Present and Future Trends across the World and Developed/Developing Countries; World Population Growth and Doubling Time; History of Population Growth in India; Current Population Scenario and Demographic Profile of India and States; Major's Tribe in India.

#### **Unit-III**

Basic Theories of Population: Malthusian, Marxian, Optimum Population Theory; Biological Theories of Herbert Spencer & Corrado Ginnis; Diet Principle: Thomas Doubleday and Density Principle: Thomas Sadler; Demographic Transition: Concept, Theory and Different Stages. Views regarding the relationship between population and development: pro-natalist and prosperity argument, Pessimistic perspective, Optimistic perspective, Neutralist/revisionist perspective.

#### **Unit-IV**

Population Composition and Characteristics: Age-Sex Structure (Pyramid), Sex Ratio, Sex Ratio at Birth, Marital Status, Rural-Urban Distribution; Occupation, Education, Religion and Caste Composition; Age-Sex Structures of Population in Developed and Developing Countries; Importance of Age-Sex Structure in Population Dynamics and its relevance; Factors Affecting Sex, Ratio of the Population.

#### **Unit-V**

Historical demography: Meaning, Scope, and Importance; Difference between History of Demography, Demographic History and Historical Demography; Limitations of Research in Historical Demography. Development of historical demography (Europe and Asia)

**Suggested Readings:**

- Ashish (2001), *Population of India: 2001 Census Results and Methodology*, B. R. Publishing Corporation, Delhi.
- Agarwala, S. N. (1981), *India's Population Problems*, Tata McGraw Hill, New Delhi.
- Bhende, A. and T. Kanitkar (2019), *Principles of Population Studies*, Himalaya Publishing House, Mumbai.
- Bloom, D.E., D. Canning, et.al. (2002): *The Demographic Dividend: A New Perspective on the Economic Consequences of Population Change*. Santa Monica, CA, RAND
- Bogue, Donald J. (1969), *Principles of Demography*, John Wiley and Sons Inc., New York.
- Bose, Heslop A (1999), *Ageing and Development*, Social Development Working Paper: 3, Help Age International.
- Mason, A. (2007), "Demographic Dividends: The Past, the Present, and the Future", in A. Mason and M. Yamaguchi (eds.), *Population Change, Labor Markets and Sustainable Growth: Towards a New Economic Paradigm*, Emerald Publishing Limited, Bingley.
- Maharatna, Arup (1996). *Demography of Famines: An Indian Historical Perspective*, Delhi, 1996.
- Prskawetz, Bloom, and Lutz, eds., (2008), *Population Aging, Human Capital Accumulation, and Productivity Growth*, A Supplement to *Population and Development Review*.
- Shrivastava, O. S. (1983), *A Text Book of Demography*, Vikas Publishing House Pvt. Ltd., Delhi.
- Shryock, Henry S., Jacob S. Siegel and Associates (1976), *The Methods and Materials of Demography*, Academic Press, Inc., California.
- Tim Dyson (ed.), *India's Historical Demography: Studies in Famine, Disease and Society*, London, Curzon, 1989.
- United Nations (1973), *The Determinants and Consequences of Population Trends*, Vol. I, Department of Economic and Social Affairs, New York.
- Weeks, John R. (2015), *Population: An Introduction to Concepts and Issues*, Wadsworth Publishing Company, California.
- World Health Organization (2015), *WHO Report on Ageing and Health*, WHO, Geneva.

## PS-102: SOURCES OF DEMOGRAPHIC DATA

**Learning objectives and outcomes:** In this course students learn the different sources of data and adjustment of demographic data, with more focus of age-sex and other related characteristics of population data. After completion of this course students are expected to get a vision to judge the best sources of data, quality of data, comment on it and adjust the data. At the end of the course, student will learn population census across the world, Census taking under British India, Indian census, details of different items on which Indian census collect data, publication of census data/reports and other sources of demographic data (SRS, DLHS, NFHS, NSSO and LASI, etc).

### Unit-I

Sources of Demographic Data: Census, Vital Registration System, Sample Survey, Dual Report System, Population Registers; Population Census: History, Definition and Scope; Indian Census: Historical Background, Coverage, Features and Uses, **Strengths and Weaknesses of Census.**

### Unit-II

Sample Registration System in India: History and different Acts of Sample Registration System, Uses and Limitations; Difference between Civil Registration System (CRS) and Sample Registration System (SRS); **National Sample Survey Organization (NSSO) and its Different Rounds.**

### Unit-III

Demographic and Health Surveys (History, Objectives/Goals, Questionnaire, Available Information): World Fertility Survey (WFS); National Family and Health Survey (NFHS); District Level Household and Facility Survey (DLHS); **Indian Human Development Survey (IHDS); Annual Health Survey (AHS);** Longitudinal Aging Study in India (LASI); Comprehensive Nutrition Survey; Global Youth Tobacco Survey (GYTS) – India; National Mental Health Survey of India.

### Unit-IV

United Nation's Data: Demographic Yearbook, World Population Prospects, Data and reports of UNICEF, UNFPA, UNDP and UNIFEM; **World Health Organization (WHO): Data Bank, Indicators, Countries Covered; Data of ILO (International Labour Organization; Data of IMO (International Organization for Migration);** Data and reports of World Bank

### Unit-V

Data Appraisal (Evaluation and Adjustment of Data): Types and Sources of Errors in Population Data; Adjustment in Age Data: Graphical Representation of Age Data, Whipple's Index, Myer's Index, United Nation's **Age-Sex Accuracy Index-Assumptions, Applications and Limitations;** Completeness of Vital Registration Data; Chandrasekaran's Deming Formula; Smoothing of Age Data.



**Suggested Readings:**

- Bhende, A. and T. Kanitkar (2019), *Principles of Population Studies*, Himalaya Publishing House, Mumbai.
- Bose, Ashish (2001), *Population of India: 2001 Census Results and Methodology*, B. R. Publishing Corporation, Delhi.
- Crook, Nigel (1997), "Principles of Population and Development: With Illustrations from Asia and Africa", in Ian Timaeus and Nigel Crook (eds.), *Population and Subsistence: Theories and Evidences: Part-I*, Oxford University Press, London.
- Demeny, Paul (2003), *Population Policy: A Concise Summary*, Policy Research Division Working Paper No.173, Population Council, New York.
- Hauser, Philip M. and O. D. Duncan (eds.) (1959), *The Study of Population*, University of Chicago Press, Chicago.
- Pathak, K.B. and F. Ram (1998), *Techniques of Demographic Analysis*, 2<sup>nd</sup> Edition, Himalaya Publishing House, Bombay.
- Srinivasan, K. (1998), *Basic Demographic Techniques and Applications*, Sage Publications, New Delhi.
- Stauffer, Cheryl Lynn (ed.) (2000), *Human Population: Fundamentals of Growth and Change*, Population Reference Bureau, Washington, D.C.

**PS-103: COMPUTER APPLICATIONS**

**Learning objectives and outcomes:** On completion of the course, the students shall be able to:

- Understand the use of computers.
- Understand and apply various ICT methods in learning and research.
- Select appropriate ICT tools and techniques for the collection of data.
- Acquaint with the use of different software for searching related literature and tools, data collections, data analysis and report writing.

**Unit-I**

Basic Applications of Computer, Components of Computer System, Central Processing Unit, Keyboard, Mouse and VDU, Other Input Devices, Other Output devices, Computer Memory, **Concepts of Hardware and Software.**

**Unit-II**

Basics of Operating System, Basics of Popular Operating System (LINUX, WINDOWS), Word Processing Basics, Opening Word Processing Package, Menu Bar, Using the Help, **Using the Icons Below Menu Bar.**

**Unit-III**

Opening and Closing Documents, Opening Documents, Save and Save As, Page Setup, Print Preview, Printing of Documents, Elements of Electronic Spread Sheet, Opening of Spread Sheet, **Addressing of Cells, Printing of Spread Sheet, Saving Workbooks.**

**Unit-IV**

File Management, System Maintenance, Protection from Virus, Worms, Malware and Spyware, Search Engine; Graphical User Interface(GUI): Concept of GUI, Evolution of Human and Machine Interface, Common Graphical User Interface terms, Functionality of **Graphical User Interface, A Look at Some Graphical User Interfaces.**

## **Unit-V**

Practice: Basics of Microsoft Office: Word (Formatting, Table Creation etc.), Excel (Calculation and Formula Writing), Power Point (Hyperlink, Animation, etc.), Web Browsing, Basics of Email and Online Applications, **Scanning of Documents, CD Writing**, Preparation of CV/Resume.

### **Suggested Readings:**

Bansal, S. K. (2001), *Internet Technologies*, APH Publishing Corporation, Delhi.

