



# Master of Arts/Science in Population Studies Syllabus

Approved by the Academic Council on 05 July 2023



(स्थापना/ Established in 1956)  
बेहतर भविष्य के लिए क्षमता निर्माण  
Capacity Building for a Better Future

## INTERNATIONAL INSTITUTE FOR POPULATION SCIENCES

[Deemed to be University]

Deonar, Mumbai 400 088. <http://iipsindia.ac.in>

### Index to the Courses

Course No.	Course Name	Course Type	Credits	Hours
<b>SEMESTER-I</b>				
MSP F1	Social Science Concepts	Foundation	NC	45
MSP C1	Basic Statistical Methods for Population Studies	Core	4	60
MSP C2	Demography and History of Population	Core	2	30
MSP C3	Age-sex Structure, Quality of Data and Population Dynamics	Core	2	30
MSP C4	Nuptiality	Core	2	30
MSP C5	Fertility	Core	3	45
MSP E1.1	Healthcare System and Policies	Elective	3	45
MSP E1.2	Biostatistics and Epidemiology	Elective		
MSP E1.3	Family Demography	Elective		
<b>Semester Credits</b>			<b>16</b>	<b>285</b>
<b>SEMESTER-II</b>				
MSP C6	Mortality, Morbidity and Public Health	Core	4	60
MSP C7	Research Methodology I	Core	2	30
MSP C8	Gender Equity and Reproductive Health	Core	3	45
MSP C9	Migration and Urbanization	Core	4	60
MSP C10	Statistical Methods and Computer Applications	Core	2	30
MSP E2.1	Historical Demography	Elective	3	45
MSP E2.2	Health Economics and Financing	Elective		
MSP E2.3	Urbanisation, Space and Planning	Elective		
MSP E2.4	Gender, Health and Development	Elective		
MSP V1	Viva-Voce-I	V1	2	30
<b>Semester Credits</b>			<b>20</b>	<b>300</b>
<b>SEMESTER-III</b>				
MSP C11	Application of Statistical Packages in Large Scale data	Core	4	60
MSP C12	Population Projections	Core	2	30
MSP C13	Demographic Estimation Techniques and Models	Core	2	30
MSP C14	Population, Development and Environment	Core	4	60
MSP C15	Population Policies and Programme Evaluation	Core	4	60
MSP C16	Research Methodology II	Core	3	45
MSP E3.1	Concepts and Measures of Global Health	Elective	3	45
MSP E3.2	Political Demography	Elective		
MSP E3.3	Population, Environment and Sustainable Development	Elective		

Course No.	Course Name	Course Type	Credits	Hours
MSP E3.4	Occupational Health	Elective		
<b>Semester Credits</b>			<b>22</b>	<b>330</b>
<b>SEMESTER-IV</b>				
MSP C17	Spatial Demography and Application of GIS	Core	4	60
MSP C18	Population Ageing and Health Transition	Core	4	60
MSP E4.1	Operations Research in Reproductive Health	Elective	3	45
MSP E4.2	Monitoring and Evaluation in Population and Health	Elective		
MSP E4.3	Gender Theories in Demography and Development	Elective		
MSP D	Dissertation	Core	10	
MSP V2	Viva-Voce-II	Core	2	
<b>Semester Credits</b>			<b>23</b>	<b>165</b>
<b>TOTAL CREDITS</b>			<b>81</b>	

- F – Foundation course, C – Core course, E – Elective course, NC: Non Credited course; V-Viva voce, D–dissertation.
- Semester I: One elective should be opted; i.e. E1.1/E1.2/E1.3
- Semester II: One elective should be opted i.e. E2.1/E2.2/E2.3/E2.4
- Semester III: One elective should be opted; i.e. E3.1/E3.2/E3.3/E3.4
- Semester IV: One elective should be opted; i.e. E4.1/E4.2/E4.3

## SEMESTER – I

**MSP F1**

**45 Hours**

### **SOCIAL SCIENCE CONCEPTS**

#### **Course Outcomes:**

CO1: To gain familiarity with basic social science concepts that has bearing on understanding population dynamics.

CO2: Understand the varied aspects of social reality, such as caste, tribe, gender, kinship, marriage, social mobility and religion in terms of its relevance in population studies.

CO3: Viewing population in space and time and read population geography in consideration of man-environment relationship, geographical factors and regional perspective.

CO4: Recognition of interplay between economic development and population changes in an evolving world order.

CO5: To understand the psychological concepts like perception, behaviour, emotion, personality, coping mechanism, and their bearing on Population Studies

#### **SOCIOLOGY**

1. Sociology: sociology as a social science- its nature, subject matter and scope
2. Relation of sociology with other social sciences, sociological perspectives
3. Basic Concepts in sociology
4. The Family:
  - a) Sociological Significance of the Family b) Types and functions of Family
  - c) Nuclear and joint families
5. Marriage: Different forms of marriage, changing patterns of marriage/mate selection in India
6. Kinship –features of kinship system in India, regional variations
7. Social stratification: Social Class and Caste: Principles of Class and Caste
8. Socialization: agencies of socialization
9. Culture: meaning and characteristics of culture.
10. Society and Culture in India
  - a) Aspects of society and culture in India, and its role and importance in Population Studies.
  - b) Social Institutions and their role in influencing demographic situation of India  
- Family, Marriage, Kinship and Religion
11. Caste System
  - i) Concept and definition of Caste System,
  - ii) Changing Caste System in India
12. Social Mobility: vertical and horizontal, intra- and inter-generational mobility
13. Social Change  
Definition and Concept of Social Change
14. Process of Social and Cultural Changes in India and their role in influencing demographic behaviours: a) Sanskritization b) Westernization c) Modernization



## **GEOGRAPHY**

1. Importance of Geographical factors- Physical factors (relief, rainfall, temperature, soil and vegetation) Economic and Social factors (Mineral resources and industrialization, transport, language, religion and caste/tribe); the influence of geographical factors on population.
2. Geographical approaches: the concept of region- formal and functional regions; the concept of growth pole and regional development; core and periphery; distance and decay function; Mapsscale, choropleth, isopleths and distribution maps.
3. Physical divisions of India; administrative organization of India. Historic-Cultural regions; Agro-climatic regions; NSS regions.
4. Theoretical Perspectives in Geography- Place of geography in Social sciences; man and nature relationship- determinism and possibilism; Positivism (quantification) and Phenomenology; and Radical and Postmodern Geography.
5. Concept of Social Space; Social Structure and Spatial Structure; Role of time and space in social sciences.

## **ECONOMICS**

### **A. Introduction:**

Defining Economics and welfare Economics, Micro and Macro Economics, Economic and non-economic good, Basic Economic Activities, Factors of Production, Economic Systems.

### **B. Basic Concepts in Micro Economics**

Concept of Marginal and Total Utility, Law of Diminishing Marginal Utility, Theory of Demand: Indifference curves Theory and Properties, Equilibrium of consumer, Income, Substitution and Price effect. Elasticity of Demand: Price, Income and cross elasticity, Basic concepts in theory of production, cost and market structure.

### **C. Basic Concepts in Macro Economics**

Basic Concepts in National Income: Concept of GDP, NDP, GNP, NNP, NI, PCI, PPP, Theory of consumption and saving: Consumption function, Keynes' Psychological law of consumption, concept of APC and MPC, APS and MPS, Factors affecting consumption and savings, Basic concept of Investment.

## **PSYCHOLOGY**

### **Social Psychological Concepts:**

The Value of psychology and perspectives in psychology; scientific study of social influences on behavior and the interaction between individuals and groups; social pressure, leadership

### **Basics of Psychology:**

Why Psychology, branches of psychology, methods of research, Psychological well-being across major stages of the life span. Role of psychology in population studies.

### **Sensation, Attention and Perception:**

Sensation: concepts of threshold, Factors influencing attention including set and characteristics of stimulus; Definition and concept of perception, biological factors in perception; Perceptual organization-influence of past experiences, perceptual defense-factors influencing space and depth perception, size estimation and perceptual readiness; Extrasensory perception; Culture and perception, Subliminal perception.

### **Motivation and Emotion:**

Psychological and physiological basis of motivation and emotion; Effects of motivation and emotion on behaviour; Extrinsic and intrinsic motivation; Factors influencing intrinsic motivation; the related issues.

### **Personality:**

Definition and concept of personality; Theories of personality (psychoanalytical, socio-cultural, interpersonal, developmental, humanistic, behaviouristic, trait and type approaches); big 5 factor theory;

### **Language and Communication:**

Human language - Properties, structure and linguistic hierarchy, Language acquisition- predisposition, critical period hypothesis; Process and types of communication - effective communication training.

### **Psychological well being and Mental Disorders:**

Concept of health-ill health; Positive health, well being; Causal factors in mental disorders (Anxiety disorders, mood disorders, schizophrenia and delusional disorders; personality disorders, substance abuse disorders); Factors influencing positive health, well being, life style and quality of life; Happiness disposition.

### **ESSENTIAL READINGS:**

1. Davis, Kingslay, *Human Society*, MacMillan and Co., New York, (1975), Chapters 1, 3,5,6.
2. Kapadia, K. M., *Marriage and Family in India*, Oxford University Press, Calcutta, (1966).
3. Mandelbaum, D.G., *Society in India-Continuity and Change(vol.1) and Change and Continuity*, (Vol. 2). University of California Press, London, (1970).
4. Mac Iver R.M. and Charles H. Page, *Society: An Introductory Analysis*, Holt, Rinehard and Winston, New York, (1949), Chapters No.1, 3,7,11,15,22,24,25,26.
5. Srinivas M.N., *Social Change in Modern India*, University of California Press, Berkeley, (1966)
6. Sen, A. (2018). *Collective Choice and Social Welfare: An Expanded Edition*. United Kingdom: Harvard University Press.
7. Sigmund Freud, *The Interpretation of Dreams* (1900)
8. Charles M. Duhigg, *The Power of Habit* (2012)
9. Karen Horney, *The Neurotic Personality of Our Time* (1937)
10. Oliver Burkeman, *The Antidote: Happiness for People Who Can't Stand Positive Thinking* (2012) .
11. Carl Gustav Jung, *Man and His Symbols* (1964)
12. *Introduction to Psychology* 10th Edition James W. Kalat (2013)
13. Abler, R, Adams, J and Gould P., (1971): *Spatial Organization: The Geographer's view of the World*, Prentice Hall, New Jersey.
14. Johnston, R.J., (2004): *Geography and Geographers*, Oxford Unity Press.
15. Richard, Peet., (1998): *Modern Geographic Thought*, Blackwall Publishers
16. Singh, R.L., (1971) *India: A Regional Geography*, National Geographical Society of India, Varanasi.
17. Ahuja H.L, *Advanced Economic Theory: Microeconomic Analysis*, S. Chand and Company Limited, New Delhi, Chapters 5,6,7,8,9,12,16, 17, 18, 20
18. Koutsoiannis A, 1979, *Modern Microeconomics*, London: Macmillan Press Ltd,

19. Lipsey and Chrystal, 2004, Economics, Oxford university Press, Part One, part two and part five
20. Dasgupta AK, Epochs of Economic Theory, OUP, Bombay, Chapters 2, 3, 4, 7 and 8

#### SUGGESTED READINGS:

1. Kuppuswamy B., *Social Change in India*, Konark Publication Pvt. Ltd. Delhi, (1972).
2. Muzumdar, Haridas , *The Grammar of Sociology: Man in Society*, Asia Publishing House, Mumbai ( 1966).
3. Johnson, Harry M, *Sociology : A Systematic Introduction* , Allied publishers, Bombay (1966).
4. Mc Gee , Reece , *Sociology: An Introduction* , Holt, Rinehard and Winston, New York ( 1980).
5. Magill ,Frank N (ed.), *International Encyclopedia of Sociology*, Fitzroy Dearborn Publishers, London, (1995).
6. Francis John Monkhouse (1956) *Maps and Diagrams: Their Compilation and Construction*, University of Michigan.
7. JF Friedman (1966) *Regional Development Policy: A Case Study of Venezuela*, Cambridge, Massachusetts : MIT Press, 1966.
8. Samuelson, Paul A. and William D. Nordhaus., "Economics", New York: Tata McGraw Hill, part one, two and five
9. Datt R and Sundaram K.P.M, 2000, Indian economy, S. Chand & Company Ltd, Part II.

## BASIC STATISTICAL METHODS FOR POPULATION STUDIES

**Course Outcomes:**

- CO1: Refresh on basic statistical methods and its application to population data.
- CO2: Recognize the relevance of distribution in bivariate and multivariate tabulations.
- CO3: Application of statistical distribution in diagnosing demographic outcome and indicators.
- CO4: Develop an understanding of generalization based on principles of statistical analysis.

**Introduction to statistics:** Descriptive and Inductive statistics. Concept of variables, Nominal, Ordinal and Interval and ratio scale variables.

Tabulation of data, conversion of raw data into frequency distribution. Generating simple frequencies. Graphical presentation of nominal, ordinal data, Logarithms: properties of logarithms, Ratios, Proportion and rates, growth rates (arithmetic, geometric and exponential), Interpolation and Extrapolation.

Data Manipulation – recoding creating new variables, sorting, filtering and selection of specific data.

**Measures of Location:** Mean (arithmetic, geometric, harmonic) Median, Mode; Its temporal and cross-sectional comparison; virtues and vices as a means of aggregation. Analyzing mean, (arithmetic, geometric, harmonic), median, mode.

**Measures of dispersion:** Range, Variance, Standard Deviation, coefficient of variation; use and interpretation in comparative reading of situation. Measures of Skewness and Kurtosis.

**Techniques of analysing bivariate nominal and ordinal level data:** Contingency table, odds ratios, relative risk. Measuring association and interpreting concordance and discordance

**Probability concept and set theory:** Introduction to the concept of probability, A-priory, and mathematical probability. Events: exhaustive, mutually exclusive events; Illustrating Laws of probability, additive and multiplicative laws of probability through demographic data, Bayes' theorem. Discrete probability distributions: Binomial and exponential functions, Binomial probability distribution and Poisson distribution and their properties. Continuous probability distribution: Normal distribution and its properties, applications of normal distribution.

**Concept of correlation and regression:** Pearson correlation coefficient, and its properties; Spearman ranks correlation coefficient. Concept of linear regression, fitting of regression line to bi-variate data.

**Concepts in Inductive statistics:** Population, sample parameter, and statistic. Sampling distribution of mean and standard error. Concepts of statistical hypothesis, critical region, level of significance, confidence interval and two types of errors.



**Testing statistical hypothesis and test of significance:** Introducing the t-distribution, comparing two groups, principles of comparison, independent t-test and paired t-test, Assumptions involved in t-testing. Testing the association of attributes and Chi-square goodness of fit.

Analysis of Variance with and without interaction, Concept of unbiased estimates, Introduction to Multivariable Analysis. Multiple regression. Concept of Multiple and Partial correlation coefficients in regression analysis, Standardized regression coefficients, Regression with dummy variables. Logistic regression.

#### **ESSENTIAL READINGS:**

1. Blalock, Hubert M. (1960): *Social Statistics*, McGraw-Hill Book Company, New York.
2. Chakravorti, S.R. and Giri, N. (1997): *Basic Statistics*, South Asian Publishers, New Delhi.
3. Clarke, G.M. and Cooke, D., (1994): *A Basic Course in Statistics*, Arnold, London.
4. Dixon, W.J and Massey, F.J. (1983) *Introduction to Statistical Analysis*, 4th ed., New York, MC Graw Hill, 380-381, 534.
5. Goon, A.M., Gupta, M.K. and Dasgupta, B. (1985): *Fundamentals of Statistics* Vol. I, The World Press Private Ltd. Calcutta.
6. Jain, S.K. 1979. *Basic Mathematics for demographers*. Canberra: The Australian National University.

#### **SUGGESTED READINGS:**

1. Lipshutz, Seymour., *Schaum's Outline Theory and Problems of Set Theory and Related Topics* Series, Mcgraw Hill.
2. Marcello Pagano and Kimberlee Gourneau (2000) "Principles of Biostatistics" Second Edition, Duxbury Thomson Learning, United States.
3. Prakasam, C.P., G. Rama Rao, and R.B. Upadhyay (1987): *Basic Mathematics in Population Studies*, Gemini Publishers, Mumbai.
4. Siegel J.J. and D.A. Swanson (Ed.), 2004. *The Methods and Materials of Demography*. Second Edition. Elsevier Academic Press.
5. Venkatachary, K (1994). *Elements of Mathematics for Demographers*. Monograph Series No.9. Regional Institute for Population Studies, University of Ghana. Legon.
6. Bhat N.R and M.R. Singh, 1993. *Applied Mathematics*. New Delhi: Tata McGraw – Hill Publishing Company Ltd.
7. Dillon, W.R. and Goldstein, M. (1984): *Multivariate Analysis*, John Willey and Sons, New York.
8. Douglas and Altman (2006): *Practical Statistics for Medical Research*, Chapman and Hall Publication, Washington, D.C.
9. Fisher, L.D and Van Belle, G. (1993) *Biostatistics: A Methodology of the Health Sciences*, New York, Wiley Interscience.

**DEMOGRAPHY AND HISTORY OF POPULATION****Course Outcomes:**

CO1: Acquaint the students with the scope and relevance of the discipline of population studies.

CO2: Become aware of the global, regional and national population trends.

CO3: To understand the nature of diversity in the size, distribution, composition, and basic characteristics of population across Indian states.

CO4: To familiarize on various sources of demographic data in India, and their limitations.

CO5: To appreciate the historical perspectives on population change.

**1. Introduction to Demography**

Definition and Scope: Demography as a scientific discipline; Development of demography as a discipline. Multi-disciplinary nature of Demography, Linkage with other social science disciplines including statistics, mathematics, economics etc. Some basic demographic concepts. Balancing Equation and components of population change, Concept of doubling time. Malthusian concept of population growth and resources.

**2. Sources of Demographic Data**

Population census; Uses and limitations; Indian Censuses. Census taking under British India and later, details of different domain on which Indian census collect data, publication of census data/reports. Vital registration system., Historical data – Parish Records, National Sample Survey, Sample Registration System, Demographic Health Surveys (DHS), Longitudinal ageing Survey in India, Other sample surveys. Strengths and weaknesses of various data sets

**3. Population History**

Historical trends in population situation in the world. Present population situation and past and future trends in the world, in developed and developing countries.

Demographic characteristics of first modern people. Socio-economic and demographic features of Indus Valley Civilisation, population change from medieval to Mughal times

History of population in India: Population estimates in ancient time, population history during British rule, famine, plague, influenza and its impact on population, Trends and growth of India's population during pre-independence and post-independence period, major sources of data about the population in the past; major explanations of population change in the past; Contribution of fertility, mortality and migration to population change in the past.

**ESSENTIAL READINGS:**

1. Jacob S. Siegel and David a. Swanson (2004): *The Methods and Materials of Demography*, Second Edition, Chapters 1, 2, 3, 7, 8, 9,10, Elsevier Science, USA.  
[https://books.google.co.in/books/about/The\\_Methods\\_and\\_Materials\\_of\\_Demography.html?id=-uPrAAAAMAAJ&redir\\_esc=y](https://books.google.co.in/books/about/The_Methods_and_Materials_of_Demography.html?id=-uPrAAAAMAAJ&redir_esc=y)

2. John Weeks (2005): *Population: An Introduction to Concepts and Issues*, Wordsworth Learning. Singapore 9<sup>th</sup> edition.
3. Dyson, Tim, *A Population History of India: From the First Modern People to the Present Day* (Oxford, 2018; online edn, Oxford Academic, 18 Oct. 2018), <https://doi.org/10.1093/oso/9780198829058.001.0001>, accessed 20 Mar. 2023.
4. Bhende, A., and Kanitkar, T. (1996): *Principles of Population Studies* (Seventh Edition), Himalaya Publishing House, Bombay.

