# DEPARTMENT OF POPULATION SCIENCE

**Established: 2016**

# Jatiya-Kabi-Kazi-Nazrul-Islam-University.jpg

# Syllabus for B.S.S. (Honours) 2018-2019

# Examination Years

# Part-I: 2019

# Part-II: 2020

# Part-III: 2021

# Part-IV: 2022

# *Vision*

# *The vision of the Department of Population Science is to produce graduates who can meet the needs of national and global settings by providing the education and training of the highest possible quality.*

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# *Mission*

# *The mission of the Department is to generate quality graduates in each and every area of demography and population studies by providing necessary knowledge of population studies, statistics, economics, health, environment, and computer programming along with advanced research.*

**DEPARTMENT OF POPULATION SCIENCE**

# FACULTY OF SOCIAL SCIENCE

# JATIYA KABI KAZI NAZRUL ISLAM UNIVERSITY

**Overview**

The Department of Population Science started its academic activities in 2017 under the Faculty of Social Science, Jatiya Kabi Kazi Nazrul Islam University, Bangladesh. It is begun with three faculty members by enrolling sixty three students. The academic curriculum of the department is being offered both in English and Bangla medium. This department introduced thirty two courses in the BSS Honours level including Demography, Statistics, Mathematics, Economics, Computer Programming, Population Health, and Environmental Studies.

**Vision and Mission Statement of** **the Department of** **Population Science**

Rapid population is one of the burning issues in the developing world. Developing countries like Bangladesh experience the negative impact of rapid, uncontrolled population growth, often requiring western countries to provide direct aid to avert famine. Poor social worsen when scarce resources are not sufficient to meet the needs of a rapidly growing population. These conditions exacerbate poverty, malnutrition, childhood and maternal mortality, use of child labor and inadequate educational opportunities, particularly for women.

Taking all the challenges of population growth into account, researchers are now attempting to project and estimate population growth and to develop a population control mechanism to face these upcoming socio-economic, demographic and environmental problems.

**Mission**

The mission of the Department is to generate quality graduates in each and every area of demography by providing necessary knowledge of population studies, statistics, economics, health, environment, and computer programming along with advanced research.

**BSS Honours Syllabus under Faculty of Science Curriculum for Academic Year 2018-2019**

**Part–I: Examination 2019**

**Part–II: Examination 2020**

**Part–III: Examination 2021**

**Part–IV: Examination 2022**

The BSS Honours Programme in Population Science shall be spread over four academic years. There shall be twenty nine theoretical courses, a field study and report writing, and two practical sessions. The marking and evaluation system for theoretical and viva voce parts will be according to the ordinance adopted by the university. All the theory courses are of three hours duration. There are two practical sessions of 100 marks, each of which is of four hours duration. For practical session marks distribution will be 60% for lab final test and test report, 10% for lab attendance, 20% for periodical lab test, and the rest of 10% for lab report. The practical session will be evaluated only by the internal examiner. Marks distribution for field study will be 20% for field tour which will be evaluated only by the internal examiner and 80% for report writing which will be evaluated both by the internal and external examiners.

**Grading System**

|  |  |  |  |
| --- | --- | --- | --- |
| **Numerical Grade** | **Letter Grade** | **Grade Point** | **Interpretation** |
| 80% or above | A+ | 4.00 | Outstanding |
| 75% to less than 80% | A | 3.75 | Excellent |
| 70% to less than 75% | A- | 3.50 | Very Good |
| 65% to less than 70% | B+ | 3.25 | Good |
| 60% to less than 65% | B | 3.00 | Satisfactory |
| 55% to less than 60% | B- | 2.75 | Below Satisfactory |
| 50% to less than 55% | C+ | 2.50 | Average |
| 45% to less than 50% | C | 2.25 | Below Average |
| 40% to less than 45% | D | 2.00 | Poor |
| Less than 40% | F | 0.00 | Fail |

N.B.: In the Transcript/Grade Sheet, only the Letter Grade and the Corresponding Grade Points, the CGPA, not the numerical marks, will be shown. In no case numerical score will be provided.

**The year-wise course units, marks and credit distributions are as follows**:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Honours Classes** | **:** | **I** | **II** | **III** | **IV** | **Total** |
| Marks | : | 650 | 850 | 850 | 850 | 3200 |
| Credits | : | 26 | 34 | 34 | 34 | 128 |

The following are the year-wise distribution of the courses:

**Honours Part–I (First Year)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Course No.** | **Course Title** | **Marks** | **Credit** |
|  | **First Semester** |  |  |
| **B-PS-111** | Introduction to Population Studies | 100 | 4 |
| **B-PS-112** | Basic Techniques of Population Analysis | 100 | 4 |
| **B-PS-113** | Nazrul Studies | 100 | 4 |
|  | **Second Semester** |  |  |
| **B-PS-121** | Marriage and Family | 100 | 4 |
| **B-PS-122** | Bangladesh Studies | 100 | 4 |
| **B-PS-123** | Fundamentals of Microeconomics | 100 | 4 |
| **B-PS-124** | Viva-Voce | 50 | 2 |
| Total | | **650** | **26** |

**Honours Part –II (Second Year)**

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| **Course No.** | **Course Title** | **Marks** | **Credit** |
|  | **Third Semester** |  |  |
| **B-PS-211** | Population Dynamics | 100 | 4 |
| **B-PS-212** | Population Distribution and Composition | 100 | 4 |
| **B-PS-213** | Population Redistribution and Urbanization | 100 | 4 |
| **B-PS-214** | Introductory Statistics | 100 | 4 |
|  | **Fourth Semester** |  |  |
| **B-PS-221** | Life Table Analysis | 100 | 4 |
| **B-PS-222** | Maternal and Child Health | 100 | 4 |
| **B-PS-223** | Population and Environment | 100 | 4 |
| **B-PS-224** | Theory of Statistics | 100 | 4 |
| **B-PS-225** | Viva-Voce | 50 | 2 |
| Total | | **850** | **34** |

**Honours Part-III (Third Year)**

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| **Course No.** | **Course Title** | **Marks** | **Credit** |
|  | **Fifth Semester** |  |  |
| **B-PS-311** | Population Estimation and Projection | 100 | 4 |
| **B-PS-312** | Population Theory | 100 | 4 |
| **B-PS-313** | Health and Nutrition | 100 | 4 |
| **B-PS-314** | Labour Force and Manpower Planning | 100 | 4 |
|  | **Sixth Semester** |  |  |
| **B-PS-321** | Population Policies and Programs | 100 | 4 |
| **B-PS-322** | Business Demography | 100 | 4 |
| **B-PS-323** | Fundamentals of Occupational Safety and Health | 100 | 4 |
| **B-PS-324** | Demographic Techniques (Practical) | 100 |  |
| **B-PS-325** | Viva-Voce | 50 | 2 | |
| Total | | **850** | **34** |

**Honours Part-IV (Fourth Year)**

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| **Course No.** | **Course Title** | **Marks** | **Credit** |
|  | **Seventh Semester** |  |  |
| **B-PS-411** | Gender Issues in Population Studies | 100 | 4 |
| **B-PS-412** | Demographic Dividend and Population Ageing | 100 | 4 |
| **B-PS-413** | Research Methodology | 100 | 4 |
| **B-PS-414** | Computer Application in Social Research (Practical) | 100 | 4 |
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|  | **Eight Semester** |  |  |
| **B-PS-421** | Fundamentals of Epidemiology | 100 | 4 |
| **B-PS-422** | Reproductive Rights and Reproductive Health | 100 | 4 |
| **B-PS-42 3** | HIV/AIDS and Counseling | 100 | 4 |
| **B-PS-424** | Field Study and Report Writing | 100 | 4 |
| **B-PS-425** | Viva-Voce | 50 | 2 |
| Total | | **850** | **34** |
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| **Year:**  **First Year** | **Code:**  **PS-111** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Month** |
| **Title:** **Introduction to Population Studies** | | | | |

**Introduction**

Population, Population Study, Demography, Scope and Nature of the Study of the Demography, Advantage of Population Study, Different Phases of the History of Demography, Demography and Other Disciplines.

**Some Basic Concepts**

Population Dynamics, Population Change, Population Size, Population Growth, Population Explosion, Population Composition, Population Distribution, Stationary Population, Stable Population, Quasi-Stable Population, Closed Population, Live Birth, Still Birth, Death, Sub-Division of Death by Intervals, Fetal Death, Fertility, Fecundity, Fecundability, Sterility, Parity, Birth-Order, Cohort, Reproductive Span, Contraception, Life Expectancy, Life Span, Household, Migration.

**Population Structure**

Population Structure, Importance and Characteristics of Population Structure, Sex Composition, Analysis of Sex Composition, Factors Affecting Sex Ratio, Age Composition, Analysis of Age Distribution, Graphical Distribution of Age-Sex Composition, Types of Population Pyramid, Other Composition of the Population- Religion, Residence, Marital Status, Household Composition.

**Demographic Features of Bangladesh**

Historical Backdrops of: Age Structure, Sex Composition, Marital Status, Occupation, Religious Composition, Urbanization, Population Problem in Bangladesh, Population Control and Family Planning, Population and Poverty.