Bartee, Thomas C. (2001), *Digital computer Fundamentals*, TATA McGraw Hill, Noida.

Floyd, Thomas L. (2015), *Digital Fundamentals*, Ninth Edition, Pearson Education India, Delhi.

Goel, A. (2010), *Computer Fundamentals*, Pearson Education India, Delhi.

Norton, Peter(2017), *Introduction to Computers*, Sixth Edition, Tata McGraw Hill, Noida.

Rajaraman, V. (2014), *Fundamentals of Computers*, 6<sup>th</sup> Edition, PHI Publications, Delhi.

Sinha, Pradeep K. and Priti Sinha (2004), *Computer Fundamentals*, 8<sup>th</sup> Edition, BPB Publications, Kolkata.

Wang, Wallace (2011), *MS-Office 2007 for Dummies*, Wiley Publishing Company, New Jersey.

## PS-104: QUANTITATIVE METHODS IN POPULATION SCIENCES

**Learning objectives and outcomes:** This course aims to provide students with basic knowledge of statistical techniques which can be used in demographic analysis.

On completion of the course, the students shall be able to

- Understand basics of Statistical Techniques used in population data analysis.
- Understand types of Sampling used in research.
- Understand applied statistics used in research.

### Unit I

Definition and Scope of Statistics; Collection and Classification of Data; Frequency Distribution: Uni-variate and Bi-variate; Table: Construction and Types; Graph: Histogram, Bar-diagram, Frequency Polygon, Ogive and Pie-chart; **Series: Individual, Discrete and Continuous.** Rates, Ratio, Proportion.

### Unit II

Measures of Central Tendency: Mean, Median and Mode; Measures of Dispersion: Range, Quartile Deviation, **Mean Deviation and Standard Deviation**; Coefficient of Variation; Measures of Skewness and Kurtosis; Measures of Location: Quartile, Decile and Percentile.

### Unit III

Concepts of Statistical Population and Sample; Concepts of Sample, Parameter and Statistic; Sampling Distribution of a Statistic, Types of Sampling: Probability and Non-probability Sampling; **Sample Variance and Sample Proportion**; Estimate of Standard Error.

### Unit IV

Probability: Concept and Basic Properties, Distribution: Normal and Abnormal; Moving Average; Arithmetic and Exponential Growth Rates; Interpolation and Extrapolation; Dependent and Independent Variables; **Bi-variate and Multivariate Association between Different Variables/Factors.**

### Unit V

Correlation Analysis - Pearson and Spearman Coefficients; Regression Analysis: Linear Regression and Multiple Regression Models; Concepts of Hypothesis, Null and Alternative Hypotheses, **Level of Significance, Type I and Type II Errors**; Parametric Tests: 'F', 't' and 'Z'; Non-Parametric Tests and their Uses, Chi-square Test.

### Suggested Readings:

- Blalock (Jr.), Hubert M. (1979), *Social Statistics*, McGraw-Hill, New York.
- Croxtan, F. E., D. J. Cowden and S. Klein (1982), *Applied General Statistics*, Prentice-Hall of India, New Delhi.
- Goon, A. M., M. K. Gupta and D. Dasgupta (1985), *Basic Statistics*, World Press, Calcutta.
- Gupta, S. C. (1992), *Fundamentals of Statistics*, Himalaya Publishing House, Bombay.
- Ramchandran, P. (1968), *Social Work Research and Statistics*, Allied Publishers, Bombay.
- Siegel, Jacob S. and David A. Swanson (eds.) (2004), *The Methods and Materials of Demography*, Elsevier Academic Press, San Diego.
- Snedecor, G. W and W. G. Cochran (1994), *Statistical Methods*, Oxford and IBH Publishing Company, New Delhi.
- Weiss, Robert S. (1968), *Statistics in Social Research: Introduction*, John Wiley and Sons, New York.

## PS-105: STATISTICAL METHODS AND DATA VISUALIZATION (PRACTICAL)

**Learning Objectives and Outcomes:** The primary objective of this course on Basic Statistical Methods and Data Visualization is to equip participants with a comprehensive understanding of fundamental statistical concepts and visualization techniques. By the end of this course, participants should be able to employ statistical measures to describe data and create meaningful data visualizations. By achieving these learning outcomes, participants will gain a solid foundation in basic statistical methods and data visualization techniques, enabling them to make informed decisions and communicate data-driven insights clearly and persuasively.

<b>BASIC STATISTICAL METHODS</b>		<b>DATA VISUALIZATION</b>	
	<b>Introduction to Central Tendency</b>	10	Bar-diagram
1	Mean (Arithmetic Mean)	11	Histogram chart
2	Median	12	Line chart
3	Mode	13	Pie chart
	<b>Measures of Dispersion</b>	14	Doughnut chart
4	Range	15	Area chart
5	Mean Deviation	16	Treemap chart
6	Standard Deviation	17	Map chart
	<b>Disparity Indices</b>	18	Use of Infographics
7	Gini Index (Gini Coefficient)		
8	Lorenz Curve		
9	The Concentration Index		

### Suggested Readings:

Blalock, Hubert M. (1960): Social Statistics, McGraw-Hill Book Company, New York.

Chakravorti, S.R. and Giri, N. (1997): Basic Statistics, South Asian Publishers, New Delhi.

Clarke, G.M. and Cooke, D.,(1994): A Basic Course in Statistics, Arnold, London.

Dixon, W.J and Massey, F.J. (1983) Introduction to Statistical Analysis, 4th ed., New York, MC Graw Hill, 380-381, 534.

Goon, A.M., Gupta, M.K. and Dasgupta, B. (1985): Fundamentals of Statistics. Vol. I , The World Press Private Ltd. Calcutta.

Jain, S.K.1979. Basic Mathematics for demographers. Canberra: The Australian National University.

Lipshutz, Seymour., Schaum's Outline Theory and Problems of Set Theory and Related Topics Series, Mcgraw Hill.

Marcello Pagano and Kimberlee Gourneau (2000) "Principles of Biostatistics" Second Edition, Duxbury Thomson Learning, United States.

Prakasam, C.P., G. Rama Rao, and R.B. Upadhyay (1987): Basic Mathematics in Population Studies, Gemini Publishers, Mumbai.

Siegel J.J. and D.A. Swanson (Ed.), 2004. The Methods and Materials of Demography. Second Edition. Elaevier Academic Press.

Venkatachary, K (1994). Elements of Mathematics for Demographer

## **SECOND SEMESTER**

### **PS-201: MORBIDITY AND MORTALITY**

**Learning objectives and outcomes:** After completion of this course the student will be able to:

- ☑ Identify different sources of morbidity and mortality data and their quality
- ☑ Understand Basic Concepts and definitions: Miscarriage, abortion, fetal deaths, still births, livebirth, deaths, early and late neonatal death, infant death, child death
- ☑ Describe Mosley and Chen Framework for the Study of Child Survival

- ② Calculate and interpret different indicators of mortality and morbidity

### **Unit-I**

Concept of Health: Nutrition, Morbidity and Mortality; Health Transition: Importance of its Study for Policy and Public Intervention; Anthropometric Measurements of Child Nutrition: Weight-for-Age, Height-for-Age and Weight-for-Height Measures; Measurement of Morbidity: Incidence and Prevalence Rates; **Point and Period Prevalence Rates; Short and Long Duration Morbidity Rates**; Sources, Quality and Use of Morbidity Data.

### **Unit-II**

Mortality: Concept and Definition; Basic Measures: Crude Death Rate, Specific Death Rates (Age-specific Death Rate, Sex-specific Death Rate, Cause-specific Death Rate) Maternal Mortality (Rates & Ratio), Sisterhood method, Still birth, Peri-natal, Early Neo-natal, Late neo-natal, Post neo-natal mortality rate, Infant mortality rate, U-5 Mortality, Child Mortality; **Basic concepts and brief history of life table, types and forms of life table, Lexis diagram.**

### **Unit-III**

Mosley and Chen Framework for the Study of Child Survival; Levels and Trends of Infant and Child Mortality in Odisha; **Causes of High Infant and Child Deaths in EAG States**; Levels, Trends and Determinants of Mortality in Developed and Developing Countries with special reference to India.

### **Unit-IV**

Communicable and Non-Communicable Diseases: Concepts and Causes of Sickness, Major Issues of Community Health: Immunization, Nutrition, **Reproductive and Child Health, Sanitation**; Issues of Women's Health; Disability-Adjusted Life Year (DALY); Disability-Adjusted Life Expectancy (DALE).

