# DEPARTMENT OF ECONOMICS

## HIMACHAL PRADESH UNIVERSITY
[NAAC Accredited 'A' Grade University]
Summer Hill, Shimla-171005

Regulations and Syllabus
Post Graduate Diploma in Population Studies
# **Annexure 'C'**
[CBCS]

Approved by Board of Studies held on 17.11.2022
Approved by Faculty of Social Sciences

# Department of Economics
## Syllabus for Post Graduate Diploma in Population Studies (PGDPS)

The following Credit Based Credit Scheme for Post Graduate Diploma in Population Studies (PGDPS) to be offered by the PG Centreto regular students enrolled in the department only, prepared and proposed by the Department Council for implementation w.e.f. the academic session 2022-23 onwards was considered and approved by PG BoS on 17/11/2022 and by Faculty of Social Sciences on……………………….The scheme is placed before the Academic Council/ Executive Council for consideration and approval.

**Table 1: Semester wise Courses with Codes, Credits, Contact Hours and Marks Scheme**

| Semester | Course Code | Nature of Course | Course Name | Credits | Theory Contact Hours (L-5Hrs/Tutorial -1 hour) | | Marks Scheme | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Lecture Credits | Tutorial (Seminar/ Assignment/GD/ Quiz) Credits | Theory | Internal Assessment |
| I | PGDP111 | DSC | DEMOGRAPHIC T E C H N I Q U E S | 6 | 4 | 2 | 80 | 20 |
| | PGDP112 | DSC | ECONOMIC OF POPULATION | 6 | 4 | 2 | 80 | 20 |
| | PGDP113 | DSC | PROJECT | 6 | 4 | 2 | 80* | 20* |
| | | | **Sub Total -1** | **18** | **12** | **06** | **Marks=300** | |
| II | PGDP121 | DSC | BASIC STATISTICS | 6 | 4 | 2 | 80 | 20 |
| | PGDP122 | DSC | POPULATION AND DEVELOPMENT | 6 | 4 | 2 | 80 | 20 |
| | | | **Sub Total -2** | **12** | **08** | **04** | **Marks=200** | |
| | | | **Grand Total* (1+2)** | **30** | **20** | **10** | **Total Marks = 500** | |

 **NOTE**: **In Reference to Table 1 The Following Points A) and B) are relevant:**

**A)**  **Course code descriptions**: the codes for courses on offer is explained as follows:
1. Discipline Specific Core Courses (DSC), e.g., PGDPS111
**Here**: In **PGDPS**: **PGD** denotes Post Graduate Diploma; PS denotes Population Studies. Similarly, 1**21** represents 1st year, 2nd Semester 1st Course.
2. 80* marks for Dissertation and 20* marks for Viva Voce by External Examiner(s) (i.e., from university other than HPU) specifically for PGDPS113 – i.e., Project.

**B)**  **General Information**

1. 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 Himachal Pradesh University Ordinance and Handbook of Information from time to time.
2. In case of ambiguity or conflict in provisions, the HP University Ordinance shall prevail.

**II  SCHEME OF COURSES**
Courses on offer are as follows:

**Table 2: The number & type of courses to be completed in each semester**

| Courses | Semesters | | ALL Semesters (I & II) |
|---|---|---|---|
| | **I** | **II** | |
| Discipline Specific Core Courses (DSC) including Project | **03** | **02** | **05** |
| **Total Number of Courses** | **03** | **02** | **05** |

1. **Discipline Specific Core Compulsory Courses (05 Core Courses; {Core})**

The syllabi for all DSC courses are specified in five units (except Project). Each question paper shall consist of ten questions in all i.e., two questions from each of the five units. The candidates are required to attempt five questions in all, selecting one question from each unit.

A student is required to complete **four** Core Courses and **one** Project over the one year duration of the course.

