

HIMACHAL PRADESH UNIVERSITY
(NAAC Accredited “A” Grade University)
Summer-Hill, Shimla-171005
Syllabus
Master in Population Studies (M.P.S.)

Programme Objectives

The M.A. in Population Studies Programme is designed to provide a higher level of understanding of population sciences including an in-depth knowledge of the linkages between population and various dimensions of socio-economic development and health. This course also provides a comprehensive idea to conduct further research in various aspects of population and development.

Expected Outcomes of M.A. in Population Studies

On completion of two years Master course, students shall be able to:

- * demonstrate a thorough knowledge about the past, present and future population scenario of the world and India.
- * understand the various demographic events and processes that shape the population size and structure, various factors affecting population and its determinants.
- * comprehend the inter-disciplinary nature of Demography and the relationship between demography and other sciences.
- * analyse, interpret and criticize demographic, health and public health research.
- * demonstrate an understanding of the essential principles of modern demographic methods and statistical softwares and how to apply them.
- * employ basic computational skills used in the analysis of population, health and development.
- * undertake original research projects that makes a contribution to the body of knowledge for human wellbeing.
- * gain understanding in presentation skills and developing research papers.
- * develop knowledge in research proposal development, sampling and other modalities of conducting research.
- * exhibit the ability to disseminate research fundings to the scientific community and the general public.
- * develop confidence in works related to public welfare.
- * undertake jobs related to health and development.

The following Course structure for M.A. in Population Studies has been prepared w.e.f. the academic session 2021-22.

Semester	Course Code	Nature of Course	Course Name	Marks
I	PS-C-101	Core	Introduction to Demography and History of Population	100
	PS-C-102	Core	Research Methods	100
	PS-C-103	Core	Fertility-Theories, Determinants and Techniques	100
	PS-C-104	Core	Population Sociology	100
II	PS-C-201	Core	Mortality and Morbidity	100
	PS-C-202	Core	Economics of Population	100
	PS-C-203	Core	Basic Statistics for Demography	100
	PS-C-204	Core	Population and Development	100
III	PS-C-301	Core	Migration and Urbanization	100
	PS-C-302	Core	Sources, Evaluation & Adjustment of Population Data	100
	PS-C-303	Core	Gender Issues and Reproductive Health	100
	PS-E-304	Elective	Concepts and Measures of Global Health	100
	PS-E-305	Elective	Computer Applications in Demography	100
IV	PS-C-401	Core	Population, Environment and Sustainable Development	100
	PS-C-402	Core	Management, Monitoring and Evaluation of Health Programmes	100
	PS-C-403	Core	Dissertation	100
	PS-E-404	Elective	Population Policies and Programmes	100
	PS-E-405	Elective	Population Ageing and Health Transition	100
			Maximum Marks	1600

- **Semester III: Any one course should be opted from two elective courses.**
- **Semester IV: Any one course should be opted from two elective courses.**

Note:

- The Department will offer only one Elective Course at a time in III and IV Semesters. Another Elective Course will be offered only if there are minimum 5 students opting for it and it will be offered depending upon the Faculty expertise and strength.
- Number of seats, eligibility, basis of admission, age limit, reservation, fee structure, scheme of examination and qualifying marks will be as per the University rules as prescribed in the HPU Ordinance and Handbook of Information from time to time.

Scheme of choice of the Courses:

There will be three categories of Courses:

- Core (Compulsory) Courses
- Elective (Optional) Courses.

- There are 14 Core Courses, two Elective Courses which the students are required to complete during the M.A. Programme. A student will be required to complete four Core

Courses each in I and II semesters, and three Core Courses, one Elective Course in III and IV Semesters. The distribution of Courses is as follows:

Courses	Semester I	Semester II	Semester III	Semester IV	Total
Core Courses	04	04	03	03	14
Elective Courses	-	-	01	01	02
Total	04	04	04	04	16

Scheme of Examination

- i) Each Course shall be of 100 marks and qualifying marks in each Course shall be 36 for all.
- ii) The distribution of 100 marks shall be 80 for Theory and 20 for Internal Assessment. The Internal Assessment of 20 marks shall comprise of 15 marks for House Test/Assignments/Presentations and 5 marks for attendance.

The attendance marks shall be given to the students as per the following criteria:

75% to 80%	:	1 Mark
81% to 85%	:	2 Marks
86% to 90%	:	3 Marks
91% to 95%	:	4 Marks
96% to 100%	:	5 Marks

- iii) There shall be five units in each Course. The question paper shall consist of ten questions in all i.e. two questions from each unit. The candidates shall be required to attempt five questions, selecting at least one question from each unit. All questions carry equal marks.

Syllabus of M.P.S. Course

SEMESTER-I

Course Code PS-C-101

Introduction to Demography and History of Population

MaximumMarks:100

Time: 3 Hours

Course Outcomes

Students of M.A. Population Studies are expected to:

- * understand the basics of demography.
- * understand the core social demographic variables (i.e. fertility, mortality, migration) and how these variables influence population growth, composition, and its structure.
- * use demographic tools such as population census, other sample survey in understanding public health issues, knowledge, attitude and practices.
- * discuss dynamics of age and factors affecting composition of population.
- * understand concepts of aged population with respect to India and relative roles of low fertility and low mortality in population ageing.

Unit – I: Introduction to Demography

Definition and scope: Demography as a scientific discipline; development of demography as a social science discipline. Some basic demographic concepts. Components of population change.

Historical trends in the world population situation: Present population situation, past trends and future projections in the developed and developing countries (1950-2050). Models of Population Growth; Stationary Population Model, Stable Population Model, Generalized Population Model and Micro Models of Fertility. Global trends and growth of population with special reference to India.

Unit – II: Population History

Contribution of fertility, mortality and migration to population growth; major sources of population data and major population changes in the past. Relationship between population change and other socio-economic changes at the national and local levels.

Unit – III: Sources of Demographic Data

Population Census; Uses and limitations; Indian Censuses. Vital registration system Population Register, National Sample Survey. Sample Registration System, Demographic Health Surveys (DHS) and other sample surveys including National Family Health Surveys (NFHS) and Longitudinal Aging Study in India (LASI). Basic Demographic measures (percentage, proportion and growth rates) limitations of data.

Unit – IV: Dynamics of Age – Sex Structure

Present levels and past trends in the sex and age structure of the world population with reference to the developed and developing countries. Present levels and past trends in the sex and age structure of India's population. Importance of age - sex structure in population dynamics. Factors affecting the age composition and sex ratio of the population. Rural/Urban and regional differences in the sex ratio of India's population and role of different factors in changing sex ratio.

Unit – V: Ageing

Concept, trends in aged population in developed and developing countries with special reference to India. Factors affecting age structure of the population; dynamics of age structure along with demography transition. Relative role of low fertility and low mortality in population ageing. Problems of the elderly and support systems for them.

Suggested Readings:

1. Bhende, Asha A. and Kanitkar, Tara. 1993: **Principles of Population Studies**, Himalaya Publishing House, Mumbai.
2. Siegel, Jacob S. and Swanson, David. 2004: **The Methods and Materials of Demography**, Second Edition, Chapters 1,2,3,7,9,10, Elsevier Science, U.S.A.
3. Weeks, John. 2005: **Population: An Introduction to Concepts and Issues**, Wordsworth Learning, Singapore, 9th Edition.
4. United Nations. 1973: **The Determinants and Consequences of Population Trends**, Vol. I, Population Studies, No. 50, Chapter VII, New York.
5. Bogue, D. 1969: **Principles of Demography**, John Wiley and Sons, New York.

6. Registrar General of India. 1997: **Civil Registration Systems in India**, Office of the Registrar General, India, New Delhi.
7. United Nations: **World Population Ageing 1950-2050**.
8. United Nations. 2006: **World Population Prospects 2006**, Vol. I and Vol. II
9. Krishnan, P. and Mahadevan, K. 1991: **Elderly Population Today: Policies, Problems and Perspectives**, B.R. Publishing House, Delhi.
10. Misra, Bhaskar D. 1995: **An Introduction to the Study of Population**, Second Edition, South Asian Publishers Pvt. Ltd., New Delhi.
11. Sinha, V.C. and E. Zacharia, 2002: **Elements of Demography**, Allied Publishers, New Delhi.

Course Code PS-C-102

Research Methods

Maximum Marks:100

Time: 3 Hours

Course Outcomes

Students of M.A. Population Studies are expected to:

- *be familiar with ethical issues in educational research, including those issues that arise in using quantitative and qualitative research.
- *know the criteria that might be used to evaluate a quantitative study and a qualitative study.
- *understand sampling and research problem stated in a study.
- *know the criteria that can be used to select a scaling techniques.
- *identify the overall process of designing a research study from its inception to its report.

Unit – I Scientific Methods of Research:

Definition of research, assumptions, operations and aims of scientific research. The research process; conceptual, empirical and analytical phases of research. Essential criterions of scientific methods.