#### **SUGGESTED READINGS:**

1. Warren S. Thompson, (1930), *Population Problems*, New York; London: McGraw-Hill, [C1930]
2. Bogue, D., (1969): *Principles of Demography*, John Wiley and Sons, New York. United Nations, (1973): *The Determinants and Consequences of Population Trends*, Vol. I, Chapters 1, 2 and
3. Census of India: <http://www.censusindia.gov.in>
4. United Nations. DESA. World Population Prospects 2022. [https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/wpp2022\\_summary\\_of\\_results.pdf](https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/wpp2022_summary_of_results.pdf)
5. United Nations, (1998): *Handbook on Civil Registration and Vital Statistics Systems, Management, Operation and Maintenance*, New York.
6. United Nations (1958). *Multilingual Demographic Dictionary*, John Wiley & Sons Ltd., New York

## AGE-SEX STRUCTURE, DATA SOURCES AND POPULATION DYNAMICS

CO1: To familiarize the students with age-sex structure of the population

CO2: To develop capacity in measuring and analyzing the age-sex structure of a population and its determinants and consequences.

CO3: To develop an understanding of demographic transition and demographic dividend.

### Concepts and Measures of age and sex structure

Defining age and sex, sex ratio, sex ratio at birth, classification of age group and its importance, Measures of age structure; median age, percent distribution, dependency ratio, potential support ratio.

Age and sex pyramid of developed and developing countries, variations in age distribution, sex ratio and sex ratio at birth. Concept of age standardization, demographic transition theory and demographic dividend.

### Dynamics of Age-Sex Structure of the World and India

Present levels and past trends in the sex and age structure of the population of the world, developed and developing countries and India.

Importance of age-sex structure in population dynamics and factors affecting sex ratio of the population. Sex ratio of India's population and role of different factors in changing sex ratio.

Factors affecting age structure of the population: dynamics of age structure along with demographic transition; ageing of the population and relative role of low fertility and low mortality. Implication of migration on age sex structure.

### Evaluation and Adjustment of Demographic Data:

Appraisal of quality of age-sex data:

Types and source of errors

Methods of data evaluation and error detection: direct (Post-enumeration surveys) and indirect methods

Appraisal of birth and death statistics by means of balancing equation

Dual system of records

Techniques of evaluation of age and sex data:

Measures of errors in age data (Graphical representations, Whipple's index, Myer's index, Age ratio, Sex ratio and UN Joint score)

Evaluation of age data for young and old ages

Techniques of errors adjustment in age data and prorating

Quality checks incorporated in survey procedures to minimize errors

Possible errors and implications

Component of non-sampling errors

Mechanisms and protocols to minimize and correct errors

Quality Assessment of Large-Scale Demographic Surveys



### ESSENTIAL READINGS:

1. Jacob S. Siegel and David a. Swanson (2004): The Methods and Materials of Demography, Second Edition, Chapters 1, 2, 3, 7, 8, 9,10, Elsevier Science, USA.  
[https://books.google.co.in/books/about/The\\_Methods\\_and\\_Materials\\_of\\_Demography.html?id=uPrA\\_AAAMAAJ&redir\\_esc=y](https://books.google.co.in/books/about/The_Methods_and_Materials_of_Demography.html?id=uPrA_AAAMAAJ&redir_esc=y)
2. John Weeks (2005): Population: An Introduction to Concepts and Issues, Wordsworth Learning. Singapore 9th edition.
3. Bhende, A., and Kanitkar, T. (1996): Principles of Population Studies (Seventh Edition), Himalaya Publishing House, Bombay.
4. Preston, Samuel H., Heuveline, Patrick, and Guillot, Michel (2001) Demography: Measuring and Modeling Population Processes. Oxford: Blackwell Publishers.

### SUGGESTED READINGS:

1. Warren S. Thompson, (1930), Population Problems, New York; London: McGraw-Hill, [C1930]
2. Bogue, D., (1969): Principles of Demography, John Wiley and Sons, New York.
3. United Nations, (1973): The Determinants and Consequences of Population Trends, Vol. I, Chapters 1, 2 and 8.
4. Census of India: <http://www.censusindia.gov.in>
5. United Nations. DESA. World Population Prospects 2022.  
[https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/wpp2022\\_summary\\_of\\_results.pdf](https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/wpp2022_summary_of_results.pdf)
6. United Nations, (1998): Handbook on Civil Registration and Vital Statistics Systems, Management, Operation and Maintenance, New York.
7. Mukherjee S.B. 1976. 'The Age Distribution of the Indian Population: A Reconstruction for the state and territories, 1881-1961'. East-West Centre, University Press of Hawaii, Honolulu.
8. S Irudaya Rajan, K S James (2008). Third National Family Health Survey in India: Issues, Problems and Prospects, Economic & Political Weekly, November 29, 2008 33
9. K S James, S Irudaya Rajan (2004). Respondents and Quality of Survey Data. Economic and Political Weekly February 14, 2004

**NUPTIALITY**

- CO1: Familiarize students' basic concepts on nuptiality  
CO2: Inculcate an understanding of various theories of family formation.  
CO3: Identify the different sources of data for nuptiality  
CO4: Perform nuptiality analysis

**Nuptiality**

Introduction, Basic Concepts, Sources of Data and their limitations. Measures of Nuptiality from Registration data.

1. Analysis of Marital Status Data from Census.
2. Singulate Mean Age at Marriage (SMAM) - Synthetic Cohort and Decadal Synthetic Cohort Method.
3. Indices of Nuptiality (Coale's Indices)
4. Marriage Pattern in India and Selected Countries and related factors.
5. Marriage squeeze: Concepts and Implications, Concepts of Hypergamy and Hypogamy Gross and Net Nuptiality Tables.
6. Non-marriage
7. Multistate approach in Nuptiality analysis. Standard Age Pattern of Marriage – Coale's Model. Divorce and Widowhood.
8. Definition and basic measures.
9. Marriage Dissolution Tables and Remarriage Concept
10. Mean Age at Widowhood/Divorce from Census Returns.

Definition and Measures of Remarriages of Widowed and Divorces.

**ESSENTIAL READINGS:**

1. Siegel, Jacob S., and David A. Swanson (eds.), (2004) *The Methods and Materials of Demography* (Second edition). San Diego: Elsevier Academic Press.
2. Newell, Colin (1988) *Methods and Models in Demography*. London: Frances Pinter.
3. Asha A. Bhende and Tara Kanitkar, (2003), *Principles of Population Studies*, Sixteenth Revised Edition, Himalaya Publishing House, Mumbai.
4. Pathak, K.B. and F.Ram, (1998) *Techniques of Demographic Analysis*, Mumbai: Himalaya Publishing House, Chapter 4, Pp.108-153.

**SUGGESTED READINGS:**

1. Coale Ansley J. and T. James Trussell (1978) *Technical Note: Finding the Two Parameters that Specify a Model Schedule of Marital Fertility. Population Index* 44, 2 (1978), pp. 203-213.
2. Palmore, James A. and Gardner, Robert W. (1983) *Measuring Mortality, Fertility and Natural Increase: a Self-Teaching Guide to Elementary Measures*. Honolulu: East-West Population Institute, East-West Center.
3. Rowland, Donald T. (2006), *Demographic Methods and Concepts*. New York: Oxford University Press.
4. Bogue, Donald J., Eduardo E. Arriaga, and Douglas L. Anderson, eds. (publication editor George

- W. Rumsey) (1993) *Readings in Population Research Methodology*. Chicago: United Nations Population Fund. Volume 3: Fertility Research, (All three chapters but selected pages).
5. Pollard, A.H., Yusuf, Farhat and Pollard, G.N. (1990) *Demographic Techniques* (third edition). Sydney: Pergamon Press.

**MSP C5**

**45 Hours**

## **FERTILITY**

### **Course Outcomes:**

- CO1: Familiarize students on basic concepts on fertility  
CO2: Recognize socio-cultural and economic factors influencing fertility behaviours.  
CO3: Inculcate an understanding of various theories of reproduction and family formation.  
CO4: Identify the different sources of data for fertility measurements  
CO5: Perform fertility analysis

### **A. FERTILITY**

#### **1. Terms and Concepts**

Importance of the fertility study in population dynamics; Basic terms and concepts used in the study of fertility, desired family size, fertility regulation

#### **2. Framework for Fertility Analysis**

Determinants of natural fertility; Davis intermediate variables framework of fertility; Socio-economic determinants of proximate variables; Lee and Bulatao framework of fertility determinants.

#### **3. Fertility Transition in Developed Countries**

Historical fertility declines in European and Non-European Industrialized Countries and underlying factors; Below-replacement level fertility in developed countries and its implications.

#### **4. Fertility Transition in Developing Countries**

Pattern of fertility transition in developing countries; causes of high fertility in Africa and Asia. Fertility Transition in India: Historical trend and regional patterns in development, culture and fertility transition. Fertility Surveys – Findings and Emerging research issues.

#### **5. Hypotheses and Theories of Fertility**

Theory of Social Capillarity, Theory of Change Response, Theory of Diffusion and Cultural Lag, Liebenstein Theory, Becker's Theory, Easterlin's Framework of Fertility, Intergenerational Wealth Flow Theory, U. N. Threshold Hypothesis, Reproductive motivations and value of children theories. Second demographic transition

### **B. FERTILITY MEASURES AND MODELS**

#### **6. Introduction of Basic Concepts**

Sources of Data for Fertility Analysis

Concept of Period and Cohort Approaches

## **Direct Estimation of Fertility**

Period Measures of Fertility

Basic Fertility Measures

Order-Specific Fertility Rates

Marital Status Specific Fertility Rates

Standardized Birth Rates and Coale's Fertility Indices

Cohort Measures of Fertility

Children Ever Born

Completed Fertility

Parity Progression Ratios

Reproduction Measures

Concept of Maternity Function

Basic Idea of Tempo and Quantum Effects

## **8. Fertility Models**

Age patterns of Fertility: Coale and Trussell Fertility Model: Estimating M and m

Bongaarts and Potters Aggregate Fertility Model and its applications

## **Essential Readings:**

1. Preston, Samuel H., Heuveline, Patrick, and Guillot, Michel (2001) *Demography: Measuring and Modeling Population Processes*. Oxford: Blackwell Publishers.
2. Siegel, Jacob S., and David A. Swanson (eds.), (2004) *The Methods and Materials of Demography* (Second edition). San Diego: Elsevier Academic Press.
3. Newell, Colin (1988) *Methods and Models in Demography*. London: Frances Pinter.
4. United Nations, (1973), *Determinants and Consequences of Population Trends, Vol. 1*, pages 96-104, UN, New York.
5. Bongaarts, J and Potter, R (1983) *Fertility, Biology and Behavior: An Analysis of the Proximate Determinants*. Academic Press, New York.
6. Asha A. Bhende and Tara Kanitkar, (2003), *Principles of Population Studies*, Sixteenth Revised Edition, Himalaya Publishing House, Mumbai.
7. Pathak, K.B. and F.Ram, (1998) *Techniques of Demographic Analysis*, Mumbai: Himalaya Publishing House, Chapter 4, Pp.108-153.

## **Suggested Readings:**

1. David G. Mandelbaum, (1974), *Human Fertility in India: Social Components and Policy Perspectives*, University of California Press, Berkeley.
2. United Nations, (1973), *Determinants and Consequences of Population Trends, Vol. 1*, pages 96-104, UN, New York.
3. Coale Ansley J. and T. James Trussell (1978) *Technical Note: Finding the Two Parameters that Specify a Model Schedule of Marital Fertility*. *Population Index* 44, 2 (1978), pp. 203-213.
4. Palmore, James A. and Gardner, Robert W. (1983) *Measuring Mortality, Fertility and Natural Increase: a Self-Teaching Guide to Elementary Measures*. Honolulu: East-West Population Institute, East-West Center.
5. Rowland, Donald T. (2006), *Demographic Methods and Concepts*. New York: Oxford



- University Press.
6. Bogue, Donald J., Eduardo E. Arriaga, and Douglas L. Anderson, eds. (publication editor George W. Rumsey) (1993) *Readings in Population Research Methodology*. Chicago: United Nations Population Fund. Volume 3: Fertility Research, (All three chapters but selected pages).
  7. Sydney H. Coontz, (1968), *Population Theories and the Economic Interpretation*, Routledge, London.
  8. Siegel, Jacob S., and David A. Swanson (eds.), (2004) *The Methods and Materials of Demography* (Second edition). San Diego: Elsevier Academic Press.
  9. Newell, Colin (1988) *Methods and Models in Demography*. London: Frances Pinter.
  10. Asha A. Bhende and Tara Kanitkar, (2003), *Principles of Population Studies*, Sixteenth Revised Edition, Himalaya Publishing House, Mumbai.
  11. Pathak, K.B. and F.Ram, (1998) *Techniques of Demographic Analysis*, Mumbai: Himalaya Publishing House, Chapter 4, Pp.108-153.

**MSP C6**

**60 Hours**

## **MORTALITY, MORBIDITY AND PUBLIC HEALTH**

CO1: Become familiar with the basic definitions and concepts used, importance and the scope of mortality study and its bearing on fertility, and population health.

CO 2: Become aware of varied sources of health data (morbidity, mortality, disability), their merits/demerits, uses and significance as indicators; and their basic measures.

CO3: Explain synthetic formulation of survival experience (e.g., life table).

CO4: To convey the transitional and differential dynamics of early age life experiences.

CO5: To understand the linkages among epidemiology, mortality transition, and public health.

### **1. MORTALITY**

#### **1. Basic Concepts and Measures of Mortality**

Definition of deaths and fetal deaths according to WHO; Need and Importance of the study of Mortality; various sources of mortality data and its quality with special reference to the developing countries. Global Mortality and Emerging Issues

#### ***Introduction and basic measures:***

Some basic measures: - crude death rate (CDR) and Age-Specific Death Rates (ASDRs)- their relative merits and demerits.

#### ***Techniques of standardization and decomposition of Rates/Ratio***

Need and importance of standardization: direct and indirect technique of standardization of rates and ratios in the light of mortality rates; Decomposition.

#### ***Infant mortality and its sub-division***

Need and importance of the study of infant mortality in demographic analysis; Conventional measures of infant mortality (IMR) and its sub-divisions- Neo-natal, Post- Neonatal mortality and Peri-natal Mortality Ratio/Rate. Approaches for estimating infant and child mortality rates from birth history collected in large-scale surveys; and Lexis diagram.

### ***Measures of maternal mortality***

Maternal Mortality Rate, Ratios, Life time risk; Issues related to estimation of maternal mortality measures.

## **2. Life Tables**

### **Introduction**

Basic concept of a life table; types and forms of life table; Brief history of life tables; Anatomy of life table; uses of life table in demographic analysis.

Construction of Life tables based on Age- specific death Rates (ASDRs)

Underlying assumptions of life table construction using ASDRs of a community during a specified period; Methods of life table Construction-Conventional approach, and those proposed by Greville and Chiang.

## **3. Mortality and health transitions**

Levels and trends in mortality by regions, with special reference to India; age and sex specific mortality with a focus on excess female mortality; differentials by residence and socio- economic factors (occupation, income, education, etc); historic mortality transitions as experienced by developed countries (Europe); overview of epidemiological transition; changing disease and death pattern in developing countries; factors responsible for high mortality in the past; main causes of mortality decline in developing countries; current global mortality scenario; and concepts and overview of health transition.

## **4. Child survival framework**

Importance of infant mortality in population and health; causes of infant mortality (endogenous and exogenous factors); levels and trends (global and south Asia/India); and Mosley and Chen' framework for child survival.

## **5. Causes of death**

Importance of causes of death statistics; definition and sources of causes of death statistics; a brief history of the International statistical classification of diseases, injuries and causes of death (ICD); an overview of ICD – X and XI (1990, 2019); global leading causes of death (with a focus on Asia and India); cause of death statistics in India (RG: Rural and MCCD); distribution of deaths by main causes by age, development, life expectancy (UN).

## **B. MORBIDITY AND PUBLIC HEALTH**

## **6. Introduction to Morbidity**

Need and importance of the morbidity study; sources of morbidity data; concepts and definitions of health and morbidity, and burden of disease; conditions as proposed by WHO and other social scientists.

## **7. Measures of Morbidity**

Need for morbidity indices; various measures of morbidity: incidence and prevalence rates; interrelationships between measures of morbidity; other measures related to working day loss etc.

## **8. Public Health and Epidemiology**

Basic concepts of community health; principles of Epidemiology- basic concepts and definitions; types of Epidemiology: descriptive and analytical; epidemiology of communicable and non-communicable diseases; nutrition and health, environment and health; occupation and health.

### **ESSENTIAL READINGS:**

1.Caldwell, J, Sally Findley, Pat Caldwell and Gigi Santow (1990): What we know about health

- transition: The cultural, social and behavioural determinants of health. The proceedings of an international workshop, Vol.1&2, ANU, Canberra, Health Transition Centre.
- 2.Mosley, W. H. and L. C. Chen (1984): Analytical framework for the study of child survival in developing countries, Population and Development Review 10 (Supplementary Copy).
  - 3.Park, J.E. and K. Park (1989): Text Book of Preventive and Social Medicine (Twelfth Edition), M/S Banarsidas Bhanot Publishers, Jabalpur (Chapters 2 & 3).
  - 4.Ram, F. and K.B. Pathak (1998): Techniques of Demographic Analysis, 2nd Ed, Himalaya Publishing house, Bombay (Chapters 2 & 3).
  - 5.WHO (1992): International Statistical Classification of Diseases and related Health Problems, Tenth Revision, Vol. 1, Geneva.

#### **SUGGESTED READINGS:**

- 1.Omran, A. R. (1971): The epidemiologic transition: a theory of the epidemiology of population change, Milbank Memorial Fund Quarterly, Vol. XLIX, pp. 509-538.
- 2.Park, J.E. and K. Park (1989): Text Book of Preventive and Social Medicine (Twelfth Edition), M/S Banarsidas Bhanot Publishers, Jabalpur (Chapters 2 & 3).
- 3.Preston, S. H., Patrick Heuveline and Michel Guillot (2001): Demography: Measuring and Modeling Population Process, Blackwell Publishers, Oxford, UK (Chapters 2, 3 & 4).
- 4.Shryock, Henry S. Jacob Siegel and Associates (1980): The Methods and Materials of Demography Vol. 2, US Department of Commerce. Washington DC, pp. 389-393, Chapter 14

#### **MSP E1.1**

**45 Hours**

### **HEALTHCARE SYSTEMS AND POLICIES**

#### **Course Outcomes:**

- CO1: To develop capacity among students to analyze health systems from an international and comparative perspectives.
- CO2: To provide a historical orientation to the students on Indian-scenario; national health policy, health care delivery system, national health programmes and health sector reforms.
- CO3: To understand the need and relevance of health legislations as an instrument of protection and promotion of public health and inculcate the ability to critically review them.
- CO4: To introduce the students to health policy and systems research, and recent developments.

**Unit 1: Basic Concepts:** Concepts of Health; Public health; Community health; Preventive and curative health; Health promotion; Health services; and Primary, secondary and tertiary care.

**Unit 2: Health System:** Goals, boundaries, functions, and WHO's health system building blocks: service delivery, health workforce, health Information systems, access to essential medicines, financing and leadership/ governance.

**Unit 3: Health Services:** Basic models and functions of health services, international experiences and goals and elements in universal health care (UHC) approach.

**Unit 4: Health care system in India:** public sector, private sector, voluntary sector, human resources for health, access to health care, utilisation and expenditure on health services, and UHC initiatives and challenges ahead, SWOT analysis of Indian health system, a critique on the health delivery system- problems related to structural

**Unit 5: Health policy:** Concepts and tools of health policy, health policy stakeholders, health policy triangle framework, rational decision making to approach to health policymaking,

introduction to health policy and systems research.

**Unit 6: Health policymaking in India:** Health planning in post-Independent India, Bhore Committee Report 1946, National health policies, national health policy 2017, and current national health programmes.