## III    SCHEME OF EXAMINATION

**MARKS Allotted to each paper**:

**Each DSC Course shall be of 100 marks and qualifying marks in each Course shall be 40 per cent. The break up is as follows: 32 marks out of 80 (i.e. 40 % of 80) and 8 marks out of 20 (i.e. 40 % of 20).**

a)  For this course offered only by Department of Economics, PG Centre, HPU for the students enrolled in PGDPS in PG Centre, the distribution of 100 marks for DSC courses shall be 80 for Theory and 20 for Internal Assessment (except for Project in the 1st Semester). The Internal Assessment of 20 marks shall comprise of 5  marks each for:
i) Class Test(s), ii) Assignment(s) and iii) Presentation(s)/Seminar(s) and iv) attendance.

Marks for attendance are given as per following criteria:
>75% but < 80%      :           1 Mark
80%   to 85%         :           2 Marks
>85%   but <90%     :           3 Marks
90%   to 95%         :           4 Marks
>95%                :           5 Marks

b)  For students who are working/employed, a shortfall in attendance may be made up by additional assignments and seminar presentations.

c)  Project will be:
- supervised by faculty who are teaching PGDPS classes.
- evaluation will be of 80 marks for Dissertation and 20 marks for Viva Voce by an External Examiner (i.e., from university other than HPU) duly recommended by the Department Council and approved by the competent authority, specifically for PGDPS113 – i.e., Project.
- Not more than 7 projects will be evaluated by one external examiner.
- Remuneration for Evaluation of Project, Viva Voce and TA/DA claim of external Examiner(s) will be borne by this University.

## IV    FORMAT OF QUESTION PAPERS

i.   Each question paper shall consist of ten questions carrying equal marks in all i.e.,two questions from each of the five units.

ii.  The candidates are required to attempt five questions in all, selecting one question from each unit i.e. 16 marks x 5 questions = 80 marks.

iii.     The duration of each paper will be three (3) hours.

## Post Graduate Diploma in Population Studies (PGDPS)
## Programme Outcome

Over the duration of study, this course is expected to assist the candidate by:
- ʃ  facilitating promotion of employees and strengthening their bio-data.
- ʃ  serving as an on-the- job-training to facilitate career advancement.
- ʃ  inculcating a understanding of concepts, theory and issues in population studies.
- ʃ  Building confidence to apply these leanings to their subsequent professional places.

## DEMOGRAPHIC TECHNIQUES

| | Credit | Lecture | Tutorial | Practical |
|---|---|---|---|---|
| | 6 | 4 | 2 | 0 |

**Course Outcomes**

By the end of the course, students will be able to:
• measure fertility, mortality and sex ratios
• acquire techniques to make projections for future planning
• measure of migration rates
• systematize delivery of health protection cover
• undertake area analysis

### UNIT-1

Components of Population Change, Fertility Levels, Trends and differentials in developing and developed countries, Proximate and socio- economic determinants of fertility, Sources of data and measures of fertility, Birthorder parity, Parity progression ratio, Measures of productivity, Indirect methods of estimation of fertility, Reverse survival method, Rele method, The P/F ratio method and the own children method.

### UNIT-II

Mortality: Levels and trends in developing and developed countries, Causes of mortality, Sources of data and measures of mortality, Maternal mortality rate, concepts and construction of life tables, abridged life table and construction of life table from incomplete data, Age-sex composition of population and its determinants, Nuptiality: concepts and sources of data, measures of nuptiality, estimates of nuptiality, Mean age at marriage from censusdata, Estimation of singulate mean age at marriage from the census data by using Hejnal's method and by Agarwal's method.

### UNIT-III

Estimation of migration: Levels and trends of migration in developing anddeveloped countries, Determinants and consequences of migration. Lifetime andinternal migration from place of birth data from duration of residence data, fromplace of last residence data and from residence at a time prior date data, Indirect measures of Net Internal Migration: National growth rate method, Vital statistic method and survival ratio method, Problems of base population in estimation of migration.