**Suggested References:**

* Barclay, G.W., (1958), Techniques of Population Analysis, John Wiley & Sons Inc.
* Bhall, B.K., Desai, J.N. and Jhingan, M.L., (2012), Demography, Vrinda Publication (P) Ltd.
* Bogue, D.J., (1969), Principles of Demography, Wiley.
* Bogue, D.J., Arriaga, E.E., Anderton, D.L. and Rumsey, G.W., (1993), Readings in Population Research Methodology, United Nations Population Fund, Social Development Center, Chicago, Vol. 1
* Hinde, A., (1998), Demographic Methods, Arnold Publishers, London.
* Islam, M.N., (2015), An Introduction to Demographic Techniques. Mullick and Brothers, Dhaka, Bangladesh.
* Raj.H., (1998), Fundamentals of Demography, Surjeet Publication, India.
* Spiegelman, M., (1968), Introduction to Demography, Harvard University Press.
* Swanson, D.A. and Siegel, J.S., (2004), The Methods and Materials of Demography, Elsevier Academic Press.
* Donald T. Rowland, D.T., (2003), Demographic Methods and concepts, Oxford University Press.

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| **Year:**  **First Year** | **Code:**  **PS-112** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Month** |
| **Title:** **Basic Techniques of Population Analysis** | | | | |

**Basic Concepts**

Concepts of rates, ratios, proportions and probability; cohort, radix, persons-years of life or exposure, life span and life expectancy; stable, quasi-stable and stationary population; basic demographic equation

**Measures of Population Growth and Distribution**

Concepts of population growth, rates of population growth - arithmetic, geometric and exponential rates; doubling time; distribution and density: spatial measures of distribution – mean centre, median point and modal centres of distribution; measures of population concentration; population potential.

**Sources of Demographic Data and Methods**

Demographic Data, Primary and secondary sources, other sources; Techniques and Types of Collecting Demographic Data: Censuses, Vital Registration, Sample surveys; Problems and Solutions: Censuses, Vital Registration, Sample surveys.

**Evaluation of Quality of Data**

Sources and types of errors in data; General methods of evaluation of errors in data on age and intervals, Digit Preference Quotients for Birth Interval and UN Accuracy Index; Smoothing of age distribution

**Life Table**

Definition of life table; types of life table: complete life table, abridge life table, period life table, cohort life table; use of life table

**Suggested References:**

* Cyriak Siegel, Methods and Materials of Demography*.*
* Henry S. Siegel and Associates. Third Printing (rev).1975. The Methods and Materials of Demography. U.S. Government Printing Office, Washington, D.C. 20402
* Barclay, The Techniques of Population Studies
* M. Nurul Islam. An Introduction to Demographic Techniques. Mullick Brothers, Dhaka, Bangladesh.
* M. Jahirul Islam Sikder. Demography and Population Development. Confidence, Dhaka, Bangladesh.

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| **Year:**  **First Year** | **Code:**  **PS-113** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Month** |
| **Title: Nazrul Studies** | | | | |

Provided by the university authority.

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| **Year:**  **First Year** | **Code:**  **PS-121** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Month** |
| **Title:** **Marriage and Family** | | | | |

**Marriage and its Dissolution:** marriage – concept, forms and function of marriage; dissolution of marriage; marriage characteristics; marriage trends; types of marriage; divorce; dissolution; types of marital dissolution; causes of divorce; marital status and their interrelationships; measures - crude marriage rate; general marriage rate; age-sex specific rates; order-specific rates; standardized rates; proportion of single persons; total marriage rate; age at marriage and remarriage; mean age at marriage; singulate mean age at marriage; mean age at consummation, mean age at cohabitation; proportion ever married; marital stability; an exchange theory of marital stability; advantages and disadvantages of an exchange theory; four case of marital stability; exchange and control in marital life; patterns and differential; widowhood; orphan- hood; separation, annulment and their characteristics; teenage marriage; group marriage. Nuptiality tables; construction of gross and net nuptiality tables. Dissolution tables.

**Family:** Concept of family; sub-family; broken family; primary and secondary family; types of family, functions of family, family group; composition of family; relationship to head of the family; size of the family; ideal size of family; characteristics of the family; dynamics of family; life cycle of the family; family structure; Household; household size and types; Families in developed and developing countries.

**Suggested References:**

* Barclay, G.W., (1958), *Techniques of Population Analysis*, Wiley.
* Cox, P.R., (1950), *Demography*, Cambridge University Press.
* Dyer, E.D., (1983), *Courtship, Marriage, and Family--American Style*, Dorsey Press.
* Lee, A. M. and Lee, E. B., (1961), *Marriage and Family*, Barnes & Noble, New York.
* Nye, F. I., (1982), *Family Relationships: Rewards and Costs*, Saga Publications.
* Shryock, H.S., Seigel, J.S. and Stockwell, E.G., (1976), *The Methods and Materials of Demography*, Academic Press.
* Spiegelman, M., (1968), *Introduction to Demography*, Harvard University Press.
* Bogue, D.J., Arriaga, E.E., Anderton, D.L. and Rumsey, G.W., (1993), *Readings in Population Research Methodology*, United Nations Population Fund, Social Development Center, Chicago, Vol. **4 & 7**.
* Skolnick, A.S. and Skolnick, J.H., (2009), *Family in Transition*, Pearson.
* Strong, B., DcVault, C. and Cohen, T.F., (2008), *The Marriage and Family Experience*, 10th Edition, Thomson.

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| **Year:**  **First Year** | **Code:**  **PS-122** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Month** |
| **Title:** **Bangladesh Studies** | | | | |

**evsjv‡`‡ki Af~¨`q:** mvgvwRK, ivR‰bwZK, A\_©‰bwZK I mvs¯‹…wZK †cÖ¶vcU; evqvbœifvlv Av‡›`vjb, Pzqvbœi hy³d«›U wbe©vPb I †PŠlwÆiMYZvwš¿K Av‡›`vjb, †QlwÆiQq `dv Av‡›`vjb, AvMiZjvlohš¿ gvgjv I e½eÜz, EbmË‡ii MY Af~¨Ìvb, mË‡iimvaviYwbe©vPb, 7B gv‡P©ifvlY I ¯^vaxbZvi †NvlYvGesGKvË‡ii gyw³`y×|

**evsjv‡`‡ki †fŠMwjK cwiwPwZ**: evsjv‡`‡ki †fŠ‡MvwjKAe¯’vb I mxgv‡iLv; b`-b`x, cvnvo-ce©Z, mgy`ª DcK~j, ebvÂj, Rjevqy I e„wócvZ, eb¨v I Ab¨vb¨ cÖvK…wZK `y‡h©vM, cÖvK…wZKm¤ú` (ebR, cÖvYxR, grm¨ I LwbR),RbmsL¨v, bMi I bMivqY, cwi‡ek I cwi‡eke¨e¯’vcbv|

**evsjv‡`‡ki f~-cÖK…wZ I Awaevmx:** f~wg (cÖK…wZ, cÖKvi‡f` I e¨envi), evOvjx, DcRvwZ I Awfevmx (Domiclied) GesZv‡`i b„ZvwË¡K I mvs¯‹…wZKcwiwPwZ|

**evsjv‡`‡ki A\_©bxwZ:** cÖavbDrcv`bLvZmg~n I Zv‡`i A\_©bxwZK ¸iæZ¡ (K…wl, wkí, evwYR¨, †hvMv‡hvM, e¨vswKO I ivR¯^),Drcv`be¨e¯’v I Av\_©-mvgvwRKAeKvVv‡gv, RbmsL¨v I †eKvimgm¨v, RvZxq A\_©bxwZ‡Zbvix I wbgœeM©xq‡`i Ae¯’vb, RvZxq A\_©bxwZKcwiKíbv I ev¯Íevqb|

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**Suggested References:**

* GgAviAvLZvigyKzj : AvwgweRq †`‡LwQ
* GgAviAvLZvigyKzj : evnvbœiRevbe›`x
* GgAviAvLZvigyKzj : evnvbœifvlv Av‡›`vjb
* ‡gRiiwdKzjBmjvg : GKvË‡ii gyw³hy×
* W. †gvnv¤§` nvbœvb : nvRvieQ‡iiBwZnvm
* W. †gvnv¤§` nvbœvb : evsjv‡`‡ki gyw³hy‡×i BwZnvm
* ‡gv¯ÍdvKvgvj : evOvjx,evsjv‡`k I e½eÜz
* ‡kL gywReyi ingvb : Amgvß AvZ¥Rxebx
* ‡kL gywReyi ingvb : KvivMv‡ii †ivRbvgPv
* ˆk‡jkKzgvi e‡›`cva¨vq : wRbœv/ cvwK¯Ívb
* Avby †gvnv¤§` : ag©ivóª I MYZvwš¿K Av‡›`vjb
* G¨v›Ubxg¨vmKv‡ibnvm : evsjv‡`k i‡³i Fb
* evsjv‡`‡kiBwZnvmt 3q LÛ : m¤úv`bv †gvtwmivRyjBmjvg
* Dr. A.M.A Rahim : Current Issues of Bangladesh Economy
* Mahab Khan : Bangladesh Society, Politics and Bureau-cracy
* M.A. Ahad : Bangladesh Economy

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| **Year:**  **First Year** | **Code:**  **PS-123** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Month** |
| **Title: Fundamental of Microeconomics** | | | | |