**Unit 7: Regulation in the health sector:** Need for regulations, mechanisms for regulation, key legislations and standards in the health sector in India, and challenges in the implementation of regulations. Health care legislations in India: Legal aspect of health care, MTP Act, biomedical waste Rules, COPRA Act, PNDT Act, Transplantation of human organs Act, etc

#### **ESSENTIAL READINGS:**

1. Lassey M, Lassey W, and Jinks, M. (1997). *Health Care Systems around the World: Characteristics, Issues and Reforms*. Prentice-Hall, Inc.
2. Bodenheimer, Thomas S., Kevin Grumbach. *Understanding Health Policy*
3. Fort, Meredith, Mary Anne Mercer and Oscar Gish (Editors). *Sickness and Wealth: The Corporate Assault on Global Health*
4. Govt. of India (2017) - National Health Policy-2017, Ministry of Health and Family Welfare, New Delhi.
5. Peters, et.al (2002), *Better Health System for India's poor: Findings, Analysis and Options*: The World bank, New Delhi
6. Abel-Smith, Brian. *An introduction to health: policy, planning and financing*. Routledge, 2018. Murray, Christopher JL, and Julio Frenk. "A framework for assessing the performance of healthsystems." *Bulletin of the World Health Organization* 78 (2000): 717-731.

#### **SUGGESTED READINGS**

1. Bhore, J. (1946). *Report of the health survey and development committee* (Vol. 1-4). Manager of Publications.
2. Reddy, K.S. et.al (2011) "Towards achievement of universal health care in India by 2020: A Call of Action", [www.thelancet.com](http://www.thelancet.com)
3. Banerjee, D. (1982), *Poverty, class and Health Culture in India*, Vol. 1 Parchi Prakashan, New Delhi.
4. Indian Council of Social Science Research and Indian Council of Medical Research (1981), *Health for All by 2000 A. D.*, ICSSR, Delhi.
5. Madan, T.N. (1969), "Who Chooses Modern Medicine and Why", *Economic and Political Weekly*, pp. 1475-84.
6. K. Sujatha Rao, (2017), *Do We Care: India's Health System*, Oxford University Press, ISBN10 : 9780199469543, 478 pages



**BIostatISTICS AND EPIDEMIOLOGY****Course Outcomes:**

CO1: To introduce the basic concepts of different streams of epidemiology, disease risks, and interventions as public health tools in population studies.

CO2: To introduce the study designs and methodology in cross-sectional, case-control, cohort, and experimental data to analyze epidemiological patterns.

CO3: To understand the use of summary measures of disease burden over epidemiological data in population science.

CO4: To understand comparability of estimates obtained from various parametric and non-parametric models.

CO5: To appreciate the relevance of epidemiology in public policy making.

**I. Basic concepts in Biostatistics**

Biostatistics Measuring the occurrence of disease: Measures of morbidity - prevalence and incidence rate, association between prevalence and incidence, uses of prevalence and incidence, problems with incidence and prevalence measurements; Clinical agreement: kappa statistics, Mantel-Haenszel test; intra-class correlation; Surveillance

Assessing the validity and reliability of diagnostic and screening test: Validity of screening test – sensitivity, specificity, positive predictive value and negative predictive value; Reliability; Relationship between validity and reliability; ROC curve and its applications; Overall accuracy

Issues in epidemiology: Association; causation; causal inference; Errors and bias; Confounding; Controlling confounding; Measurement of interactions; Generalizability

Estimating risk: Estimating association – absolute risk, relative risk, odds ratio; Estimating potential for prevention – attributable risk; comparison of relative risk and attributable risk; Odds ratios for retrospective studies; Odds ratios approximating the prospective RR; Exact inference for odds ratio analysis of matched case-control data

Statistical process control: special and common causes of variation, Shewhart, CUSUM and EWMA charts

**II. Basic Concepts in Epidemiology**

Introduction: Definition and objectives of epidemiology; Epidemiology and clinical practice; The epidemiologic approach; Infectious disease epidemiology, occupational epidemiology, disaster epidemiology.

The dynamics of disease transmission: Modes of transmission; epidemic, endemic and pandemic; Disease outbreak; Determinants of disease outbreak; Herd immunity; incubation period; outbreak investigation; epidemiological modeling. Design and analysis of epidemiological studies, test of

significance.

Identifying the roles of genetic and environmental factors in disease causation: Association with known genetic diseases; Age at onset; Family studies; Interaction of genetic and environmental factors.

Epidemiology and public policy: Epidemiology and prevention; Population versus high-risk approaches to prevention; epidemiology and clinical medicine; Risk assessment; Meta-Analysis. Epidemiological Study Designs: Ecological, Cross-Sectional, Case-Control, Cohort Studies, Randomized Intervention Studies.

Experimental epidemiology; Randomized trials; Clinical Trials- Basic concepts; Definitions; Historical perspectives, Phase I, II, III and IV trials, Protocol development, Use of control arms, Concepts of randomization and blinding, ethical issues

### **III. Measurement of Health & Disease Burden**

Measuring the occurrence of disease: Measures of morbidity - prevalence and incidence rate, association between prevalence and incidence, uses of prevalence and incidence, problems with incidence and prevalence measurements; Surveillance; Quality of life including DALY, HALE, etc., Measures of mortality.

Assessing the validity and reliability of diagnostic and screening test: Validity of screening test – sensitivity, specificity, positive predictive value and negative predictive value; Reliability; Relationship between validity and reliability; ROC curve and its applications; Overall accuracy. Issues in epidemiology: Association; causation; causal inference; Errors and bias; Confounding; Controlling confounding; Measurement of interactions; Generalizability.

Estimating risk: Estimating association – absolute risk, relative risk, odds ratio; Estimating potential for prevention – attributable risk; comparison of relative risk and attributable risk; Odds ratios for retrospective studies; Odds ratios approximating the prospective RR; Exact inference for odds ratio analysis of matched case-control data.

#### **Reading List**

##### **ESSENTIAL READINGS:**

1. Gordis L: Epidemiology, ed. 5. Philadelphia, 2014. Elsevier Saunders; ISBN: 978-1-4557-3733-8
2. Bonita R, Beaglehole R, Kjellstrom T: Basic Epidemiology, ed. 2. World Health Organization, 2006.
3. Friedman L M, Furberg C D, DeMets D L: Fundamentals of Clinical Trials. Boston, PSG, 1982.
4. MacMahon B, Pugh T F: Epidemiology: Principles and Methods. Boston, Little Brown, 1970.
5. Altman D G: Practical Statistics for Medical Research, London: Chapman and Hall, 2006.
6. Bhore, J. (1946). Report of the health survey and development committee (Vol. 1-4). Manager of Publications.

## SUGGESTED READINGS:

1. Lee E T: Statistical Methods for Survival Data Analysis, ed. 2. New York, JohnWiley & Sons.
2. Goldstein H: Multilevel Statistical Model. London, Institute of Education, 1999.
3. Murray C J L, Chen LC: Understanding morbidity change. In Arthur Kleinmannand Norma C Wane (eds.) Health and Social Change in International Perspective, Harvard Series on Population and International Health, March 1994.
4. Everitt B S, Pickles A: Statistical Aspects of the Design and Analysis of ClinicalTrials, ed. 2. London, Imperial College Press.
5. Kutner MH, Nachtsheim CJ, Neter J, Li W: Applied Linear Statistical Models.5th edition, McGraw-Hill/Irwin, 2005.
6. Gelman A, Carlin JB, Stern HS, Rubin DB, Dunson DB, Vehtari A: BayesianData Analysis, 3rd ed. Chapman and Hall, 2013.
7. Van Der Vaart: Asymptotic Statistics. Cambridge University Press, 2000.
8. Groeneboom P: Nonparametric Estimation under Shape Constraints, CambridgeUniversity Press; 1 edition, 2014.
9. Robin H. Lock, Patti Frazer Lock, Kari Lock Morgan, Eric F. Lock, Dennis F.Lock: Statistics: Unlocking the Power of Data,1 edition, Wiley 2013
10. Kestenbaum, Brya: Epidemiology and Biostatistics, Springe ,2009.

## MSP E1.3

45 Hours

### Family Demography

#### 1. Introduction to Family Demography:

Concepts of Family Demography: Family, Household, Family Size, Family Structure; Attitudes and Expectations in Family Formation; Cohabitation and Live-in Relationships, Type of Families in Global and Indian Perspective. Unconventional families – lone parenting, gay families, living alone etc.

#### 2. Theories of Family:

Theoretical Perspectives on Family Change; Social Exchange Theory, Abraham Maslow's (1954) Theory of Changing Needs, Becker's Theory of Family, Becker's Theory of Marriage, Becker's Theory of Time Allocation, Second Demographic Transition.

#### 3. Family Transitions in Life Course and Implications of Family Change

Family Life Cycle, Implications of Family Change for Wellbeing of Women, Children and Older Population; Family Change and Inter-generational Support and Policy; Family Instability in an International Perspective. Evaluating Evidence on the Consequences of Family Change.

#### 4. Family Transitions and Gender Roles

Families in Transiting Societies and Changing Gender Roles; Gender, Work, and Family: Gender, Families, and Time Use; Work-Family Balance and Conflict.

#### 5. Family Transitions and Demographic Behaviour

Marriage and Family; Family Transitions and its Effect on Fertility, Mortality and Health; Fertility in Complex Families, Family Structure and Child Outcomes; Time Use of Parents and Children;

Impact of Fertility on Families in Later Life; Intergenerational Impacts on Health and Demographic Events; Grandparents and Parents Residence: Health and Socio-Economic Wellbeing in Later Life.

#### **6. Family and Household Economics**

New Home Economics, Household and Family Economics, New Economics of Migration, Living Arrangement for Children and Older Population; Economic, Emotional and Social Support for Children and Older Population; Left Behind Children and Older Population.

#### **7. Data and Methods in Family Demography (Will be updated in the class)**

Cross-sectional and Longitudinal Data, Village Census and Microdata, NTA, and Marriage-market data. Panel data regressions, Regression Discontinuity models or Segmented Regression models, Multistate models; Microsimulation models; Behavioural models; Projection of marriages, divorces and remarriages; Bridging the Macro-to micro gap: Multi-Level Even-History analyses and Even-History analyses of groups; Meta-Analyses and Age-based simulations.

#### **Essential Readings**

1. Becker, G. S. (1981). *A Treatise on the Family*. Enlarged Edition. Harvard University Press, Cambridge, Massachusetts, London.
2. Casterline, J., & Gietel-Basten, S. (2018). Exploring family demography in Asia through the lens of fertility preferences. *In Family Demography in Asia* (pp. 1-14). Edward Elgar Publishing.
3. Ermisch, J. (2003). *An Economic Analysis of the Family*. Princeton, New Jersey: Princeton University Press.
4. Farris, D. N., & Bourque, A. J. J. (Eds.). (2020). *International Handbook on the Demography of Marriage and the Family*. Cham: Springer International Publishing.
5. Gietel-Basten, S., Casterline, J., & Choe, M. K. (Eds.). (2018). *Family demography in Asia: A comparative analysis of fertility preferences*. Edward Elgar Publishing.

#### **Indian Readings**

1. Chakravorty, S., Goli, S., & James, K. S. (2021). Family demography in India: Emerging patterns and its challenges. *Sage Open*, 11(2), 21582440211008178.
2. Kapadia, K. M. (1966). *Marriage and family in India* (3rd edition, 1983). Oxford University Press.
3. Patel, T. (Ed.). (2005). *The family in India: Structure and practice*. Sage.
4. Shah, A. M. (1998). *The family in India: Critical essays*. Orient Blackswan.
5. Uberoi, P. (2005). The family in India: Beyond the nuclear versus joint debate. *Writing the Women's Movement: a reader*. New Delhi, Zubaan, 361-396.



## SEMESTER – II

**RESEARCH METHODOLOGY I**

CO1: To understand the research design and scientific approaches to conduct of research in varied settings.

CO2: To familiarize the quantitative methods of data collection.

CO3: To understand various sampling procedures

**I. Scientific Methods of Research**

Definition of Scientific Research: Assumptions, Operations and Aims of Scientific Research. Philosophy of Research

Research Processes: Conceptual, Empirical and Analytical.

Phases of Research: Essential Criteria of Scientific Research Method.

**II. Research Design**

Observational Studies: Descriptive, explanatory, and exploratory, monitoring and evaluative studies.

Experimental Studies: Pre experimental design, True experimental Design, Pre-test & post-test designs, Follow-up or longitudinal design, Panel Studies.

Threat to internal validity: Reliability and Internal-External validity. Action research studies.

**III. Measurement**

Reliability and validity of measurement: Face, content, construct, convergent, concurrent, and predictive validity; Inter-coder reliability, stability, non random and random errors, scaling and composite indices.

Attitudinal Scales: Point scales, ranking scales, rating scales, limitations of attitudinal scales,

Types of Scales: Nominal and Ordinal Scale, Guttman, Likert, Semantic and Thurstone scales.

**IV. Methods of Data Collection**

Quantitative Methods: Checklist schedules, questionnaire (mail method, interviews through telephone, internet and computers), interview schedule (face-to-face interviews or personal interviews), Cross cultural variability and vignettes.

Questionnaire/interview schedule design and construction: Principles of constructing a questionnaire/ interview schedule, Types of questions, framing of questions (simple, delicate, personal matter), sequencing of sections and questions and Interview techniques.

**V. Sampling**

Complete enumeration versus sampling.

Concept of sampling unit, sampling frame and sampling design.

Sampling methods: Simple random sampling, stratified sampling, systematic sampling, cluster sampling, and purposive sampling.

Multistage sampling in large-scale surveys, self-weighting designs, Stratification in multistage sampling.

Sampling and non-sampling errors, calculation of weights, sample size determination.

**VI. Data Collection, processing and analysis**

Research ethics; At the level of respondent, community, organization and presentation of results

Fieldwork – interaction with community and respondent. Editing, coding, data entry, validation, processing & analysis.

## **VII. Writing research proposal and report**

Purpose of a proposal/report

Content of proposal/report: Introduction, Review of Literature, Objectives and conceptual framework, Sources of data, Methods of data collection and analysis, Summary, conclusions and recommendations.

Footnotes, References/Bibliography, Appendices and Glossary

### **Reading List Essential Readings:**

1. Bernard, H. Russell, (1995): *Research Methods in Anthropology: Qualitative and Quantitative Approaches*, Altamira Press, Walnut Creek.
2. Goode W J and Hatt P K. 1952. *Methods in Social Research*. McGraw Hills, New York.
3. Kish, Leslie, (1995): *Survey Sampling*, John Wiley and Sons, Inc. New York.
4. Lohr L. Sharaon., (1999): *Sampling: Design and Analysis*, Duxbury Press, London.
5. Lwanga S. K. and Lemeshow S., (1991): *Sample Size determination in Health Studies: A Practical Manual*, World Health Organization, Geneva.
6. Mukherji, P.N., (1999): *Methodologies in Social Science*, Sage Publications, New Delhi.
7. Pullum W. 2006. An Assessment of Age and Data Reporting in the DHS Surveys, 1985-2003. DHS Methodological Report No. 5. Calverton, Maryland, Marco International Inc.
8. Royce A. Singleton and Bruce C. Straits, (1999): *Approaches to Social Research*, Oxford, Oxford University Press.
9. Young P V. 1994. *Scientific Social Surveys and Research*. Prentice-Hall, New York (4<sup>th</sup> Edition).
10. Kothari, CR (2020), *Research Methodology - Methods And Technique*, Generic, ASIN : B0BCPDGN66 , 394 pages

**MSP-C8**

**45 Hours**

## **GENDER EQUITY AND REPRODUCTIVE HEALTH**

### **Course Outcomes:**

CO1: To sensitize students with the basic concepts of gender, gender equity and theories.

CO2: To explain students with gender differentials, gender inequalities and empowerment

CO3: To familiarize students with reproductive health paradigm and right based approach to reproduction and gender egalitarianism.

### **I. Basic concepts and theories**

Definitions, Concepts and Terminologies: gender, unequal gender relations, gender equity, gender disparities, gender inequalities, gender mainstreaming, gender sensitive planning and gender balance, Masculinity and femininity. Importance of the study of Gender Issues in Population Studies; Social Stratification and gender, third gender.

## **II. Gender Inequalities and linkages with development**

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; Marriage, customs and practices, dowry and mohar system, age at marriage; Purdah system; female genital mutilation; land rights of women; education, skill development and gender; labour force participation, household activities and social reproduction; gender differentials in nutrition and health; access to health care; political representation, and female headship; valuation of women in context of marriage, dowry and development; Gender based violence (GBV) and its implications on child adult and elderly; media and gender.

## **III. Autonomy, Empowerment and Status**

Concepts, definition and measurement; various indicators and frameworks; approaches: Functionalist, Marxist, Feminist, Behaviouralism; process of empowerment; paradigm shift in gender, development and empowerment: WID, WAD, GID, GAD, WED; policies and programmes related to empowerment.

**V. Reproduction physiology, rights and ethical issues** Evolution of ideas about reproductive health and rationale of RH approach, Components of RH and life cycle approach of RH, Male and female reproductive system; Conception, Pregnancy; Customs and taboos related to menstruation & puberty. and pregnancy in different societies; Aspects of adolescent sexual and reproductive behaviours, vulnerability of adolescent and their health needs. Role of reproductive health policies and programmes on health; ethical values in RH services; information, liberty of choice.

## **VI. Maternal, obstetric gynaecological and contraceptive morbidity**

Risk factors of maternal mortality and morbidity, Three delay model, Emergency obstetric care, Maternal near miss and obstetric fistula, Impact of cultural practices during pregnancy on women's health, Programmes, policies and strategies for safe motherhood. Behavioural and lifestyle factors of different reproductive morbidities, Issues related to RTIs/STIs; HIV infection; Issues related to menopause and socio-psychological health problems of menopausal women.

## **VIII. Infertility and abortion**

Methodological issues in measuring primary and secondary infertility, Social, cultural, environmental and anatomical risk factors of infertility, Sexual Consequences of infertility on marital stability of couples, mental health and violence, assisted reproductive technologies use and misuse; surrogacy; laws and acts regarding their use; abortion data and its measurement, type of abortions, Association of abortion with untimed and unintended births, Unsafe abortion and its association with maternal death and infertility, Laws regarding abortion

## **ESSENTIAL READINGS:**

1. Berer, M., (2000): Making Abortions Safe: A Matter of Good Public Health Policy and Practice, Bulletin, WHO, Vol. 78(5), pp. 590-592.
2. Starrs, A. (2015): A Lancet Commission on sexual and reproductive health and rights: going beyond the Sustainable Development Goals. The Lancet, Vol 386 September 19, 2015.
3. Kamla Bhasin, Understanding Gender (1999): Kali for Women, India, 88 pages, 9788186706213 (ISBN10: 8186706216).
4. Rosemarie Tong, Tina Fernandes Botts (2018), Feminist Thought; A More Comprehensive Introduction, 5th edition, by Routledge, ISBN 9781138329522, 432 Pages



5. Michael S. Kimmel, *The Gendered Society* (2000), Oxford University Press, USA, ISBN 9780195399028 (ISBN10: 0195399021), 472 pages.
6. Andrea Parrot, Nina Cummings (2006), *Forsaken Females: The Global Brutalization of Women*, Rowman & Littlefield Publishers, ISBN-10 : 0742545792, 270pages

#### **SUGGESTED READINGS:**

1. Alan Guttmacher Institute, (2000): "Readings on induced abortion vol.1: Politics and policies- Articles from Family Planning Perspectives 1974-1999", The Alan Guttmacher Institute, New York.
2. Chhabra P. Maternal near miss: an indicator for maternal health and maternal care. *Indian J Community Med.* 2014 Jul;39(3):132-7. doi: 10.4103/0970-0218.137145. PMID: 25136152; PMCID: PMC4134527
3. Zampas, C. (2013) Legal and ethical standards for protecting women's human rights and the practice of conscientious objection in reproductive healthcare settings. *International Journal of Gynecology & Obstetrics* 123(Suppl 3): S63-S65.
4. Macaluso, M., et al. (2010) A public health focus on infertility prevention, detection, and management. *Fertility and Sterility* 93(1):16.e1-10.
5. Basu, Alaka M., (1992): *Culture, The Status of Women and Demographic Behaviour*, Oxford University, New York.
6. Ellsberg Mary and Heise Lori L. (2005) *Researching violence against women: A practical guide for researchers and activists*. WHO and Path, Washington D.C.
7. Gita Sen, Adreinne Germain and Lincoln C. Chen, (Eds.), (1994): *Population Policies*
8. Rutstein SO, Shah IH. Infecundity, infertility, and childlessness in developing countries. *DHS Comparative Reports No.9*. Calverton, MD: ORC Macro and Geneva: World Health Organization, 2004
9. Pachauri, S. (Eds. 1999): *Implementing a Reproductive Health Agenda in India: The Beginning*, New Delhi; Population Council.
10. Rozee G.V. and Sayeed Unisa (Editors) (2016) *Assisted Reproductive Technologies in the Global South and North: Issues, Challenges and Future*, Routledge, London.
11. Visvanathan, Nalini, Lynn Duggan, Nan Wiegersma and Laurie Nisonoff (Eds. 2011): *The Women, Gender and Development Reader*, Fernwood Publishing Halifax, Winnipeg.