Research Designs: observational studies; descriptive, explanatory, exploratory and evaluative studies. Experimental studies; pre-test design, post- test design, follow-up or longitudinal design. Action research studies and panel studies.

Unit – II Methods of Data Collection:

Collection of primary data. Selection of appropriate method for data collection; interview schedule/questionnaire, case history and case study method. Tools of Data Collection: schedule/questionnaire, construction of schedule/questionnaire, qualities of a good schedule and questionnaire. Guidelines for successful interviewing.

Collection of secondary data - population (sex-wise data) labour force, occupational, educational and vital statistics. Focus Group discussion (FGD), content analysis, social mapping, social networking and mystery client technique.

Unit – III Sampling Techniques:

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.

Unit – IV Measurement:

Reliability and validity of measurement: Face, Content, Construct, Convergent, Concurrent and Predictive validity. Scaling techniques: attitude scales, point scales, ranking scales, rating scales, limitations of attitude scales. Techniques of scale construction: Bogardus, Guttman, Likert, Semantic and Thurstone Scale.

Data collection, processing and analysis : editing, coding, data entry, validation and analysis.

Unit – V Writing Research Proposal and Report:

Purpose of a proposal/ report. Content of proposal/ report: introductory section, methodology adopted, analysis and inferences, summary, Conclusion and recommendations. References/ Bibliography, appendices, footnotes. Examples of some hypothetical proposals.

Suggested Readings

1. Goode, W.J. and Hatt, P.K. 1952: **Methods in Social Research**, McGraw Hills, New York.
2. Mukherji, P.N. 1999: **Methodologies in Social Sciences**, Sage Publications, New Delhi.
3. Royce, A. Singleton and Bruce, C. Straits, 1999: **Approaches to Social Research**, Oxford University Press, Oxford.
4. Young, P.V. 1994: **Scientific Social Surveys and Research**, Prentice – Hill, New York.
5. Cochran, W.G. 1963: **Sampling Techniques**, John Wiley & Sons, New York.
6. Edwards, Allen L. 1957: **Techniques of Attitude Scale Construction**, Appleton – Century- Crofts, New York.
7. Thurstone, L. L. 1959: **The Measurement of Values**, University of Chicago Press, Chicago.

8. Bernard, H. Russell, 1995: **Research Methods in Anthropology: Qualitative and Quantitative Approaches**, Altamira Press, Walnut Creek.
9. Kish, Leslie, 1995: **Survey Sampling**, John Wiley and Sons, New York.
10. Lwanga, S. K. and Lemeshow S., 1991: **Sample Size Determination in Health Studies: A Practical Manual**, World Health Organization, Geneva.
11. Lohr L. Sharon, 1999: **Sampling Design and Analysis**, Duxbury Press, London.

Course Code PS-C-103

Fertility – Theories, Determinants and Techniques

Maximum Marks:100

Time: 3 Hours

Course Outcome

Students of M.A. Population Studies are expected to:

- *describe the trends and determinants in fertility over time and place.
- *understand the trends and differentials in age specific fertility rates over time and place.
- *be able to understand the fertility transition in developing countries.
- *be able to understand the various theories of fertility.
- *know the concepts, sources and quality of nuptiality data.

Unit – I Terms and Concepts:

Importance of the fertility study in population dynamics; basic terms and concepts used in the study of fertility.

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.

Unit – II Fertility Transition in Developed Countries:

Historical fertility decline in European and Non-European industrialized countries and underlying factors; below replacement level fertility in developed countries and its implications.

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.

Unit – III Theories of Fertility:

Theory of social capillarity, theory of change response, theory of diffusion and cultural lag, Liebenstein Theory, Becker's Theory, Easterlin Framework of Fertility, Caldwell's Theory, Reproductive motivations and Value of children theories.

Unit – IV 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; Birth interval analysis, reproduction measures.

Unit – V Nuptiality:

Introduction, concepts, sources and quality of Nuptiality data. Measures and indices of Nuptiality; Crude and specific rates, Standardization of marriage rates. Analysis of marital status data: Methods for estimating Singulate mean age at marriage (SMAM), Synthetic Cohort and Decade Synthetic Cohort method. Marriage patterns and marriage dissolution and duration of fertile union in India. Mean duration of fertile union and age pattern of marriage squeeze. Divorcé and widowhood; basic concepts and measures. Standard age pattern of marriage - Coale's model.

Suggested Readings

1. Becker, Gary S. 1969: **An Economic Analysis of Fertility in Demographic and Economic Change in Developed Countries**, Princeton University Press.
2. Mahadevan, K. 1986: **Fertility and Mortality: Theory, Methodology and Empirical Issues**, Sage Publications, New Delhi.
3. Leibenstein Harvey, 1957: **Economic Backwardness and Economic Growth**, John Willey & Sons, New York.
4. United Nations, 1973: **The Determinants and Consequences of Population Trends**, Vol. I, New York.
5. John Bongaarts and Reher G. Potter, 1983: **Fertility, Biology and Behaviour: An Analysis of the Proximate Determinants**, Academic Press, New York.
6. Bhende, Asha A. and Kanitkar Tara, 1994: **Principles of Population Studies**, Himalaya Publishing House, Mumbai.
7. Bogue, Donald, 1969: **Principles of Demography**, John Wiley and Sons, New York.
8. Pathak, K.B. and F. Ram, 1998: **Techniques of Demographic Analysis**, Himalaya Publishing House, Mumbai.

9. Srinivasan, K. 1998: **Demographic Techniques and Applications**, Sage Publications, New Delhi.
10. Mahadevan, K. 1986: **Sociology of Fertility**, Sterling Publishers, New Delhi.
11. Haupt, A. and Thomas, T. Kane, 2001: **Population Handbook**, 4th Edition, Population Reference Bureau, Washington DC.
12. Misra, Bhaskar D. 1995: **An Introduction to the Study of Population**, Second Edition, South Asian Publishers Pvt. Ltd., New Delhi.

Course Code PS-C-104

Population Sociology

Maximum Marks:100

Time: 3 Hours

Course Outcome

Students of M.A. Population Studies are expected to:

- *acquaint themselves with the demographic features and trends of Indian society.
- *orient towards issues, problems and challenges of population growth.
- *provide sociological understanding of population theory and policy.
- *understand women in Indian society with special reference to their changing status and role.
- * orient the students regarding theories of gender relations, position of women in Indian society.

Unit – I

Sociology: Definition, Nature and Scope, relationship with population studies. Defining individual, family, household and society. Major forms of social structure; Types of social groups, sociological significance of family, early forms of family types and functions of family.

Sex and Gender: Biological and Social Construct. Social Institutions; Family, Marriage, Religion, Status of Women and their influence on population.

Unit – II

Social Stratification: Social Mobility and Population Change. Culture and Society: Cultural pattern and its influence on mortality and contraceptive behaviour. Principles of class and Caste, Varna and caste system, changing caste system in India and its influence on the demographic characteristics of population.

Unit – III

Modernization: Definition, dimensions and its influence on contraception and fertility. Decision making processes and participation of females. Women and the modern family; dual earner couples, new marriage forms and emerging life styles – voluntary childlessness, single parent families and contract living.

Unit IV

Sociological Theories of Fertility: Harvey Leibenstein's Economic Theory of Fertility, Social Capillarity Theory, Theory of Change and Response, Theory of Diffusion and Cultural Lag.

Unit – V

Social Change: Definition and Concept. Factors effecting Social Change, Technology and Social Change. Process of Social Change in India and its influence on the Demographic characteristic: (a) Secularization (b) Liberalization (c) Modernization and (d) Democratization.

Women and Political Processes: Women in agriculture, urban, industrial, tribal society and urban slums.

Status of women: concept, factors affecting the status of women in household and society. Legislation related to family, marriage, inheritance, dowry, adoption and violence against women.

Suggested Readings:

1. Sharma, R.K. 1996: **Fundamentals of Sociology**, Atlantic Publishers, New Delhi.
2. Desai, A.R. 1992: **Rural Sociology in India**, Popular Books.
3. Veena, Das et.al ; (ed.): **Contributions to Indian Sociology**, Sage Publication, New Delhi.
4. United Nations, 1973: **The Determinants and Consequences of Population Trends**, New York.
5. Bhende, A. and Kanitkar, T., 1994: **Principles of Population Studies**, Himalya Publishing House, Mumbai.
6. Becker, Gary S. , 1981: **A Treatise on the Family**, Harvard University Press, Cambridge (USA).
7. Bell, N.W. and Vogel, E.F. (eds.), 1968: **A Modern Introduction to the Family**, The Free Press, New York.