**Introduction to Economics**

Definition, nature and scope, microeconomics and macroeconomics, scarcity and choice, opportunity cost, normative and positive Economics, the basic problems of Economics and their solution in alternative economics systems, the production possibility frontier

**Demand and Supply**

Demand and supply schedules, laws of demand and supply, the demand curve, movement along the curve vs shift of the curve, equilibrium with supply and demand curve

**Demand and Consumer Behavior**

Choices and utility theory, the paradox of value, law of diminishing marginal utility, why the demand curve slopes downward, consumer surplus, normal, inferior and giffen goods, from individual to market demand

**Application of Demand and Supply**

Elasticity of demand and supply, price, cross and income elasticity of demand, the paradox of bumper harvest, impact of tax and subsidy on price and quantity, price floors, and ceiling, the minimum wage controversy

**Theory of Production**

The production function, factors of production, short-run and long-run, total, average and marginal product, the law of diminishing returns, returns to scale

**Analysis of Cost and Profit**

Fixed and variable costs, total, average and marginal costs, the short-run and long-run, relationship between average cost and marginal costs, accounting profit and economic profit

**Perfect Competition**

Characteristics of perfect competition, profit maximizing conditions, profit, losses, break-even and shut down conditions, the firm’s supply curve, industry supply curve, the short-run and long-run equilibrium, efficiency of perfect competition

**Imperfect Competition**

Sources of imperfections, monopoly equilibrium, price discrimination, natural monopoly and its regulation, deadweight loss due to monopoly, monopolistic competition

**Suggested References:**

* Samuelson. P.A and Nordhaus, W.D., *Economics.*
* Stiglitz, *Economics.*
* Koutsoyiannis, *Modern Microeconomics.*

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| **Year:**  **First Year** | **Code:**  **PS-211** | **Marks:**  **60** | **Credits:**  **04** | **Duration:**  **Six Month** |
| **Title:** **Population Dynamics** | | | | |

**Population Dynamics**: Basic concepts of population dynamics; components of population dynamics; Concept and components of population change; Classification and description of population change.

**Fertility and It’s Measures**: Concept of fertility; Fecundity; Birth control; Marriage control; Parity; Children ever born; Fertility differentials. Factors important in the fertility analysis; Crude birth rate; General fertility rates; Cohort and period concepts in fertility rates; Specific fertility rates; Total fertility rate; Standardized rates; Cumulative fertility rate; Parity progression ratio; Marital fertility rates; Legitimate andillegitimate fertility rate; Completed fertility rate.

**Measures of Reproduction**: Gross reproduction rate; Net reproduction rate; Replacement index; Reproduction rates adjusted for age.

**Mortality and It’s Measures**: Definition and concepts of life and death; Sources of mortality data; Quality of death statistics; Factors important in the mortality analysis; Measures based on death statistics; Observed rate; Crude death rates; Cohort and period concepts in mortality rates;Monthly death rates; Specific death rates and ratios; Rates adjusted for population composition; Rates adjusted to probability basis; Measures based on pregnancy wastage; Fetal mortality; Pre-natal mortality.

**Migration and It’s Measures**: Concept, types and measures of migration; Sources of migration data and limitations; Laws of migration; Pull and push factors; Factors important in the analysis of migration; Impact of migration; Determinantsof internal and international migration; Migration streams; Migration selectivity by characteristics of migrants.

**Suggested References:**

* Barclay, G.W., (1958), Techniques of Population Analysis, Wiley.
* Bhende, Asha A. and Tara Kanitkar (2004) Principles of Population Studies, Mumbai: Himalaya Publishing House, Chapter8, Pp.241-288.
* Bogue, D.J., Arriaga, E.E., Anderton, D.L. and Rumsey, G.W., (1993), Readings in Population Research Methodology, United Nations Population Fund, Social Development Center, Chicago, Vol. 2 & 3.
* Bougue, D.J., (1969), Principles of Demography, Wiley.
* Coale, A.J. and Demeny, P., (1967), ‘Regional Model Life Tables and Stable Populations’, Cambridge University Press and Institute and Faculty of Actuaries, Vol. 93(1), pp. 152-154.
* Coale.A.J. and Demeny,P., (1983), Regional Model Life Tables and Stable Populations, Academic Press, New York.
* Cox, P.R., (1950), Demography, Cambridge University Press.
* Hinde, A., (1998), Demographic Methods, Hodder Arnold Publication.
* Keyfitz, N. and Caswell, H., (2005), Applied Mathematical Demography (Statistics for Biology and Health), 3rd Edition, Springer.
* Pressat, R., (1972), Demographic Analysis: Methods Results Applications, Aldine Atherton.
* Shryock, H.S., Seigel, J.S. and Stockwell, E.G., (1976), The Methods and Materials of Demography, Academic Press.
* Siegel, J and D.A. Swanson (2004).The Methods and Materials of Demography (Second Edition).Elsevier Academic Press, USA. Chapter15,Pp.371-405; Chapter 16, Pp.407-428;Chapter 17, Pp.429-453.
* Spiegelman, M., (1968), Introduction to Demography, Harvard University Press.

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| **Year:**  **Second Year** | **Code:**  **PS-212** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Month** |
| **Title:** **Population Distribution and Composition** | | | | |

**Population Size**: Concept of total population, population size, growth of population; Causes of rapid population growth; World population growth; Trend of world population, world population prospects, national and international practices, time reference, completeness of coverage, spatial measures and categorical measures.

**Population Distribution**: Concept of population distribution, administrative and political areas, statistical areas, national and international recommendations; Population density; Population distribution based on residence; Population distribution based on geographical area, urban-rural distribution, population by types of settlements; Methods of analysis, Center of population, concentration of population; Population distribution by the process of demographic factors, measures of residence; Characteristics and trends of population distribution.

**Population Composition**: Age and sex composition; Uses of data; Analysis of sex composition; Analysis of deficiencies in age data- Grouped data in population composition; Errors in age data; Causes of errors in age data; Age heaping; Measures-Whipple’s index, Myer’s index; Analysis of age composition- use of indexes, index of relative difference, index of dissimilarity; Population pyramid; Analysis of population pyramids; Analysis of age-sex structure by use of population models.

**Racial and Ethnic Composition**: Concept, race and ethnic groups; Ancestry versus ethnicity; International race and ethnic classification and practices analysis and measures- segregation indexes; Country of birth and citizenship, language.

**Suggested References:**

* Barclay, G.W., (1958), *Techniques of Population Analysis*, John Wiley & Sons Inc.
* Bogue, D.J., (1969), Principles *of Demography*, Wiley.
* Bogue, D.J., Arriaga, E.E., Anderton, D.L. and Rumsey, G.W., (1993), *Readings in Population Research Methodology*, United Nations Population Fund, Social Development Center, Chicago, Vol. **1**.
* Caldwell, J.C., (1976), ‘Toward a restatement of demographic transition theory’, *Population and Development Review* (Population Council), Vol. **2** (3/4), pp.321–366.
* Coale, A.J., (1972), *The Growth and Structure of Human Populations: A Mathematical Investigation*, Princeton University Press.
* Swanson, D.A. and Siegel, J.S., (2004), *The Methods and Materials of Demography*, Elsevier Academic Press.
* Shryock, H.S., Seigel, J.S. and Stockwell, E.G., (1976), *The Methods and Materials of Demography*, Academic Press.
* Spiegelman, M., (1968), *Introduction to Demography*, Harvard University Press.

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| **Year:**  **Second Year** | **Code:**  **PS-213** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Month** |
| **Title:** **Population Redistribution and Urbanization** | | | | |

**Population Redistribution**: Concept of population redistribution as a component of socio-economic development; The Lewis model for redistribution; Experience of rural-urban migration in LDC; Population redistribution in the process of demographic; Ecological; Job potential; Human settlements and diversification of public utilities influencing intra and inter-regional migration; Regional planning and population redistribution.

**Urbanization**: Concepts of urbanization and its measures; Causes of urbanization; Benefit of urbanization; Lorenz curve and Gini‟s concentration ratio; Trends in DC and LDC factors influencing urbanization trends; Implication of urbanization for demographic process; City growth; Its structure and functions; Metropolitonisation; Projection of urban populations; Urbanization and industrialization; Effects of urbanization on human health, environment and economy; Concept of over urbanization; Counter urbanization; Causes of counter urbanization; Urban poverty; Todaro model for urbanization.

**Urban Planning**: Concept, scope, nature, uses and importance of urban planning; Basic roles and principles of urban planning; Types of urban planning; Urban planning of developed and developing countries; Present and future urban planning in Bangladesh; Consequences of urban planning in developed and developing countries.

**Suggested References:**

* Barclay, G.W., (1958), *Techniques of Population Analysis*, Wiley.
* Bougue, D.J., (1969), *Principles of Demography*, Wiley.
* Demko, G.J., Rose, H.M. and Schnell, G.A., (1970), *Population Geography: A Reader*, McGraw-Hill.
* Hauser, P.M., (1972), *The Study of Population: An Inventory Appraisal*, University Press.
* Shryock, H.S., Seigel, J.S. and Stockwell, E.G., (1976), *The Methods and Materials of Demography*, Academic Press.
* Spiegelman, M., (1968), *Introduction to Demography*, Harvard University Press.
* Todaro, M.P., (1977), *Economic Development in the Third World: An Introduction to Problems and Policies in a Global Perspective*, Longman.
* Todaro, M.P., and Smith, S.C., (2006), *Economic Development*, Pearson Education.
* Martine, G., McGranahan, G., Montgomery, M., Castilla, R.F. (2008), The New Global Frontier: Urbanization, Poverty and Environment in the 21st Century, Earthscan.