**MIGRATION AND URBANIZATION****Course Outcomes:**

CO1: To make the students understand the basic concepts, definitions, sources of data etc. on migration and urbanization.

CO2: To develop a critical understanding on the various theories/models concerning migration and urbanisation.

CO3: To equip students on the measurement and estimation of level, trend and pattern of migration and urbanization.

CO4: To understand the trend and pattern of spatial distribution and its linkage with migration and urbanization.

CO5: To develop a critical understanding on the emerging migration and urban issues, government policies and programmes in the context of development.

**I. SPATIAL DISTRIBUTION**

Pattern and factors affecting spatial distribution of population

Selected measures of concentration of population: Measures of concentration of population-Density, percentage distribution and dissimilarity index

**II. MIGRATION Introduction and Concepts**

Concept of mobility and migration, types of migration, census definition of migrants and its limitations sources and quality of data : Census, NSSO, Migration surveys

**Migration theories and models**

Ravenstein's Laws of Migration

Everett Lee's Theory of Migrationiii Mobility Field Theory

Todaro's Model of Rural-Urban Migrationv New Economics of Labour Migration

Transnationalism Theory of Migration

**Internal Migration**

Patterns and characteristics in developing countries with a special focus on India.

Causes and consequences of internal migration: demographic, economic, social and political consequences at the individual, household and community level

Policies related to internal migration

**International migration**

Sources of international migration data and problems.

Patterns and types of international migration: Historical and recent trends, Indian Diaspora and people of Indian origin.

Causes and consequences of international migration: demographic, economic, social and political consequences at the individual, household and community level

Policies of international migration

**Measures of Migration**

Direct estimation of lifetime and inter-censal migration rates from census data

Indirect measures of net internal migration: Vital Statistics Method, National Growth Rate Method and Census and Life Table Survival Ratio methods  
Estimation of return migration  
Methods of estimating international migration

Migration and health

Migrants' rights and Social entitlements

### **Urbanization Definition and Concepts**

Definitional and conceptual problems and Data sources: Rural-Urban Fringe, Metropolis or Metropolitan Area, Conurbation, Metropolitan Region, Megalopolis, Metropolitan Hinterland, urban turnaround, sub-urbanization

Definition of urban and other associated urban concepts in Indian census; Urban size class structure

Measures

Degree and tempo of urbanization;

Urban population growth and its components;

Rank-Size rule and Primacy Index, Lorenz curve and Gini's concentration ratio

Theories

Kingsley Davis model of urbanization process

Functional Classification of Urban Centres by Harris iii The City-Region Relationship

Theories and Models of urban planning, Concept of New Towns

### **Urbanization process**

Current urbanization process in developed and developing countries with special focus on India, Major urbanization problems and policies

### **Essential Readings:**

1. Cohen, Robin, (1996): Theories of Migration, The International Library of Studies on Migration, Edward Elgar, Cheltenham
2. Eduardo Arriaga, (1975): "Selected Measures of Urbanization", in Sydney Goldstein and David Sly (Eds.) Measures of Urbanization and Projections of Urban Population, IUSSP Belgium
3. Kingsley, Davis, (1972): World Urbanization, 1950-70, Vol. II, Analysis of Trends, Relationship and Development, Population Monograph Series 4 and 9, University of California, Berkeley
4. United Nations, (2019): World Urbanization Prospects, The 2018 Revision, New York.
5. United Nations, (1974): Methods of Measuring Internal Migration, Manual VI, UN, New York.

### **Suggested Readings:**

1. Oberai, A.S. (1987): Migration, Urbanization and Development, International Labour Office, Geneva
2. Gavin Jones and Visaria, Pravin, (Eds.), 1997: Urbanization in large developing countries – China, Indonesia, Brazil and India, Clarendon Press, Oxford
3. International organization for Migration (2021), World Migration Report 2022, IOM, Geneva.
4. Shryock, Henry S. Jacob S. Siegel and Associate, (1980): The Methods and Materials of Demography Vol.1 U.S. Bureau of the Census, Washington D.C.

5. Todaro, Michael P. (1976), Internal Migration in Developing Countries, International Labour Office, Geneva
6. United Nations, (1979): "Trends and Characteristics of International Migration since 1950" Demographic Studies No. 64, UN, New York
7. United Nations, (1983): Determinants and Consequences of Population Trends, Vol 1, UN, New York, Chapter-V
8. Weeks, John R. (2015), Population: An Introduction to Concepts and Issues, Cengage Learning
9. Haas, H. d., Castles, S., & Miller, M. J. (2020). The age of migration: international population movements in the modern world. Sixth edition. New York, The Guilford Press

**MSP C10**

**30 Hours**

## **INTRODUCTION TO DEMOGRAPHIC AND STATISTICAL SOFTWARES**

### **Course Outcomes:**

CO1: To have hands on experience on statistical packages like SPSS, STATA to facilitate handling of large-scale data sets.

CO2: To familiarize with the data management such as recoding, sorting, filtering, file merging and splitting using SPSS and STATA

CO3: To understand and learn the uses of univariate, bivariate and multivariate analysis using software packages

Introduction to SPSS-facilities, creating database structure, data entry, specifying scales, validation of data entry, importing and exporting data. Data Manipulation: recoding creating new variable, sorting, filtering and selection of specific data, generating simple frequencies, use of syntax editor. Correlation and regression, Analysis: interpretation and regression diagnostic test.

Introduction to STATA, generating, variables, commands and do file editor.

Survey analysis – estimation of mean, proportion, design.

Multivariate analysis – concepts and interpretation of results of multiple regression, logistic regression, ANOVA, with and without interaction.

Large scale data handling – (using NFHS, DLHS, NSSO) Merging, splitting, data and formatting.

### **Reading List**

#### **Essential Readings :**

1. *SPSS 14.0 Brief Guide* – SPSS Inc.
2. *SPSS regression models 14.0* - SPSS Inc.
3. *SPSS advanced models 14.0* - SPSS Inc.
4. *Stata user's guide: Release 10.*, 2<sup>nd</sup> Edition. Stata Press.
5. *Stata survey data reference manual: Release 8.*, 2<sup>nd</sup> Edition. Stata Press.



6. Cromley, Ellen K. and McLafferty, Sara L., (2002): *GIS and public health*. Guilford Press, New York.

**MSP-E2.1**

**45 HOURS**

## **HISTORICAL DEMOGRAPHY**

### **Course Outcomes:**

CO1: To appreciate and recognize an evolutionary account of population changes with traces of historical trends in population

CO2: Familiarizing the students the data sources and methods in analysis of historical demography

CO3: To gain an understanding of transformational trends in settlement and livelihood patterns of human population

CO4: A detailed understanding of India's population history in particular reference to social and cultural reforms.

### **I. Introduction to historical demography**

Introduction to 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).

### **II. Data Sources, Methods and Approaches**

**Data Sources:** Parish registers, Population registers, Census, Vital registration data, Bills of mortality, Fiscal documents, Military records, Inventories of properties, Genealogies, Marriage practices, Archaeological remains, Administrative geography, Colonization of new land, Cemetery data, Traveller's tales.

**Approaches:** Family reconstitution; Cross checking the information from different sources. Back Projection, and Generalised Inverse Projection, Other Methodological Developments

### **III. Evolution of human and peopling of the earth**

Evolutionary Process and Emergence of human (Darwinism, Mendel, Lamarckism); Historical trend and pattern of migration and distribution of population; Historical evolution of towns and peopling of the world, Industrial and agricultural revolution and peopling of the earth

### **IV. India's demographic history**

Historical sources of population data, Population in India from pre-historic to modern time; Peopling in India and racial classification; Peopling in India and linguistic classification; Indian great famines and its implication on mortality; family transition and status of women from historical perspective; Transition from traditional family planning methods to modern methods and health practices in India – a historical perspective

### **Essential Readings:**

1. Davis, Kingsley, *The Population of India and Pakistan*, Princeton, Princeton University Press, 1951.
2. Tim Dyson (ed.), *India's Historical Demography: Studies in Famine, Disease and Society*, London, Curzon, 1989.
3. Glass D.V. & Eversley, D.E., *Population in History: Essays in Historical Demography*, London, Edward Arnold, 1965.

4. Hollingsworth, T.H., *Historical Demography: The Sources of History, Studies in the Uses of Historical Evidence*, London, 1969.
5. Maharatna, Arup, *Demography of Famines: An Indian Historical Perspective*, Delhi, 1996.
6. Willigan, J. Dennis, Lynch, Katherine A., *Sources and Methods of Historical Demography*, Academic Press, New York, 1982.

### Suggested Readings:

1. Akerman, S., "History and Demography: An Evaluation of the Family Reconstitution Technique" in A.E. Andersson and I. Holmberg (eds) *Demographic, Economic, and Social Interaction*, Cambridge, Ballinger Publishing Company, 1977.
2. Harris, P.M.G., *History of Human Populations, Vol.II (Migration Urbanization and structural change)* London: Praeger, 2003.
3. John Knodel, "Two and a Half Centuries of Demographic History in a Bavarian Village". *Population studies* Vol.XXIV No.3, Nov. 1970, pp. 353-376.
4. Kertzer, David I., "Qualitative and Quantitative Approaches to Historical Demography", *Population and Development Review*, Vol.23 (4). Dec. 199— (839-84), 1997.
5. Krishnan, P., "Historical Demography Through Literature: Preliminary Report on Indian Historical Demography", Paper presented in the Session Historical Demography, IUSSP Meeting, Florence, Italy, June, 1985.
6. Paul E.Vincent, "French Demography in the Eighteenth Century" *Population Studies* Vol.I, 1947-48. Pp.44-71.
7. Razzell, P.E., "The evolution of Baptism as a form of Birth Registration through Cross Matching census and Parish Register Data: A study in Methodology" *Population Studies* Vol.26, No.1. March 1972, pp.121-146.
8. Saito, Osamu, *Historical Demography: Achievements and Prospects*, *Population Studies*, Vol.50 (3—(53), 1996.
9. Srivastava, H.C., "Registration of vital Events in Goa- A study of current system in Retrospect", *Artha Vijanana*, Vol. XIII, No.4, Dec. 1971.
10. Vinovskis, Maris A., *Studies in American Historical Demography*, Academic Press, New York, 1979.
11. William H. Howells, "Estimating Population Numbers Through Archeological and Skeletal Remains" in Robert F. Heizer and Sherburne F. Cook. *The application of Quantitative methods in Archeology*, Viking Fund Publication in Archeology, No.28, 1960. pp. 158-159.
12. W. Ernst, B. Pati and T.V. Sekher (2017). *Health and Medicine in the Indian Princely States: 1850-1950*, Routledge, London,. <https://www.routledge.com/Health-and-Medicine-in-the-Indian-Princely-States-1850-1950/Ernst-Pati-Sekher/p/book/9780415679350>
13. Dyson, Tim, *A Population History of India: From the First Modern People to the Present Day* (Oxford, 2018; online edn, Oxford Academic, 18 Oct. 2018), <https://doi.org/10.1093/oso/9780198829058.001.0001>, accessed 20 Mar. 2023.

**HEALTH ECONOMICS AND FINANCING****Course Outcomes:**

- CO1: To introduce various concepts on economic gradient of health and demand for and supply of health care.  
CO2: To explain various measures on socio-economic inequality in health.  
CO3: To familiarize the means and measures of health financing.  
CO4: To understand the determinants of health insurance and its coverage.  
CO5: To introduce the methods and measures on economic evaluation of health care.

**I: Introduction to Health Economics**

Defining health economics, why health economics is important, basic concepts in microeconomics, health across world and over time, scope of health economics, map of health economics, basic questions confronted by health economist, concept of efficiency and equity in health, Production Possibility Frontier (PPF), economic gradient of health, causation of income and health, Preston Curve, economic models and analysis, expenditure function, Theories of X and Y, positive and normative economics.

**II. The Demand for Health and Health care**

What is Health and Good Health, Utility Analysis, Health as a form of human capital, What is Medical Care, The production of Good Health, Empirical evidences in the production of health, Health as human capital, Grossman Model, The Demand for Health Care, Demand function for health, Economic and non-economic factors of health care, Fuzzy Demand Curve, Price and income elasticity of demand for health care, Important consideration in estimating health care demand elasticity, provider's behavior, Empirical findings, externalities and market failure.

**III. Health Financing**

Health financing in low, middle and high income countries, demographic transition, epidemiological transition and health expenditure, disparity in disease burden and per-capita health spending, sources of health care in India, out-of-pocket expenditure on health care, catastrophic health expenditure, approaches in measuring catastrophic expenditure, impoverishment, health care payment and poverty, national and regional patterns of catastrophic health spending, determinants of catastrophic health spending, Drivers of health care expenditure, health financing in India, Equity in health care finances, Willingness to pay for health care, User charges as determinant of health financing

**IV. Measuring Health Inequalities*****Measurement of health inequality: A Prelude***

Why measure health inequality; Health equity and inequality: Concept and definitions; Understanding of the concepts such as need, access and utilisation; cardinal and ordinal health variables

**Black Report and Beyond:** Historical Background of Black Report, Explanation for social class differences, major empirical theme since Black report

**Measures of health inequality:** Measures of health inequality: Index based approach; Axiomatic approach to measurement; Individual-mean and inter-individual comparison; WHO Index, Coefficient of Variation, Generalised Entropy Index, Lorenz Curve and Gini Coefficient

**Measuring socioeconomic rank related health inequality:** Slope index of inequality; Relative index of inequality; Concentration curve and concentration index: various ways of computing; Standardization; Inequality aversion; Normalised and Generalised concentration index; Corrected concentration index

**Measuring inequality in healthcare utilization:** Horizontal inequality; Vertical inequality; Regression based approach; Measurement of horizontal inequalities; Group inequality, common measures, Gini type index

## **V. Medical Care, Production and Cost**

The Short-Run Production Function of the Medical Firm, Total Product, Marginal Product and Average Product Curve, Law of diminishing marginal productivity, The importance of costing in Health Economics, Short-run cost theory of medical firm, short run cost curves, Cost analysis, Implicit and explicit cost, , factor affecting short-run cost curves, cost minimization, constraints in measuring health cost

## **VI. Health Insurance**

Health care system, a model of health care system, defining health insurance, need for health insurance, type of health insurance, demand for private health services, factors affecting the quantity demanded of health insurances, moral hazards, deductibles, co-insurance, managed care, adverse selection, loading fees, employed based insurance, reimbursement, selection effect, intermediary agent, regulation of health insurance, Need for Government intervention, Trends of health insurance, Coverage of health insurance in India

## **VII. Economic Evaluation**

What is economic evaluation? Cost analyses; direct cost, Indirect cost, tangible cost, capital cost, fixed cost, variable cost, Opportunity cost, average cost, marginal cost, Incremental cost, steps in cost analyses: Identification, measurement and valuation, Various types of economic evaluation used in health care: Cost effectiveness analysis (CEA) Cost-Benefit Analysis (CBA), Divergence between social and private costs and benefits in health care, Limitations of economic evaluation, Consumer Impact Assessment.

## **ESSENTIAL READINGS:**

1. Rexford E. Snterre and Stephen P. Neun, Health Economics: Theories, Insights and Industry Studies, Thompson South – Western, 3<sup>rd</sup> Edition (614, San/Hea, 073226) Note: 4<sup>th</sup> Edition is out in 2007 (ISBN: 032432068X; ISBN13: 9780324320688)
2. Drummond MF, Sculpher MJ, Torrance GW, O'Brien B, Stoddart GL, eds. Methods for economic evaluation of health care programmes, Third Edition, Oxford University Press, 2005.
3. O'Donnell O, Doorslaer E v, Wagstaff A and Lindelow M. Analyzing Health Equity Using Household Survey Data (2008), A Guide to Techniques and Their Implementation
4. Xu K (2005). Distribution of health payments and catastrophic expenditures Methodology World Health Organization.



## SUGGESTED READINGS

1. Culyer A J and J P Newhouse, 2000, The state and scope of health economics, Handbook of Health Economics, Volume 1A, Eds. Culyer and Newhouse, Elsevier, 2000.
2. Grossman (1982), On the concept of Health capital and Demand for Health, Journal of Political Economy, 80(2)
3. Macintyre S (1997). The Black Report and Beyond-What are the issues, Social Science, Medicine, 44(6):723-745
4. Mohanty, S. K., & Dwivedi, L. K. (2021). Addressing data and methodological limitations in estimating catastrophic health spending and impoverishment in India, 2004–18. *International journal for equity in health*, 20(1), 1-18.
5. Ringel et al (2005) The Elasticity of Demand for Health Care A Review of the Literature and Its Application to the Military Health System
6. Victoria Y Fan and William D. Savedoff (2014), "Health Financing transition: A conceptual framework and empirical evidences, *Social Science Medicine*, 105 (2014):112-121
7. Wagstaff A, P. Paci and E van Doorslaer (1991), On the measurement of inequalities in health, *Social Science and Medicine* 33(5), 545-557
8. Wagstaff, Adam & van Doorslaer, Eddy, 2000. "Chapter 34 Equity in health care finance and delivery," Handbook of Health Economics, in: A. J. Culyer & J. P. Newhouse (ed.), Handbook of Health Economics, edition 1, volume 1, chapter 34, pages 1803-1862 Elsevier

**URBANIZATION, SPACE AND PLANNING****Course Outcomes:**

- CO1: Developing a comprehensive understanding on concepts of space, place and region.  
CO2: Understanding the history of urban planning and its illustration in Indian context.  
CO3: Acquainting students with theories of regional development and various strategies of regional planning.  
CO4: Developing a critical understanding on urban policies and programmes in India  
CO5: Providing students a practical knowledge of Geographical Information Systems and its utility in regional and urban planning.

**I. Urbanization and Space**

Urbanization and space: Definitions and concepts of urban areas & urbanization. Concepts and forms of formal and informal spaces; Differences between space, place and region; urbanization and space interaction: gravity model, distance decay model, forces of concentration and dispersion, urban agglomeration and spatial economy; Access and right to the city

**II. Evolution of Spaces of Settlements**

Settlement: evolution, characteristics and factors; settlement pattern and hierarchy; Urban morphology; Change in urban land use and population density; Rural-urban relationship: dichotomy or continuum; Role of urban centres in rural development.

**III. Urban and Regional Planning**

Definitions, concepts, purpose, types and levels; geography/demography and planning relationship.

Region: concept and definition, types (formal, functional and planning); Need for regional planning; Types of regional planning; Spatial structure of regions,

Theories of regional development: Stages of development, economic base theory, Industrial location theory, Growth Pole theory; Core-periphery interactions.

Regional planning in India; Planning regions in India; Regional disparity in development; causes and consequences, North-Eastern regional council, Mumbai Metropolitan Regional Development Plan.

Concepts; history and origins of urban planning; pioneers of urban planning; types of urban plans: New towns, neighborhood, garden city, green belts; healthy urban planning, WHO concept of healthy city, livable city, sustainable city.