### UNIT-IV

Urbanization: Growth and components of population, Degree and tempo of urbanization, Distribution of urban population by urban locality, size, class, concentration of urban population, Labour force: concepts (dependency, gainful work and labour force or current activity concepts), Sources of data and measures of labour force and its unemployment, Estimation of supply and demand for manpower.

## UNIT - V

Population projections: Need and uses of population estimates, Methods of obtaining population estimation, Component method of population estimation, (Mathematical methods, Arithmetic, geometric; second degree, exponential, modified exponential, Gompertz and Logistic methods).

**Note for paper setter:**

- All proofs in to be avoided, Questions should be application-oriented;
- Student shall be allowed the use of their own calculators with six simple functions;
- Wherever statistical tables are required for reference by the student, the examiner is requested to provide 3 or 4 statistical values.
- The examination in this course shall be of three-hour duration. Ten questions in all, with two questions from each unit shall be set in the examination. The examiners shall be required to attempt five questions in all selecting one question from each unit.

**SUGGESTED READINGS**

- Agarwal, S.P. (1969), Manpower Supply-Concepts and Methodology, Meenakshi Prakashan, Meerut, India.
- Agarwal, S.P. (1970), Manpower Demand-Concepts and Methodology, Meenakshi Prakashan, Meerut, India.
- Barday, G.W. (1958). Techniques of Population Analysis, John Wiley& Sons, New York.
- Bhende, A. and T. Kanitkar. Principles of Population Studies, HimalayaPublishing House, Bombay.
- Pathak, K.B. and F. Ram. Techniques of Demographic Analysis,Himalaya Publishing House, Bombay.
- Rogue, D. J. (1971). Principles of Demography, John Wiley, New York.
- Shryok, H. and J.S. Siegel, (1976).Methods and Material ofDemography, Academic Press, New York,
- United Nations. Indirect Techniques for Demographic Estimation, U.N. Publications, New York.

**ECONOMIC OF POPULATION**
(Common with M.A. Economics)

|  | Credit | Lecture | Tutorial | Practical |
|---|---|---|---|---|
|  | 6 | 4 | 2 | 0 |

**Course Outcomes**

By the end of the course, students will acquire:
• enhanced general awareness of the relationship between economics and population
• analytical insights and knowledge population processes, structure and distribution
• ability to analyse total and per capital output
• competence to develop plans, policies and strategies of economic development
• deeper insights into economic inequalities and inequities

**Unit – I**

Early theories of population (Malthus, Ricardo, Marx, J.M. Keynes and others). Effect of Pre- industrial technological and institutional changes onpopulation. Demographic transition. The concept of optimum population.

**Unit – II**

Economic determinants of fertility: new household economics (Leibenstein theory and Gary Becker's Theory). Alternative economic approaches to fertility theory (Easterlin's and Caldwell's theories).

**Unit – III**

Cost and values of children and their effects on fertility, Supply of childrenand 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, Ranis 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 populationdecline. Policy issues related to population and economic growth.

**Note for paper setter:**

The Examination in this course shall be of three-hour duration. Ten questions in all, with two questions from each unit, shall be set in the examination. The examiners shall be required to attempt five questions inall, selecting one question from each unit.

**SUGGESTED READINGS**
  • Agarwala, S. N. (1972). India's Population Problem, Tata McGraw Hill,Bombay.
  • Bhende, A.A. and T. Kanitkar. Principles of Population Studies, HimalayaPublishing

House, Bombay.