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| **Year:**  **First Year** | **Code:**  **PS-214** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Month** |
| **Title:** **Introductory Statistics** | | | | |

**Introduction**

Definition, subject matter, importance of statistics in population science

**Data Collection and Presentation**

Sources of data: primary and secondary, collection of primary and secondary data, classifications of tabulation, frequency distribution, graphical representations of frequency distribution, histogram, frequency curve, frequency polygon, ogive curve

**Measures of Central Tendency**

Mean, median, mode, geometric mean, and harmonic mean from ungrouped and grouped data, weighted mean, mathematical graphical relationship among various measures of central tendency

**Measures of Dispersion**

Absolute measures-range, mean, deviation, deciles and percentiles; Relative measures of coefficient of mean deviation, coefficient of quartile deviation, moments and cumulants, skewness and kurtosis

**Probability**

Sample space, events, union and intersections of events; probability of events, additive and multiplicative laws of probability, discrete and continuous random variables, probability mass function, probability density function and distribution function

**Parent Distribution**

Binomial, poisson, geometric, normal, gamma and beta distribution

**Suggested References:**

* S.P. Gupta and M.P. Gupta (2014). *Business Statistics*. Sultan Chand & Sons New Delhi.
* D.R. Anderson, D.J. Sweeney and T.A. Williams (2010). *Statistics for Business and Economics (11th edition)*. South Western College Publication.
* R.N Shil, S.C. Debnath, *An Introduction to the Theory of Statistics.*
* Manindra Kumar Roy, *Fundamentals of Probability and Probability Distributions.*

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| **Year:**  **Second Year** | **Code:**  **PS-221** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Month** |
| **Title:** **Life Table Analysis** | | | | |

**Basic Concepts**: Cohort, radix, person-years, life span and life expectancy; Central death rates; History of life table analysis; Definition of life table; Assumptions of life tables; Different types of life tables; Life table functions and their interrelationships; Uses of life tables; Applications of life tables in population studies; Rates based on life tables; Stationary population.

**Life Table Construction:** Basic problems in constructing a life table; Strategies for choosing a set of nax values; Evaluation and adjustment of data; Graduation of mortality rates; Interpolation procedures to obtain single-year mortality rates; Reed-Merrell method, Greville’s method; Method of reference to a standard table; Construction of life tables using incomplete and survey data; Life table survival function; Calculation of life table survival rates; Decomposing a difference in life expectancies.

**Decrement Analysis**: Multiple and single decrement tables; Increment-decrement life tables; Construction of multi-state life tables; Working life table; School life table.

**Force of Mortality**: Definition; Derivation; Interrelationship between force of mortality and life table functions; Numerical evaluation of the force of mortality.**Delivery**

**Suggested References:**

* Barclay, G.W., (1958), *Techniques of Population Analysis*, Wiley.
* Bogue, D.J., Arriaga, E.E., Anderton, D.L. and Rumsey, G.W., (1993), *Readings in Population Research Methodology*, United Nations Population Fund, Social Development Center, Chicago, Vol. **1,** **2 & 3**.
* Bougue, D.J., (1969), *Principles of Demography*, Wiley.
* Coale, A.J. and Demeny, P., (1967), ‘Regional Model Life Tables and Stable Populations’, *Cambridge University Press and Institute and Faculty of Actuaries*, Vol. **93(1)**, pp. 152-154.
* Coale. A.J. and Demeny, P., (1983), *Regional Model Life Tables and Stable Populations*, Academic Press, New York.
* Cox, P.R., (1950), *Demography*, Cambridge University Press.

# Hinde, A., (1998), *Demographic Methods*, Hodder Arnold Publication.

# Keyfitz, N. and Caswell, H., (2005), *Applied Mathematical Demography (Statistics for Biology and Health)*, 3rd Edition, Springer.

* Pressat, R., (1972), *Demographic Analysis: Methods Results Applications*, Aldine Atherton.
* Preston, S.H., Heuveline, P. and Guillot, M. (2001), Measuring and Modeling Population Processes, Blackwell Publishers.
* Shryock, H.S., Seigel, J.S. and Stockwell, E.G., (1976), *The Methods and Materials of Demography*, Academic Press.
* Spiegelman, M., (1968), *Introduction to Demography*, Harvard University Press.

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| **Year:**  **Second Year** | **Code:**  **PS-222** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Month** |
| **Title:** **Maternal and Child Health** | | | | |

**Maternal Health:** Concept and Definition; Ante-natal Care: Definition, Regime and Importance; Common Problems of Pregnancy; Natal Care: Place of Delivery, Natal and Post-natal Cares; Abortion: Legal and Illegal Abortions, Safe and Unsafe Abortions.

**Maternal Mortality:** Concept, Measurement, Causes and Consequences; Reproductive Health: Definition, Gynaecological, Abortion and Contraceptive related Morbidity; Consequences of Reproductive Morbidity; Infertility: Causes and Consequences.

**Child Health:** Concept and Definition; Infant and Child Mortality: Definition, Causes and Consequences; Mosley-Chen Framework of Infant Mortality; Child Health Problems: Diarrhea, Measles, Respiratory Infection, Malnutrition; Infant and Child Health Scenarios in Odisha; Breast Feeding: Concept and Importance.

**Child Immunization:** Meaning, Importance, Regime and Barriers, State of Immunization in Odisha; Role of NGOs and Mass-media in Universal Immunization; ICDS for Child Health; Role of NRHM in Child Health; MDGs in view of Child Health; Influence of Family Structure in Child Rearing.

**Suggested References:**

* Boler, T., C. Marston, N. Corby and E. Gardiner (2009), *Medical Abortion in India: A Model for the Rest of the World?*, Marie Stopes International, London.
* Das Gupta, Monica, Lincoln C. Chen and T. N. Krishnan (eds.) (1996), *Health, Poverty and Development in India*, Oxford University Press, Delhi.
* Deshprabhu, Rashmi (2001), *Child Development and Nutrition Management*, Book Enclave, Jaipur. Nanda, V. K. (2008), *Nutrition and Health for Child Development*, Anmol Publications, New Delhi.
* Park, K. (2009), *Text Book of Preventive and Social Medicine*, Banarsidas Bhanot Publishers, Jabalpur.
* Siegel, Jacob S. and David A. Swanson (eds.) (2004), *The Methods and Materials of Demography*, Elsevier Academic Press, San Diego.
* Srinivasan, K. (1998), *Basic Demographic Techniques and Applications*, Sage Publications, New Delhi.
* United Nations (1973), *The Determinants and Consequences of Population Trends*, Vol. I, Department of Economic and Social Affairs, New York.

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| **Year:**  **Second Year** | **Code:**  **PS-223** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Month** |
| **Title:** **Population and Environment** | | | | |

**Introduction**: Concepts of environment; Man-environment relationship; Ecosystem; food-webs; Food chain; Food supply; Weather and climate.

**Resource**: Concept of resource; Land; Water; Forest; Mineral and energy resources.

**Environmental Degradation**: Concept of degradation; Cause of environmental degradation; Population growth; Deforestation; Agriculture development; Industrial development; Urbanization; Modern productive technology and environmental degradation.

**Extreme Event, Hazards and Disaster**: Environmental hazards and disaster; Natural hazards and disasters-earthquakes floods and tropical cyclones and local storms; Man-induced hazards; Social response to hazards and natural disaster reduction and management.

**Environmental Pollution**: Concept of environmental pollution; Air; Water; Noise pollution; Solid wastes; Pollution by heavy metals (Lead, Mercury, Cadmium, Arsenic) radiation; Soil pollution (Fertilizer, Parasites, Insecticides); Effect of human activity and global cycles: Green house effect, Acid rain, Carbon, Nitrogen and phosphorus cycles.

**Environment and Society**: Environmental problems in LDC and DC's; Measuring environmental disruption and impact; Environment and problems of population illiteracy, Poverty and cultural factors; Environment and economics; Environment and urban growth; Resource and environmental stress for DC and LDC; Problems of transfer of technologies; Environment problems in Bangladesh and policy impact of population growth.

**Suggested References:**

* Boserup, E., (1976), ‘Environment, Population and Technology in Primitive’, *Population and Development Review*, Vol. **2**, pp.21-36.

# Davis, K. and Bernstam, M.S., (1991), ‘Resources, environment, and population: present knowledge, future options’, *Population and Development Review Supplements*, Vol. 16, Population Council.

* Dobkowski, N.M. and Wallimann, I.(ed.), (2002), On The Edge of Scarcity: Environment, Resource, Population, Sustainability and Conflict, Syracuse University Press.
* Ehrlich, P.R. and Ehrlich, A.H., (1970), *Population Resources Environment: Issues in Human Ecology*, Freeman.
* Ehrlich, P.R. and Ehrlich, A.H., (1970), *The Population Explosion*, Simon & Schuster.
* John, B., (1992), ‘Population Growth and Global Warming’, *Population and Development Review*, Vol. **18(2)**, pp.299-319.
* Repetto, R.C., (1987), *Population, Resources, Environment: An Uncertain Future*, Population Reference Bureau.
* Simon, J.L. (ed.) (1996), *Population Matters: People, Resources, Environment and Immigration*, Transaction Publishers.