Urban policy since independence, important urban plans (New Delhi, Navi Mumbai, Chandigarh, Gandhinagar, Bhubaneswar); Smart Cities Mission; HRIDAY, AMRUT, PURA, RURBAN mission

#### IV. Challenges in Urban planning

Recent urban policies and programmes; Urban redevelopment; Urban poverty, urban housing and real estate, Slums and slum rehabilitation, Urban pollution, Solid waste management; Management of migrants; Case studies of rehabilitation programs (SRA)

#### V. Remote Sensing, GIS and Urban and Regional Planning

Application of Remote Sensing and GIS in urban and regional planning.

##### Essential Readings:

1. Friedman, John and William Alonso (1964) *Regional Development and Planning: A Reader*, The MIT Press, Massachusetts.
2. Friedman, John (1966) *Regional Development Policy: A Case Study of Venezuela*, MIT Press, Massachusetts.
3. Chaudhuri, J. R. (2001) *An Introduction to Development and Regional Planning*, Orient Longman, Hyderabad.
4. Chand, M and V.K. Puri, (1983), *Regional Planning in India*, Allied Publishers Private Ltd, New Delhi
5. Mishra, R.P, (1992), *Regional planning: Concepts, Techniques, Policies and Case studies*, Concept Publishing Co., New Delhi

##### Suggested Readings:

1. Bhagat, R. B., Roy, Archana K. and Sahoo, Sahoo. (2020). *Migration and Urban Transition in India: A Development Perspective*. Routledge India, New Delhi.
2. Kumar, A. and Bhagat, R. B. (2021). *Migrants, Mobility and Citizenship in India*. Routledge India, New Delhi.
3. Lefebvre, H (1991). *The Production of Space*, Blackwell, Oxford.
4. Hall, P, (1992), *Urban and Regional Planning*, Third Editions, Routledge, London.
5. Harvey, D. (2012) *Rebel Cities: From the Right to the City to the Urban Revolution*, Verso, London
8. Husain, M, (1994), *Human Geography*, Rawat Publishing, Jaipur.
9. Leong, Goh C. and G.C. Morgan, (1982), *Human and Economic Geography*, Oxford University Press, Singapore.
10. Singh, R. Y. (1994), *Geography of settlements*, Rawat Publications, Jaipur.
11. Ginsburg, N., Bruce Koppel and T.G. Mc Gee (1991) *The Extended Metropolis: Settlement Transition in Asia*, University of Hawaii Press, Honolulu.
12. Nath, V. (1971) "Regional Development Policies", *Economic and Political Weekly*, 6(30-32):1601-1608.
13. Lo, C.P. and Yeung, A. K. W. (2002): *Concepts and Techniques of Geographic Information Systems*. Prentice Hall of India, New Delhi.
14. Nyerges, Timothy L. and Jankowski Piotr (2010): *Regional and Urban Gis: A Decision Support Approach*, Rawat Publication, Jaipur.
15. Friedman, J and Clyde Weaver, (1979), *Territory and Function: The evolution of regional planning*, Edward Arnold, London.
16. Kawashima, T and P. Korcelli, (1982), *Human Settlement Systems: Spatial Patterns and Trend*, IIASA, Luxemburg.
17. Knowles, R and J. Warling, (1983), *Economic and Social geography: Made Simple*,

Heinemann, London.

18. Sarin, M, (1982), *Urban Planning in the Third World: The Chandigarh Experience*, Manshell, London.
19. MMRDA (2016), Mumbai Metropolitan Regional Development Plan 2016-2036 MMRDA, Mumbai.
20. UNEP and others (2007), *Livable Cities: The benefits of environmental planning*, The Cities Alliance, Washington. <http://www.citiesalliance.org/index.html>.

## **MSP E2.4**

**45 Hours**

### **GENDER, HEALTH AND DEVELOPMENT**

- CO1: To sensitise students on gendered perspectives in reading health and development outcome  
CO2: To gain an understanding of theoretical and conceptual issues involving gender in examining development at large  
CO3: To acquaint students with varied gendered frameworks and relevant analytical tools towards gendered inspection  
CO4: To offer skills of adopting a gendered outlook in introspecting health and development.

#### **Introduction**

The purpose of this section is to explain the basic concepts of three major components of this course namely gender, health and development.

The Concept of gender, Evolution of gender in historical perspective

Patriarchy, Kinship Structure and gender roles, Feminist theories, Gender stratification in traditional and modern societies, Gender Analysis Tools, Gender Sensitive Indicators and Gender budgeting and auditing

Concept of health, Evolution of the concept of Reproductive Health, life cycle approach to RH and recommendations from ICPD

Changing concept of development, Indicators of development, gender adjusted

HDI

#### **Gender and Health**

This section presents the situation analysis regarding sex differentials in different aspects of health and highlights some special issues of women and men's health.

#### ***Situation analysis of sex differentials in morbidity and mortality***

Major morbidity and mortality burden in the developing world with major focus on India- sex ratio of births, major health problems experienced by women and men, reproductive health of women and men in developing world, differentials in use of male and female methods of contraception

Health infra-structure and health care providers

Nutritional status, susceptibility to infections

Accidents and other risk factor and health seeking behavior

Health and Nutrition issues of adolescent of boys and girls, abuse and maltreatment, Puberty, Sexual Debut, Adolescent Pregnancy, Abortion, women and family planning programs, Contraceptive Technology

Major risk factors of men's health: masculinity, alcoholism, tobacco and drug consumption, accident



Gender and Sexuality: Sexual health of men and women, gender dimension of HIV /AIDS. Gender and Infertility

### **Gender and Development**

The purpose of this section is to understand the sex differentials in health in terms of socio-economic and cultural context of gender and to study the gender dimensions of development.

Understanding social structures- role of caste, class, ethnicity and religion and gender in health inequalities and health outcomes

Gender dimension of social development, status and role of men and women in household and community, culture, marriage customs, dowry and bride price practices, age at marriage

Gender differentials in household headship and role in decision making

Gender differences in access to knowledge-, education, exposure to media and freedom of movements

Gender based violence- Domestic and community violence and gender, Legal aspects of domestic violence and rape

Women's role in community life and involvement in politics-as voter, political worker and leader, women in Panchayati Raj Institutions and self help groups

Media representation of men and women

Gender dimension of economic development: women's access to economic resources, entitlements, land ownership, inheritance laws, access to credit, measurements of women's work, profiling women's work, informal sector involvement, working condition, maternity benefits, wage differentials, gender and poverty

Globalization, changing pattern of economic activity, issues of marginalization and vulnerability along with agency, negotiation and spaces of power, Gender Divisions in Urban Labor Markets, Gender and Migration

Housing, Household environment and its differential impact on men and women's life

Environmental degradation, changes in climate, water table and land use and their differential impact on men and women

### **Gender mainstreaming in health and development programs**

The purpose of this section is to understand the concept of mainstreaming gender in development and to review the measures taken for eliminating undesirable impact of gender inequalities and to bring women in the main stream of development

The concept of Gender Mainstreaming

Historic overview of Gender Mainstreaming- Women in development (WID) concept and criticism by feminist; shift to Gender and Development (GAD), Gender Mainstreaming and the Millennium Development Goals (MDGs)

The rights approach to Health, sexual and reproductive rights, violence, human rights and health Paradigm shift from the Target Based Supply Driven Fertility influencing programs to RH Approach.

Legal aspects – laws regarding marriage, dowry, domestic violence, rape PNDT act, property inheritance, maternity and other benefits of working women, sexual harassments at workplace, reservations in political institutions and

Gender mainstreaming in various health and development sectors- e.g.

Agriculture, Health, Education, gender in work place (Public & private) etc.

Advocating for Gender equality

Gender responsive policy making and planning of health and development programs.

### **Section 5: Some case studies of Gender analysis of health and development programs, budgeting and auditing**

This section aims to give necessary skills and tools to undertake the gender analysis of health and development policies and programs and to help them to develop gender sensitive indicators and

### Essential Readings :

1. Basu, Alaka M., (1992): *Culture, The Status of Women and Demographic Behaviour*, Oxford University, New York.
2. Bhasin K. 1993. *What is patriarchy?*, Kali for Women Publishers, New Delhi.
3. Bhasin K. (2000). *Understanding Gender*, Kali for Women Publishers, New Delhi.
4. 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.
5. Ellsberg Mary and Heise Lori L. (2005) *Researching violence against women: A practical guide for researchers and activists*. WHO and Path, Washington D.C.
6. Folbre, Nancy. (1992). Improper arts: Sex in classical political economy. *Population and Development Review*. 18(1): 105-112.
7. Gita Sen, Adreinne Germain and Lincoln C. Chen, (Eds.), (1994): *Population Policies Reconsidered: Health and Empowerment and Rights*, Harvard University Press, Harvard.
8. Jeffery Patricia and R. Jeffery. 1997. *Population Gender and Politics: Demographic change in rural north India*. Cambridge University, Cambridge.
9. Miller, Barbara, D.(ed) (1993) *Sex and Gender Hierarchies*, Cambridge University Press, New York.
10. Hess, B.B. and M.M. Ferree. (1987). *Analyzing Gender: A Handbook of Social Science Research*. Sage Publication, London.
11. United Nation. 2001. *Population, Gender and Development: A Concise Report*. UN, Economic and Social Affairs (Dept. of), New York
12. World Health Organization. (1998). *Gender and Health. Technical paper* WHO/FRH/WHD/98. (Website: [www.who.int](http://www.who.int))
13. World Bank. (1991). *Gender and Poverty in India*. World Bank, Washington.
14. World Health Organization (2003): *Comparative Evaluation of Indicators for Gender Equity and Health*, Women and Health Programme, Centre for Health Development, Kobe, Japan.
15. William Joan. 1989. Deconstructing Gender, 87 Michigan L Rev. 797. *Law Journal Article*

### Suggested Readings :

1. Agnes, Flavia. (2000). *Law and gender inequalities: the policies of women's right in India*. Oxford, New Delhi.
2. Anker, R.(1997). *Gender and Jobs: Sex Segregation of Occupations in the World*, ILO, Geneva.
3. Balk, Deborah, 1997): "Defying Gender Norms in Rural Bangladesh: A Socio demographic Analysis". *Population Studies* Vol.51, pp. 153-172.
4. Bandhopadhyay, D. 2000. Gender and governance in India. *Economic and Political Weekly*. 35(3): 2696-269xxx).
5. Basu, Alaka Malwade. 2000. Gender in population research: Confusing implications for health policy. *Population Studies*. 54: 19-22.
6. Das Gupta, Monica, 1987. Selective discrimination against female children in rural Punjab, India. *Population and Development Review*, 13(1): 77-100.
7. Doyal L.(1995) *What Makes Women Sick: Gender and the Political Economy of Health*. London, Macmillan.
8. Dreze, Jean and Sen Amartya, (1995): *India: Economic and Social Opportunity*, Oxford University Press, New York.

9. Harriet B. Presser, (1997): Demography, Feminism and the Science-policy Nexus, *Population and Development Review* Vol. 23(2), pp. 295-331.
10. Jeffery, Roger and Basu, Alka M. (Eds.), (1996): *Girls Schooling, Women's Autonomy and Fertility Changes in South Asia*, Sage Publications, New Delhi.
11. Jejeebhoy S. 1996. *Women's Education, Autonomy and Reproductive Behavior: Assessing what we have learned*. East West Centre, Hawaii.
12. Reeves Hazel and Baden Sally (2000): *Gender and Development: Concepts and Definitions*, Report No. 55, Bridge (development- gender) Institute of Development Studies, University of Sussex, Brighton BN1 9RE, UK.
13. Sonya, Andermahr, Lovell Terry and Wolkowitz, Carol, (1997): *A Glossary of Feminist Theory*, Arnold-Hodder Headline Group, London.
14. Sopher, David, (1980). *An Exploration of India: Geographical Perspective on Society and Culture*, Cornell University New York

### SEMESTER – III



**APPLICATION OF STATISTICAL PACKAGES IN LARGE SCALE DATA****Course Outcomes:**

CO1: To familiarise students with national and international large scale survey data sets and their exploration

CO2: To gain practical expertise in use of statistical softwares

CO3: To make the students appreciate the veracities of evaluation of survey data sets and its derived outcomes in keeping with statistical principles and properties

**Unit I: Scope of large scale surveys and big data**

Concept of big data, need for big data for planning and monitoring of public health programmes, introduction to large scale demographic and health surveys (DHS): NFHS, DLHS, WHO-SAGE, LASI-objectives, designs, instruments, sample size.

**Unit II: Large scale survey data management and quality assurance** - Cleaning of big data, Range and consistency checks, missing data, long and wide format conversion, merging files (practical sessions) 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.

**Unit III: Use of STATA for sampling and estimates**

Sampling and estimation by simple random sampling, stratified, cluster, systematic and multi-stage sampling, PPS sampling, Use of STATA for sampling

Introduction to STATA for survey data analysis- Summarization of big DHS data, Conversion of ASCII and SPSS data into STATA format (practical sessions).

**UNIT IV : Introduction to R**

Use of R for sampling Reading ASCII file, data summarization: frequency and graphical representation, survey data summarization using R.

**UNIT V : Application of statistical package in survey data**

Installation of libraries: sampling, survey, samplingbook, pps. Use of svydesign, svytotal, svymean. Use of R for estimates,

Survival analysis-Kaplan Meier, Cox regression-test of proportionality and heterogeneity.

**Suggested readings:**

1. Lumley, T. Complex Surveys: A Guide to Analysis Using R
2. Damico, A. Step-by-step instructions to analyze major public-use survey data sets with the R language
3. Ladusingh, L. Survey Sampling Methods Fares Qeadan. Sampling Methods Using STATA

**POPULATION PROJECTIONS****Course Outcomes:**

CO1: To train the students in mathematical and component methods of population projection

CO2: To familiarize the students with Use of SPECTRUM and its applications

**Population Estimates and Projections**

Concepts of population projections: population estimates, forecasts, and projections; uses of population projections.

Methods of interpolation and extrapolation: linear, exponential, polynomial, logistics, and Gompertz curves. Intercensal and post-censal estimates. Regression method of projection for behavioural event. ARIMA.

Cohort component method: basic methodology; projection of mortality, fertility, and migration components; population projections of United Nations and Office of the Registrar General of India. Use of SPECTRUM and its applications.

Methods of rural-urban and sub-national population projections: ratio method, apportionment (Water) method, urban-rural growth difference method, and concept of raking.

Methods of related socio-economic projections: labour force, school-enrolment, and households.

Projection of Future Health Needs: Like ambulatory services, sanitary napkins, old age nest/home, health personnel, nursing staff (hospital and home-based), counselors etc. SPECTRUM software.

**ESSENTIAL READINGS:**

1. United Nations (1974): *Methods for Projections of Urban and Rural Population: Manual VIII*. Population Studies, No. 55. New York: Department of Economic and Social Affairs. Chapters 3 & 4.
2. United Nations (1955). *Manuals on methods of estimating populations: Manual II – Methods of Appraisal of Quality of Basic Data for Population Estimates*. Department of Economics and Social Affairs, New York. Chapter 1, 2, 3
3. United Nations, (1955): *Methods of Appraisal of Quality of Basic Data for Population Estimates, Manual II*. New York: United Nations. Chapter 1 & 3.
4. Pathak, K.B. and F. Ram (1998): *Techniques of Demographic Analysis*, Himalaya Publishing House, Second Edition, Mumbai.
5. Seigel Jacob S. and David A. Swanson (eds.) (2004): *The Methods and Materials of Demography*. 2<sup>nd</sup> Edition, New York: Elsevier Academic Press. Chapters 20 & 21.
6. Srinivasan, K. (1998), *Basic Demographic Techniques and Applications*. London: Sage Publications.

**SUGGESTED READINGS:**

1. EL. Badry, M.A., (1961): "Failure of Enumerators to make Entries of Zero", Errors in Recording Childless Cases in Population Censuses, *Journal of American Statistical Association* Vol. 56.
2. Potter, R.G. and Kulkarni, P.M. (1977): Population Momentum: A Wider Definition, *Population Studies* Vol. 40 pp. 555-56.
3. Preston, Samuel H., and Subrata Lahiri (1991): "A Short-cut Method for Estimating Death Registration Completeness in Destabilized Populations", *Mathematical Population Studies*, 3(1):39- 51.
4. Rele, J. R., (1987), "Fertility Levels and Trends in India, 1951-81", *Population and Development Review* Vol. 13 (2). Academic Press, New York.
5. Mishra, B.D. (1981): An Introduction to the Study of Population, New Delhi: South Asian Publishers, Pvt. Ltd. New Delhi.
6. K. Srinivasan. Training Manual on Demographic Techniques. Census of India and United Nations Population Fund, India. Chapter 4, 10
7. Jeremiah P. Banda (2003). Non-sampling errors in surveys. UNITED NATIONS SECRETARIAT ESA/STAT/AC.93/7. Statistics Division 03 November 2003
8. Census of India (2011). Report on Post Enumeration Survey, 2011. Registrar General & Census Commissioner.
9. Kim, Young J., Schoen, R. & Sarma, P.S.(1991) : Momentum and The Growth-Free Segment of Population, *Demography*, Vol.28, No.1 pp. 159-173.
10. Potter, R.G. and Kulkarni, P.M. (1977): Population Momentum: A Wider Definition, *Population Studies* Vol. 40 pp. 555-56.

**MPS C13**

**30 Hours**

## **DEMOGRAPHIC ESTIMATION TECHNIQUES AND MODELS**

### **Course Outcomes:**

- CO3: To develop the skills to use different demographic packages of projection of population, households, urban-rural, education, and employment for programs and policymaking.
- CO4: To familiarize students with the indirect techniques of estimating demographic components under the limited circumstance of data availability.
- CO2: To familiarize students with demographic models to understand the population issues and evaluate the observed demographic rates and ratios.

### **Demographic Models**

#### **Concepts of Demographic Models:**

Stationary, Stable and Generalized Population; Momentum of Population Growth; Concept of Multiregional Model; and Micro Model such as Birth Interval, Waiting Time (Birth Distribution etc, Estimation of fecundability?)

#### **Indirect methods for estimating fertility:**

Needs for Indirect methods; Concept of Reverse Survival Method, Robust Method and method based on Generalized Population Model; Rele's Method; Concept of P/F ratio method and its modification [Hypothetical Cohort methods] Completeness of Death Registration by Lopez applications of MORTPAK in estimating age specific fertility rate (ASFR) and total fertility rate (TFR).

### **Indirect Method of Estimating Mortality:**

#### **Indirect Methods of Estimating Infant and Child Mortality**

- (a) Basic concepts, fundamental assumptions and underlying principles to the technique proposed by Brass based on retrospective data on children ever-born and surviving mothers classified by current age of mother; applications of MORTPAK in estimating infant and child mortality.
- (b) Modifications proposed by Sullivan and subsequently by Trussell over Brass method; and (c) the UN revised and extended version of Trussell's method.

#### **Methods of Estimating Adult (including Maternal Mortality) and Old Age Mortality**

- (i) Methods of estimating adult mortality using successive census age-distributions; (ii) Methods of estimating life expectancies at older ages; and (iii) Estimation of maternal mortality through sisterhood method.

### **Indirect Methods for Estimating Death Registration Completeness for Countries Having Limited and Defective Vital Registration Data**

An overview of some selected methods of estimating completeness of death registration, starting from Brass growth balance method and its subsequent development.

### **ESSENTIAL READINGS:**

1. United Nations (1983): *Indirect Techniques for Demographic Estimations*, Manual X, Population Studies No.81, Department International Economic and Social Affairs, (ST/ESA/SER.A/81).
2. Preston, Samuel H. Patrick, Heuveline and Michel Guillot, 2003, *Demography: Measuring and Modeling Population Processes*, Blackwell Publishers, 2001 (First Indian Reprint 2003).
3. United Nations (1955). Manuals on methods of estimating populations: Manual III – Methods of Population Projections by Age and Sex. Department of Economics and Social Affairs, New York. Chapter 2.
4. Navaneetham Kannan and George Groenewold, (1998): *The Projection of Populations: Data Appraisal, Basic Methods and Applications*, Population and Sustainable Development Teaching Texts, Thiruvananthapuram: Centre for Development Studies.