### **Unit-V**

Cross-examination of Morbidity and Mortality by Ethnicity, Education, Gender, Nutrition, Age and Sex; Occupational Morbidity and Health Hazards; Public Health Expenditure in India; **Out of Pocket Expenditure for Morbidity and its Variation by Income**, Marital Status and Place of Residence.

### **Suggested Readings:**

- Bhende, A. and T. Kanitkar(2019), *Principles of Population Studies*, Himalaya Publishing House, Mumbai.
- Bose, Ashish (2001), *Population of India: 2001 Census Results and Methodology*, B. R. Publishing Corporation, Delhi.
- Das Gupta, Monica, L. C. Chen and T. N. Krishnan (eds.) (1996), *Health, Poverty and Development in India*, Oxford University Press, Delhi.
- Demeny, Paul (2003), *Population Policy: A Concise Summary*, Policy Research Division Working Paper No. 173, Population Council, New York.
- Mahadevan, K. (ed.) (1992), *Health Education for Quality of Life*, B. R. Publishing Corporation, Delhi.
- Park, K. (2015), *Text Book of Preventive and Social Medicine*, Bhanot Publishers, Jabalpur.
- Preston, Samuel H. (ed.) (1982), *Biological and Social Aspects of Mortality and the Length of Life*, Ordina Editions, Liege.
- Shryock, Henry S., Jacob S. Siegel and Associates (1976), *The Methods and Materials of Demography*, Academic Press, Inc., California.
- Srinivasan, K. (1998), *Basic Demographic Techniques and Applications*, Sage Publications, New Delhi.
- United Nations (1973), *The Determinants and Consequences of Population Trends*, Vol. I, Department of Economic and Social Affairs, New York.

## **PS-202: NUPTIALITY AND FERTILITY**

**Learning objectives and outcomes:** After completion of this course the student will be able to:

- Distinguish among different terms used for fertility study
- Describe physiology of human reproduction and methods of family planning
- Identify different sources of data to calculate different indicators of fertility
- Understand levels, trends and differentials in fertility
- Describe the theories of fertility
- Calculate and interpret different indicators of fertility

### **Unit-I**

Nuptiality: Concept and Definitions; Sources and Quality of Data; Basic Measures of Nuptiality; Computation of Singulate Mean Age at Marriage (SMAM): John Hajnal's and Agarwala's Methods; Coale's Standard Age-pattern of Nuptiality; Age at Marriage: Levels and Trends in Developed and Developing Countries; **Age at Marriage in India and States; Determinants of Age at Marriage; Differentials in Age at Marriage.**

### **Unit-II**

Importance of Studying Fertility; Basic Concepts in Fertility - Fetus, Embryo, Fecundity, Fecundability and Sterility, Birth Order and Parity, Parity Progression Ratio; Basic Measures of Fertility: Crude Birth Rate, General Fertility Rate, Age-specific Fertility Rate, Total Fertility Rate, Gross Reproduction and Net Reproduction Rates, Child-Woman Ratio; Parity Progression Ratio; Indirect measures of fertility :Reverse Survival Method, Rele's Method, P/F Ratio; **Fertility Differentials by Socio-economic Status; Sex Preference and its Relation with Fertility.**

### **Unit-III**

Fertility Decline in European and Non-European Industrialized Countries; Factors and Implications of Fertility Decline in Developed Countries; Pattern of Fertility Transition in Developing Countries with Special Focus on SAARC Region; **Fertility Transition in India: Historical Trends and Regional Patterns.**

#### Unit-IV

Theories of Fertility: Davis and Blake Intermediate Variable Framework and Bongaart's Proximate Determinant Model; **Social Capillarity Theory; Theory of Diffusion and Cultural Lag**; Theories of Leibenstein, Becker and Easterlin; UN Threshold Hypothesis. Lee and Bulatao framework of fertility determinants.

#### Unit- V

Family Planning: Meaning, Objectives and Importance; History of Family Planning Movement in the World; Evolution of Family Planning Programme in India; Methods of Family Planning: Modern and Traditional Methods; Use and Effectiveness of Family Planning Methods; **Contraceptive Rates: Prevalence and Continuation Rates; Concept of Unmet Need for Family Planning**; Family Planning and HIV; Adolescent, Youth and Family Planning; Sex Preference and Family Planning.

#### Suggested Readings:

- Bhende, A. and T. Kanitkar (2019), *Principles of Population Studies*, Himalaya Publishing House, Mumbai.
- Caldwell, J.C. (1982), *Theory of Fertility Decline*, Academic Press, Inc., London.
- Driver, Edwin D. (2016), *Differential Fertility in Central India*, Princeton University Press, New Jersey.
- Guilmoto, C. Z. and S. I. Rajan (2001), "Spatial Patterns of Fertility Transition in India Districts", *Population and Development Review*, 27(4), 713-38.
- Hauser, Philip M. and O. D. Duncan (eds.) (1959), *The Study of Population*, University of Chicago Press, Chicago.
- Shryock, Henry S., Jacob S. Siegel and Associates (1976), *The Methods and Materials of Demography*, Academic Press, Inc., California.
- Bongaarts, J. and Robert G. Potter (1983), *Fertility, Biology and Behaviour: An Analysis of the Proximate Determinants*, Academic Press, Inc., New York.
- Rele, J. R. (1987), "Fertility Levels and Trends in India, 1951-81", *Population and Development Review*, 13(3), 513-530.

### PS-203: MIGRATION AND URBANIZATION

**Learning objectives and outcomes:** The aim of this course is to familiarize the students about the demographic aspects of migration, spatial distribution and urbanization. On completion of this course students are expected to learn about the scientific definitions of migration, measures of internal migration urbanization and spatial distribution, their patterns, trends, causes and consequences. Students are also expected to learn about the data sources and their constraints and the techniques to analyse migration, spatial distribution and urbanization.

#### Unit I

Concepts of Mobility and Migration; Sources of Migration Data; Types of Migration; Internal Migration: Patterns and Characteristics in Developing Countries with Special Focus on India; Determinants of Internal Migration: Causes of Migration at the Place of Origin and at the Place of Destination; Consequences of Internal Migration: Demographic, **Economic, Social and Political Consequences at the Individual, Household and Community Level.**

## Unit II

International Migration: Sources of Data and Categories (Labour Migration, Brain Drain, Refugee and Illegal Migration); Determinants; Consequences upon Demography, Economy and Society; Socio-economic Effects of Remittances; Linkage of International Migration with Health; Migrants and SDGs; Left Behind.

## Unit III

Urbanization: Concept, Importance of Study and Sources of Data; Urban and Related Concepts used in Indian Census; Components of Urban Population Growth; Kingsley Davis Model of Urbanization; Level and Tempo of Urbanization; **City Population Distribution; Rank Size Rule and Primacy Index. Methods of Rural-Urban and Sub-National population projections.**

## Unit IV

Direct Measures of Internal Migration: Estimation of Lifetime and Inter - Censal Migration from Place of Birth; Duration of Residence and Place of Last Residence Data; Indirect Measures of Internal Migration: National Growth Rate Method; Vital Statistics Method; **Survival Ratio Methods; Problems of Base Population.**

## Unit V

Theories of Internal and International Migration – Ravenstein's Laws of Migration, Everett Lee's Theory of Migration, Todaro's Model of Rural-Urban Migration, Lewis-Fei-Ranis, Stouffer, Zelinsky, Neoclassical Economic Theory, New Household Economic Theory, Dual Labour Market Theory, World System Theory, **Social Network Theory, Cumulative Causation Theory.**

### Suggested Readings:

- Chandana, R. C. (2002), *Geography of Population: Concepts, f Determinants and Patterns*, Kalyani Publishers, New Delhi.
- Chopra, Kanchan (2001), *Migration, Common Property, Resources and Environmental Degradation*, Sage Publications, New Delhi.
- Halton, T. J. and J. G. Willianson (1998), *The Age of Mass Migration: Causes and Economic Impact*, Oxford University Press, New York.
- Mangalam, J. J. (1968), *Human Migration: A Guide to Migration Literature*, University of Kentucky Press, Lexington.
- Pathak, K. B. and F. Ram (1992), *Techniques of Demographic Analysis*, Himalaya Publishing House, Bombay.
- Shaw, Gareth and Dennis Wheeler (1985), *Statistical Techniques in Geographical Analysis*, John Willey and Sons, Chichester.
- Siegel, Jacob S. and David A. Swanson (eds.) (2004), *The Methods and Materials of Demography*, Elsevier Academic Press, San Diego.
- Yadava, K. N. S. (1989), *Rural-Urban Migration in India: Determinants, Patterns and Consequences*, Independent Publishing Company, Delhi.