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| **Year:**  **Second Year** | **Code:**  **PS-224** | **Marks:**  **100** | **Credits:**  **03** | **Duration:**  **Six Month** |
| **Title:** **Theory of Statistics** | | | | |

**Introduction**: Concept of observation, data, database and variable; Types of data and variables; Concepts of correlation, regression and rank correlation.

**Sampling Distributions**: Distribution of sample statistics; Study of chi-square, *F* and *t* distribution and their properties, uses and applications.

**Hypothesis testing**: Introduce hypothesis testing; Hypothesis testing for a single mean; z and t tests for a single mean; F test; p-values.

**Attributes**: Definition; Association; Measure of association; Association in contingency tables; Test of association for *2×2* and *r ×c* contingency table.

**Fisher’s exact tests, chi**-**squared tests**: Introduce Fisher’s exact test; Chi-squared test for equivalence of two binomial proportions; Chi-squared tests for independence; Chi-squared tests for goodness of fit.

**Sampling and Sample Design**: Concept of sampling; Types of sampling; Sampling techniques; Design weight; Design effect; PPS sampling.

**Suggested References:**

* Cox, D.R., (2006), Principles of Statistical Inference, Cambridge University Press.
* Hogg, R.V., McKean, J.W. and Craig, A.T., (2012), Introduction to Mathematical Statistics, 7th edition, Prentice Hall.
* Mood, A.M., Graybill, F.A. and Boss, D.C., (1974), Introduction to the Theory of Statistics, 3rd edition, McGraw-Hill.
* Moore, D., McCable, G.P. and Craig, B., (2012), *Introduction to the Practice of Statistics*, 7th edition, W.H. Freeman.
* Utts, J.M. and Heckard, R.F., (2007), Mind on Statistics, 3rd edition, Thomson, Brooks/Cole.
* Weiss, N.A., (2008), Elementary Statistics, 7th edition, Greg Tobin.

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| **Year:**  **Second Year** | **Code:**  **PS-311** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Month** |
| **Title:** **Population Estimation and Projection** | | | | |

**Population Estimates**: General considerations; Nature and use of population estimates; Type of population estimates; Intercensal estimates; Postcensal estimates; Conjectural estimates; National & international programs of population estimates; Some estimating principles; National estimates; Total population; Component method; Use of national sample and registrations; Estimates based on extremely limited data; Assumed rates of growth; Age-sex composition; Cohort-component method; Mathematical methods; The forward & reverse survival procedure; Censal-ratio and ratio-correlation method; Composite method; Evaluation of population estimates; Demographic estimates.

**Population Projections**: The nature and use of population projections; Types of population projections; The framework of assumptions and combination of assumptions; Length of projection period; National projections of total population and age-sex composition; Mathematical methods; Component methods; Period-fertility method; Cohort-fertility method; Sub-national projection of total population and age-sex composition; Evaluation of projections.

**Suggested References:**

* Barclay, G.W., (1958), *Techniques of Population Analysis*, John Wiley & Sons Inc.
* Bogue, D.J., (1969), Principles *of Demography*, Wiley.
* Bogue, D.J., Arriaga, E.E., Anderton, D.L. and Rumsey, G.W., (1993), *Readings in Population Research Methodology*, United Nations Population Fund, Social Development Center, Chicago, Vol. **1-8**.

# Carrier, N., (1971), Demographic estimation for developing societies: A manual of techniques for the detection and reduction of errors in demographic data, London School of Economics, Population Investigation Committee.

* Shryock, H.S., Seigel, J.S. and Stockwell, E.G., (1976), *The Methods and Materials of Demography*, Academic Press.
* Spiegelman, M., (1968), *Introduction to Demography*, Harvard University Press.
* Swanson, D.A. and Siegel, J.S., (2004), *The Methods and Materials of Demography*, Elsevier Academic Press.

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| **Year:**  **Second Year** | **Code:**  **PS-312** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Month** |
| **Title:** **Population Theory** | | | | |

**Biological Theories of Population**: Malthusian theory of population; Malthusian trap; Jouse De Castro’s theory; Thomas Doubleday’s theory; Herbert Spencer’s theory; Pearl and Reed’s logistic curve theory, Sadler’s theory.

**Social and Economic Theories of Population**: Marxian theory of surplus population; Neo-Marxist theory and critique of economic development; Henry George’s theory; Dumont ‘s social capillarity theory, Fetter’s voluntarism; Principle of individuality by Nitti, Brento’s theory of increasing prosperity, Ungern Strenberg’s theory of rationalism, Leibenstein’s theory, Becker’s theory of fertility, Easterlin’s theory of fertility, John Caldwell’s theory of intergenerational wealth flows.

Optimum theory of population; Theory of demographic transition; Demographic dividend; Micro-economic theory of fertility; Demand for children in Less Developed Countries; Determinants of food demand; Population and affluence; The new international economic order.

**Trade Theory**: Trade theory and development conflict; Trade-offs and choice among the alternative policies and competing objectives; Unemployment; Resource under utilization and surplus theory of trade.

**Suggested References:**

* Brenner, Y.S., (1966), *Theories of Economic Development and Growth*, Praeger.
* Caldwell, J.C., (1976), ‘Toward a Restatement of Demographic Transition Theory’, *Population and Development Review*, Vol. **2** **(3-4)**, pp. 321-366.
* Easterlin, R.A., (1980), *Population and Economic Change in Developing Countries*, Chicago University Press.
* Grible, J.N. and Bremner, J., (2012), “Achieving a Demographic Dividend”, *Population Bulletin, Population Reference Bureau*, Vol. **67 (2)**.
* Ronald, F., (1979), ‘Economic development and the theory of international trade’, *American Economic Review Proceedings,* Vol. **69(2)**, pp. 186-190.
* Keyfitz, N., (1972), Population Theory and Doctrine: A Hospital Survey in Petersen, William (editor), *Readings in Population*, New York.
* Kreager, P., (1991), “Early Modern Population Theory: A Reassessment”, *Population and Development Review*.
* Todaro, M.P., (1977), *Economic Development in the Third World*, 3rd edition, Longman.
* Todaro, M.P. and Smith, S.C., (2002), *Economic Development*, 8th edition, Pearson Education.
* Teitelbaum, M.S., (1975), ‘Relevance of Demographic Transition Theory for Developing Countries’, *Science*, Vol.**188**.
* UN, (1978), The Determinant and Consequence of Population Trends
* UN, (1978), The Population Debate: Dimensions and Perspectives, vols. I & II.
* UN, (1989), Population and Development – Asian Population Studies, Series No. 82, 88, 92.

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| **Year:**  **Third Year** | **Code:**  **PS-313** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Months** |
| Title: Health and Nutrition | | | | |

**Health**: Concepts of health; Health dimensions; Determinants of health; Health service system; Health care with its levels; Chronic and acute conditions; Measurements of disability; Impairments; Hospital administration and statistics; Morbidity concept and measures; Problems with incidence and prevalence measurements; Diseases and their classifications; Multiple causation of disease, Concept of mental health, Characteristics of a mentally healthy person, Warning signals and causes of poor mental health; Concept of public health, Social medicine and community medicine; Concept of healthy life expectancy; Public health in Bangladesh; Health administration in Bangladesh; Concept of International Classification of Diseases; Concept of International Classification of Functioning, Disability and Health; Sustainable Development Goals.

**Nutrition**: Concepts of food and nutrition; Classification of foods; Food hygiene; Food borne diseases; Food fortification; Adulteration of foods; Balanced diets; Constituents of nutrition’s nutritional classification: carbohydrate-protein-vitamins-minerals-fats and their sources, functions and effect of deficiency and prevention; Ranges of population nutrients intake goals; Gglycaemic index; Measurements of nutritional status: underweight, stunting and wasting; Body Mass Index; z-score; Gomez and Waterloo classification in nutritional measurement; Standard scales in nutritional measurements; Effects of nutrition on fertility; Nutritional aspects of human lactation; Nutrition profile: Bangladesh.

**Suggested References:**

* Bell, D.E. and Reich, M, (1988), *Health, Nutrition and Economic Crises: Approaches to Policy in the Third World*, Auburn House Publishing Company.
* Edelstein, S., (2011) Nutrition in Public Health, Jones & Bartlett Learning.
* Mosley, W.H., (1977), *The Effect of Nutrition on Natural Fertility*, Cholera Research Laboratory, Scientific Report, No. **3**.
* Passmore, R., Nicol, B.M., Rao, M.N., Beaton, G.H. and Demayer, E.M., (1974), *Handbook of Human Nutritional Requirements,* FAO and WHO.
* Spiegelman, M., (1968), *Introduction to Demography*, Harvard University Press.
* Thomson, A.M. and Black, A.E., (1975), *Nutritional Aspect of Human Lactation*, Bull, WHO, Vol. **52**.

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| **Year:**  **Second Year** | **Code:**  **PS-314** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Month** |
| **Title:** **Labour Force and Manpower Planning** | | | | |

**Introduction**: Basic concept and definitions of economically active population; Working force; Labour force; Job characteristics; Employed persons; Unemployed persons; Occupation; Industry; Class of worker; Labour mobility and its classification; Sources of data; Collection of working population data; Income and lifetime earnings.