### **SUGGESTED READINGS:**

1. Bhat P.N.M, (2002): General growth balance method: A reformulation for population open to migration, *Population Studies*, 56 (2002), 23-34, Printed in Great Britain.
2. Preston, Samuel H., and Subrata Lahiri (1991): "A Short-cut Method for Estimating Death Registration Completeness in Destabilized Populations", *Mathematical Population Studies*, 3(1):39- 51.
3. Rele, J. R., (1987), "Fertility Levels and Trends in India, 1951-81", *Population and Development Review* Vol. 13 (2). Academic Press, New York.
4. Srinivasan, K. (1998), *Basic Demographic Techniques and Applications*. London: Sage Publications.
5. Government of India (2019): *Population Projections for India and States, 2011-2036*. New Delhi: NCP, MoHFW.
6. Field, J.L. (1990) Past projections: How successful? In *Population Projections: Trends, Methods and Uses*, Liverpool, 12-14 sept. 1990. Occasional paper 38. Office of Population Censuses and Surveys, pp. 23-29.
7. Shaw, C. (2007). Fifty years of United Kingdom national population projections: how accurate



have they been? Population Trends 128: 8-23. Available at [www.ons.gov.uk/ons/rel/population-trends-rd/population-trends/no--128--summer-2007/fifty-years-of-united-kingdom-national-population-projections--how-accurate-have-they-been-.pdf](http://www.ons.gov.uk/ons/rel/population-trends-rd/population-trends/no--128--summer-2007/fifty-years-of-united-kingdom-national-population-projections--how-accurate-have-they-been-.pdf)

8. Moultrie, Tom, Rob Dorrington, Allan Hill, Kenneth Hill, Ian Timæus and Basia Zaba, (2013) Tools for
9. Demographic Estimation. International Union for the Scientific Study of Population (IUSSP)
10. Office of the Registrar General of India, Government of India (2020): Population Projections for India and States, 2011-2036. Report of the Technical Group on Population Projection. National Commission on Population and Ministry of Health & Family Welfare, Government of India. New Delhi

**MSP C14**

**60 Hours**

## **POPULATION, DEVELOPMENT AND ENVIRONMENT**

- CO1: To acquaint students on key concepts, indicators and composite indices of development  
CO2: To familiarize students on various theories of population and development  
CO3: To introduce pessimistic, optimistic and neutralistic views on population  
CO4: To explain quantitative and qualitative aspects of human resources  
CO5: To introduce the concepts of sustainable development, climate change and global warming

### **I. Concepts and Measures of Development**

Need to study population in the context of development; Concepts of economic growth and economic development – definition and indicators; Limitations of per capita income as an indicator of development; Emphasis on equality, Lorenz curve and Gini coefficient.

Economic determinants of development, non-economic determinants of development, and role of institutional factors in development.

*Approaches towards development:* Growth oriented approach and basic minimum need approach; Human centred development – welfare approach, investment in human capital, Physical Quality of Life Index (PQLI), Human Development Index (HDI), Gender Development Index (GDI); Concepts and measures of money metric and multidimensional poverty, Human Poverty Index (HPI) and Multidimensional Poverty Index (MPI).

Concepts of social development, social capital and social change.

### **II. Theories and Strategies of Development**

*Theories of development:* Big push theory, Rostow's stages of growth, Arthur Lewis's two-sector model, Liebenstein's critical minimum effort theory, Harrod-Domar model, and Solow's growth model.

*Strategies of development:* Millennium Development Goals (MDGs), achievements with special reference to India; Concept of sustainable development, Sustainable Development Goals (SDGs); Development strategies through the different five-year plans in India; Recent development strategy (NITI Aayog) in India.

### **III. Population and Development linkages**



*Views regarding relationship between population and development:* (i) Classical views: Malthus and Marx, concept of optimum population; (ii) population growth as obstacle to development, Coale and Hoover study, tragedy of commons, limits to growth study, Enke's investment model; (iii) population growth as conducive to development – views of Colin Clark, Ester Boserup and Julian Simon; and (iv) views of revisionists and need to study linkages between population change and development.

Demographic transition theory, age structure transition, demographic dividends and population ageing; effects of fertility and mortality declines, health improvements and migration on economic growth. Divergent views regarding the relationship between population and development.

#### **IV. Population and Resources**

*Natural resources:* classification of natural resources, renewable and non-renewable resources, resources scarcity and resource depletion.

*Capital resources:* effect of demographic factors on savings and investments, technology and development; importance of technology to improve the productivity of physical assets.

*Human resources - quantitative aspects:* concepts labour force, economically active population, unemployment, types of unemployment, disguised, seasonal frictional and chronic. Factors affecting demand and supply of labour, effect of population growth and development on structure of employment.

*Human resources – qualitative aspects:* factors influencing productivity of human beings need for investment in human capital, implications of population growth on food, sanitation, housing, employment, education and health and social security to improve the quality of human resources. Educational development, urbanization and exposure to mass media and their social consequences.

#### **V. Population and Environment**

Ecosystem: Basic concepts, structure and functioning, energy and material flow, changes and challenges of ecosystem; simplification, eutrophication, pollution.

Philosophical dimensions of the new environmentalism: postmodernism, eco Marxism, deep ecology, social ecology and ecofeminism.

Sustainable development and environment: Role of environment in development – evolution, inclusion and progress; Brundtland Commission – Our Common Future; “5 Ps” that shape the SDGs: People, Planet, Prosperity, Peace, and Partnerships; UNGC Ten Principles; Linkages of SDGs with environment. Living planet index, Human foot print, IPAT model; environmental-Kuznetz curve;

Environmental challenges: Resource depletion and environment; pollution; poverty and environment; food, nutrition and environment; ecofeminism; solid waste; climate change and development; health and environmental challenges; occupational health.

UN conventions on environment and development: Major world commissions from 1972 to Rio+20 and so on; UNFCCC and challenges in making policies on environment; Environmental policies and programmes in India.

#### **ESSENTIAL READINGS:**

1. Birdsall Nancy, Kelley Allen, & Sinding Steven (2001). *Population Matters: Demographic Change, Economic Growth and Poverty in the Developing World*, Oxford: Oxford University Press. Chapters 2, 4 and 5.
2. Ray, Debraj (1998): *Development Economics*. Delhi: Oxford University Press. Chapters 3 & 4.

3. Todaro, Michael P. (1981): *Economic Development in the Third world*. New York: Longman. Chapter
4. UNDP (2022). *Human Development Report 2021-2022: Uncertain Times, Unsettled Lives: Shaping Our Future in a Transforming World*. UNDP: New York.
5. UN Environment (2019). *Global Environment Outlook – GEO-6: Healthy Planet, Healthy People*. Cambridge University Press.
6. World Commission on Environment and Development (1987). *Our Common Future*. London: Oxford University Press.

#### **SUGGESTED READINGS:**

1. Chary, S.N. & Vinod Vyasulu (eds). (2000). *Environmental Management: An Indian Perspective*. New Delhi: Macmillan India.
2. Coale A.J. and Hoover, E.M. (1958). *Population Growth and Economic Development in Low Income countries*. Princeton: Princeton University Press.
3. David Bloom, David Canning & Jaypee Sevilla, (2003): *The Demographic Dividend*. Sanata Monica: Rand Corporation. Chapter 2.
4. Irfan Habib, (2010), *Man and Environment: The Ecological History of India* (A Peoples History of India 36). New Delhi: Tulika Books.
5. Kapila, Ray and Uma Kapila (2001). *India's Economy in the Twenty First Century*. New Delhi: Academic Foundation. Chapters 1 to 5, 15, 16& 21.
6. Leibenstein, H. (1963). *Economic Backwardness and Economic Growth*. New York: John Wiley. Chapter 8.
7. Lewis W.A. (1958). Economic Development with Unlimited Supplies of Labour. In A.N. Agarwala and P. Singh (eds.) *The Economics of Underdevelopment*. New York: Oxford University Press.
8. Morton Lippmann, Beverly S. Cohen, Richard B. Schlesinger, (2003). *Environmental Health Science: Recognition, Evaluation, and Control of Chemical and Physical Health Hazards*. Oxford: Oxford University press.
9. Solow, R.M. (1956). A contribution to the theory of economic growth, *Quarterly Journal of Economics*, 70: 65-94.
10. United Nations Development Programme (1990). *Human Development Report, 1990*. Delhi: Oxford University Press. Chapter 1.



**POPULATION POLICIES AND PROGRAMME EVALUATION****Course Outcomes:**

CO1: To have an understanding of population policy in pro-natalist and anti-natalist divide around the world.

CO2: To appreciate the role of United Nations and International population conferences, including ICPD, in evolving changes in designing and advocating population policies and programmes.

CO3: To critically evaluate the population policies and programmes of India since independence.

CO4: To understand the management and quality of care in health services and family planning programmes.

CO5: To learn the tools of evaluating family planning programmes and SWOT approach.

**A. POPULATION POLICIES AND PROGRAMMES**

Definition of Population Policy; principal features of a population policy; policies in the context of population growth, structure and distribution. Policy formulation: Policy indicators, justification of population policy, socio-cultural, political and ethical issues related to population policy and the mechanism of how government decisions influence family decisions.

Role of the United Nations, and other International agencies; World Population Conferences, Declarations and Plan of Action.

Fertility influencing policies: pro-natalist policies, fertility control policies- direct and indirect. Policies and programmes for special groups: women and children.

Health influencing policies: historical perspective for policies and programmes in developing and developed countries.

India's health and family planning programmes: History of birth control movement, National Population Policies, National Health Policies, and National Health Mission.

**B. POPULATION AND PROGRAMME MANAGEMENT**

Strategic management approach, Targeting the people in need (Community Need Assessment); Client segmentation; and Unmet need approach.

Providing services; commercial distribution, community based distribution (CBD) systems and social marketing.

Quality of Care: Definition, Importance and Framework of quality of care in family planning.

**C. EVALUATION OF PROGRAMME**

Evaluation of programmes: objective, types, framework and methodological issues and data requirement. Role of family planning service statistics and surveys as sources of data in evaluation.

Management Information System (MIS); Role of HMIS in evaluation of the programmes.  
Operation Research Techniques (ORT) in evaluation.

Economic evaluation of the programmes: Cost-benefit analysis, Cost-effective analysis, SWOT analysis.

Fertility impact of Family planning programme: Bongaarts' model for estimating fertility impact.

#### **ESSENTIAL READINGS:**

1. Government of India (2000), *National Population Policy- 2000*, Ministry of Health and Family Welfare: New Delhi.
2. Government of India (2017), *National Health Policy- 2017*, Ministry of Health and Family Welfare: New Delhi.
3. Srinivasan, K. (2017), *Population Concerns in India: Shifting trends, policies, and programs*, Sage Publications: New Delhi.
4. United Nations (1995): *Report of the International Conference on Population and Development*, Cairo, 5-13 Sept, 1994

#### **SUGGESTED READINGS:**

1. Chrissie, P. and Selwyn S. T. Leger (1993): *Assessing Health Need Using Life Cycle Framework*, Open University, Buckingham.
2. Peabody, J.W.; Rahman, H. Omar; Gertlor, Paull, J.; Haan, Joyce (1999): *Policy and Health Implication for Development in Asia*, Cambridge University Press. Cambridge.
3. Peters, David H. Yazbeek Abdo S.; Sharma, Rashmi R.; Ramana G.N.V., (2002): *Better Health Care Systems in India*, World Bank, Washington D.C.
4. United Nations (1998): *National Population Policies*, Department of Economics and Social Affairs, New York.
5. Asia Development Bank (2006). *Impact Evaluation: Methodological and Operational Issues*. Economic Analysis and Operations Support Division. ADB, Manila.
6. Jain, A (ed.) *Do Population Policies Matter? Fertility and Politics in Egypt, India, Kenya and Mexico*, Population Council, New York
7. Visaria, L and R R Ved (2016): *India's family planning programme: Policies, practices and challenges*, Routledge, London.
8. James, K.S. and T.V. Sekher (eds.), (2023). *India Population Report*, Cambridge University Press, <https://www.cambridge.org/core/books/india-population->, New Delhi.

**RESEARCH METHODOLOGY II****Course Outcomes:**

- CO1: To understand the theories underlying qualitative research
- CO2: To familiarize the qualitative methods of data collection.
- CO3: To understand qualitative data analysis using packages like Atlas Ti and Nvivo.
- CO4: Develop skills for writing proposal and scientific articles.
- CO5: Introducing students to field level settings and primary data collection.

**QUALITATIVE RESEARCH METHODS****Philosophy of Research**

Law, Theory, and Model

Overview on Main Assumptions and Arguments of Selected Social Theories (functionalism, conflict theory, symbolic interactionism, system theory, feminist theories, change theories)

Causation and Research Design

Criterion of causation Nomothetic casual explanation Idiographic casual explanation

**Theory in Qualitative Research**

Using the existing literature

Theories underlying the qualitative research

Approaches to qualitative research

Texts as data in qualitative research

**Designing Qualitative Research**

The qualitative research process

Research questions

Entering the field

Interviews, focus groups, key informants

Using narrative data

Collecting data beyond talk.

**QUALITATIVE DATA ANALYSIS SKILLS**

Data preparation

Developing codes

Making codebook and its process

Free listing and Pile sorting analysis using ANTHROPAK

In-depth Interviews, FGDs data analysis by N-Vivo/ATLAS-Ti

Group work - hands on data collection, data analysis and presentation

## SCIENTIFIC WRITING AND ETHICS

Layout of research proposal and dissertation

Techniques of interpretation

Ethical considerations in data collection

## FIELD VISITS

Visit to the field sites.

Conducting Key Informant Interviews and Focus Group Discussions at field level and writing up.

## Essential Readings:

1. Hollis, M. (1994) *Philosophy of Social Science: An Introduction*. Cambridge, Cambridge University Press
2. Booth, W. C., Colomb, G. G., Colomb, and J. M., & Williams, J. M. (2003). *The Craft of Research*. University of Chicago press.
3. Hennink, M., Hutter, I. and Bailey, A. (2011). *Qualitative Research Methods*, Sage Publications, London.
4. Flick, Uwe (2014). *An Introduction to Qualitative Research*, SAGE, New Delhi
5. Bryman, Alan (2012). *Social Research Methods*, Oxford University Press
6. Schenshul, S.L, J.J. Schenshul and M.D. LeCompte (1999), *Essential Ethnographic Methods*, Altamira Press, New York.

## Suggested Readings:

1. MacIntyre, A. (1967) *A Short History of Ethics*. London.
2. Resnik, D.B. (2011). *What is ethics in research & why is it important*. National Institute of Environmental Health Sciences, 1-10.
3. Retrieved from <https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm>
4. Srinivas, M. N., A. M. Shah, and E. A. Ramaswamy. (1979). *The Fieldworker and the field : problems and challenges in sociological investigation*. Delhi: Oxford University Press.
5. Mukherjee, R. And P. N. Mukherjee ( 2000). *Methodology in social research: dilemmas and perspectives*. Sage Publication.
6. Sayer, Andrew. (1984). *Method in Social Science: A Realist Approach*, London: Hutchinson
7. Creswell, J. (2012). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.) Thousand Oaks, CA: Sage
8. Denzin, N, and Lincoln, Y. (2011). *The SAGE handbook of qualitative research* (4th ed.). Thousand Oaks, CA: Sage
9. Lee, T. W. (1999) *Using Qualitative Methods in Organization Research*. London: Sage.
10. Marshall, C. & Rossman, G. B.( 2006). *Designing qualitative research* (4th ed.) Thousand Oaks, CA: Sage.
11. Miles, M.B., Huberman, A.M. & Saldana, J.( 2014). *Qualitative data analysis: A methods sourcebook* – Third edition. Thousand Oaks, CA: Sage.
12. Patton M. Q.( 2002). *Qualitative Research and Methods Evaluation*, Newbury Park: Sage.
13. Silverman, D.( 2013) *Doing Qualitative Research*, London: Sage
14. Berg, B. L. & Lune, H. *Qualitative Research Methods for the Social Sciences*, 8th edition, Boston: Pearson, Allyn & Bacon. 201
15. Gastel, Barbara and Robert A. Day. *How to write and publish a scientific paper*.
16. Turabian, Kate L. *A manual for writers of research papers, theses and dissertation* Web reference: <http://owl.english.purdue.edu>



## CONCEPTS AND MEASURES OF GLOBAL HEALTH

### Course Outcomes:

CO1: To familiarize the students with the emerging concepts, measures, and significance of global health in contemporary world.

CO2: To understand the global mortality transition in terms of its varied features like cause of death, population age structure and differential quality of life.

CO3: To understand the impact of poverty, inequality on disease prevalence, health infrastructure, deprivation for the mortality divide and its repercussions.

CO4: To introduce and understand impacts of environmental factors and recommend public health measures need to be taken to mitigate health effect of climate change.

CO5: To recommend appropriate public health intervention in keeping with disease burden and evaluate health system performance in international perspective.

1. **Concept and introduction:** Concept of global health; importance to study global health, global variation in demographic, health and epidemiological transitions; linkages between globalization and health; linkages between global and local health; current challenges, emerging trends and priorities in global health; major patterns of distribution of disease in the world; sources of data on disease and disability.
2. **Global burden of disease:** Concept of burden of disease; hypotheses related to burden of diseases - compression of morbidity, expansion of morbidity and dynamic equilibrium; measures of burden of disease at the population level - health expectancy and health gap; methods for estimating DFLE, HALE and DALY; how does the burden of disease and mortality vary by geography, age and gender? GBD 1990, 2010 and 2019 - changes and continuities.
3. **Infectious Diseases, Non-Communicable Diseases (NCDs) and Nutrition:** Persistence of infectious diseases in developed and low- and middle-income countries; new and re-emerging infectious diseases across globe; difficulty in prevention, treatment, and rehabilitation from infectious diseases. Current and growing challenge of NCDs in developed and low- and middle-income countries; NCD's epidemiology in developed and low- and middle-income countries. Double burden of malnutrition and diseases in low- and middle-income countries; food security of undernutrition; short-term and long-term impact of undernutrition; nutrition transition.
4. **Determinants of Health:** Factors responsible for variation in the global burden of disease - culture, race, ethnicity, education, socio-political establishment, economic development and economic inequality. Role of water, sanitation, indoor and outdoor air pollution, food security, migration, disaster (man-made, natural), conflicts and epidemics in explaining global health disparities.
5. **Health care delivery systems:** Introduction to health systems; components of health system; financial models of health care; service delivery models; governments role in delivering health care; measurement of health system performance in developed and developing countries; role of WHO, World Bank, etc. in setting global and national health

priorities.

### Essential readings

1. Skolnik, R. (2008). Essentials of global health, Jones and Bartlett: Sudbury, MA.
2. Fried LP, Bentley ME, Buekens P, Burke DS, Frenk JJ, Klag MJ et al. (2010). Global Health is Public Health. *Lancet* 375, 535 – 7.
3. Huynen M, Martins P, Hilderink HBM. (2005). The Health Impacts of Globalisation: A Conceptual Framework. *Globalization and Health* 1:14.  
<http://www.globalizationandhealth.com/content/1/1/14>
4. Murray, C.J.L., Saloman, J.A., Mathers, C.D., Lopez, A.D. (2002). Summary measures of population health: concepts, ethics, measurement and applications, The World Health Organization: Geneva. Council on Foreign Relations. (2014). The Emerging Global Health Crisis. Non-Communicable Diseases in Low- and Middle-Income Countries. Independent Task Force Report No. 72.  
[https://www.cfr.org/sites/default/files/report\\_pdf/TFR72\\_NCDs.pdf](https://www.cfr.org/sites/default/files/report_pdf/TFR72_NCDs.pdf)
5. Fauci AS, Morens DM. (2012) The Perpetual Challenge of Infectious Diseases. *N Engl J Med* 366: 454 – 61.