8. Connell, R.W; , 1987: **Gender and Power: Society, the Person and Sexual Politics**, Stanford University Press, Stanford.
9. Davidson, Laurie and Laura Kramer Garden, 1979: **The Sociology of Gender**, Rand McNally, Chicago.
10. Desai, Neera and Maithreyi Krishna Raj (eds.), 1987: **Women and Society in India**, Ajanta Publishers, Delhi.
11. Jha, Umashankar, 1998: **Status of Indian Women**, Kanishka Publishers, New Delhi.
12. Lindsey, L. L. , 1994: **Gender Roles: A Sociological Perspective**, 2nd edition, Englewood Cliffs, Prentice Hall.
13. Heer, David M., 1975: **Society and Population**, Prentice-Hall of India, New Delhi.
14. Premi, M.K. , 2003: **Social Demography: A Systematic Exposition**, Jawahar Publisher, Delhi
15. Sinha, V.C. and E. Zacharia, 2002: **Elements of Demography**, Allied Publishers, New Delhi.

SEMESTER-II
Course Code PS-C-201
Mortality and Morbidity

Maximum Marks:100

Time: 3 Hours

Course Outcome

Students of M.A. Population Studies are expected to:

- *understand the various concepts of mortality and morbidity.
- *understand the levels and trends of mortality in developed and developing countries.
- *understand the factors affecting foetal, perinatal, infant and childhood mortality.
- *Identify different sources of data for measuring mortality and morbidity.
- *understand the need and importance of the morbidity study and burden of disease.

Unit – I

Need and the importance of the study of Mortality and Morbidity, Sources of Data and its reliability to the developed countries like India.

Basic Concepts and Measures of Mortality: Definition and basic concepts of Mortality. Measures of Mortality; Crude Death Rate, Age and Sex Specific Death Rates, their relative merits and demerits. Infant Mortality Rate, Child Mortality Rate, Cause Specific Mortality Rate, Maternal Mortality Rate. Need and methods of standardization of death rate.

Unit – II

Levels and Trends of 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. Factors responsible for high mortality in the past: main causes of mortality decline in developed and developing countries.

Unit – III

Differentials in Mortality by age, sex, region, cause and marital status. Factors affecting Foetal, Perinatal, Infant and Childhood Mortality. Inter-relationship between infant mortality and

fertility. Approaches for estimating infant and child mortality rates from birth history collected in large – scale surveys.

Unit – IV

Life Tables: Basic Concepts of a Life Table; types and forms of Life Tables. Construction of Life Tables based on Age-Specific Death Rates (ASDRs). Methods of Life Tables construction; Conventional vs Modern Approach. Use of Model Life Tables (MLT) in demographic analysis for counties having limited data.

Unit – V

Morbidity: Need and importance of the morbidity study, Sources of morbidity data; concepts and definitions of health and morbidity. Need for morbidity indices; various measures of morbidity, incidence and prevalence rates, inter-relationships between measures of morbidity. Compression and Expansion of Morbidity Hypotheses.

Burden of Disease: Need for the study; basic concepts, measurement and current global scenario. Basic concepts of community health; principles of Epidemiology – basic concepts and definitions, types of Epidemiology, Epidemiology of communicable and non-communicable diseases.

Suggested Readings:

1. Ram, F. and Pathak, K.B., 1998: **Techniques of Demographic Analysis**, 2nd edition, Himalaya Publishing House, Bombay.
2. Srinivasan, K. 1998: **Basic Demographic Techniques and Applications**, Sage Publications, New Delhi.
3. Bhende, Asha A. and Kanitkar, Tara, 1994: **Principles of Population Studies**, Himalaya Publishing House, Bombay.
4. Mahadevan, K. (ed.), 1986: **Fertility and Mortality: Theory, Methodology and Empirical Issues**, Sage Publications.
5. Park, J.E. and Park, K. , 1998: **Text Book of Preventive and Social Medicine**, Banarsidas Bhanot Publishers, Jabalpur.

6. United Nations, 1973: **Determinants and Consequences of Population Trends.**
7. Coale, Ansley J. and Paul Demney, 1983: **Regional Model Life Tables and Stable Populations**, Academic Press, New York.
8. United Nations, 1982: **Model Life Tables for Developing Countries**, United Nations, New York.
9. United Nations, 1999: **Health and Mortality Issues of Global Concern**, Proceedings of the Symposium on Health and Mortality, Brussels, 19-22 November, 1997.
10. Yaukey, David, 1985: **Demography: The Study of Human Population**, St. Martins, New York.
11. Weeks, John R. 2005: **Population: An Investigation to Concepts and Issues**, 9th edition, Wadsworth Publishing Company, CA.
12. WHO, 1992: **International Statistical Classification of Diseases and Related Health Problems**, Tenth Revision, Vol. I, Geneva.
13. Haupt, A. and Thomas, T. Kane, 2001: **Population Handbook**, 4th Edition, Population Reference Bureau, Washington DC.

Course Code PS-C-202
Economics of Population

Maximum Marks:100

Time: 3 Hours

Course Outcome

Students of M.A. Population Studies are expected to:

- *understand the various theories of population and the concept of optimum population.
- *understand the economic determinants of fertility, nuptiality and mortality.
- *comprehend the cost and values of children and their fertility.
- *identify the economic determinants of migration and economic consequences of population growth.
- *understand the effect of population growth on saving, investment, labour supply, poverty and distribution of income.

Unit – I

Population Theories: Malthus, Ricardo, Classical and Neo-Classical views, Optimum Population Theory, Marxist Socialistic View, Biological Theories, the Theory of Demographic Transition, Keynes and the views of Modern Economist. Impact of Pre-industrial technological and institutional changes on population.

Unit – II

Fertility transition in developed and developing countries, sources of data for fertility study. Economic Determinants of Fertility: New household economics, Leibenstein theory, Gary Becker's Theory, Easterlin's theory and Caldwell's theory.

Unit – III

Cost and values of children and their effects on fertility, Supply of children and elements of uncertainty for the parents. Economic determinants of Nuptiality (marriages and divorce), Gary Becker's model. Economic determinants of mortality.

Unit – IV

Economic determinants of migration (Regenstein's, Lee's and Todaro's Model). Economic consequences of population growth (General views of Malthus, Marx, Simon Kuznets). Economic consequences of population growth (Dual sector models of Lewis, Renis Fei and Jorgenson's).

Unit – V

Effects of population growth on savings and investment, population growth and labour supply, population growth and distribution of income. Effects of population growth on educational and human capital input facilities. Economic consequences of slowing population growth and population decline. Policy issues related to population and economic growth.

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Suggested Readings:

1. United Nations, "The Determinants and Consequences of Population Trends", Vol. I, 1973, part of chapter 2, **Population Theory**, pp. 33-48.
2. Thomas Malthus, "A Summary View of the Principles of Population", in D.V. Glass, ed., **An Introduction to Malthus**, Watts and Co., London, 1953, pp. 117-181.
3. Simon Kuznets, **Modern Economic Growth** (Yale University Press, New Haven, 1966), Chapter 2, Growth of Population and Product, pp. 34-85.
4. John C. Caldwell, "Towards a Restatement of Demographic Transition Theory", **Population and Development Review**, Vol. 2, Nos. 3-4, September and December 1976, pp. 321-366.
5. Gary Becker, "An Economic Analysis of Fertility", in National Bureau of Economic Research, **Demographic and Economic Change in Developed Countries**, Princeton University Press, 1960, pp. 209-240.
6. Fred Arnold, et. al., **The Value of Children, A Cross-National Study**, Vol. 1 East-West Population Institute, 1975.
7. Thomas P. Espenshade, "The Value and Cost of Children, **Population Bulletin**, Vol. 32, No. 1, 1977, pp. 3-32.

8. Gary S. Becker, "A Theory of Marriage", in T.W. Schultz, ed., **Economics of the Family** University of Chicago, 1974, pp. 299-344.
9. Everett S. Lee, "A Theory of Migration", **Demography**, February 1996.

Books

1. Agarwala, S. N. (1972): **India's Population Problem**, Tata McGraw – Hill, Bombay.
2. Bhende, A. and T. Kanitkar: **Principles of Population Studies**, Himalaya Publishing House, Bombay.
3. Boque, D. J. (1971): **Principles of Demography**, John Willey, New York.
4. Registrar General of India, **Census of India**, Government of India, New Delhi.
5. Coale, A. J., and F.M. Hoover, (1958): **Population Growth and Economic Development in Low Income Countries: A Case Study of India's Prospectus**, Princeton University Press, Princeton.
6. Davis, K. (1972): **World Urbanization: 1950-70**. Vol. II, Population Monograph Series, No. 9. University of California, Berkeley.
7. Shrivastava, O.S. (1983): **A Textbook of Demography**, Vikas Publishing House, New Delhi.
8. Smith, P.C. (1983): **Trends and Differentials in Nuptality in the Population of the Philippines**, Country Monograph Series No. 5, UNESCAP, Bangkok.
9. Shryok, H. Siegel, J.S. and Associates (1976): **The Methods and Material of Demography**, Academic Press, New York.
10. United Nations, (1973): **The Determinants and Consequences of Population Trends**, Vol. I, UN Publications, New York.
11. Weeks, J.R. (1978): **Population: An Introduction to concepts and Issues**. Wadsworth Publishing Co., Belmont, California.
12. Shrivastava, O.S. (1996): **Demography and Population Studies**, Vikas Publishing House Pvt. Ltd., 2nd Edition.
13. Misra, B.D. (1996): **An Introduction to Study of Population**.
14. Pathak, K. B. & Ram F: **Techniques of Demographic Analysis**, Himalaya Publishing House, Bombay.