**Labour Force**: Dimensions; Trends and patterns of population in labour force; Factors affecting labour force; Problem of labour force; Child labour; Female labour force participation; Problem of female labour force; Older worker; Garments labour force; Seasonal unemployment and its consequences.

**Labour Force Structure**: Structure of labour force based on Industry; Occupation and status.

**Measures of Economic Activity**: Crude activity rate; General activity rate; Sex specific activity rate; Age-sex specific activity rate; Age-sex adjusted or standardised activity rate; Dependency ratio; Replacement ratio and rates for working ages; Measures of employment rate; Unemployment rate; Proportion fully employed; Proportion unemployed; Labour force participation rates; Labour turnover; Accession and separation rates; Ggross labour force change; Dynamic of labour force; Working life tables.

**Manpower Planning**: Concept of manpower and its planning; Manpower planning process; Job analysis; Job description; Job specification; Helpful tools of manpower planning process; Manpower utilization; Information for manpower planning; Statistical analysis of manpower planning; Developing manpower plans; Labour market analysis; Workforce analysis; Manpower forecasting; Measures of planned manpower; Models of manpower forecasting.

**Suggested References:**

* Bartholomew, D.J., (1976), *Manpower Planning: Selected Readings*, Penguin.
* Grinold, R.C. and Marshall, K.T., (1977), *Manpower Planning Models*, North-Holland Publications.
* Ofosu, Y. and Farooq, G.M., (1992), Population, Labour Force and Employment: Concepts, trends and policy issues, International Labour Organisation.
* Shryock, H.S., Seigel, J.S. and Stockwell, E.G., (1976), *The Methods and Materials of Demography*, Academic Press.
* Spiegelman, M., (1968), *Introduction to Demography*, Harvard University Press.
* Vajda, S., (1978), *Mathematics of Manpower Planning*, Wiley.
* Walker, J.W., (1980), *Human Resource Planning*, McGraw-Hill.

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| **Year:**  **Third Year** | **Code:**  **PS-321** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Months** |
| Title: Population Policies and Programs | | | | |

**Population Policies**: Concept of population problems and population policies; Framework of a population policy; Elements of population policy making; Role of population data collection in policy-making. population influencing policy; Population responsive policies; Awareness of national and international population policies; Population policies relating to fertility and population growth; Mortality and mobility; Migration and urbanisation; Population redistribution and settlement; Manpower and employment; Family; Role of women; Children and aged population policies and development policies; Population and development integrated policy; Population policies of Bangladesh- past and present.

**Population Programs**: World population plan of action (1974) its objectives and main features; programme to regulate and control fertility through family planning; abortion; increase in age at marriage; pronatalist program; Anti-natalist program; Success and limitation of relevant programs in some countries; Millennium Development Goals (MDG).

**Population Issues**: Population Aging; Gender issues: Equity, Equality and Empowerment of women, Reproductive right; Arsenic issue (should be excluded); Population and Environmental issues (should be excluded); Poverty reduction strategic programs (PRSP).

**Population Planning**: Planning and the role of population demographic consideration in planning. Planning for education, health and housing, population control and family planning programmes. Projections in planning population and development integration: Experience from different countries. Framework for population and development research and planning.

**Suggested References:**

* Barclay, G.W., (1958), *Techniques of Population Analysis*, Wiley.
* Bougue, D.J., (1969), *Principles of Demography*, Wiley.
* Demko, G.J., Rose, H.M. and Schnell, G.A., (1970), *Population Geography: A Reader*, McGraw-Hill.
* Hauser, P.M., (1972), *The Study of Population: An Inventory Appraisal*, University Press.
* Shryock, H.S., Seigel, J.S. and Stockwell, E.G., (1976), *The Methods and Materials of Demography*, Academic Press.
* Spiegelman, M., (1968), *Introduction to Demography*, Harvard University Press.
* Todaro, M.P., (1977), *Economic Development in the Third World: An Introduction to Problems and Policies in a Global Perspective*, Longman.
* Todaro, M.P., and Smith, S.C., (2002), *Economic Development*, 8th edition, Pearson Education.

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| **Year:**  **Third Year** | **Code:**  **PS-322** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Months** |
| Title: Business Demography | | | | |

Population as a marker for consumer goods and labour market. Population dynamic and itsimplications for change in the size and composition of market. Relevance of applied demography to business organization, Importance of the subject in the context of globalization and privatization.

Basic concepts in marketing: Definition of market, evolution of marketing, role and function of marketing, importance of products, place, prices and promotion in marketing activities. Marketing Strategies need to understand life style and consumer behavior need to understand life style and consumer demographics–importance in market research.

Market Survey, Marketing Research Process. Problem formulation, research design, sampling, data collection methods, analysis and interpretation of data, casa studies for some products.

Market forecasts, population projections, projection for smaller areas and for market segments, family life cycle, household projections, future market of products related to food, education, housing and health etc. Market for products and activities related to children, youth and aged. Gender specific needs.

**Suggested References:**

* Cheryl Russell, (1984): The Business of Demographics, Population Bulletin (PRB) Vol 38, No 3.
* Thomas W. Merrick and Stephen J.Tordella, (1988): Demographic : People and Markets. population Bulletin (PRB) Vol 43, No 1, pp 48.
* Singh Nirmal, Devendra Thakur, (2003): marketing Principles and Techniques, Second
* Revised edition, Deep and Deep Publications Private Limited. Chapter 5, pp 53-76.
* Kotler Phillips and Gary Armstrong, (1995): Principles of marketing, 6th Edition., Prentice-Hall of India Private limited.
* S.L.Rao, (1996): Consumer Markets in India- The Second Phase of Consumer Demand, Paper Presented at the FICCI Seminar of Consumer Markets in India, New Delhi
* Kulkarni Sumati, (001): Utilization of Demographic Database to understand consumer
* market in India, paper presented at business demography session at the annual meeting of the PAA, Washington D.C
* Pol, Lousi B, (1987): Business Demography: A Guide for Business Planners and Marketers, (West porter: Greenwood Press), Westporter
* Boyel, H.R; West Fall and S.Stasch, (1988): Marketing Research: Text and cases,
* Homewood Illlionis: Richard Irwin Inc. IllLionis and Delhi: All India Traveler Bookseller Chapters 1 and 20
* NCAER, India Market Demographics Report, 1998
* Monga G.S. and Shalini Anand (2003): Marketing management.
* Kotler Phillip, (1972): Marketing Management, Analysis, Planning and Control, Prentice-Hall of India Private limited, Second Edition, New Delhi, pp 165-225.

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| **Year:**  **Third Year** | **Code:**  **PS-323** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Months** |
| Title: [Fundamentals of Occupational Safety and Health](http://www.ebooksdownloads.xyz/search/fundamentals-of-occupational-safety-and-health) | | | | |

**Occupational safety and health (OSH)**

Definition, importance, scope and purpose; variation in performance, major OSH instruments, core OSH principles.

**National policy, system and programs**

Policy formulation and review, policy instruments, national laws, labour codes and regulations, role and obligations of the competent authority, policy coordination, education and training, key elements of national OSH system, steps of national program.

**OSH policy within the enterprise**

General framework, employers’ responsibilities, workers duties and rights, safety and health committees.

**Management of OSH**

Management commitment and resources, workers’ participation, training, organizational aspects: setting priorities, planning and development activities, place of OSH management in enterprise, performance measures, the OSH management cycle.

**Operational measures**

Legislation, enforcement and collective agreements; occupational health and surveillance, occupational health service.

**HIV/AIDS and the world of work**

Fundamental principles; health service and HIV/AIDS; capacity building; treatment, care and support; ILO/WHO guidelines on health service and HIV/AIDS.

**Preventive and protective measures**

General considerations, engineering and housekeeping; substitution; work practice and organizational methods; personal protective equipment, technological change, protection of the general environment.

**Health promotion, education and training**

Promotion of OSH, training and information at the national levels, training and information at the enterprise level, training methods and materials, international chemical hazard communication tools.

**Suggested References:**

* Benjamin O. Alli (2008), *Fundamental Principles Of Occupational Health and Safety*, International Labour Office, Geneva.
* Mark A. Friend, James P. Kohn (2014), *Fundamentals Of Occupational safety and Health,* Bernan Press.
* David L. Goetsch (2014), Occupational Safety and Health for Technologist, Engineers, and Managers, amazon.com.

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| **Year:**  **Third Year** | **Code:**  **PS-324** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Months** |
| Title: Demographic Techniques (Practical) | | | | |

1. Calculation of rates, ratios, proportions and probabilities.
2. Calculation of growth rate by using various formulas.
3. Calculation of different types of fertility, mortality and migration rates.
4. Spatial measures of population.
5. Evaluation of preferences indexes for terminal digits- Myers’ index, Whipple’s index.
6. Evaluation of Age-Sex Accuracy Index.
7. Computation of Single Decrement Table.
8. Computation of School Life Table.
9. Computation of Working Life Table.

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| **Year:**  **Third Year** | **Code:**  **PS-411** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Months** |
| Title: Gender Issues in Population Studies | | | | |

**Basic terms and concepts**

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. Definitions, Concepts and Terminologies: gender, unequal gender relations, gender equity, gender disparities, gender inequalities, gender main streaming, gender sensitive planning and gender balance. Patriarchy and matriarchy, kinship structure and gender roles; gender stratification in traditional and modern societies.