- Boque, D. J. (1971). Principles of Demography, John Willey, New York. 14.Registrar General of India, Census of India, Government of India, New Delhi.
- 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.
- Davis, K. (1972). World Urbanization: 1950-70. Vol. II, Population Monograph Series, No. 9. University of California, Barkley.
- Everett S. Lee, A Theory of Migration Demography, February 1996.10.Books
- Fred Arnold, et. al., The Value of Children, A Cross-National Study, Vol.1 (East-West Population Institute, 1975).
- 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.
- Gary S. Becker, A Theory of Marriage, in T.W. Schultz, ed., Economics ofthe Family (University of Chicago, 1974), pp. 299-344.
- John C. Caldwell, Towards a Restatement of Demographic Transition Theory, Population and Development Review, Vol. 2, Nos. 3-4, Septemberand December 1976, pp. 321-366.
- Misra, B.D. (1996). An Introduction to Study of Population.
- Pathak, K. B. & Ram F. Techniques of Demographic Analysis, HimalayaPublishing House, Bombay.
- Shrivastava, O.S. (1983). A Textbook of Demography, Vikas Publishing House, New Delhi. Smith. PC. (1983). Trends and differentials in Nuptality in the Populationof the Philippines, Country Monograph Series No. 5 UNESCAP, Bangkok. 19.Shryok, H. Siegel, J.S. and Associates (1976). The Methods and Material of Demography, Academic Press, New York.
- Shrivastava, O.S. (1996). Demography and Population Studies, VikasPublishing House Pvt. Ltd., 2nd Edition.
- Simon Kuznets, Modern Economic Growth (Yale University Press, New Haven, 1966), Chapter 2, Growth of Population and Product, pp. 34-85.
- 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.
- Thomas P. Espenshade, The Value and Cost of Children, PopulationBulletin, Vol. 32, No. 1, 1977, pp. 3-32 only.
- United Nations, the Determinants and Consequences of Population Trends,Vol. I, 1973, part of chapter 2, Population Theory, pp. 33-48.
- United Nations, (1973). The Determinants and Consequences of Population Trends, Vol. I, UN Publications, New York.
- Weeks, J.R. (1978). Population: An Introduction to Concept and Issues. Wadsworth Publishing Co., Belmont, California.

**DSC Course Code: PGDP113**
**PROJECT**
**Credit-6**

**Course Outcome**
By the end of the course, students will be able to:
)  prepare a project report|
)  analyse various aspects of the business environment|
)  design and administer data collection tools and conduct primary investigation successfully|
)  understand business environment|

**Guidelines for PG Project**
Students are encouraged to undertake PG Project work based on a combination of primary and secondary data/information.
**1. Project**
a) Each student will undertake an individual project ideally of 60-80 pages and will be reported in on A4 size paper in Times New Roman Font. Font size: Main Heading =16; Sub Heading=14 & Text 12. Line spacing 1.5 and margins 1" top, bottom & right margin and 1.5" on left margin. Font size for tables/figures may be suitably adjusted. The project is to be printed on both sides of the paper using mirror margins. **IMPORTANT:** A project of less than 50 pages in this specified format *will not* be accepted for evaluation.
b) The project work will be carried out in consultation with the supervisor allotted to each student for the purpose.
c) A seminar of the project proposal will be presented to the department council and Students to help finalize the topic, methodology and latest version of the stylesheet (APA/MLA etc) in respect of the proposed project prior to its commencement.
d) Pre submission seminar will be presented to the Department Council and only upon approval will the Project be submitted for evaluation.
**2. Project – Chapters and Content**
   i)   Introduction - including Need, Objectives, Hypothesis
   ii)  Methodology and Materials – Sampling procedure, tools of analysis, figures etc.) and Limitations. **IMPORTANT:** At the time of Seminar [1c) above], in place of "Limitations", "Expected Outcome" will be reported.
   iii) Data Analysis
   iv)  –do-
   v)   Summary and Conclusion
        References
        Annexure (Annexure I will be the Questionnaire/Interview schedule).
**NOTE**: The number of Chapters pertaining to data analysis may vary in accordance with the objectives. Here Chapters iv, & v are shown as an example.

# BASIC STATISTICS

| | Credit | Lecture | Tutorial | Practical |
|---|---|---|---|---|
| | 6 | 4 | 2 | 0 |

## Course Outcomes

By the end of the course, students will be able 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.
- construct and interpret index numbers for economic variables. 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. 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 estimates.