## PS-204: SOCIAL RESEARCH METHODS

### Learning objectives and outcomes:

This paper is a general introduction to social research methods and will cover broad areas of social science research like research design, sampling, data collection, data analysis and report writing. This module aims to provide students with an understanding of the principles and skills needed in order to design and conduct research work. It will encourage students to critically evaluate the methods, strategies and data that used by social scientists and provide training in analysis of a range qualitative and quantitative data. By the end of the course, the students should be able to:

- To develop understanding of the basic framework of research process.
- To develop an understanding of various research designs and techniques.
- To identify various sources of information for literature review and data collection
- Formulate good research questions and design appropriate research.
- Collect their own data and analyze it using a variety of methods.

### Unit I

Meaning, Significance and Types of Research; Research Process: Conceptual, Empirical and Analytical Phases; **Review of Literature**; Formulation and Justification of Problem; Hypothesis: Meaning and Types; Framing of Hypothesis; Research Design.

### Unit II

Quantitative Methods of Data Collection: Direct, Self-administered and Telephonic Interview; Qualitative Methods of Data Collection: Participant and Non-participant Observation; Focus Group Discussion, **Construction of Schedule, and Questionnaire**; Research Ethics.

### Unit III

Concept and Importance of Sampling; Difference between Sample Survey and Census; Sampling Frame; Sample Size Determination; Large-scale Survey- National Family Health Survey, **District Level Household Survey**, National Sample Survey Organization; Sampling and Non-sampling Errors; Pilot Survey.

### Unit IV

Variable: Meaning and Measurement Scales; Data Processing: Editing, Classification and Tabulation; Meaning and Need of Interpretation of Data; Presentation of Uni-variate, **Bi-variate, and Multi-variate Tables**; Report Writing: Steps, Format and Referencing/ Bibliography.

### Unit V

Level of Measurement: Nominal, Ordinal, Interval and Ratio; Types of Scales: Likert, Thurstone and Bogardus Social Distance Scales; Comparative Rating Scale, **Non-Comparative Rating Scale**; Intellectual Property Rights.

### Suggested Readings:

Ahuja, Ram (2001), *Research Methods*, Rawat Publications, Jaipur.

Blalock (Jr.), Hubert M. (1979), *Social Statistics*, McGraw-Hill, New York.

Croxton, F. E., D. J. Cowden and S. Klein (1982), *Applied General Statistics*, Prentice-Hall of

India, New Delhi.

Goode, William J. and Paul K. Hatt (1952), *Methods in Social Research*, McGraw-Hill, New York.

Goon, A. M., M. K. Gupta and D. Dasgupta (1985), *Basic Statistics*, World Press, Calcutta.

Kothari, C. R. (2004), *Research Methodology: Methods and Techniques*, New Age International

Publishers, New Delhi.

Weiss, Robert S. (1968), *Statistics in Social Research: Introduction*, John Wiley and Sons, New York.

Young, V. P. and F. C. Schmid (1973), *Scientific Social Survey and Research: An Introduction to the Background, Contents, Methods, Principles and Analysis of Social Studies*, Prentice- Hall of India, New Delhi.

## PS-205: DEMOGRAPHIC TECHNIQUES AND MEASURES

### Learning objectives and outcomes:

After completion of this paper students will learn application part of population studies.

Various statistical measurements in demography such as measures of fertility, measures of mortality, age heaping, life table construction etc will be taught in this section with the help of MS Excel. All these measurements are the fundamentals of population studies and quantification ability as well as data handling is the key component of this paper which empowers students.

1. Myer's Index and Whipple's Index	9. National Growth Rate Method
2. United Nations Joint-score Method	10. Census and Life Table Survival Ratio methods
3. Measures of Fertility	11. Lorenz curve
4. Standardization of CBR	12. Gini's concentration ratio
5. Measures of Mortality	13. Methods of Interpolation and Extrapolation
6. IMR Adjustment	14. DALY and DALE
7. Construction of Life Table	15. Population Projection
8. Vital Statistics Method	

## Third Semester

### PS-300: FAKIR MOHAN STUDIES

#### Specialization: A (Development Studies)

#### PS-301A: DYNAMICS OF DEVELOPMENT

##### **Learning objectives and outcomes:**

This course aims to provide students with basic knowledge of Indian economy, human resource and development, economic theories, the structure, characteristics and growth of the Indian economy through different plans, policies and issues and economic evaluation of programmes and projects.

##### **Unit I**

Indian Economy: The Pre-British Period; Trend and Pattern of Economic Development after Independence; National Income, Human Resources and Development, **Occupational Structure**, Natural Resources and Environmental Quality, Infrastructure.

##### **Unit II**

Concept of Economic Growth and Development; Characteristics of Modern Economic Growth; Kuznets economic growth and income inequality; concept of sustainable development.; Assessing Development from Per Capita Income to PQLI; Human Development Index (HDI), **Gender Development Index (GDI)**, **Human Poverty Index(HPI)**.

##### **Unit III**

India as a Developing Economy: Meaning and Characteristics of Indian Economy as a Developing Economy, Major Issues of Development. Process of Industrial transition, Natural Resources, Economic development and environmental Degradation; Globalization: Meaning and Scope; **Globalization and its Advocacy**; Globalization and its Impact on India.

##### **Unit IV**

Non-specific Classical and Neo-classical Theories: Schumpeterian, Marxian; Rosenstein-Rodan; Stage Theory; Myrdal and Hirschman; Arthur Lewis's Two-Sector Model; **Big Push Theory**, **Liebenstein's Critical Minimum Effort Theory**, Harrod-Domar and Solow's Growth Models.

##### **Unit V**

Agriculture and WTO, Food Processing, Subsidies, Agricultural Prices and Impact of Public Expenditure on Agricultural Growth; Infrastructure in the Indian Economy: Energy, Power and Transport in India's Economic Development, Growth of Indian Railways, Rail-Road Co-ordination; **Water Transport in India**, **Civil Aviation in India**; **Communication System in India**.

##### **Suggested Readings:**

Bhagwati, Jagdish and Arvind Panagariya (eds.) (2012), *India's Reforms: How they Produced Inclusive Growth*, Oxford University Press, New York.

Byres, T. J. (ed.) (1998), *The Indian Economy: Major Debates Since Independence*, Oxford University Press, Delhi.

Datt, Gaurav and Ashwani Mahajan (2016), *Indian Economy*, S. Chand Publishing, New

Delhi.

- Dreze, Jean and Amartya Sen (1997), *Indian Development: Selected Regional Perspectives*, Oxford University Press, Delhi.
- Kapila, Uma (ed.) (2019), *Indian Economy: Performance and Policies*, Academic Foundation, New Delhi.
- Puri, V. K. and S. K. Misra (2019), *Indian Economy*, Himalaya Publishing House, Mumbai.
- Tendulkar, Suresh and T. Bhavani (2012), *Understanding Reforms: Post-1991 India*, Oxford University Press, Delhi.
- Vakil, C. N., C H Shah and R P Nevatia (1979), *Agricultural Development of India: Policy and Problems*, Orient Longman, New Delhi.
- Bates, Robert H. (Ed.) (1988), *Toward a Political Economy of Development: A Rational Choice Perspective*, University of California Press, Berkeley.
- Chenery, H. B. and T. N. Srinivasan (Eds.) (1988), *Handbook of Development Economics*, Vol. I, North Holland, New York.
- Hettne, B. (1982), *Development Theory and the Third World*, Swedish Agency for Research Cooperation with Developing Countries, Stockholm.
- Kurien, C.T. (1996), *Economic Reforms and the People*, Madhyam Books, Delhi.
- Sinha, R.K. (Ed.) (1992), *Economic Crisis, Management and Challenges: Restructuring the Indian Economy*, Deep & Deep Publishers, New Delhi.
- Todaro, M.P. (1989), *Economic Development in the Third World*, 4th edition, Longman, London.

## PS-302A: AGRICULTURE AND FOOD SECURITY

**Learning objectives and outcomes:** The paper analyses the role and importance of agriculture in the food production as well as growth and development of a country. Student will also learn about problems in agriculture, agricultural credit and agricultural Marketing. It will help the students to understand the basic agricultural policies and food production in India. By the end of the course students will have clarity on agricultural policies and food production and distribution system in India.