### Suggested readings

1. Hoffmann SJ. (2010). The Evolution, Etiology and Eventualities of the Global Health Security Regime. *Health Policy Plan* 25(6): 510-22. <https://www.ncbi.nlm.nih.gov/pubmed/20732860>
2. Murray, C.J.L., Saloman, J.A., Mathers, C. (2000). A critical examination of summary measures of population health, *Bulletin of the World Health Organization* 78(8): 981-994.
3. Dielman JL, Schneider MT, Haakenstad A, Singh L, Sadat N, Birger M, Reynolds A, Templin T, Hamavid H, Chapin A, Murray C. (2016) Development Assistance for Health: Past Trends, Associations, and the Future of International Financial Flows for Health. *Lancet* 387; 2536 – 44.
4. Murray, C.J.L., Frenk, J. (2000). A framework for assessing the performance of health systems, *Bulletin of the World Health Organization* 78(6): 717-731.
5. Mozaffarian D. (2017). Global Scourge of Cardiovascular Disease. Time for Health Care Systems Reform and Precision Population Health. *Journal of the American College of Cardiology* 70(1): 26 – 8.
6. Mills, A., Rasheed, F., Tollman, S. (2006). Strengthening health systems, In *Disease Control Priorities in Developing Countries* (2nd Edition), pages 87-102, New York: Oxford University Press.
7. Hsiao, W.C. (2003). What is a health system? Why should we care? Harvard School of Public Health Working Paper.
8. World Health Organization (2010). Key Components of a Well-Functioning Health System. [http://www.who.int/healthsystems/publications/hss\\_key/en/](http://www.who.int/healthsystems/publications/hss_key/en/)
9. World Health Organization. (2017) Double Burden of Malnutrition. <http://www.who.int/nutrition/double-burden-malnutrition/en/>

**POLITICAL DEMOGRAPHY**

CO1. To provide basic and advanced concepts and methods of analysing political theory of population change and its consequences with an inter-disciplinary perspective.

CO2. To familiarize the students with changing political demography of India and its implications on policy interventions.

**1 Population and Political Theory**

Political Theory, Development and Population; Weiner's hypotheses; Shaping Future Children: Parental Rights and Societal Interest, Immigrants, Nations and Citizenship.

**2. Population and Politics**

Politics, Demography and History; Population and World Politics; Population and Power; Cultural identity, nationalism and population; Demography of political representation.

**3. Population Change and National and International Security**

On Future Generations' Future Rights; Generations at War or Sustainable Social Policy in Ageing Societies, The Ethics of Refugee Policy.

**4 Political Demography of India**

A framework for the Study of Indian Political Demography; Politics of population growth in the context of Gender, Caste and Religion; Demographics of political representation; Voter Population of India and Its Socio-Demographic Characteristics; Political economy of population and health policy in India.

**5 The Political Economy of Health**

Virchow's philosophy; Political determinants of health; Governance and health; Political economy of global health financing; Austerity and health.

**6. Conflicts, Demography and Health**

Conflict Demography, Conflict and Health

**7. Future of Political Demography and its Impact on Policy**

Politics of Population and Health Policies and methodological choices.

**Essential Readings**

1. Abernethy, V. D., & Hardin, G. (2018). *Population politics*. Routledge.
2. Clinton, R. L., & Clinton, R. L. (1973). *Population, Politics and Political Science*. Population and Politics. Lexington, Mass: Lexington Books.
3. Clinton, R. L., Flash, W. S., & Godwin, R. K. (Eds.). (1972). *Political Science in Population Studies*. Lexington, Mass., Lexington Books [1972].

4. Clinton, R. L., Godwin, R. K., & Godwin, R. J. (1972). *Research in the Politics of Population*. Lexington Books.
5. Demeny, P., & McNicoll, G. (2006). *The political demography of the world system, 2000-2050*. Population and Development Review, 32, 254-287.
6. Kligman, G. (1995). *Political Demography: The Banning of Abortion* in. Conceiving the new world order: The global politics of reproduction, 234.
7. Teitelbaum, M. S. (2005). Political demography. In Handbook of population (pp. 719-730). Springer, Boston, MA.
8. Teitelbaum, M. S. (2015). Political demography: Powerful trends under-attended by demographic science. Population studies, 69(sup1), S87-S95.

### **Indian Readings**

1. Bhagat, R. B. (2022). *Population and the Political Imagination: Census, Register and Citizenship in India*. Taylor & Francis.
2. Bhagat, R. B. (2006). Census and caste enumeration: British legacy and contemporary practice in India. *Genus*, 119-134.
3. James, K. S., & Balachandran, A. (2021). *Demographic Politics in Asia's Super-Size Democracies: India, Bangladesh and Pakistan*. In Global Political Demography (pp. 141-166). Palgrave Macmillan, Cham.
4. James, K. S., & Goli, S. (2016). Demographic changes in India: Is the country prepared for the challenge. *Brown J. World Aff.*, 23, 169.
5. Rao, K. S. (2016). *Do we care?: India's health system*. Oxford University Press.
6. Srinivasan, K. (2017). Population concerns in India: shifting trends, policies, and programs. SAGE Publishing India.

**MSP-E3.3**

**45 Hours**

## **POPULATION, ENVIRONMENT AND SUSTAINABLE DEVELOPMENT**

### **Course Outcomes:**

- |      |   |
|------|---|
| CO1. | Understand sustainable development and its challenges.                      |
| CO2. | Learn quantitative and qualitative methods in environmental health analysis |
| CO3. | Comprehend the role of the environment in development modelling             |

### **1. Sustainable development: Concepts**

Sustainable development; Trends of global warming and climate change; Drivers of global warming and climate change; Impact of climate change and biological responses; Meaning and measurements of vulnerability, resilience and adaptive capacity; Calamities and measurements; challenges for environmental governance

### **2. Environmental challenges in India**

Pollution and health- data sources, estimate; Urban environmental challenges; Tourism and



environmental challenges; Indian standards; Role of state in pollution control and resources management; Indian environment policies and programme

Disaster: meaning, factors and significance; Types of disasters: natural and man-made; Causes and effects of disasters; Profiling of disaster in India; Community health during disaster (drinking water, food and nutrition, hygiene and sanitation), urban pollution (with case studies)

### **3. Practical session on-Training on environment and health**

Population potential mapping; Satellite image interpretation; geospatial modeling to measure environmental impact on health; Analyzing environment using large scale data; Local area pollution analysis; Energy literacy training

**Field visit:** Qualitative methods to measure environmental impact; Community training on environment through IEC

#### **Essential Readings:**

1. The Economics of Climate Change: The Stern Review (2014) Cambridge University Press
2. UN Climate reports <https://www.un.org/en/climatechange/reports>
3. Bründtland, G.H. (1987). *Our Common Future: The World Commission on Environment and Development*, Oxford, Oxford University Press.
4. Psychology and Climate Change (2018) Human Perceptions, Impacts, and Responses, 2018
5. Lillesand, Thomas, Kiefer, Ralph W., Chipman Jonathan (2015) *Remote Sensing and Image Interpretation*, 7th Edition, Wiley

#### **Suggested readings:**

1. Hardin, Garrett. (1968): "The Tragedy of the Commons." *Science*. Vol. 162, No. 13, reprinted in Rex R. Campbell and Jerry L. Wade, (Eds), *Society and Environment: The Coming Collision*. Allyn and Bacon, Inc: Boston, MA, pp.1243-1248.
2. Lutz, Wolfgang, A. Prskawetz and W.C. Sanderson (eds.) (2002). *Population and Environment: Methods of Analysis*. Supplement to Population and Development Review. New York, Population Council.
3. Simon, Julian L. (1996). *Population Matters: People, Resources, Environment, and Immigration*. Transaction Publishers: New Brunswick, NJ.
4. Hanley, N., Shogren, J. F., & White, B. 2007. Environmental Economics: In Theory and Practice. Palgrave Macmillan
5. Bongaarts, John. (1992). Population growth and global warming. *Population and Development Review*, 18: 299-319.

**OCCUPATIONAL HEALTH****Course Outcomes:**

CO1: To familiarize students with occupational health risks/ hazards and their demographic implications.

CO2: To train the students in basic concepts, theories, measurements and data sources of occupational health risks/hazards.

CO3: To acquaint students with various types of contemporary hazardous occupations throughout the world.

CO4: To develop in-depth understanding of intersectionality of occupation, health and demography in low and middle-income countries.

CO5: To develop critical thinking among students of social welfare policies and laws/ legislations/ acts for workers in India.

**Introduction of Occupational Health and Demography:**

Definition, basic concepts, the scope of occupational health and importance in demography; Difference between occupational health risks and hazards; Historical development of occupational health, the intersectionality of occupational health, socioeconomic characteristics, and demography; Pre and Post industrialization theories on occupational health risks and hazards; Decent work; Women's health and safety.

**Morbidity and Mortality:**

Health Well-being of Workers; Occupation-related Morbidity, Health Disorders, Different types of Disabilities, and Mortality; Mental Health.

**Types and Measurements of Occupational Health Risks:**

Occupational disciplines and related risks - Mechanical, Chemical, Biological, Physical, Psychological, Medical, Ergonomic, and Work organization hazards/risks (Hazards or stressors that cause stress (short-term effects) and strain (long-term effects)); Measurements of occupational health safety, risks and hazards; Health impact assessment, Mental health assessment scale, Musculoskeletal disorder scale, American Thoracic Society and the Division of Lung Diseases (ATS-DLD-78), Occupational Stress Index (OSI), Job Strain Model, etc.

**Data Sources of Occupational Health:**

International and National Data Sources of Occupational Health - Population Census, Services Statistics, Large - and Small-Scale Sample Surveys etc. Data limitations in the area of occupational health.

**Legislation, Social and Welfare Policies:**

Sustainable Development Goals - (Decent work), International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work; International Labour Standards on Occupational Safety and Health, Wages and Working time; ILO - Occupational Safety and Health

### **Occupational Health in India:**

History of Occupational Health in India (types of occupations, work environment and working conditions); Health behavioral risks and hazards; Evolution of labour unions; and Contemporary occupational health challenges of workers in India. Social and Welfare legal provisions and acts in India; Hazardous Waste Management Rules – 2000, Constitutional Rights, Wage Regulations (Minimum Wage Act), Factory Act – 1948, Workmen Compensation Act – 1960, Employee Provident Act – 1952, Labour Welfare Measures, Retirement Benefits/National Pension Scheme – 2004, Social Welfare Schemes and Programmes.

### **ESSENTIAL READINGS:**

1. Benjamin O. Alli, (2008), Fundamental Principles of Occupational Health and Safety, Second Edition, International Labour Office, Geneva: ILO, Pages:1 – 221
2. Government of India, National Policy on Safety, Health and Environment at Work Place, Ministry of Labour and Employment, <https://labour.gov.in/policies/safety-health-and-environment-work-place>.
3. Government of India, Ministry of Rural Development, (2015), Occupational Health & Safety, Environmental Issues and Decent Work-Module-8, New Delhi. Pages: 1 -32.
4. Occupational safety and health in public health emergencies: A manual for protecting health workers and responders: Geneva: World Health Organization and the International Labour Office, 2018. Licence : CC BY-NC-SA 3.0 IGO.
5. Dianne E. G. Dyck, 2020, Occupational Health & Safety: Theory, Strategy & Industry Practice, 4th Edition, ISBN/ISSN: 9780433502074.

### **SUGGESTED READINGS:**

1. Government of India, Report of the Working Group on Occupational Safety and Health for the Twelfth Five Year Plan (2012 To 2017), Ministry of Labour And Employment, New Delhi, Pages 1- 145.
2. Hyde, Martin, Singh Chungkham, Holendro, (2017), Work and Health in India, Policy Press, ISBN:9781447335436, 1447335430
3. Page count:280
4. M. Timothy McAdams, Jeffrey J. Kerwin, Vanessa Olivo, Huseyin A. Goksel, (2011), National Assessment of the Occupational Safety and Health Workforce, 200-2000-08017, Task Order 18, Pages 1 - 246.
5. Gautam Bhan, Antara Rai Chowdhury, Rashee Mehra, (2021), State of occupational safety and health practices at workplace for domestic workers in COVID-19 and possibilities for action, International Labour Organization, Geneva, ISBN: 9789220350768 (Print). Pages 1 - 36.
6. Jacques Tamin, (2020), Occupational Health Ethics: From Theory to Practice, Springer Cham, Hardcover ISBN 978-3-030-47282-5, <https://doi.org/10.1007/978-3-030-47283-2>
7. International Labour Conference, (2003), Global Strategy on Occupational Safety and Health, International Labour Organization: ISBN 92-2-116287-7 (print version), Geneva, Pages – 1 – 20.
8. Global Strategy on Occupational Health for All: The Way to Health at Work (1994), WHO Collaborating Centres in Occupational Health, WHO/OCH/95.1, GENEVA, Pages: 1 -72.
9. World Health Organization (WHO) - Regional Office for the Eastern Mediterranean (2001), Occupational health: A manual for primary health care workers, Cairo, WHO-EM/OCH/85/E/L, pages – 1-168.

## SEMESTER -IV



## SPATIAL DEMOGRAPHY AND APPLICATION OF GIS

### Course Outcomes:

CO1: Understanding the concept of space and develop spatial dynamics in demographic process.

CO2: Learning visualisation tools of demographic data and draw inferences.

CO3: Learning different Geo-Spatial software to facilitate spatial analytical methods in demographic research.

CO4: Learning Geographic Information System (GIS), spatial pattern analysis and spatial statistical techniques to explain a specific spatial pattern.

### I. Concepts and Theories

Demography as a spatial science; difference between spatial demography and population geography; Spatial pattern and spatial process; location, distance and area; Distance and decay relationship and spatial hierarchy; space, place and region; Type of spaces- concrete and abstract space; absolute, relative and relational spaces.

Understanding demographic process by geographical scale; nature of disaggregated data- Census and secondary sources; Linking micro and macro demography in a spatial frame.

Application of spatial frameworks to demographic process; Space, culture and fertility; Spatial pattern of mortality and diseases; Distance as factor in access to health care and health planning; Migration and distance- gravity model; space, culture and migration; urban sprawl and suburbanization.

### II. Statistical and Geospatial Data and Software

**Spatial Concepts and Cartography:** Spatial parameters: Site and location; Scale; Plane and spherical coordinate, Map Projection-UTM, Types of maps: cadastral, toposheet, thematic, digital; Representation of spatial and non-spatial data; **Introduction to geospatial software: GIS:** discrete data: point, and polygon data,

Raster and vector data, layouts preparation. Geocoding and basics of digitization in ArcGIS

**Introduction to Geoda:** ESDA in (Exploratory Spatial Data Analysis); Local Indicators of Spatial Association (LISA)

**Statistical Concepts:** Bar diagram, Frequency polygon, Frequency curve; Test of significance, confidence intervals, Univariate and Multivariate Statistics: Correlation and Regression, Matrix algebra; Auto-correlation; kriging, Moran's I index

**Introduction to Statistical software:** SPSS, STATA, R

### III. GIS and Spatial Analysis of demographic data

**Representation of statistical data and automated cartography (Lab based exercises):**

- a) Population distribution map of India using dot and sphere/circle, cubes,

combined;  
Cartograms

- b) Density map by Choropleth and population density gradient by Isopleth;
- c) Fertility, mortality and natural growth of population by Polygraph.
- d) Measurement of population concentration by cumulative curve.
- e) Migration flow by Carogram

**Concept and application Models:**

- a) Spatial Lag and Error Regression Modeling;
- b) Multilevel modeling (hierarchical linear modeling);
- c) Geographically Weighted Regression;
- d) Spatial Pattern Analysis;
- e) Urban and city level projection

**ESSENTIAL READINGS:**

1. Anselin, L. (2005). Exploring Spatial Data with GeoDa: A Workbook. UC Santa Barbara, CA: Center for Spatially Integrated Social Science. available on <http://geodacenter.asu.edu/>.
2. Bailey, T. and Gatrell, A. C. (1995): Interactive Spatial Data Analysis. Harlow, Longman.
3. Bonham, Carter G.F. (1995): Information Systems for Geoscientists–Modelling with GIS. Pergamon, Oxford.
4. Chen, X., Orum A.M., and Paulsen K.E. (2013). Introduction to Cities: How Place and Space shape Human Experience. West Sussex, Wiley-Blackwell.
5. Kurland K. S., Gorr W. L. (2007). GIS Tutorial for Health. Redlands, CA, ESRI Press.
6. Lo, C.P. and Yeung, A. K. W. (2002): Concepts and Techniques of Geographic Information Systems. New Delhi, Prentice Hall of India.

**SUGGESTED READINGS:**

1. Barbara E., Ronald R. R., Stephen J. W., Tom P. E. and Sara R. C. (1997). *Geographic Information Systems, Spatial Network Analysis, And Contraceptive Choice*. Demography. 34(2): 171-187.
2. de Castro M. C. (2007). *Spatial Demography: An Opportunity to Improve Policy Making at Diverse Decision Levels*. Population Research and Policy Review 26: 477-509.
3. Paul V. (2007). *Demography as a Spatial Social Science*. Population Research and Policy Review 26: 457-476. (plus Introduction to the special issue of PRPR on Spatial Demography) pp. 455-456).
4. Reibel, Michael, (2007). *Geographic Information Systems and Spatial Data Processing in Demography: A Review*. Population Research and Policy Review 26: 601-608.
5. Griffith, D. A. and Amrhein (1997): Multivariate Statistical Analysis for Geographers. Englewood Cliffs, New Jersey, Prentice Hall.
6. Robinson, A. H. H., Sale R., Morrison J. and Muehrcke, P. C (1984) Elements of Cartography. New York, John Wiley and Sons.
7. Chang, K. (2008). Introduction to Geographic Information Systems. New Delhi, McGraw Hill Education.
8. Shaw, G. and Wheeler, D. (1994). Statistical Techniques in Geographical Analysis. Englewood Cliffs, New Jersey, Prentice Hall.
9. Soja, E. W. (1996). Third space: Journeys to Los Angeles and Other Real-and Imagined Places. Wiley-Blackwell.

10. Dorling, D. and Fairborn, D. (1997): Mapping. Ways of Representing the World. Longman, Harlow.

**MSP C18**

**60 Hours**

## **POPULATION AGING AND HEALTH TRANSITION**

### **Course Outcomes:**

CO1: To impart knowledge of concepts and theoretical framework relating to demography of ageing, and its societal interface.

CO2: To understand the health transition, its linkage with ageing transitions. CO3: To develop skills to analyze trends, determinants and consequences of population ageing.

CO4: To familiarize with aging data sets and its exploration.

CO5: To acquaint the students with ageing policies and programmes and its bearing on the welfare of the elderly.

### **I Demography of Ageing:**

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 ageing trends, patterns and determinants in India; state variations; future scenario of population ageing in India and states.

### **II Life Course Perspectives and Social Dynamics of Ageing:**

Life course perspective of population ageing; Age and Ageing, Ageism; Social Status and Roles of Elderly, Family Structure, Intergenerational relations, Kinship and family support, Social Security; Social network- Frameworks (Berkman and others) and measurement.

Living Arrangements of Elderly, Old Age Homes, Social Networks, and Contribution of elderly: "Feminization" of Ageing, Dependency, Gender Dimensions and Discrimination, Widows, Elder abuse, Social and legal Vulnerability.

### **III Ageing and Health:**

Ageing and Functional Health: Non-communicable diseases, Ageing and disabilities; trends and prevalence. Well-being and life satisfaction.

Ageing and mental health problems; cognition, memory loss, dementia and depression; Alzheimer's and Parkinson.

Ageing and health risk factors: nutrition, diet and food practices; health risk behaviour- tobacco, alcohol; physical activities;

### **IV 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: LASI, SAGE, SHARE, HRS, CHARLS, JSTAR, etc.

**ESSENTIAL READINGS:**

1. Chakraborti, Rajagopal Dhar (2004), The Greying of India: Population Ageing in the Context of Asia, SAGE Publications, New Delhi.
2. UNFPA (2001), Population Ageing and Development: Social, Health and Gender Issues, United Nations, Malta.
3. UNFPA (2011), Report on the status of elderly in select states of India, UNFPA, New Delhi.
4. Govt. of India (1999). National Policy for Older Persons, Ministry of Social Justice and Empowerment, New Delhi.
5. United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Ageing 2019: Highlights. UN, New York.