**Autonomy, Empowerment and Status of Women**

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: Inter-linkages.

**Social Institutions and Gender Inequalities**

Gender and social institutions in India: Religious, Caste, 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. 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 in employment, education, in important decision making process and in workplace, undercounts of women’s work in GDP. Gender disparities in access to resources- practice to relating to property inheritance, political representation, and female headship.

**Policies and Programmes for Addressing Gender Disparities**

Gender and mass media: Language, image and portrayal of women in different mass media and the changes over the time. National programmes, policies and laws for empowerment of women.

**Suggested References:**

* Basu, Alaka M., (1992): *Culture*, *The Status of Women and Demographic Behaviour*, Oxford University, New York.
* Dyson, Tim and Mick Moore, (1983). “On Kinship structure, female autonomy, and demographic behaviour in India”, *Population and Development Review* vol. 9(1), pp. 35-60.
* Ellsberg Mary and Heise Lori L. (2005) *Researching violence against women: A practical guide for researchers and activists*. WHO and Path, Washington D.C.
* Folbre, Nancy. (1992). Improper arts: Sex in classical political economy. *Population and Development Review*. 18(1): 105-112.
* Gita Sen, Adreinne Germain and Lincoln C. Chen, (Eds.), (1994): *Population Policies Reconsidered: Health and Empowerment and Rights*, Harvard University Press, Harvard.
* Jeffery Patricia and R. Jeffery. 1997. *Population Gender and Politics: Demographic change in rural north India.* Cambridge University, Cambridge.
* Miller, Barbara, D.(ed) (1993) *Sex and Gender Hierarchies*, Cambridge University Press, New York.
* Hess, B.B. and M.M. Ferree. (1987). *Analyzing Gender: A Handbook of Social Science Research*. Sage Publication, London.
* United Nation. 2001. *Population, Gender and Development: A Concise Report*. UN, Economic and Social Affairs (Dept. of), New York.
* World Health Organization. (1998). *Gender and Health. Technical paper* WHO/FRH/WHD/98. (Website: [www.who.int](http://www.who.int))
* World Bank. (1991). *Gender and Poverty in India*. World Bank, Washington.
* World Health Organization *(2003): Comparative Evaluation of Indicators for Gender Equity and Health*, Women and Health Programme, Centre for Health Development, Kobe, Japan.
* William Joan. 1989. Deconstructing Gender, 87 Michigan L Rev. 797. *Law Journal Article*

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| **Year:**  **Third Year** | **Code:**  **PS-412** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Months** |
| Title: Demographic Dividend and Population Aging | | | | |

**Demographic Dividend:** Concept, Measures, Conditions, Types of dividend, Stages of Demographic Dividend, Demographic Transition and demographic dividend, Opportunities of demographic dividend,barriers to a demographic dividend,realizing demographic dividend, age structure and its changes, policies needed to take advantage of the demographic dividend, Demographic dividend in the context of Bangladesh.

**Ageing of Population**: Concepts and measures of population ageing; components of population ageing; Inter-relationship between population ageing, population ageing and momentum of population growth, Factors determining ageing trends and patters; ageing and life expectancy;Ageing and disabilities; trends and prevalence; ageing and injuries,Population ageing and Labour Force: Implications of population ageing on labor force, Population ageing trends and patterns in developed and developing countries;Population ageing trends and patterns in Bangladesh ;

**Suggested References:**

* Matin, A.M. (2012), *The Demographic Dividend In Bangladesh: An Illustrative Study,*Dhaka, Bangladesh.
* Matytsin, M., Moorty, L. and Richter, K. (2015), From Demographic Dividendto Demographic Burden? World Bank Group.
* United Nations (1994), *Ageing and the Family*, United Nations, New York
* United Nations (1998), *Economic and Social Implications of Population Ageing*, Department of International Economic and Social Affairs, UN, New York.
* United Nations (2001): *Living Arrangements of Older Persons: Critical Issues and Policy Responses*. Population Division, Department of Economic and Social Affairs, Special Issue Nos. 42/43, 2001, New York. UNFPA, 2001, Population Ageing and Development: Social, Health and Gender Issues, United Nations, Malta.
* Bloom, D.E., D. Canning, et.al. (2002): *The Demographic Dividend: A New Perspective on the Economic Consequences of Population Change.* Santa Monica, CA, RAND.
* Bose, A.B. (2006). *Social Security for the Old. New Delhi*: Concept Publishing Company.
* Mason, A. (2000). *Population Change and Economic Development in East Asia: Challenges Met, Opportunities Seized*. Stanford: Stanford University Press.
* Linda J. Waite (ed.) (2004) *Aging, Health, and Public Policy: Demographic and Economic Perspectives*, Supplement to Population and Development Review
* *Social Security for the Elderly Experiences from South Asia,* Routledge, New Delhi. IrudayaRajan, (2007)
* Prskawetz, Bloom, and Lutz, eds., 2008 *Population Aging, Human Capital Accumulation, and Productivity Growth,* A Supplement to Population and Development Review.
* Sandra Gruescu, (2006), *Population ageing and economic growth.* Physica-Verlag
* Heslop A (1999), *Ageing and Development*, Social Development Working Paper: 3, Help Age International.
* M. Alam (2004). Ageing, old age income security and reforms: An exploration of Bangladesh n situation. *Economic and Political Weekly*, 39(33): 3731-3740.
* Pool, Ian, Laura R. Wong and Eric Vilquin (ed) (2006), *Age-structural transitions: challenges for development*. Paris: CIRCRED.

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| **Year:**  **Third Year** | **Code:**  **PS-413** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Months** |
| Title: Research Methodology | | | | |

**Fundamentals of Research**: Definition; Method and methodology; Objectives of research; Types of research; Characteristics of research; Desirable qualities of research; Areas of research; Research hypothesis; Research questions; Research objectives; Operational definition; Ethics in research.

**Research Process**: Problem identification; Literature review; Objectives; Hypothesis; Research design; Sample design; Data collection; Data processing: Data coding, Data editing, Data analysis and report writing.

**Measurement, and Reliability and Validity in Measurement**: Level of measurement: Nominal scale, Ordinal scale, Interval scale, Ratio scale; Measurement error; Reliability and its measurement; Standard error in measurement; Validity and its measurement; Constructing measurement scales.

**Data Collection**: Data collection; Sampling error; Non-sampling error; Measurement error; Quantitative data collection techniques; Qualitative data collection techniques; Additional data collection techniques: Nominal group technique (NGT), Delphi technique, Life histories, Essays, Case studies, Mapping, Rapid appraisal techniques or soundings, Panel study and key informal approach; Data quality check.

**Questionnaire and its Construction**: Questionnaire; Schedule; Observational check-list; Content of questions; Types of questions; Steps involved in designing a questionnaire; Pre-testing; Post enumeration check; Statistical methods to control the quality of data.

**Application of Statistical Tools in Research**: Central tendency; Dispersion; Measures of shape; Correlation; Regression; Contingency analysis; Different types of tests.

**Developing Proposal and Report Writing**: Proposal development; Components of a proposal; Evaluation of proposal; Report writing.

**Suggested References:**

* Kothari, C.R., (2004), *Research Methodology: Methods and Techniques*, New Age International (P) Limited, Publishers.
* Panneerselvam, R., (2004), *Research Methodology*, Prentice-Hall of India Private Limited.
* Bausell, R.B., (1991), *Advanced research methodology: an annotated guide to sources*, Scarecrow Press.
* Benz, C.R. and Newman, I., (1998), *Qualitative-qualitative Research Methodology: Exploring the Interactive Continuum*, Southern Illinois University.
* Dr. M. Nurul Islam (2015), *An Introduction to Research Methods*, Mullick & Brothers, Dhaka, Bangladesh.

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| **Year:**  **Fourth Year** | **Code:**  **PS-414** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Months** |
| Title: Computer Application in Social Research (Practical) | | | | |

**Software in social science research:** Name of different software in social science research, their basic concept.

**SPSS**:

1. Create electronic forms using MS-Excel/SPSS.
2. Create databases using the Statistical Software for the Social Sciences (SPSS) packages.
3. Perform raw data entry using SPSS
4. Recode data variables in SPSS.
5. Transfer data from Microsoft Excel format to SPSS.
6. Analyze data using SPSS.
7. Describe how the public health information infrastructure is used to collect, process, maintain, and disseminate data.
8. Describe how societal, organizational, and individual factors influence and are influenced by public health communications.
9. Discuss the influences of social, organizational and individual factors on the
10. Use of information technology by end users.
11. Collaborate with communication and informatics specialists in the process of design, implementation, and evaluation of public health programs.
12. Demonstrate effective written and oral skills for communicating with different audiences in the context of professional public health activities.
13. Use information technology to access, evaluate, and interpret public health data.
14. Use informatics methods and resources as strategic tools to promote public health.
15. Use informatics and communication methods to advocate for community public health programs and policies.
16. Apply legal and ethical principles to the use of information technology and resources in public health settings.