Course Code PS-C-203
Basic Statistics for Demography

Maximum Marks:100

Time: 3 Hours

Course Outcome

Students of M.A. Population Studies are expected to:

- *acquire and apply statistical techniques in the empirical analysis of economic relationships.
- *understand and infer from the process of data collection and various sampling methods.
- *understand the significance of interpolation and extrapolation and comprehend the various methods of interpolation. Measure and evaluate components of time series.
- *apply, solve and prove various probability theorems using appropriate probability distributions.
- *understand, explain, solve and apply hypothesis testing and selection of appropriate techniques for testing hypotheses.

Unit – I

Measure of Central Tendency, Dispersion, Skewness and Kurtosis. Population growth rates; Arithmetic, Geometric and Exponential rates. Correlation: meaning and methods of measuring correlation, Karl Pearson's method, Spearman's Rank correlation coefficient: limitations of correlation analysis. Linear regression; relation between correlation Coefficient and regression coefficients. Fitting of regression equations. Standard Error of estimate.

Unit – II

The General Linear Regression Model:

An introduction to the Matrix formulation and solution of the General Linear Regression Model. Solution for a model with one dependent and two independent variables. Prediction for simple regression models of demand and supply. Multiple and partial correlations, and regressions. Relationship between the measures of multiple correlation and measures of partial correlation. Beta Coefficients.

Unit – III

Elements of Probability Theory:

The concept of probability distribution and density function. Mathematical expectation, Binomial Distribution, the Normal Distribution, some properties of the Normal Distribution. Sampling and Sample Designs: simple random sampling, stratified random sampling, systematic sampling and cluster sampling. Large samples. Test of significance. Limitation of sampling. Procedure of testing hypothesis; regions of acceptance and rejection; two tailed and one tailed test; Type 1 and Type 2 errors.

Unit – IV

Test of Significance:

Standard error of mean; Student's 't' distribution and its properties, use of 't' distribution to test hypothesis of the population means. Chi square; general features of Chi square, Chi square as a test, of goodness of fit, chi-square as a test of independence. Contingency table and Yate's correction for continuity, testing homogeneity of several independent estimates of population variance. Analysis of variance; meaning, assumptions and techniques of analysis of variance, one way and two way analysis of variance problem.

Non parametric tests; the Sign Test, Rank Sum Test, the Mann - Whitney U test. Advantages and limitations of non-parametric test.

Unit – V

Interpolation and Extrapolation: Significance of Interpolation and Extrapolation. Methods of Interpolation: Binomial Expansion Method, Newton's Methods (Advancing Difference, Forward and Backward Methods) and Lagrange's Method.

Analysis of Time Series: Meaning and components of time series. Methods of estimating trends - semi average method, the moving average method and the least-squares method; fitting of straight line, second and third degree equations. Fitting of the modified exponential curve, the Gompertz curve and the logistic curve.

Notes:

1. All proofs to be avoided. Questions should be application- oriented.
2. Students shall be allowed the use of their own calculators with 6 simple functions.
3. Where ever statistical tables are required for reference by the student, the Examiner is requested to provide three or four statistical values;

Suggested Readings:

1. Taro Yamane: **Statistics**, Harper International.
2. M.R. Spiegel: **Theory and Practice of Probability and Statistics**, Schaum's outline series, McGraw Hill.
3. A. L. Nagar and R.K. Das: **Basic Statistics**, Oxford University Press, New Delhi.
4. George Snedecar and W. G. Chocrane: **Statistical Methods**. Oxford & IBH, New Delhi.
5. F. E. Croxton, D. J. Cowden and Sidney Klein: **Applied General Statistics**, Prentice Hall of India, New Delhi.
6. S.P. Gupta: **Statistical Methods**, Sultan Chand & Sons, New Delhi.
7. S.P. Singh (1996): **Statistics**. S. Chand & Company, New Delhi.
8. B.L. Agarwal. (1997): **Basic Statistics**, New Age International Limited, New Delhi.
9. H.M. Walker and J. Lev. (1958): **Statistical Inference**, Holt, Rimehart and Winston, Oxford and IBH Publishing Company, Calcutta.
10. Damodar N. Gujarati: **Basic Econometrics**, Second Addition, McGraw Hill Book Company, New York.
11. L.R. Klein: **Introduction to Econometrics**.
12. Prakasam, C.P., G. Rama Rao and R.B. Upadhyay, 1987: **Basic Mathematics in Population Studies**, Gemini Publishers, Mumbai.
13. Gupta, S. C. and Kapoor, V.K., 1986: **Fundamental of Mathematical Statistics**, Sultan Chand and Sons, Delhi.
14. Howell, David C. 1989: **Fundamental Statistics for the Behavioral Sciences**, 4th Edition, International Thosuross Publishing Company, U.S.A.
15. Retherford, R.D. and Choe, M.K., 1993: **Statistical Models for Casual Analysis**, John Wiley and Sons, INC, New York.

Course Code PS-C-204
Population and Development

Maximum Marks:100

Time: 3 Hours

Course Outcome

Students of M.A. Population Studies are expected to:

- *understand the various indicators and determinants of development.
- *understand population theory and modernisation and demographic change.
- *understand various resources and its impact on the population.
- *know the concepts and objectives of planning and its demographic consideration.
- *understand, explain different population policies and programmes in India.

Unit – I

Indicators and determinants of development: Components of population growth, measures of population change (i.e. growth, structure and distribution). History of world population growth. Population trends during ancient to modern times. Economic Development; Definition, economic and non-economic determinants of development, Role of Institutional Structure. Measures of development. Concept and measures of poverty concept of sustainable development.

Unit – II

Modernization and demographic change: Fertility transition, mortality transition, modernization and migration. Inter-relationship between population and development; effect of economic development on demographic parameters (effect on mortality, fertility and migration), population growth and development; effect of population growth on development. Theories of development; Arthur Lewis's Two Sector Model, Big Push Theory, Liebenstein's Critical Minimum Efforts Theory, Harrod-Domar and Solow's Growth Models. Development strategies through the different five years plans in India.

Unit – III

Resources and Population: Natural resources; classification, factors affecting supply of and demand for natural resources, population and land use, population and environment.

Demographic aspects of saving and investment, technology and development of human resources. Rapid population growth and education and health services, population growth and productivity; age - distribution and productivity, demographic and economic determinants of labour supply, work participation rate and development. Growth and structure of labour force with development.

Unit – IV

Population and Development Planning: Concepts and objectives of planning. Need to view population planning as an integral part of overall development planning. Strategy for planning. Demographic considerations in planning; problems, policies and requirements of housing, food production, education, rural development, health, poverty eradication, urban development and employment.

Unit – V

Population Policies: Concepts and issues, indicators and principal features and goals of population policy, Fertility, Mortality and Migration influencing policies, World Population Plan of Action. Family welfare programmes, population policies and programmes in India since independence; strategies, objectives, targets and achievements through five year plans.

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Suggested Readings

1. Easter Boaserup: “Environment Population, and Technology in Primitive Societies”, **Population and Development Review**, Vol. 2, No. 1, 1976.
2. Simon Kuznets: **Modern Economic Growth**, Yale University Press, New Haven, 1966. (Chapter 2, “Growth of Population and Product”).
3. Todaro, M. 1981: **Economic Development in the Third World**. Longman, London.
4. Mishra, R. S. (1990): **Economics of Growth and Development**, Somaiya Publication Pvt. Ltd.
5. Yaukey, David: **Demography: The Study of Human Population**, St. Martin’s Press, New York.

6. Bain, John, (1990): “Demographic Change and Asian Labour Markets”, **Population and Development Review**, Vol. 1 (4): 615-645.
7. United Nations, (1993): **Population Policies and Programmes**, Department of Economics & Social Informal & Policy Analysis, New York.
8. Roy K. and G. Rama Rao, (1984): **Introduction to Evaluation of Demographic Impact of Family Planning Programme**, Himalaya Publishing House, Bombay.
9. United Nations (1979): “The Methodology of Measuring the Impact of Family Planning Programme of Fertility”, Manual IX, **Population Study**, No. 66, New York.
10. Haq, Mahbubal, 1996: **Reflections on Human Development**, Oxford University Press, Delhi.
11. Ray, Debraj, 1998: **Development Economics**, Chapters 1,2,3 & 4, Oxford University Press, Delhi.
12. Birdsall, Nancy et.al., 2001: **Population Matters: Demographic Change, Economic Growth and Poverty in the Developing World**, Chapters 2, 4 and 5, Oxford University Press, Delhi.
13. David, E. Bloom et. al., 2003: **The Demographic Dividend**, Santa Monica, CA.
14. Coale, A. J. and Hoover, E. M. 1958: **Population Growth and Economic Development in Low Income Countries**, Princeton University Press, Princeton N. J.
15. United Nations, 2003: **Indicators for Monitoring the Millennium Development Goals: Definition, Rationale, Concepts and Sources**, United Nations, New York.
16. Easter Boaserup,1965: **The conditions of Agriculture Growth**, Aldine Atherton, New York.