### **Unit-I:**

Agriculture in India: The place of Agriculture in the National Economy, Progress of Agriculture through Five-year plans, Present Position of Indian Agriculture, Green revolution, National Agricultural Policy-2020, Cropping pattern in India since 1951, Livestock and Dairy development; Agricultural Management: Concept, Scope and Principle; Recent Trends in Agricultural Management; **Problems of Agricultural Management.**

### **Unit-II:**

Land Reforms: Need and Scope, Abolition of Intermediaries, Tenancy Reforms, Ceiling on Land Holdings Operational land holding in India, Problems of sub-division and Fragmentation of Holdings, Co-operative Farming. Agricultural Marketing, Co-operative Marketing. Minimum Support Price for Food Grains; **NABARD and its Role in Rural Credit.**

### **Unit-III:**

Food security: Concept, measurement; Food Insecurity and linkage to Nutrition, Determinants of food Insecurity, Dimensions of Food security problems. Household Food Security: Concept, Indicators, Measurement, Local food Systems, **Land Tenure and Food Security.**

### **Unit-IV:**

Food Security in India: Concept, Food self-sufficiency and Food Security, PDS and its Impact on Poverty. Policy options for reforms of PDS. Mechanization of Agriculture and Food Security; Agricultural Subsidies: Subsidies on Fertilizers, Pesticides, Seeds. Flood, Drought and Monsoon Irregularities and Food Insecurity; **Farmers' Suicides and Agricultural Burden in India.**

### **Unit-V**

Agrarian Structure of Odisha: Agrarian Economy, Productivity and Land Tenurial Systems; Land Reform; Trend in Industrial Productivity in Orissa; Odisha's Economy: Income, Employment, Consumption Expenditure and Cost of Living; **Agriculture and Allied Sectors, Industrial and Service Sectors.**

### **Suggested Readings:**

Ahuja, Ram (1993), Indian Social System, Rawat Publications, Jaipur.

Kalaramdam, Sreevidya (2016), Panchayat Raj and Empowerment of Women, New Century Publications, New Delhi.

Kury, Helmut and Sławomir Redo (eds.) (2018) , Refugees and Migrants in Law and Policy: Challenges and Opportunities for Global Civic Education, Springer International Publishing, Cham.

Oommen, T. K. (2014), Social Inclusion in Independent India, Orient Blackswan, New Delhi.

Subramanyam. V. and K Sekhar (2010), Social Exclusion, Integration and Inclusive Policies, Rawat Publications, Jaipur.  
Team PrabhatPrakashan (2019), Government Schemes, Missions, Campaigns and Programmes In India, PrabhatPrakashan, New Delhi.  
The World Bank (2011), Poverty and Social Exclusion in India, Washington, D. C.  
Young, Katharine G. (ed.) (2019), The Future of Economic and Social Rights, Cambridge University Press, New York.

## **PS-303 A: POPULATION EXCLUSION AND INCLUSIVE POLICY**

**Learning objectives and outcomes:** Students are expected to get clear idea of the concepts and evolution of the exclusion and inclusive policies in India as well as gender, caste, religion, disability and other biases in societal practices and development policies have resulted in persistent inequalities among different groups. It is increasingly being realized that mitigating such inequalities and enhancing deprived groups capabilities and entitlements are crucial to the overall development of the country. This course would provide students an understanding of the nature of the exclusion and their obstacles to the national economy on the basis of a scientific analysis. The modules incorporated in this course provide an analysis of issues at the theoretical level and also with regard to specificity of exclusion issues prevailing in the Indian context. By the end of the course students will have clarity on basic concepts of exclusion and inclusive policy and its role in development of countries.

### **Unit-I**

Social Exclusion: Concept, Meaning and Forms of Social Exclusion (Multidimensional - Social, Political, Economic and Cultural); Who is Socially Excluded and Why? –Dalit, ST, Religious Minorities, Children, Women, Aged, **Physically and Mentally Challenged People, Migrants and Refugees.**

### **Unit-II**

Philosophical Foundations: Equality, Freedom, Justice, Human Dignity, Self-respect, Human Values, Individual and Collective, Power and Authority, Right to be Human, Moral and Ethical Base of Human Kind; Universal Declaration of Human Rights, International Covenant on Civil and Political Rights (ICCPR), **International Covenant on Economic, Social and Cultural Rights (ICESCR); MTP Act, PC-PNDT Act and POSCO.**

### **Unit-III**

Inclusive Policy: Concepts, Meaning and Forms of Social Inclusion, Poverty and Dimensions of Social Exclusion; Reducing Poverty by Tackling Social Exclusion; Current Policies of Protective Discrimination, Public Policies to reduce Social Exclusion, Constitutional Safeguards, **Post-industrial Structuralism, Norm of Structural Exclusion.**

### **Unit- IV**

Women: Development of International Norms for Protection of Women, National Commission for Women; Scheduled Castes/Scheduled Tribes: National Commissions, State Commissions; Protection of Civil Rights (PCR) Act, and the subsequent SC and ST Prevention of Atrocities Act 1989 and Rules 1995; **Declaration on the Rights of Indigenous Peoples.**

## **Unit- V**

Development and Trade off on Human Rights: The Divide between the Developing Countries and the Developed Countries; From ITO to WTO: Uruguay Round of GATT Negotiations; Technology and Workers Rights; From Consumer Rights to Human Rights; Trade related sanctions for human rights violations. Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition), Act 1999; **Housing Scheme for Marginalized Communities.**

### **Suggested Readings:**

- Ahuja, Ram (1993), Indian Social System, Rawat Publications, Jaipur.  
Himanshu. (2018). India Inequality Report: Widening Gaps. London: Oxfam.  
Kalaramdam, Sreevidya (2016), Panchayat Raj and Empowerment of Women, New Century Publications, New Delhi.  
Kury, Helmut and Sławomir Redo (eds.) (2018), Refugees and Migrants in Law and Policy: Challenges and Opportunities for Global Civic Education, Springer International Publishing, Cham.  
Oommen, T. K. (2014), Social Inclusion in Independent India, Orient Blackswan, New Delhi.  
Subramanyam. V. and K Sekhar (2010), Social Exclusion, Integration and Inclusive Policies, Rawat Publications, Jaipur.  
Team PrabhatPrakashan (2019), Government Schemes, Missions, Campaigns and Programmes In India, PrabhatPrakashan, New Delhi.  
The World Bank (2011), Poverty and Social Exclusion in India, Washington, D. C.  
Thorat, Sukhadeo and Narender Kumar (2008). B.R. Ambedkar: Perspectives on Social Exclusion and Inclusive Policies, New Delhi: Oxford University Press.  
Thorat, Sukhadeo (2009). Dalits in India: Search For Common Destiny, New Delhi: Sage Publications.  
Young, Katharine G. (ed.) (2019), The Future of Economic and Social Rights, Cambridge University Press, New York.

## **Specialization: B (Monitoring and Evaluation)**

### **PS-301 B: FUNDAMENTALS OF MONITORING AND EVALUATION**

**Learning objectives and outcomes:** The main objective of this paper is to train the students to use the techniques of monitoring and evaluation, which is commonly applied to understand and analyze project implementation problems/ gaps. The emphasis of this paper is on understanding M&E concepts with the help of statistical evaluative methods rather than learning statistics itself. Hence, in this paper a student will be introduced into various monitoring and evaluation concepts, which are useful for evaluating different projects. By the end of the course students will have clarity on the conceptual and applied monitoring and evaluation tools.

## **Unit- I**

Introduction to Monitoring & Evaluation (M&E), Role of M & E in Programme/Project management; Distinction between Monitoring & Evaluation, Different Types of Evaluations: Cross-sectional, Experimental, Quasi-Experimental.

## **Unit-II**

Meaning of Indicators, Process of Developing Indicator, Illustration of Indicators Developed from Large Scale Surveys-DLHS, NFHS, LASI; Measurement, Need & Levels of Indicator; Challenges in Developing Indicators from Large-Scale Surveys; **Types of Indicators – Input, Process, Output, Outcome, Impact.**

## **Unit- III**

Monitoring and Evaluation Framework; Requirement of Resources for Monitoring and Evaluation, Engagement of Stakeholders in Monitoring and Evaluation; Standards of Evaluation used by United Nations Evaluation Groups, Capacity Building for Monitoring and Evaluation.

## **Unit-IV**

Components of Programme/Project Evaluation: Budget, Staff, Process of Monitoring, Theory of Change: Framework, Developing Indicators, Identifying Assumptions, Identifying Interventions, Identifying Short, Medium and Long-Term Goals, Benefits of Theory of Change; Result Frameworks: Steps in Developing a Result Framework; Meta-Analysis; Realist Synthesis.