**Stata:** Basic use of Stata under the above mentioned perspective.

**Statistical Package R:** Basic use of **R** under the above mentioned perspective.

**Suggested References:**

* **French**, C.S., (1996), *Computer Science*, Thomson Learning. Fifth Edition.
* **Warford**, J.S., (2010), *Computer Systems*, Jones and Bartlett Publishers. Fourth Edition.
* Gottfried, B.S., (1996), *Theory and Problems of Programming with C*, Schaim‟s Outline Series, McGraw-Hill. Second Edition.
* Balagurusamy, E., (2011), *Programming in ANSI C*, Tata McGraw-Hill. Fifth Edition.
* Doornik, J.A. and Ooms, M., (2006), *Introduction to Ox*.
* Sinha, P.K. and Sinha, P., (2004), *Computer Fundamentals*, BPB Publications. Sixth Edition.
* Owen, W.J. (2010)*, The R Guide*, Department of Mathematics and Computer Science, University of Richmond.
* Venables, W.N., Smith, D.M. and R Development Core Team, (2013), *An Introduction to R,* Network Theory.

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| **Year:**  **Third Year** | **Code:**  **PS-421** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Months** |
| Title: Fundamentals of 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.

**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.

**Using epidemiology to identify the cause of disease**: Cohort studies – design, types of cohort studies, potential biases in cohort studies, when cohort study warranted?; Case-control study – design, selection of cases and controls, problems in control selection, matching, problems of recall, use of multiple controls, when case control study warranted, nested case-control study; cross-sectional studies.

**Suggested References:**

* ***Last J M***: A Dictionary of Epidemiology, ed. 2. New York, Oxford University Press, 1988.
* ***Bonita R, Beaglehole R, Kjellstrom T:*** Basic Epidemiology, ed. 2. World Health Organization, 2006.
* ***Park LE, Park K***: Textbook of Preventive and Social Medicine. Jabalpur, Banarasidas Bhanot, 1986.
* ***Dunn G, Everitt B***: Clinical Biostatistics: An Introduction to Evidence-based Medicine. Edward Arnold, 1995.
* ***Friedman L M, Furberg C D, DeMets D L***: Fundamentals of Clinical Trials. Boston, PSG, 1982.
* ***MacMahon B, Pugh T F***: Epidemiology: Principles and Methods. Boston, Little Brown, 1970.
* ***Gordis L***: Epidemiology, ed. 3. Philadelphia, 2004.
* ***Rosner B***: Fundamentals of Biostatistics, ed. 6, 2006.
* ***Altman D G***: Practical Statistics for Medical Research, London: Chapman and Hall, 2006.
* ***Samuels M L, Witmer J A:*** Statistics for the Life Sciences, ed. 3. Prentice Hall, 2002.
* ***United Nations Department of Economic and Social Affairs***: Designing Household Survey Samples. United Nations, 2005.
* ***Family Health International:*** Behavioral Surveillance Surveys. Family Health International, 2000.
* ***Lee E T:*** Statistical Methods for Survival Data Analysis, ed. 2. New York, John Wiley & Sons.
* ***Goldstein H:*** Multilevel Statistical Model. London, Institute of Education, 1999.
* ***Murray C J L, Chen LC:*** Understanding morbidity change. In Arthur Kleinmann and Norma C Wane (eds.) Health and Social Change in International Perspective, Harvard Series on Population and International Health, March 1994.
* ***Pocock S J:*** Clinical Trials: A Practical Approach. Michigan, Wiley Medical Publication, 1983.
* ***Everitt B S, Pickles A:*** Statistical Aspects of the Design and Analysis of Clinical Trials, ed. 2. London, Imperial College Press.

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| **Year:**  **Fourth Year** | **Code:**  **PS-422** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Months** |
| Title: Reproductive Rights and Reproductive Health | | | | |

**Reproductive Health**: Definition and rationale of RH approach, Evolution of ideas about reproductive health, Components of RH and life cycle approach of RH, Recommendations from ICPD, male and female reproductive system; Conception, pregnancy, customs, and taboos related to menstruation and puberty in different societies, maternal morbidity, safe motherhood programmes, emergency obstetric care , cultural practices during pregnancy, childbearing and its impact on health of women, effects of maternal death on family, strategies to reduce maternal morbidity and mortality.

**Family Health:** Men’s and women’s reproductive health services , men’s role in women’s health, strategies to reaching out to men.

**Reproductive rights and ethical issues:** Human rights and values, ethical values in RH services; information, liberty of choice, Professional and ethical issues.

**Infertility** : Methodological issues in measurement of infertility, sexual dysfunction, behavioural risk factors, and consequences, Assisted reproductive technologies and its use and misuse; component of infertility in government programmes.

**Suggested References:**

* **Berer**, M., **(2000): *Making Abortions Safe: A Matter of Good Public Health Policy and Practice*, Bulletin, WHO, Vol. 78(5), pp. 590-592.**
* **Bott, S. et al** (Eds. 2003): *Towards Adulthood: Exploring the Sexual and Reproductive Health of Adolescent in South Asia*, World Health Organization, Department of Reproductive Health and Research, Geneva.
* **Pachauri, S.** (Eds. 1999): *Implementing a Reproductive Health Agenda in Bangladesh : The Beginning,* New Delhi ; Population Council.
* **Rutsein, Shea, O. and Shah, Iqbal, H.** (2004): *Infecundity, Infertility, and Childlessness in Developing Countries.* DHS Comparative Reports No.9. Calverton, Maryland, USA ORC Macro and the World Health Organization.
* **Srinivasan, K.** (Eds. 1996): *Population Policy and Reproductive Health*, New Delhi; PFI and Hindustan Publications.
* **Verma, R., P.J. Pelto, S.L. Schenshul, and A. Joshi** (Eds. 2004): *Sexuality in the Times of AIDS: Contemporary Perspectives from Communities in Bangladesh* , New Delhi; Sage.
* **World Health Organization,** (1990): *Measuring Reproductive Morbidity”,* Report of a Technical Working Group, Geneva, August 30-September1, 1989, WHO/MCH/90.4.

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| **Year:**  **Fourth Year** | **Code:**  **PS-423** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Months** |
| Title: HIV/AIDS and Counseling | | | | |

**Disease Profile:** Immune System, Stages of HIV/AIDS; Theories of Origin of HIV/AIDS;Transmission of HIV/AIDS through Sex, Blood and Mother-to-Child; Misconception of HIV/AIDS; Global and National Scenarios; HIV Situation in Odisha; Implications of HIV/AIDS.

**HIV Prevention and Control:** UN and Government Initiatives; HIV/AIDS Education: Goal, Prevention and Steps; Life-skill Education for HIV/AIDS; HIV/AIDS and Ethical Issues; Rights of HIV/AIDS Patients; Vulnerable Population; NGO and Corporate Sector Initiatives in India for Prevention of HIV/AIDS.

Concepts, Types, Functions of and Barriers to Communication; Schramm and Berlo Models; Socio-cultural Constituents in Communication; Population Communication Programmes in India; Folk Media: Concept, Characteristics, Types and Functions; Concepts of Group and Mass-communication; Health Communication and its Functions.

**Counselling:** Concept and Need; Characteristics of a Good Counsellor; Processes involved and Techniques used in Counselling: Supportive and Behavioural, Cognitive and Psychoanalytical; Practical Issues involved in Counselling; Role of Counselling in Population and Health Education.

**Suggested Readings:**

* Aptekar, Herbert H. (1955), *Dynamics of Casework and Counseling*, Houghton Mifflin, Boston.
* Bhaskara Rao, Digumarti (ed.) (2000), *HIV/AIDS and Law, Ethics and Human Rights*, International Encyclopaedia of AIDS, Vol. 4, Discovery Publishing House, New Delhi.
* Bhaskara Rao, Digumarti (ed.) (2000), *HIV/AIDS: Socio-economic Realities*, International Encyclopaedia of AIDS, Vol. 3, Discovery Publishing House, New Delhi.
* Jaiswal, T. B. L. (1992), *AIDS: Causes and Prevention*, Mittal Publications, New Delhi.
* Mcleod, John (2008), *An Introduction to Counselling*, Rawat Publications, New Delhi.
* Mcleod, John (2009), *Counselling Skill*, Rawat Publications, New Delhi.
* Nelson-Jones, Richard (1995), *Practical Counselling and Helpful Skills: How to Use the Lifeskills Helping Model*, Cassel and Company, London.
* Ravichandran, N. (2004), *Living `Life’ with HIV/AIDS: Striving towards Basic Rights*, Pentagon Press, New Delhi.

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| **Year:**  **Fourth Year** | **Code:**  **PS-424** | **Marks:**  **100** | **Credits:**  **04** | **Duration:**  **Six Months** |
| Title: Field Study and Report | | | | |

**Topic Selection**: The process of how to select appropriate research topic.

**The Problem**: Problem; Research Problem; Research Objectives; Hypothesis; Theory; Research Design and Sources of documents.

**Conduction of Research**: Questionnaire development; Data collection; Analysis; Report writing and finalizing.

**Suggested References:**

* Booth, W.C., Colomb, G.G. and Williams, J.M., (2003), *The Craft of Research*, 2nd edition, Chicago University Press.
* Turabian, K.L., (1996), *A Manual for Writers of Terms Papers, Theses and Dissertations*, 6th edition, Chicago University Press.
* Joseph Gibaldi, J., (1995), *MLA Handbook for Writers of Research Papers*, 4th edition, Modern Language Association