SEMESTER-III

Course Code PS-C-301

Migration and Urbanization

MaximumMarks:100

Time: 3 Hours

Course Outcome

By the end of the course, students will be able to;

- compare and contrast various concepts of migration and identify the different measures of migration;
- categorise and compare the internal and international migration and evaluate the different consequences of migration;
- identify and apply the various theories and models related to migration;
- distinguish and explain different methods of estimating internal and international migration;
- examine the concepts and definitions of urbanization. Also to outline the current urbanization process in developing and developed countries.

Unit – I

Concepts: Concepts and definition of migration, sources and quality of data, types of migration, census definition of migrants, limitations. Factors affecting migration, consequences of migration.

Measures of Migration: Crude migration rate, Age – specific migration rate, migrant component, migration streams, index of preference, Hamilton’s rates, estimation of net migration from vital statistics.

Unit – II

Internal Migration: Internal migration patterns and characteristics in developing countries with a special focus on India. Determinants of internal migration; causes of migration at the place of

origin and at the place of destination. Consequences of internal migration; demographic, economic, social and political consequences at the individual, household and community level.

International Migration: Patterns of International Migration: Historical and recent trends, permanent immigrants, labour migration, brain drain, refugee migration and illegal migration.

Unit – III

Migration Theories and Models: Ravenstein's law of migration, Everett Lee's theory of migration, Mobility field theory, Lewis – Fei – Ranis model of development and Todaro's model of rural – urban migration.

Unit – IV

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, Census and Life Table Survival Ratio Method. Methods of Estimating International Migration.

Unit – V

Urbanization: Concepts, definition and importance of urbanization, factors affecting urbanization, consequences of urbanization, measures of urbanization – level of urbanization, speed of urbanization, index of urbanization. Current urbanization process in developed and developing countries with special focus on India. Kingsley Davis Model of urbanization process; Forces of urbanization and components of urban population growth in developing countries, over urbanization phenomena and urban primacy, major urbanization problems and policies in developing countries with focus on India. Measures of growth and distribution of urban population; Lorenz Curve and Gini's Concentration Ratio.

Suggested Readings

1. Coale, A.J. : **The Growth and Structure of Human Population – A Mathematical Investigation**, Princeton University Press, Princeton.
2. Coale, A.J. & Demeny, P.; **Regional Model Life Table and Stable Population**, Princeton University Press, Princeton.

3. Ram, F. and Pathak, K. B., 1998: **Techniques of Demographic Analysis**, 2nd Edition, Himalaya Publishing House, Bombay.
4. Oberai, A. S., 1987: **Migration, Urbanisation and Development**, International Labour Office, Geneva.
5. Kingsley, Davis, 1972: **World Urbanisation 1950-70**, Vol. II, Population Monograph Series 4 and 9, University of California, Berkeley.
6. Mitra, R. G., 2002: **Understanding Patterns of Migration from Census 2001 Data**, Council of Cultural Growth and Cultural Relations, Cuttack.
7. Todaro, M.P., 1976: **Internal Migration in Developing Countries**, International Labour Office, Geneva.
8. United Nations, 1979: "Trends and Characteristics of International Migration since 1950", in **Demographic Studies**, No. 64, U.N., New York.
9. United Nations, 1983: **Determinants and Consequences of Population Trends**, Vol. I, U.N., New York.

Course Code PS-C-302

Sources, Evaluation & Adjustment of Population Data

Maximum Marks:100

Time: 3 Hours

Course Outcome

By the end of the course, students will be able to:

- identify the different sources of population data and analyse the new trends and development in Indian censuses;
- evaluation of data on demographic statistics and examine the impact of error on demographic statistics;
- categorise the different factors affecting completeness of census and appraisal of vital statistics by means of balancing equations;
- evaluation and measurement of error in age reporting and make use of quality checks incorporated in survey procedures to minimise errors;
- illustrate the concepts of population projections and develop methods of interpolation and extrapolation by using mathematical equations.

Unit – I

Sources of Population Data: Census, Surveys and Vital Registration. New Trends and development in Indian Censuses. National and International sources of data. Comparability and Reliability of Population Data.

Unit – II

Evaluation of data on demographic statistics: Types of errors, coverage and content errors, sources of errors. General methods for detecting errors; comparison of individual data, re-enumeration surveys. Examples of data on survey and census data affected by errors. Post-enumeration surveys; dual record system.

Unit – III

Factors Affecting Completeness of Census: Balancing equation, definition and limitations, use of the balancing equation. Factors affecting the completeness of birth and death registration. Appraisal of birth and death statistics by means of balancing equation. Direct checks on completeness of vital statistics registration - Chandrasekar and Deming Formula.

Unit – IV

Evaluation and measurement of errors in age reporting. Techniques using Whipple's index, Myer's Index and United Nations Secretariat Method. Uses and limitations. Quality checks incorporated in survey procedures to minimize errors. Smoothing of age data.

Unit – V

Concepts of Population Projections: Population estimates, forecasts and projections, uses of population projections. Methods of Interpolation, Extrapolation using linear, exponential, polynomial, logistics, Gompertz curves. Methods of Rural - Urban and Sub-National Population projections.

Suggested Readings

1. John Weeks, 2005: **Population: An Introduction to Concepts and Issues**, Wordsworth Learning, Singapore, 9th edition.
2. Jacob S. Siegel and David, A. Swanson, 2004: **The Methods and Materials of Demography**, Second Edition, Elsevier Science, USA.
3. Government of India, 2006: **Population Projections for India and states, 2001-2026**, Office of the Registrar General, New Delhi.
4. Prakasam, C. P. and G. Rama Rao, 1987: **Basic Mathematics in Population Studies**, Gemini Publishers, Mumbai.
5. Srinivasan, K., 1998: **Basic Demographic Techniques and Applications**, Sage Publication, New Delhi.
6. Pathak, K. B. and F. Ram, 1992: **Techniques of Demographic Analysis**, Himalaya Publishing House, Mumbai.
7. Registrar General of India, 1997: **Civil Registration System in India**.

8. Registrar General of India, 1998: **Sample Registration System**, Statistical Report.
9. United Nations Population Fund, 1993: **Readings in Population Research Methodology**, Vol. I, Illinois, USA.
10. Shryock, Henry and Jacob S. Siegel, 1976: **Methods and Materials of Demography**, Academic Press, Cambridge, U.S.A.
11. Pollard, A.H., Farhat Yusuf and G. N. Pollard, 1990: **Demographic Techniques**, Pergamon Press, Sydney, Australia.
12. Newell, Collin, 1988: **Methods and Models in Demography**, Guilford Press, New York, U.S.A.

Course Code PS-C-303

Gender Issues and Reproductive Health

MaximumMarks:100

Time: 3 Hours

Course Outcome

By the end of the course, students will be able to:

- compare and classify the various concepts with respect to gender issues;
- examine the autonomy, empowerment and status of women in population dynamics. Analyse the general trend of gender and social institutions in India;
- assess gender inequalities in health and summarise the implications of gender inequalities for development;
- examine the different concepts of reproductive health and evaluate their demographic impact;
- interpret maternal and obstetric morbidity and evaluate different related issues to abortion.

Unit – I

Importance of the study of gender issues in population studies. Emergence of the gender issues as an important area of concern. Differences between sex and gender.

Concepts and Terminologies: Gender, unequal gender relations, gender equity, gender disparities, gender mainstreaming, gender sensitive planning and gender balance.

Patriarchy and Matriarchy; Kinship structure and gender roles, gender stratification in traditional and modern societies.

Unit – II

Autonomy, Empowerment and Status of Women:

Concepts, definition and Measurement; various indicators and their merits and demerits; gender sensitive development and health intervention models and programme. Status of women and population dynamics - interlinkages.

Gender and Social Institutions in India: State, legal system, religious, family, society, marriage customs and patterns, dowry system, segregation and seclusion of women - Purdah system. Implications for sex ratio. Trends and patterns in India; son preference, desired sex composition of children, child sex ratio, sex ratio at birth and sex selective abortion.

Unit – III

Gender Inequalities in Health: Gender differentials in nutrition and health, mortality differentials by sex (children, adults and aged) and gender inequalities in health care utilization. Gender inequalities at family level, in employment, education, important decision making process and in workplace.