## **Unit-V**

Determination of Sample Size under Different Approaches; Identifying the Problem and Need Assessment, Evaluation Terms of Reference- **Formative and Summative Evaluations**, Possible Errors during Evaluations, **Time Dependent Cluster Design, Interrupted Time Series Analysis.**

## **Suggested Readings**

- FHI (2004). Introduction to Monitoring and Evaluation Monitoring and Evaluation, monitoring HIV/AIDS programs: A facilitator's training guide. Family Health International
- GoI & UNDP (2012). Guiding Framework for Monitoring and Impact Evaluation of Capacity Building & Training of Panchayati Raj Institutions in States/UTs. Government of India and United Nation's Development Programme
- Gupta, S. C and V. K. Kapoor (2014), Fundamentals of Applied Statistics, Sultan Chand & Sons, Delhi.
- IFRC and RCS (2002). Handbook for Monitoring and Evaluation. International Federation of Red Cross and Red Crescent Societies –Geneva
- Rossi, Peter H., Mark W. Lipsey and Howard E. Freeman (2004). Evaluation, A Systematic Approach. Seventh Edition. Sage Publications – New Delhi.
- UNDP (2009). Handbook on planning, monitoring and evaluating for development results. United Nations Development Programme - New York.
- UNESCO (2014). Monitoring and Evaluation Guidance for School Health Programs: Thematic Indicators. United National Educational, Scientific and Cultural Organization.
- Kothari, C.R. (2004). Research methodology, methods and techniques (Second revised edition). New Delhi: New Age International (P) Ltd., Publishers.



## PS-302B: ANALYTICAL METHODS IN EVALUATION

**Learning objectives and outcomes:** This course aims to provide students with hands-on practice of evaluation tools which can be used in evaluations of different programmes/projects. On completion of the course, the students shall be able to understand evaluation purpose; Evaluation methodology; Mandatory requirements for programme; SWOT analysis of different programmes, social audits for different projects, etc.

### Unit-I

Data Requirement at Different Stages of the Project; Evaluation at Different Points: Baseline, Mid-point, Concurrent and End-line Evaluation; Principles, Norms and Standards for Evaluation; Randomization, Statistical Design of Randomization; Randomized Control Trials.

### Unit-II

Log frame Matrix for Program Implementation; SWOT analysis of National Health Mission, Reproductive and Child Health Programme, **Integrated Child Development Services and National Adolescent Health Mission**; Social Audit - Data Requirement and Analytical Approaches, Case Study of Social Audit.

### Unit-III

Management Information System and Use of Technology: MIS (Monitoring Information System)- Development of Indicators, Testing of Indicators and Finalization of Indicators; Role of Programmers; HMIS system; **Global Positioning System and Use of Other Technology**.

### Unit-IV

Statistical Inferences used in Different Intervention Design – z test, t test, F test and paired 't' Tests; **Difference in Difference Method**; Impact evaluation using difference in difference method.

### Unit-V

Cost Benefit Analysis (CBA): Calculation of Benefits, Calculation of Cost and Calculation of Net Benefits; Assumptions and Limitations of Cost-Benefit Analyses; Cost Effectiveness Analysis (CEA); **Systematic Reviews**; PRISMA 2020 Checklist.

### Suggested Readings:

- Casley, Dennis J and Kumar, Krishna (1988). The Collection, Analysis, and Use of Monitoring and Evaluation Data. A World Bank Publication, The John Hopkins University Press
- NIRD&PR; MoRD and TISS (2016). Social Audit: A manual for Trainers. National Institute of Rural Development & Panchayati Raj; Ministry of Rural Development and Tata Institute of Social Sciences
- Bhattacharjee, Anol. (2012). Social science research: Principles, methods, and practices. Textbooks collection. Book 3. [http://scholarcommons.usf.edu/oa\\_textbooks/3](http://scholarcommons.usf.edu/oa_textbooks/3)
- Kothari, C.R. (2004). Research methodology, methods and techniques (Second revised edition). New Delhi: New Age International (P) Ltd., Publishers.

- Gupta, S. C and V. K. Kapoor (2014), Fundamentals of Applied Statistics, Sultan Chand & Sons, Delhi.
- Page, MJ., McKenzie, JE., Bossuyt PM et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71.
- Ramchandran, P. (1968), Social Work Research and Statistics, Allied Publishers, Bombay.
- Siegel, Jacob S. and David A. Swanson (eds.) (2004), The Methods and Materials of Demography, Elsevier Academic Press, San Diego.
- Snedecor, G. W and W. G. Cochran (1994), Statistical Methods, Oxford and IBH Publishing Company, New Delhi.
- Mishan, E. J. (2016). Elements of Cost-Benefit Analysis, Routledge, London.

### PS-303 B: LARGE SCALE SURVEY DESIGN

**Learning objectives and outcomes:** By the end of the course, the students should be able to:

- To understand the need for large data in monitoring and evaluation of population and development issues
- To introduce national and international surveys and guide students in managing these large-scale data
- To make students acquainted about different methods of collecting large-scale data
- To familiarize students about management of large-scale surveys

#### Unit-I

Concept of Large-Scale Surveys, Need for Large Scale Survey, Objectives of Cross-Sectional, longitudinal, Rotational Surveys. **Sample Size Determination** and Sample Allocations for such Surveys to Districts, States and Regions in Terms of Individuals, Households and Primary Sampling Units.

#### Unit-II

Sources of Sampling Frame for Cross-Sectional, Longitudinal and Rotational Surveys; Explicit and Implicit Stratifications, Domain Controlled Sampling by Regions and Social Groups, **Merging and Segmentation Procedures for Small and Large Primary Sampling Units**. Mapping and Listing for Preparation of Frame for Last Stage Sampling Units.

#### Unit-III

Revisit of Sub-samples, Field Check Tables, Non-response Pattern, and Quality lot Assurance, Roles of Supervisors, Editors, Field and Nodal Agencies; Third Party Audit; **Ethical Considerations in Large Scale Sample Surveys**.

#### **Unit-IV**

Computer Assisted Personal Interview (CAPI), Process of Data Transfers, Introduction to Features of Census and Survey Processing System (CSPRO), Steps for Development of Data Entry Software in CSPRO, Estimation of Sampling Weights, **Preparation of Factsheets, Reports and Other Deliverables.**

#### **Unit-V**

Introduction to Evaluation of Population, Health and Family Welfare Programme, Objectives of the Evaluation, Types of Evaluation, Evaluation Framework, **Types and Levels of Indicators in FW Programme Evaluation**, Methodological Issues in Different Evaluation Studies in India.

#### **Suggested Readings:**

Bertrand Jane T., Robert J. Magnani, Naomi Rutenberg (1994): Handbook of Indicators for Family Planning Programme Evaluation, The Evaluation Project, Carolina Population Center, University of North Carolina at Chapel Hill, USA.

Chaudhuri Arijit. (2010). Essentials of Survey Sampling, PHI Learning, New Delhi  
Government of India, (1996): Community Need Assessment, Ministry of Health and Family Welfare, New Delhi.

Gupta S.P (2019). Statistical Methods, Sultan Chnad and Sons, New Delhi

Kish, Leslie, (1995). Survey Sampling, John Wiley and Sons, Inc. New York.

Kothari, C.R. (2004). Research methodology, methods and techniques (Second revised edition). New Delhi: New Age International (P) Ltd., Publishers.

Ladusingh, L. (2018). Survey Sampling Methods, PHI Learning, New Delhi

Lohr L. Sharaon. (1999). Sampling: Design and Analysis, Duxbury Press, London

Nardi, Peter M. (2018). Doing Survey Research: A Guide to Quantitative Methods, Routledge.

Roy, T.K., Acharya R., Roy, A.K. (2016). Statistical survey design and evaluating impact, Cambridge University Press, New Delhi.

### **PS-304: RUDIMENTS OF POPULATION STUDIES (CBCS)**

**Learning objectives and outcomes:** This course aims to provide students with the most basic and important facts of Population Studies.

After completion of this course the student will be able to:

- Learn scope and relationship of Population Studies with Other Disciplines
- Distinguish among different concepts and measures used for fertility study
- Basic Measures of Nourishment, Morbidity and Mortality
- Concepts and Measures of Migration and Population Ageing

#### **Unit I**

Population Studies: Scope and Relationship with Other Disciplines; Views of Malthus and Karl Marx on Population; Theory of Demographic Transition and its Different Stages; Sources of Demographic Data; **Age-sex Structure and its Common Measures.**

#### **Unit II**

Fertility: Concept and Basic Measures - Crude Birth Rate, Age-specific Fertility Rate and Total Fertility Rate (TFR); Gross-Reproduction Rate (GRR) and Net Reproduction Rate (NET), **Methods of Family Planning; Determinants of Fertility**; Theories of Fertility: Social Capillarity Theory, Theory of Diffusion and Cultural Lag, Theories of Leibenstein.

### **Unit III**

Concept of Health Status: Morbidity and Mortality; Basic Measures of Morbidity and Mortality; Causes of Infant Mortality; Causes of Maternal Mortality, Status of Communicable and Non-communicable diseases in India, Mortality Decline in India, Concepts of Life expectancy and Life Table.