**SUGGESTED READINGS:**

1. World Health Organization (2015), WHO Report on Ageing and Health, Geneva, WHO.
2. United Nations (2001): Living Arrangements of Older Persons: Critical Issues and Policy Responses. Population Division, Department of Economic and Social Affairs, New York.
3. Sandra Gruescu, (2006), Population ageing and economic growth. Physica-Verlag.
4. Goli, S., B. Reddy, James, K. S. & Srinivasan, V. (2019). Economic independence and social security among India's elderly. Economic and Political Weekly. 54, 39, p. 32-41 10 p.
5. James, K.S and Goli S. (2017). Demographic Changes in India. Is the Country prepared for the Challenge? The Brown Journal of World Affairs, 23:169.
6. Berman, Lisa (2000) "Social Support, Social Networks, Social Cohesion and Health" Social Work in Health Care
7. Pool, Ian, Laura R. Wong and Eric Vilquin (ed) (2006), Age-structural transitions: challenges for development. Paris: CIRCRED.
8. National Institute of Ageing (2007). Why population ageing matters? A global perspective, US National Institute of Health.
9. Asian Development Bank Institute (2019). Ageing Societies: Policies and Perspectives, ADB, Japan.
10. Bloom, D, T.V. Sekher and J. lee (2021). "Longitudinal Aging Study in India (LASI): new data resources for addressing aging in India", Nature Ageing, Vol. 1, Springer. <https://rdcu.be/cCl6M>

**MSP E4.1****45 Hours****OPERATION RESEARCH IN REPRODUCTIVE HEALTH****Course Outcomes:**

- CO1: To familiarize the concept of operation and intervention research in reproductive health and related fields.
- CO2: To differentiate the operation research from other social science research.
- CO3: To train students to identify research problems, design and methodology in operation research.
- CO4: To familiarize the process of developing suitable indicators in keeping with the research design.
- CO5: To develop a capacity to prepare proposal for operation research and its implementation.



## 1. Basic Concepts and Definition of OR

- (a) What is Operations Research
- (b) Focus, Objective and Characteristics of Operations Research
- (c) Types and Examples of Operations Research
- (d) Methods of Operations Research
- (e) Implementation Research and Its Linkages with OR

## 2. Role of Researchers and Managers

## 3. Components of OR proposal

## 4. Identification of Problem and Solution

- (a) Identification and Definition
- (b) Justification
- (c) Alternative Solution
- (d) Indicators- Outputs, Outcomes and Impacts

## 5. Causality (Randomize Experimental Design)

- (a) Pretest-Posttest Control Group Design
- (b) Posttest –only Control Group Design
- (c) Multiple Treatment Design

## 6. Design

- (a) Experimental Design: Pretest-posttest control group design; Posttest-only control group design; Multiple treatment designs
- (b) Quasi Experimental Design: Non-equivalent control group; Time series design; Separate sample pretest-posttest design;
- (c) Non-Experimental Design: Posttest-only design; Pretest-posttest design; Static-group comparison

## 7. Inferential Research Statistics Accordingly Operations Research design

- (a) (X<sup>2</sup>, t, F)-tests
- (b) Deciding Sample Size in case of Different Experimental Design
- (c) Linking Different Design and Statistical Test

## 8. Study Design Exercises

## 9. Ethics in Operations Research

- (a) International Perspectives: Research Ethics; Recognize Ethical Issues in Operation Research  
Need of Ethical Standards in Operational Research; History and Foundation of Research Ethics;  
Principles; Codes and Regulations: International Landscape; Ethics Review Committee:  
Members, Roles  
Submission a Proposal for Ethical Clearance
- (b) ICMR Guidelines: Background; ICMR Code; Statement of General Principles; General  
Ethical Issues  
Responsible Conduct of Research (PCR); Ethical Review Procedures; Informed Consent  
Process; Vulnerability
- (c) Case Studies

## 10. Utilization and Dissemination, and Process Documentation

## 11. Critiques to OR proposal

### ESSENTIAL READINGS:

1. Blumenfeld, S. (1985). *Operations research methods: A general approach in primary health care*. Primary Health Care Operations Research, Center for Human Services.
2. Fisher, A. A., Foreit, J. R., Laing, J. E., Stoeckel, J. E., & Townsend, J. (2002). Designing HIV/AIDS intervention studies: An operations research handbook.
3. Foreit, J. R., & Frejka, T. (1998). Family planning operations research: a book of readings.

### SUGGESTED READINGS:

1. Gallo, G. (2004). Operations research and ethics: Responsibility, sharing and cooperation. *European Journal of Operational Research*, 153(2), 468-476.
2. Mathur, R., & Swaminathan, S. (2018). National ethical guidelines for biomedical & health research involving human participants, 2017: A commentary. *The Indian journal of medical research*, 148(3), 279.
3. Oliver, P. (2010). *The student's guide to research ethics*. McGraw-Hill Education (UK).
4. Ormerod, R. J., & Ulrich, W. (2013). Operational research and ethics: A literature review. *European journal of operational research*, 228(2), 291-307.
5. Sanmukhani, J., & Tripathi, C. B. (2011). Ethics in clinical research: The Indian perspective. *Indian journal of pharmaceutical sciences*, 73(2), 125.

**MSP E4.2**

**45 Hours**

## MONITORING AND EVALUATION IN POPULATION & HEALTH

### Course Outcomes:

- CO1: Familiarize the students with concepts and methods of monitoring and evaluation research.
- CO2: To acquaint with various designs employed in monitoring and evaluation.
- CO3: Develop skills on statistical approaches for implementation programmes.
- CO4: Orient students on health management information system.

**I. Introduction to Monitoring and Evaluation:** Basic concepts, Difference between Monitoring and Evaluation; Linkage between Planning, Monitoring and Evaluation; Importance of Monitoring and Evaluation

**II. Monitoring and Evaluation Framework:** Resources for monitoring and evaluation, Engagement of stakeholders in monitoring and evaluation; Meaning of Indicators, Ideal requirement, process of developing indicator, illustration of indicators developed from large scale surveys, measurement, need & levels of indicator; Challenges in developing indicators from Large-Scale Surveys; Types of Indicators – Input, Process, Output, Outcome, Impact; Learning and accountability of Monitoring and evaluation data

**III. Monitoring of Policy Implementation:** Components of policy and programme, budget, staff, process of evaluation, developing tangible indicators for policy monitoring in terms of Input, Process, Output, Outcome, Impact; Result based inference

**IV. Evaluation in Theory:** Principles, norms and standards for evaluation; Criterion for evaluation; Theory of Change; Evaluating for results; Roles and responsibilities in evaluation; Scaling Impact

**V. Evaluation Design:** Determination of sample size under different approaches and design including measurement of change due to certain interventions; Quasi Experiment design, Case control design, Evaluation Terms of Reference, Formative and Summative Evaluations, Managing Evaluations; Evaluation at different points: Baseline, Mid-point, Concurrent and End line evaluation; Randomization, Statistical design of Randomization; Randomized control trials, time dependant cluster design, interrupted time series analysis.

**VI. Assuring the Quality of Evaluation Design and Methodology:** Overview; Defining the context; The evaluation purpose; Focusing the evaluation; Evaluation methodology; Mandatory requirements for programme; SWOT analysis of NHM, ICDS and National Livelihood Mission; Social audit – meaning, objectives, advantage, case study of social audit

**VII. Statistical Approaches of Evaluation of Intervention Programme:** Statistical inferences used in different intervention design – z, t, F and paired ‘t’ tests, two stage LSM, instrument variable method; Propensity score matching; Difference in Difference Method: Theory and application, advantage and disadvantage, regression implementation, Decomposition analysis

**VIII. Management Information System and Use of Technology:** MIS – Monitoring information system; Role of programmers; HMIS system; Global Positioning System, Use of Machine learning and Artificial Intelligence, Use of spatial data

#### **ESSENTIAL READINGS:**

1. 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
2. FHI (2004). *Introduction to Monitoring and Evaluation Monitoring and Evaluation, monitoring hiv/aids programs: A facilitator's training guide*. Family Health International
3. 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
4. Rossi, Peter H.; Mark W. Lipsey and Howard E. Freeman (2004). *Evaluation, A Systematic Approach*. Seventh Edition. Sage Publications – New Delhi.
5. United nations development Group. *The Theory of Change, UNDAF Companion Guideline*.

#### **SUGGESTED READINGS:**

1. IFRC and RCS (2002). *Handbook for Monitoring and Evaluation*. International Federation of Red Cross and Red Crescent Societies –Geneva
2. McLean R. and Gargani J. (2019) *Scaling Impact Innovations for the Public Good*. Routledge, New York.
3. 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
4. OECD (2021). *Applying Evaluation Criterion Thoughtfully*, OECD Publishing, Paris. <https://doi.org/10.1787/543e84ed-en>.
5. Sullivan, T.M., Strachan, M., and Timmons, B.K. (2007). *Guide to Monitoring and Evaluating Health Information Products and Services*. Baltimore, Maryland: Center for Communication

## **MSP E4.3**

**45 Hours**

### **Gender Theories in Demography and Development**

#### **Course Outcomes:**

CO1: To provide an analysis of the location of women in processes of development and demographic transition and to understand the centrality of gender in each case through cutting-edge gender and feminist theories;

CO2: To examine theoretical and conceptual frameworks for the demographic and development analysis, including an understanding of gender divisions and inequalities and their interaction with other forms of inequality such as caste, class, race, and ethnicity and their spatiality;

CO3: To reflect upon the linkages between the economy, demography, and the gendered macro and micro processes of development; and

CO4: To provide a basis for research, practical action, and policy formulation, and for evaluating directions and strategies for social change by application of gender theories.

#### **1. Section A**

##### **Gender Theories**

##### **i. Theoretical framework – Principal Theories of Patriarchy:**

Traditionalist Theories of Patriarchy:

- a. Religious,
- b. Biological determinist,
- c. Darwinian or Sociobiology: Evolutionary Sociobiological Theory.

New Economic Theories of Patriarchy:

- a. Economic Theories of Patriarchy
- b. Cultural or Constructive Social Biology View,
- c. Working Hypothesis,
- d. Maternalist or Matriarchal Theories,
- e. Capitalist Patriarchy.

Indian Context:

- a. Brahmanical Patriarchy,
- b. Landholding-Patriarchy Hypothesis.

##### **ii. Conceptual shift in the women and development discourse:**

From 'Women in Development' (WID) to 'Gender in Development' (GID) and 'Gender and Development' (GAD).



### iii. **Historical Perspective of Feminism:**

First Wave of Feminism, Second Wave of Feminism, Third Wave of Feminism, Fourth Wave of Feminism.

### **Introduction to Feminist Theories:**

Gender-Reform Theories, Gender-Resistance Theories, Gender-Rebellion Theories, Liberal Feminism, Marxist Feminism, Social Feminism, Radical Feminism, Lesbian Feminism, Multiracial Feminism, Standpoint Feminism, Postmodern Feminism.

Classical and Neo-Classical Theories of human capital formation, institutions, and their feminist critique.

Feminist critique of the gender perspective in the Indian Planning: from welfare to 'empowerment and women's agency' approach.

## **2. Section B**

### **Locating Gender in Development and Demographic Process**

(Note: Worked out as Practical empirical exercises in the form of Classroom Term papers. Precisely use Gender Theories to construct "Theory of Change" in Socio-economic and Demographic measures)

- i. Access and control over resources and assets; the cross-cutting issues of caste and class and space; and Spatial-temporal pattern.
- ii. Social, Economic and Demographic Aspects and related measures:
  - a. Literacy/education
  - b. Women and Economy: Gendered Division of labour- rural and extra-rural
  - c. Gendered livelihoods and poverty; workforce trends and implications for emerging regional patterns; caste/class/region overlap
  - d. Gender biases in access and utilization of health including- gender differentials in nutrition and health; mortality differentials by sex, reproductive health and its consequences; and gender inequalities in healthcare utilization
  - e. Sex Ratio
  - f. Child Marriages
  - g. Gender and political participation: national, state and local; equal participation in policy and decision-making process; equal distribution of political power
  - h. Gender-based violence
  - i. Gender and mass media- language, image, and portrayal of women
  - j. Gender Development Indices; Government and bilateral policies/schemes; Gender budgeting; Gender-sensitive financing
  - k. Institutionalizing gender concerns and gender empowerment in policies and interventions
  - l. Gender and structural adjustment. National, and International programs, policies, and laws favouring the empowerment of women
  - m. Gendered Geographies: Space and Place

### **Essential Readings**

1. Agarwal, B., (1994). *A Field of One's Own: Gender and Land Rights in South Asia*. Cambridge University Press: Cambridge.
2. Bhasin, K. (1993). *What is patriarchy?* Kali for Women Publishers, New Delhi.

3. Boserup, E. (1989). *Woman's Role in Economic Development*. Earthscan: London.
4. Engels, F (1884). *The Origin of the Family; Private Property and State*. International Publishers: New York.
5. Kabeer, N. (1994). *Reversed realities: Gender hierarchies in development thought*. Verso.
6. Lerner, G. (1986). *The creation of patriarchy*. Women and History; Vol. 1. Oxford University Press.
7. John, M. E. (Ed.). (2008). *Women's studies in India: A Reader*. Penguin Group.
8. Walby, S. (1990). *Theorizing Patriarchy*. Basil Blackwell: London.

### **Suggested Readings**

1. John, M. E. (1996). *Discrepant Dislocations: Feminism, Theory and Post-colonial Histories*, Berkeley: University of California Press and Delhi: Oxford University Press.
2. John, M. E. (2014). Feminist Concepts in Time and Space: Perspectives from India, *Economic and Political Weekly*, 2014, vol. 49, no. 22, May 31st.
3. Kabeer, N. (1994). *Reversed realities: Gender hierarchies in development thought*. Verso.
4. Kapadia, K. (2002). Translocal modernities and transformations of gender and caste. *The violence of development: the politics of identity, gender and social inequalities in India*, 142-179.
5. Rege, S. (Ed.). (2003). *Sociology of gender: The challenge of feminist sociological thought*. SAGE Publications India.

## Master of Arts/Science in Population Studies

Course No.	Course Name	Course Type	Credits	Hours	No. of Internal Exams	Weightage (%)	
						Internal Exam	Semester Exam
SEMESTER-I							
MSP F1	Social Science Concepts	F	NC	45	3	50	50
MSP C1	Basic Statistical Methods for Population Studies	C	4	60	3	40	60
MSP C2	Demography and History of Population	C	2	30	2	40	60
MSP C3	Age-sex Structure, Quality of Data and Population Dynamics	C	2	30	2	40	60
MSP C4	Nuptiality	C	2	30	2	40	60
MSP C5	Fertility	C	3	45	3	40	60
MSP E1	MSP E1.1: Healthcare System and Policies MSP E1.2: Biostatistics and Epidemiology MSP MSP E1.3: Family Demography	E	3	45	3	40	60
Semester Credits			16	285			
SEMESTER-II							
MSP C6	Mortality, Morbidity and Public Health	C	4	60	3	40	60
MSP C7	Research Methodology I	C	2	30	2	40	60
MSP C8	Gender Equity and Reproductive Health	C	3	45	3	40	60
MSP C9	Migration and Urbanization	C	4	60	3	40	60
MSP C10	Statistical Methods and Computer Applications	C	2	30	2	50	50
MSP E2	MSP E2.1: Historical Demography MSP E2.2: Health Economics and Financing MSP E2.3: Urbanization, Space and Planning MSP E2.4: Gender, Health and Development	E	3	45	3	40	60
MSP V1	Viva-Voce-I	V1					
Semester Credits			20	300			
SEMESTER-III							
MSP C11	Application of Statistical Packages in Large Scale data	C	4	60	3	50	50
MSP C12	Population Estimations and Projections	C	2	30	2	50	50
MSP C13	Demographic Estimation Techniques and Models	C	2	30	2	50	50
MSP C14	Population, Development and Environment	C	4	60	3	40	60
MSP C15	Population Policies and Programme Evaluation	C	4	60	3	40	60
MSP C16	Research Methodology II	C	3	45	3	50	50
MSP E3	MSP E3.1: Concepts and Measures of Global Health MSP E3.2: Political Demography MSP E3.3: Population, Environment and Sustainable Development MSP E3.4: Occupational Health	E	3	45	3	40	60
Semester Credits			22	330			
SEMESTER-IV							
MSP C17	Spatial Demography and Application of GIS	C	4	60	3	50	50
MSP C18	Population Ageing and Health Transition	C	4	60	3	40	60
MSP E	MSP E4.1: Operations Research in Reproductive Health MSP E4.2: Monitoring and Evaluation in Population and Health MSP E4.3: Gender Theories in Demography and Development	E	3	45	3	40	60
MSP D	Dissertation	C	10				
MSP V2	Viva-Voce-II	C	2				
Semester Credits			23	165			
TOTAL CREDITS			81				

### Notes:

Course type: F – Foundation course; C – Core course; E – Elective course; V – Viva voce; D – Dissertation.

NC: Non-credited foundation courses are not counted for calculating the final grade.

Core papers: Must for all students and cannot be changed.

Elective papers: One elective paper should be opted from a pair.

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*Anshu*



**Internal Examination:** Teachers are given the flexibility to decide mode of internal examination from the following list: Written Test; Open Book Test; Written Home Assignment; Individual Thematic Presentation; Thematic Group Presentation; Group Discussion; Surprise Test; MCQ Test; Case Study; Situation Analysis (group activity or individual activity); Field Visit; Small Group Project & Internal Viva-Voce; Role Play / Story Telling; Literature Review / Book Review; Model Development/Simulation Exercises (Group Activity or Individual Activity); In-depth Viva; Quiz; etc.

**Dissertation:** Weightage for evaluation of dissertation: Guide 0.25, Presentation & Defence 0.25; and Content 0.50.

**Evaluation of Dissertation:** The Director & Senior Professor appoints an evaluation committee for dissertation consisting of three members from among the faculty of IIPS. First, the committee members independently assess the 'oral presentation and defence' of the student and submit their grade to the Controller of Examinations. Second, the committee members independently evaluate the content of the 'final dissertation' submitted by the student and submit their grades to the Controller of Examinations. To arrive the final dissertation grade, the average of overall all grades of Guide, Presentation & Defence, and Content is considered.

**Best Dissertation Award:** The Director & Senior Professor appoints a committee consisting of three external experts for recommending the award of the best dissertation. The dissertations of top five ranks (based on the combined score of content, presentation and defence) are placed before the committee. The external members evaluate dissertations and submit their recommendation in a sealed cover to the Controller of Examinations.

**Viva voce:** Director & Senior Professor constitutes a committee comprising of one external examiner and three/four internal examiners for the viva-voce. The three/four internal examiners shall comprise of one senior professor (Chairperson), one/two faculty members and one programme co-ordinator. The committee members independently evaluate the performance of the students in the viva-voce and assign their grades. To arrive the final viva-voce grade, the average of the evaluation of the members is considered.

**Grades Table**

<u>GRADE TABLE FOR EVALUATION OF ANSWER SHEET</u>			<u>GRADE TABLE FOR SEMESTER GRADE CARD</u>		
The Grades, Grade Point and Descriptions are as given below			The Grades, Grade Point and Descriptions are as given below		
Final Grade	Grade Point	Grade Description	Final Grade	Grade Point	Grade Description
O Only	10	Outstanding	O Only	10	Outstanding
A Plus	9	Excellent	A Plus	9	Excellent
A Only	8	Very Good	A Only	8	Very Good
B Plus	7	Good	B Plus	7	Good
B Only	6	Above average	B Only	6	Above average
C Only	5	Average	C Only	5	Average
P Only	4	Pass	P Only	4	Pass
F3	3	Fail	F Only	0	Fail
F2	2	Fail	NA/AB	0	Not Attempted / Absent
F1	1	Fail			
NA/AB	0	Not Attempted / Absent			

Handwritten signatures and initials in blue ink, including "May", "Anand", "T. B. B.", "Anand", and "Anand".