Implications of Gender Inequalities for Development: Equal access to and utilization of services, equal participation in social development, equal access and control over capital for economic development, equal participation in policy and decision making process, equal distribution of political power.

Unit – IV

Reproductive Health: Right-based approach to gender equity and reproductive health and HIV/ AIDS. Human Rights related to gender, reproductive health rights. Gender as a key determinant of vulnerability to poverty, gender and HIV/ AIDS vulnerability and its demographic impact.

Introduction to Reproductive Health (RH): Definition and rationale of RH approach. Evolution of ideas about reproductive health. Components of RH and life cycle approach of RH. Recommendations from ICPD.

Unit – V

Maternal and Obstetric Morbidity:

Maternal morbidity, safe Motherhood programs, emergency obstetric care. Cultural practices during pregnancy, child bearing and its impact on health of women. Effects of maternal death on family. Strategies to reduce maternal morbidity and mortality.

Abortion and Related Issues: Spontaneous, induced abortion, legal and illegal abortions, safe and unsafe abortions and consequences of unsafe abortions. Law regarding abortion.

Reproductive tract infection/ sexually transmitted infections and HIV/ AIDS. Issues related to HIV infections; socio-cultural, medical, public health and psychological perspectives.

Suggested Readings:

1. Basu, Alaka M., 1992: **Culture, The Status of Women and Demographic Behaviour**, Oxford University, New York.
2. Bhasin, K., 2000: **Understanding Gender**, Kali for Women Publishers, New Delhi.
3. 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.
4. Bott, S. et.al. (Eds.) 2003: **Towards Adulthood: Exploring the Sexual and Reproductive Health of Adolescent in South Asia**, W.H.O., Department of Reproductive Health and Research, Geneva.
5. Ellsberg Mary and Heise Lori L. 2005: **Researching Violence Against Woman: A Practical Guide for Researchers and Activists**, WHO and Path, Washington DC.
6. Gita Sen, Adreinue Germain and Lincoln C. Chen, (Eds.) 1994: **Population Policies Reconsidered: Health and Empowerment and Rights**, Harvard University Press, Harvard.
7. Hess, B.B. and M.M. Ferree, 1987: **Analyzing Gender: A Handbook of Social Science Research**, Sage Publication, London.
8. Jeffery, Patricia and R. Jeffery, 1997: **Population, Gender and Politics: Demographic Change in Rural North India**, Cambridge University, Cambridge.
9. Pachauri, S. (Eds.), 1999: **Implementing a Reproductive Health Agenda in India: The Beginning**, Population Council, New Delhi.
10. Srinivasan, K. (Eds.), 1996: **Population Policy and Reproductive Health**, PFI and Hindustan Publications, New Delhi.
11. United Nation, 2001: **Population, Gender and Development: A Concise Report**, UN, Economic and Social Affairs, New York.
12. World Health Organization, 1998: **Gender and Health**, Technical Paper, WHO/FRH/ WHD/ 98. (website: www.who.int).

Course Code PS-E-304

Concepts and Measures of Global Health

Maximum Marks:100

Time: 3 Hours

Course Outcome

By the end of the course, students will be able to:

- comprehend health and development in global context, compare demographic, health and epidemiological transition;
- illustrate global burden of disease and identify the double burden of disease in developing countries;
- categorise the cultural, gender, race, social, political and economic determinants of health and health disparities;
- outline the factors responsible for better performance of health system in developed countries and classify the push and pull factors associated with the migration of health care providers;
- explain the role of water, sanitation, indoor and outdoor air pollution and nutrition in explaining global health disparities and analyse the national and international policies related to health.

Unit – I

Concept and Introduction: Concept of global health; why it is important to study global health? Health and development in the global context; demographic, health and epidemiological transitions; major patterns of distribution of disease in the world; sources of data on disease and disability.

Unit – II

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 of estimating DFLE, HALE and DALY; how does the burden of disease and mortality vary by

geography, social class, race and gender? GBD 1990, 2010 and 2013 – changes and continuities; new and re-emerging infectious diseases; issues related to HIV/ AIDS; introduction to NCDs. Double burden of diseases in developing countries; impact of tobacco abuse; trends and challenges related to maternal and child health; maternal mortality.

Unit – III

Determinants of Health: Culture, gender, race, social, political and economic determinants of health and health disparities; contribution of income, education and other factors to health. Factors responsible for variation in the global burden of disease across countries; poverty and health; income inequality and health, health risk factors.

Unit – IV

Health Care Delivery System: Introduction to health systems; how to measure performance of health system; health systems in different countries; factors responsible for better performance of health systems in developed countries. The distribution of human resources for health; quality of human resources for health; the push and pull factors associated with the migration of health care providers.

Unit – V

Environment and Health: Role of water, sanitation, indoor and outdoor air pollution and nutrition in explaining global health disparities; climate change and health; migration, disaster both man-made and natural, conflicts and epidemics.

Policy and Health: Human rights approach to health; National and International policies related to health; how are global health priorities set?; the role of international actors like WHO, World Bank etc. in global health; influence of international priorities on national priorities.

Suggested Readings

1. Skolnik, R. 2008: **Essentials of Global Health**, Jones and Bartlett, Sudbary, MA.
2. Jacobsen, K.H., 2007: **Introduction to Global Health**, Jones and Bartlett, Sudbary, MA.
3. Market, W.H. and Fisher, M., 2007: **Understanding Global Health**, McGraw Hill, Columbus.

4. Murray, C.J.L. et.al. 2002: **Summary Measures of Population Health: Concepts, Ethics, Measurement and Applications**, W.H.O. Geneva.
5. Murray, C.J.L. et.al. 2000: **A Critical Examination of Summary Measures of Population Health**, Bulletin of the World Health Organization 78(8), pp. 981-994.
6. Cutler, D. et.al. 2006: **The Determinants of Mortality**, Journal of Economic Perspectives 20(3), pp. 97-120.
7. Shiffman, J. 2009: **A Social Explanation for the Rise and Fall of Global Health Issues**, Bulletin of the World Health Organization, 87(8), pp. 608-613.
8. Murray, C.J.L. and J. Frenk, 2000: **A Framework for Assessing the Performance of Health Systems**, Bulletin of W.H.O; 78(6),pp.717-731.
9. Chen, L. et.al. 2004: **Human Resources for Health: Overcoming the crisis**, Lancet 364 (9449), pp. 1984-1990.
10. Pallikadavath, S. et.al. 2013: **Human Resource Inequalities at the Base of India's Public Health Care System**, Health & Place 23, pp. 26-32.

Course Code PS-E-305

Computer Applications in Demography

Maximum Marks:100

Time: 3 Hours

Course Outcomes

After completion of this course, the students will be able to:

- *understand the basics of computer fundamentals, various statistical packages, tables and graphs.
- *know the various statistical tests and interpret the results.
- *comprehend the need for big data in monitoring and evaluation of health and population policies.
- *learn the tools to handle national and international big data and managing these data.
- *understand and make use of various survey softwares.

1. Analysis Methods: Editing and Coding, transform raw data into information, basic data analysis. Basics of MORTPAK4, SPECTRUM and applications.
2. Introduction to SPSS-facilities, creating database structure, data entry, specifying scales, validation of data entry, importing and exporting data. Data Manipulation-recording, creating new variable, sorting, filtering and selection of specific data, generating simple frequencies, use of syntax editor. Large scale data handling-(using NFHS, DLHS-RCH, NSSO). Merging, splitting data and formatting.
3. Correlation and regression analysis-interpretation and regression diagnostic test. Multivariate analysis: concepts and interpretation of results of multiple regression, logistic regression, ANOVA, MCA with and without interaction.
4. Introduction to STATA, generating, variables, commands and do file editor. Survey analysis-estimation of mean, proportion, design effect and probit analysis and standard non-parametric test.
5. Concept of data hierarchy and multilevel analysis. Introduction to MLWIN, importing and formatting data. Illustration of 2 and 3 level analysis using NFHS, DLHS-RCH, NSSO data.
6. Introduction to GIS and illustration.

Essential Readings:

1. SPSS 14.0 Brief Guide-SPSS Inc.
2. SPSS regression models 14.0-SPSSInc.
3. SPSS advanced models 14.0-SPSSInc.
4. Stata user's guide: Release 10, second Edition, Stata Press.
5. Stata survey data reference manual: Release 8, Second Edition, Stata Press.
6. Cromley, Ellen K. and McLafferty, Sara L, 2002: **GIS and Public Health**, Guilford Press, New York.
7. Snijders, Tom A.B. and Bosker, Roel J., 1999: **Multilevel Analysis: An Introduction to Basic and Advanced Multilevel Modeling**, Sage Publications.