### **Unit IV**

Migration: Concept of Mobility and Migration, Sources and Quality of Data, Types of Migration- Internal and International, Determinants and Consequences of Internal Migration; Factors affecting Population Distribution; Urban Area, Urbanization and Urban Population Growth; **Urban Problems in India.**

### **Unit V**

Concepts and Measures of Population Ageing; Components of Population Ageing; Inter-relationship between Population Ageing, Fertility, Mortality and Migration; Population Ageing and Momentum of Population Growth, Age Structure Transition and Ageing, and Declining Population; **Population Policies in Developed and Developing Countries with Special Reference to India.**

#### **Suggested Readings:**

- Bhende, A. and T. Kanitkar (2010), Principles of Population Studies, Himalaya Publishing House, Mumbai.
- Chandana, R. C. (2002), Geography of Population: Concepts, Determinants and Patterns, Kalyani Publishers, New Delhi.
- Das Gupta, Monica, Lincoln C. Chen and T. N. Krishnan (eds.) (1996), Health, Poverty and Development in India, Oxford University Press, Delhi.
- Desai, A. R. and S. Devidas Pillai (eds.) (1990), Slums and Urbanisation, Popular Prakashan, Bombay.
- IrudayaRajan, (2007) Social Security for the Elderly Experiences from South Asia, Routledge, New Delhi.
- Pathak, K. B. and F. Ram (1992), Techniques of Demographic Analysis, Himalaya Publishing House, Bombay.
- Siegel, Jacob S. and David A. Swanson (eds.) (2004), The Methods and Materials of Demography, Elsevier Academic Press, San Diego.
- Srinivasan, K. (1998), Basic Demographic Techniques and Applications, Sage Publications, New Delhi.
- UNFPA (2001), Population Ageing and Development: Social, Health and Gender Issues, United Nations, Malta.
- World Health Organization (2015), WHO Report on Ageing and Health, WHO, Geneva
- Yadava, K. N. S. (1989), Rural-Urban Migration in India: Determinants, Patterns and Consequences, Independent Publishing Company, Delhi.

## PS-305: SPSS FUNDAMENTALS (PRACTICAL)

### Learning objectives and outcomes:

In this paper students will learn advanced at handling and analysis software i.e. SPSS. Creation of data frame, data editing, data merge, syntax writing, construction of indices, correlation and regression analysis and all these aspects will be done in this statistical software. Data analysis and interpretation of the result is a major part of learning in this section. After successful completion of this paper student will get the ability of data handling and their analysis, synthesis, critical thinking power will increase which help them to compete in the current job market.

1. Creation of Data Frame	7. Cross-tabulation
2. Editing of data	8. Construction of Indices
3. Merging files	9. Pearson Correlation Coefficient
4. Syntax writing	10. Linear Regression Equations
5. Recoding and computing	11. Logistic Regression
6. Likert Scale and Index	12. ANOVA

## Fourth Semester

**Students can choose either Group-A or Group-B elective papers in the fourth semester**

**(Group-A)**

### **PS-401E: POPULATION AND ENVIRONMENT**

**Learning objectives and outcomes:** This paper attempts to address the interrelationship between population growth, environment and development. After the successful completion of this paper, students will be able to understand the concept sustainable development in relation to environment, recent trends in sustainable development with specific focus on population changes, various approaches of development, concepts of carrying capacity of land, pollution, climate change, resource scarcity, environmental degradation, environmental sustainability etc. will help to visualize environmental concerns for the survival of human society.

#### **Unit I:**

Concept of Human Ecology and Environment; Ecosystem: Definition, Types, Structure and Component; **Concept of Food Chain, Food Web and Ecological Pyramid**; Natural Resources: Types, Renewable and Non-Renewable Resources, Resource Scarcity and Depletion; Biodiversity: Definition, Level, Values and Conservation.

#### **Unit II**

Environmental Degradation: Air pollution, Water Pollution, Soil Pollution, Noise Pollution, Green House Effect: Global Warming, Climate Change, Ozone Depletion, Acid Rain; **Population growth and carrying capacity**; Pressure of Population Growth on Land: Soil Erosion, Desertification, Deforestation and Soil Salinity; Kuznets curve.

#### **Unit III**

Environment in the Context of Development, Interrelationship between Population Growth, Environment and Development; Concepts of Development and Its Measures: Human Centered Development-Welfare Approach, **Investment in Human Capital Approach, Millennium Development Goals (MDG)**, Sustainable Development Goals (SDG) in relation to Environment.

#### **Unit IV**

Implications of Population Growth on food supply, water, sanitation, housing, employment, health and education; Human Eco-systems: Ecological imbalance caused by natural and human factors and their impacts on human ecological systems; **Environmental Sustainability**; Julian Simon theory, Ester Bosrup theory, Marx theory, Neo Malthusian theory.

#### **Unit V**

Guidelines for Environmental Protection, International Protocols, Developmental Plans, Policies and Strategies in India in the Context of Population and Environment; World Environmental Summits: Human Environment Conference in Stockholm (1972), Earth Summit in Rio de Janeiro, Brazil (1992), Millennium Summit (2000) and Sustainable Development (2015)

### **Suggested Readings:**

- Dash, M. C. and P. C. Mishra (2001), *Man and Environment*, Macmillan India, Calcutta.
- Kumar, U. and M. J. Asija (2007), *Biodiversity: Principles and Conservation*, Agrobios (India), Jodhpur.
- Mehta, C. S. (2009), *Environmental Protection and the Law*, A.P.H. Publishing Corporation, New Delhi.
- Narayan, B. (2009), *Disaster Management*, A.P.H. Publishing Corporation, New Delhi.
- Prakash, Indu (1994), *Disaster Management: Societal Vulnerability to Natural Calamities and Man Made Disasters, Preparedness and Response Indian Scene*, RashtraPrahariPrakashan, Ghaziabad.
- Sharma, P. D. (2000), *Ecology and Environment*, Rastogi Publications, Meerut.
- Singh, Savindra (2015), *Environmental Geography*, Pravalika Publications, Allahabad.
- Singh, Y.K. (2006), *Environmental Science*, New Age International (P) Limited, New Delhi.
- Trivedi, P. C. (2004), *Environmental Pollution and Management*, Aavishkar Publishers, Jaipur.

### **Group-A**

#### **PS-402E: EPIDEMIOLOGY AND PUBLIC HEALTH**

**Learning objectives and outcomes:** Epidemiology and Public Health are most crucial part of the Population studies syllabus. It creates and applies methods for quantitative and qualitative research in health sciences. The main objective of this course is to equip students with the basic concepts and methods and enable the students to apply the course learning to the public health system and its challenges. At the same time, the course aims to equip the students with recent advances in the fields of epidemiology and public health system.

#### **Unit I**

Epidemiology: Historical aspect, Definition, Components and Aims; Epidemiological Methods: Descriptive Epidemiology, Analytical Epidemiology - Case Control and Cohort Studies; Concepts of Attributable and Relative Risk; Concept of Experimental Epidemiology; **Concepts of Association and Causation; Uses of Epidemiological Studies.** Specificity, sensitivity, ROC curve; Epidemiological Transition Theory.

#### **Unit II**

Investigation of an Epidemic: Objectives and Major Steps; **Screening for Diseases: Concept, Use and Types;** Screening Test and its Evaluation; Randomized Controlled Trail: Concept, Steps, Types; Non-Randomized Trails: Concepts and Types.

#### **Unit III**

Health: Concept and its determinants; Public Health: concept and historical aspect; Health Care of the Community: Concept, Levels, Elements and Principles of Health Care; Assessment of Health Status and Health Problems; Primary Health Care in India: Village, Sub-Centre, **PHC, CHC and District Levels; Health Insurance.**

#### **Unit IV**

Health Systems and its Components: Concept of Health System, building blocks of health system, Pillars of health system, stakeholders in health care system, human capital and health, role of government in providing health care, improving access to health care with quality; Health care legislations in India: Legal aspect of health care, MTP Act, biomedical waste Rules, PNDT Act, Transplantation of human organs Act.

## Unit V

Development of National Health Policy: Evolution of Indian National Health Policies in 1981-83, 2001 and 2017; Sustainable Development Goals; ICDS Programme; National Rural Health Mission; National Health Programmes on communicable diseases: **National AIDS Control Programme (NACP)**; National health Programmes on Non-communicable Diseases: National Tobacco Control Programme (NTCP), National Mental Health Programme (NMHP).

### Suggested Readings:

Banerji, Debabar (1985), *Health and Family Planning Services in India: An Epidemiological, Socio-cultural and Political Analysis and A Perspective*, Lok Prakash, New Delhi.