SEMESTER-IV

Course Code PS-C-401

Population, Environment and Sustainable Development

MaximumMarks:100

Time: 3 Hours

Course Outcome

By the end of the course, students will be able to:

- identify the conceptual and theoretical issues in sustainable development and analyse, how the concept of sustainable development has influenced the policy, programmes and practice in development sectors;
- illustrate population-environment linkage through various approaches and analyse the impact of population on quality of life through management and distribution of water, air, sanitation, healthcare, education and information;
- establish the inter-relationship between population, poverty and environmental degradation;
- identify various environmental issues in the context of migration and displacement;
- explain the role of governance for sustainable development and highlight the importance of sustainable development for society and population.

Unit – I

Sustainable Development: Conceptual and theoretical issues; importance of studying sustainable development: meaning, concepts and definitions; inter-linkages between ecology and development, economic growth and ecological degradation, indicators and processes involved in its achievement. Brundtland Report on Environment and Development Agenda.

Innovations for Sustainable Development: Conventional perspectives on development; critics of conventional development perspectives, case studies based on experiences from developed and developing countries. How the concept of sustainability has influenced the policy, programme practice in development sectors.

Unit – II

Population - Environment Linkages: Ecological and environmental dimensions of sustainable development. Approaches to environment; Gandhian approach, Marxian/ Socialist approach, Neo- classical approach, Market approach, Population growth and climate change; population matters to sustainable development and environment(growth, age structure, spatial distribution).

Population and Quality of life: Quality of life: definition and measurement, resource creation, management and distribution of water, air, housing etc., sanitation, health and healthcare, education and information.

Unit – III

Environmental Degradation and Poverty: Sustainable livelihoods; population and common property resources. Population, poverty and vulnerability; gender dimensions, grass-root perspectives, environment - development struggle. Degradation of environment and downward spiral of poor, poverty vs sustainability. Development and displacement; alienation of tribal, tribal land encroachment, forest depletion.

Unit – IV

Environmental Issues in the Context of Migration and Displacement: Regional development: Green Movements, Chipko Movement, Silent Valley Movement. Natural calamities-flood, droughts, landslide, earthquakes and Tsunami: Urbanization-new challenges, environmental health-hazards (water and air pollution). Solid waste management, rain water harvesting. Mobility and patterns of settlement. Development and urban ecology, slums, urban poverty and rehabilitation.

Unit – V

Governance for Sustainable Development: Issues related to natural resources management: forest management; mining of natural resources, ground water, river and ocean pollution. Different institutional arrangements for environmental protection and their limitations. Emerging new institutions of environmental protection. Capacity building, technology transfer for sustainable development.

Population, Society and Sustainable Development: Population and resources: human versus land ‘carrying capacity’; population stabilization to population balance, critiques of sustainable development perspectives. Role of social institutions, individual behavior in the context of social cost and benefits. Gender and environment, indigenous population and traditional methods of environmental sustainability. Sociological approaches to sustainable development. Vulnerability of indigenous population. Affluence and environment. Research Methods to examine the balance between population, sustainable development and environment nexus.

Suggested Readings

1. Bongaarts, John, 1992: “Population Growth and Global Warming”, **Population and Development Review**, 18, pp. 299-319.
2. Brundtland, G.H., 1987: **Our Common Future: The World Commission on Environment and Development**, Oxford University Press, Oxford.
3. Davis, Kingsley and Mikhail, S.B. (ed.), 1991: **Resources, Environment and Population: Present Knowledge, Future Options**, Oxford University Press, New York.
4. Demeny, Paul, 1989: **Demography and the Limits to Growth**, Supplement to **Population Development Review**, New York.
5. Government of India, 1999: **Silent Revolution for Environmental Conservations**, Ministry of Environment and Forests, New Delhi.
6. Pebley, Anne R. 1998: “Demography and the Environment”, **Demography**, Vol. 35, No. 4, pp. 377-389.
7. McNicoll, G., 2005: **Population and Sustainability**, Working Paper No. 205, Population Council, New York.
8. Harris, J.M. 2004: **Basic Principles for Sustainable Development**, Global Development and Environment Institute, working paper.
9. Pimental, David et.al. 1999: “Will Limits of the Earth’s Resources Control Human Numbers?”, **Environment, Development and Sustainability**, pp. 19-39.
10. Preston, Samuel H., 1994: **Population and Environment: From Rio to Cairo**, International Union for the Scientific Study of Population (IUSSP).
11. Simon, J.L., 1996: **Population Matters: People, Resources, Environment and Immigration**, Transaction Publishers, New Brunswick, NJ.

Course Code PS-C-402

Management, Monitoring and Evaluation of Health Programmes

Maximum Marks:100

Time: 3 Hours

Course Outcomes

After completion of this course, the students will be able to:

- *have a overview of India's population policy and health and family welfare programmes currently going on in India.
- *able to identify various health programme management tools and learn to apply tools of monitoring and evaluation on health related programmes.
- *understand how health management information systems work.
- *undertake evaluation studies under the supervision of senior programme personnel.
- *focus on the evaluation of fertility impact of family planning programmes.

Unit –I

Project and Programmes: Differences, evaluation, Characteristics and different phases of a project:

Programme Management: Principles, approaches, Challenges, factors affecting success of a project, ethical issues. Management Tools; Logical Framework Approach (LFA), Goal Oriented Project Planning (GOPP) and objectives Oriented Project Planning (OOPP).

Unit-II

Introduction to Monitoring and Evaluation: Basic concepts; Difference between Monitoring and Evaluation, linkage between planning, Monitoring and Evaluation. Importance of Monitoring and Evaluation. M&E Plan-functions, construction. Conceptual frameworks, results frameworks and logic models.

Unit-III

Monitoring and Evaluation Framework: Resources for monitoring and evaluation, engagement of stake holders in monitoring and evaluation. Meaning indicators, illustration of indicators process of developing indicators, illustration of indicators developed from large scale

surveys, need and levels of indicators. Challenges in developing indicators from Large-Scale Surveys; Types of indicators-Input, Process, Output, Outcome, Impact; capacity building for monitoring and evaluation.

Unit-IV

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. Evaluating for results; need and uses of evaluation, principles, norms and standards for evaluation, roles and responsibilities in evaluation. Randomization, Statistical design of Randomization, randomized control trials, time dependant cluster design and interrupted time series analysis.

Unit-V

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 National Health Mission, ICDS and National Livelihood Mission. Social Audit, Meaning, objectives, advantage and case study of social audit.

Health Management Information System(HMIS): Uses, methods, HMIS in the public health system in India-tools, quality of data. HMIS in National Health Mission and Global Positioning System.

Suggested Readings:

1. Casley, Dennis J. and Kumar, Krishna, 1988: The Collection, Analysis and use of Monitoring and Evaluation Data, A World Bank Publication, John Hopkins University Press.
2. Govt. of India & U.N.D.P., 2012: Guiding Framework for Monitoring and Impact Evaluation of Capacity Building & Training of Panchayati Raj Institutions in States/UTs.
3. Rossi, Peter H.et.al; 2004: Evaluation, A Systematic Approach, 7th Edition, Sage Publications, New Delhi.
4. FHI, 2004: Introduction to Monitoring and Evaluation: A facilitator's training guide., Family Health International.
5. IFRC and RCS, 2002: Handbook for Monitoring and Evaluation, International Federation of Red Cross and Red Crescent Societies, Geneva.
6. UNDP,2009: Handbook on Planning, Monitoring and Evaluation for Development Results, United Nations Development Programme, New York.
7. UNESCO, 2014: Monitoring and Evaluation Guidance for School Health Programmes: Thematic Indicators, United National Educational, Scientific and Cultural Organization.

8. Berelson, Bernard, 1974: Population Policy in Developed Countries, Mc Graw Hill, New York.
9. Shryock, Henry.S.et.al; 1976: The Methods and Materials of Demography, Academic Press, New York.
10. United Nations, 1983: Evaluation of the Impact of family planning programme on fertility: Sources of variance, New York, UN.
11. United Nations,1979: The Methodology of Measuring the Impact of Family Planning Programmes on Fertility, United Nations, New York.
12. United Nations,1981: World Population Trend and Policies: Monitoring Reports, United Nations New York.

Course Code PS-C-403

Dissertation

(Formulation of Problem, Review and Field Work)

Maximum Marks:100

Time: 3 Hours

This course provides the students an opportunity to work on a specific area in Demography in which they are interested in by choosing a problem of interest in any area of Demography and submit a detailed report on the same after a scientific investigation of the problem.

Course Outcome

By the end of the course the students will be able to:

- * carry out scientific research on any area in Demography and Health.
- * design and carry out research and analyse data using any software package.
- * write a detailed report of the scientific research carried out.

Course Code PS-E-404

Population Policies and Programmes

Maximum Marks:100

Time: 3 Hours

Course Outcome

By the end of the course, students will be able to:

- analyse principal features of population policy and examine policies in context of population growth, structure and distribution;
- examine the fertility and health influencing policies; distinguish and interpret various National Health and Family Planning Programs;
- outline reproductive health programme management system and explain quality of care in reproductive health programme management system;
- evaluation of Family Welfare Programmes and analyse causes for their slow progress in context to India;
- apply Family Welfare Service Statistics with special reference to Management Information System (MIS), Operation Research Technique (ORT) and SWOT analysis in evaluation.

Unit – I

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 indicators, justification of Population Policy, socio-cultural, political and ethical issues related to Population Policy. Role of the United Nations, and other international agencies; U.N. World Population conferences; Bucharest (1974), Mexico (1984) and Cairo (1994), the World Population Plan of Action in different countries.

Unit – II

Fertility and Health Influencing Policies and Family Planning Programmes: Pro-natalist policies, fertility control policies. Programmes for special groups: women and children, youth, aged and for tribal.

Historical perspective of health influencing policies and programs in developing and developed countries. The Alma Ata Declaration and Health for All by 2000 A .D. Migration influencing policies.

National Health and Family Planning Programmes: CNA, RCH, National Population Policy - 2000, National Health Policy – 2017, National Rural Health Mission 2005-2012 and National Health Mission.

Unit – III

Reproductive Health Programme Management: Principles, strategies; targeting the people in need; marketing approach, client segmentation; community need assessment; unmet need approach , and health seeking behavior. Providing services; commercial distribution, community based distribution (CBD) systems and social marketing.

Quality of Care in Reproductive Health Programme: A management perspective; definition and importance of quality of care. Framework for quality of care in family planning.

Unit – IV

Evaluation of Family Welfare Programmes: Introduction to evaluation of population, health and family welfare programmes, objectives of the evaluation, types of evaluation. Evaluation framework, types and levels of indicators in family welfare programme evaluation. Discussion on methodological issues in different evaluation studies in India. Data requirements for the evaluation of Programmes. Causes for slow progress of family welfare programmes in India.

Unit – V

Family Welfare Service Statistics: Management Information System (MIS) with special emphasis on Indian Family Welfare Programme, role of MIS in evaluation of the programmes. Operation Research Technique (ORT) in evaluation. Economic evaluation of the programmes, cost- effectiveness studies - SWOT analysis.

Natural Fertility: Potential fertility, contraceptive prevalence rate, types of contraception, use and effectiveness of family planning methods, wanted and unwanted fertility. Bongaarts model for estimating fertility impact. Demand - supply framework to evaluate family planning programmes.

Suggested Readings

1. Chrissie, P. and S.T. Leger, 1993: **Assessing Health Need Using Life Cycle Framework**, Open University, Buckingham.
2. Peabody, J.W. et.al., 1999: **Policy and Health Implications for Development in Asia**, Cambridge University Press, Cambridge.
3. Peters, David H. et.al. 2002: **Better Health Care Systems in India**, World Bank, Washington D.C.
4. United Nations, 1974: “World Population Plan of Action”, **Studies in Family Planning**, 5 (12).
5. World Health Organisation, 1978: “Primary Health Care”, **International Conference on Primary Health Care**, Alma Ata, USSR, 6-12, September.
6. Bruce, Judith, 1990: “Fundamental Elements of Quality of Care: A Simple Framework”, **Studies in Family Planning**, Vol. 21, No. 2.
7. Government of India, 2002: **National Health Policy**, Ministry of Health and Family Welfare, New Delhi.
8. Government of India, 2000: **National Population Policy**, Ministry of Health and Family Welfare, Government of India, New Delhi.
9. United Nations, 1979: “The Methodology of Measuring the Impact of Family Planning Programme on Fertility”, Manual IX, **Population Studies**, No. 66, New York.
10. United Nations, 1998: **National Population Policies**, Department of Economics and Social Affairs, New York.
11. Government of India, 1996: **Community Need Assessment**, Ministry of Health and Family Welfare, New Delhi.
12. Bertrand, Jane T. et.al., 1994: **Handbook of Indicators for Family Planning Programme Evaluation**, The Evaluation Project, Carolina Population Centre, University of North Carolina at Chapel Hill, USA.

Course Code PS-E-405

Population Ageing and Health Transition

Maximum Marks:100

Time: 3 Hours

Course Outcome

By the end of the course, students will be able to:

- identify the different concepts and measures of population ageing and examine the population ageing trends and patterns in developed and developing countries;
- understand health and ageing transition and WHO framework for healthy ageing;
- deduce the inter-relationship between ageing and health, ageing and burden of diseases and ageing and functional health;
- assess the importance of different concepts such as population ageing and health financing, population ageing and labour force and population ageing and public finance;
- examine the social and economic support policies and programmes for elderly in India and organisations engaged in wellbeing of ageing populations at international level.

Unit – I

Demography of Ageing: Concept 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 and patterns in developed and developing countries. Factors determining ageing trends and patterns. Projected trends and pattern of population ageing, global and regional perspective. Population ageing trends, patterns and determinants in India, State variations. Future scenario of population ageing in India.

Unit – II

Health Transition: Understanding Health Transition and Aging Transition; critiques of “Health Transition” and “Epidemiological Transition” theory. Mortality and morbidity compression, age patterns of mortality and morbidity; global burden of disease, communicable diseases, injuries and violence. Health transition and emergent infectious diseases, social epidemiology and

medical social determinants of health as fundamental causes of chronic disease, social determinants of health, the relative income hypothesis and the social gradients of health for ageing population. Healthy ageing; WHO framework for Healthy Ageing.

Unit – III

Ageing and Health: Ageing and life expectancy; changing age pattern of mortality, ageing and epidemiological transition in disease prevalence and patterns. Measuring population health; life expectancy and disability free life expectancy, health adjusted life expectancy.

Ageing and Burden of Disease: Measurement issues in assessing burden of chronic and multiple diseases in ageing populations; self - reported prevalence, system-based prevalence, measured prevalence. Burden of non-communicable diseases, dual burden of communicable and non – communicable diseases in developed and developing countries.

Ageing and Functional Health: Ageing and disabilities; trends and prevalence, ageing and injuries, ageing and functional health on various domains – mobility, self- care, pain, vision, interpersonal activities, sleep and energy, ageing and quality of life. Ageing and mental health problems; cognition, memory loss, dementia and depression, Alzheimer’s and Parkinson.

Unit – IV

Population Ageing and Health Financing: Ageing, health care and health financing: health care utilization, public and private health services utilization, outpatient and inpatient health care utilization, sources of health spending, out of pocket health expenditure, lack of health care options for elderly, health induced impoverishment among elderly.

Population Ageing and Labour Force: Implications of population ageing on labour force, retirement and work participation among elderly, occupational distribution among the elderly.

Ageing and Public Finance: Ageing, savings and investment; pressures on public finance, government health expenditure, implications for health insurance and health financing for elderly. Implications for government expenditure for social security – pension, social support and housing. The Solow Model with an ageing population, Becker’s Family Model, Bloom and Williamson’s Model.

Unit – V

Ageing Policies and Programmes: Social and economic support policies and programmes for the Elderly - retirement, pensions and social care policies in developed and developing countries. Social security and welfare policies and programmes for elderly in India. National programmes for Health Care of Elderly (NPHCE); National Policy for Senior Citizens.

Organizations Engaged in Wellbeing of Aging Populations: Helpage International, Dignity Foundation, Age in Action, Age International, Alliance for Ageing Research, Alzheimer's Disease International (ADI), The Parkinson Alliance, Geriatrics Societies and Gerontological Associations, Age - friendly World, environment, security and Health Care.

Suggested Readings

1. Bloom, D.E., D. Canning, et.al., 2002: **The Demographic Dividend: A New Perspective on the Economic Consequences of Population Change**, Santa Monica, CA, RAND.
2. Bose, A.B., 2006: **Social Security for the Old**, Concept Publishing Company, New Delhi.
3. Linda, J.W. (ed.), 2004: **Ageing, Health and Public Policy: Demographic and Economic Perspectives**, Supplement to **Population and Development Review**.
4. Irudaya Rajan, 2007: **Social Security for the Elderly-Experiences from South Asia**, Routledge, New Delhi.
5. Prskawetz, Bloom and Lutz. (eds.), 2008: **Population Ageing, Human Capital Accumulation and Productivity Growth**, A Supplement to **Population and Development Review**.
6. World Health Organization, 2015; **WHO Report on Ageing and Health**, WHO, Geneva.
7. United Nations, 1994: **Ageing and the Family**, United Nations, New York.
8. United Nations, 1998: **Economic and Social Implications of Population Ageing**, Department of International Economic and Social Affairs, UN, New York.
9. UNFPA, 2001: **Population Ageing and Development: Social, Health and Gender Issues**, United Nations, Malta.

10. Heslop, A., 1999: **Ageing and Development**, Social Development Working Paper, 3, Help Age International.
11. Pool, I.L., R. Wong and Eric Vilquin (ed), 2006: **Age-Structural Transitions: Challenges for Development**, Paris, CIRCRED.
12. United Nations, 2001: **Living Arrangements of Older Persons: Critical Issues and Policy Responses**, Population Division, Department of Economic and Social Affairs, Special Issue, Nos. 42/43, New York.