Good, Christopher Saxty (ed.) (1976), *The Principles and Practice of Clinical Trials: Based on a Symposium organized by the Association of Medical Advisers in the Pharmaceutical Industry*, Churchill Livingstone, Edinburgh.

McMahon, B. and T. F. Pugh (1970), *Epidemiology: Principles and Methods*, Little Brown and Company, Boston.

Ministry of Health and Family Welfare (2000), *Bulletin on Rural Health Statistics in India*, Government of India, New Delhi.

Ministry of Health and Family Welfare (2002), *National Health Policy: 2002*, Government of India, New Delhi.

Park, K. (2009), *Text Book of Preventive and Social Medicine*, Banarsidas Bhanot Publishers, Jabalpur.

United Nations (2010), *Millennium Development Goals Report 2010*, Department of Economic and Social Affairs, New York.

*Epidemiology and Management for Health Care*: Sathe, et al. Popular Prakashan, Mumbai,

Maxcy-Rosenau-Last *Public Health & Preventive Medicine*, Fourteenth Edition Ed Robert Wallace, MD, et al.

Mary-Jane Schneider, *Introduction to Public Health*, 2nd Ed... Jones and Bartlett, 2006



## Group-B

### PS-401F: GENDER AND REPRODUCTIVE HEALTH

**Learning objectives and outcomes:** The objective of this paper is to impart knowledge to students on gender issues related to population, development, and health. The main goal is to build skills among students to analyze and understand evidence relating to institutional context of gender and gender-based inequalities and linkages between gender, population, development, and reproductive health. Student will learn about Female Status and Autonomy, Women's Empowerment and their relationship with Reproductive health and Development.

#### Unit -I

Definitions, Concepts and Terminologies: Gender, Unequal Gender Relations, Gender Equity, Gender Disparities, Gender Inequalities, Gender Main Streaming, Gender Sensitive Planning and Gender Balance; Feminists Theories: Evolution of Feminism; Shift from Women in Development to Gender in Development. **International and National Experiences: Different Theories of Feminism.**

#### Unit -II

Gender and Social Institutions in India: State, Legal System, Religious, Family, Society, Marriage Customs and Patterns, Dowry System; Implications for Sex Ratio Trends and Patterns in India: Son Preference, Desired Sex Composition of Children, **Child Sex Ratio, Sex Ratio at Birth and Sex Selective Abortion;**

#### Unit-III

Gender Based Violence; Gender and Mass Media: Language, Image and Portrayal of Women in Different Mass Media; Gender Mainstreaming; Assisted Reproductive Technologies and its Use and Misuse; Measures to Address Infertility in India, **Gender Sensitive Financing and Budgeting.**

#### Unit -IV

Reproductive Health (RH): Definition and Rationale of RH Approach; Evolution of Ideas about Reproductive Health; Components of RH and Life Cycle Approach of RH; Abortion: Spontaneous, Induced Abortion, Legal and Illegal Abortions, Safe and Unsafe Abortions, Laws regarding Abortion in India; **Infertility: Measurement of Infertility, Sexual Dysfunction**

#### Unit -V

Gender and Reproductive Health: Rights Based Approach to Gender Equity and Reproductive Health and HIV/ AIDS; Gender and HIV/AIDS Vulnerability and its Demographic Impact; Reproductive Rights and Ethical Issues; Human Rights and Values: Ethical Values in RH Services, Information, **Liberty of Choice, Professional and Ethical Issues.**

**Suggested Readings:**

- Basu, Alaka M., (1992): Culture, The Status of Women and Demographic Behaviour, OxfordUniversity, New York.
- Berer, M., (2000): Making Abortions Safe: A Matter of Good Public Health Policy and Practice, Bulletin, WHO, Vol. 78(5), pp. 590-592. 2.
- Bott, S. et al (Eds. 2003): Towards Adulthood: Exploring the Sexual and Reproductive Health of Adolescent in South Asia, World Health Organization, Department of Reproductive Health and Research, Geneva. 28
- Dyson, Tim and Mick Moore, (1983). "On Kinship structure, female autonomy, and demographic behaviour in India", Population and Development Review vol. 9(1), pp.35-60.
- Ellsberg Mary and Heise Lori L. (2005) Researching violence against women: A practical guide for researchers and activists. WHO and Path, Washington D.C.
- Folbre, Nancy. (1992). Improper arts: Sex in classical political economy. Population and Development Review. 18(1): 105-112.
- Gita Sen, Adreinne Germain and Lincoln C. Chen, (Eds.), (1994): Population Policies Reconsidered: Health and Empowerment and Rights, Harvard University Press, Harvard

**Group-B****PS-402F: POPULATION AGEING AND HEALTH CARE**

**Learning objectives and outcomes:** This course is meticulously designed to provide students with a comprehensive understanding of population aging. It begins by equipping students with the foundational knowledge of population aging, including its key components and intricate relationships with fertility, mortality, migration, and age structure transitions. Subsequently, it delves into the critical aspects of healthcare for older adults, encompassing age-related health challenges, long-term care, and the significance of geriatric medicine. Additionally, the course explores the intricacies of family dynamics, caregiving responsibilities, the importance of social inclusion, and the detrimental consequences of ageism affecting the elderly. Furthermore, it examines the economic dimensions of population aging, spanning the aging workforce, retirement policies, economic ramifications, and pension reforms. Lastly, the course extends its focus to a global perspective, studying social and economic support policies worldwide, with special attention to India, and introduces international initiatives in elderly healthcare and research.

**UNIT I: Introduction to Population Ageing**

Understanding Demographics and Population Ageing, components of population ageing; Inter-relationship between population ageing, fertility, mortality and migration; population ageing and momentum of population growth, age structure transition and ageing, and declining population.

**UNIT II: Health and Healthcare Implications**

Healthcare Needs of an Aging Population, Biological aspects of aging, Common health challenges in old age, Chronic diseases and age-related conditions, Long-term care requirements, Preventive healthcare for older adults, Challenges in healthcare delivery for the elderly, Geriatric medicine and specialized care.

### **UNIT III: Ageing and Social Implications**

Family and Caregiving Dynamics; The role of families in elder care, Challenges faced by caregivers, Support systems and resources, Social Inclusion and Well-being; Promoting active aging, Age-friendly communities, and policies, combatting ageism and stereotypes, Ill treatment and associated mental health outcomes.

### **UNIT IV: Economic Consequences**

Labor Force and Retirement; The aging workforce, Extended retirement and its benefits, Government policies on retirement age, Economic Challenges; Economic impact of an aging population, Strategies for addressing economic challenges, Pension, and social security reforms, Measures of Ageing.

### **UNIT V: Ageing Policies and Programmes**

Social and Economic Support Policies and Programmes for the Elderly-Retirement, Pensions and Social care Policies in developed and developing Countries, Social security and welfare policies and programmes for elderly in India, National Programmes for Health Care of Elderly (NPHCE); National Policy for Senior Citizens, Worldwide Longitudinal Ageing Studies in 40 countries: LASI, SAGE, SHARE, HRS, CHARLS, JSTAR, ELAS, KLoSHA.

### **Suggested Readings:**

Bloom, D.E., D. Canning, et.al. (2002): *The Demographic Dividend: A New Perspective on the Economic Consequences of Population Change*. Santa Monica, CA, RAND.

Bose, A.B. (2006). *Social Security for the Old*. New Delhi: Concept Publishing Company.

Irudaya Rajan, (2007) *Social Security for the Elderly Experiences from South Asia*, Routledge, New Delhi.

Linda J. Waite (ed.) (2004) *Aging, Health, and Public Policy: Demographic and Economic Perspectives*, Supplement to Population and Development Review

Prskawetz, Bloom, and Lutz, eds., 2008 *Population Aging, Human Capital Accumulation, and Productivity Growth*, A Supplement to Population and Development Review.

United Nations (2001): *Living Arrangements of Older Persons: Critical Issues and Policy Responses*. Population Division, Department of Economic and Social Affairs, Special Issue Nos. 42/43, 2001, New York.

UNFPA, 2001, *Population Ageing and Development: Social, Health and Gender Issues*, United Nations, Malta.

United Nations (1994), *Ageing and the Family*, United Nations, New York

United Nations (1998), *Economic and Social Implications of Population Ageing*, Department of International Economic and Social Affairs, UN, New York.

World Health Organization (2015), *WHO Report on Ageing and Health*, WHO, Geneva

### **PS-403: DISSERTATION**

***\*Bold-marked bit(s) in each unit of the paper is/are for self-study by the students under the guidance of concerned teacher.***

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