## 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 independentvariables. Prediction for simple regression models of demand, supply, productionand cost. Multiple and partial correlations and regressions. Relationship betweenthe measures of multiple correlation and measures of partial correlation, Beta coefficients.

## UNIT- III

Tests of Significance

Standard error of the mean, Student's "t" distribution and its properties, Use of the "t" distribution to test hypothesis of the population means. Chi Square: general features of Chi Square ( $^2$), 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 analysisof variance, one way and two-way analysis of variance problem. Inter relationshipbetween "t", Chi square and F tests.

## UNIT- IV

Analysis of Time Series

Meaning and components of time series, Methods of estimating trend – the semiaverage method, the moving average method and the least squares method. Fittingof straight line, second and third degree equations. Fitting of the modified exponential curve, Gompertz curve and the logistic curve. Measurement of Seasonal, Cyclical and irregular variations.

## UNIT- V

Index numbers: Meaning, problems in construction of index numbers. Classification of index numbers, unweighted price index numbers, relative of aggregate method and average of price relatives, Weighted price index numbers: Laspeyre's, Paasche's and Fisher's ideal index numbers. Time reversal test and factor reversal test and chain based index numbers. Uses and limitations of indexnumbers.

## SUGGESTED READINGS

- Agarwal B.L., (1977). Basic Statistics, New Age International Limited,New Delhi.
- Croxton F.E., D.J. Cowden and Sidney Klein. Applied General Statistics,Prentice Hall of Indian, New Delhi.
- George Snedecar and W.G. Chockrane. Statistical Methods. Oxford &IBH, New Delhi.
- Gujarati Damodar. Basic Econometrics, Second Edition, L.R. Klein.
- Gupta S.P., Statistical Methods, Sultan Chand & Sons, New Delhi.
- Nagar A.L. and R.K. Das. Basic Statistics, Oxford University Press, NewDelhi.
- Singh S.P., (1996). Statistics. S. Chand & Company, New Delhi.
- Spiegel M... Theory and Practice of Probability and Statistics, Schaum'soutline ser es, McGraw Hill.
- Taro Yamane. Statistics, Harper International.
- Walker H.M. and J. Lev. (1953) . Statistical Inference, Holt, Rime hart andWinston, Oxford and IBH Publishing Company, Calcutta.

# POPULATION AND DEVELOPMENT

| Credit | Lecture | Tutorial | Practical |
|--------|---------|----------|-----------|
| 6 | 4 | 2 | 0 |

**Course Outcome**

By the end of the course, students will be able to:
• know and be aware of determinants of development
• examine population impact on development processes
• understand impact of population on environment and on health
• formulate policy perspective on migrations and regulation.

## 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, Regional variations in rates of growth of population by broad regions of the world, Population density in different regimes.

## UNIT-II

Population Theory: The classical and neo-classical schools of economics and population theory, Socialist and Marxist writings on population, Optimum Population Theory, The theory of demographic transition.

Modernization and demographic change: Fertility transition, Mortality transition, Modernization and migration, Inter-relationship between population and development: Effects of economic development on demographic parameters (effect on mortality, fertility and migration), Population growth and development: effect of population growth on development.

## 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: Problem, policies and requirements of housing, food production, education, rural development, health, poverty eradiation, urban development and employment.

**UNIT-V**

Population Policies: Concepts and issues, indicators and principal featuresof population policy, fertility, mortality and migration influencing policies, World population plan of actions, Family Welfare Programme, Population policies and programme in India.

**SUGGESTED READINGS**

- Bain John, (1990), Demographic Change and Asian Labour Markets in the (1990's) Population and Development Review, Vol. 1(4): 615-645.
- Boserup Easter, "Environment, Population, and Technology in Primitive Societies", Population and Development Review, Vol. 2, No.1, 1976.
- Boserup Easter, The Conditions of Agriculture Growth, Aldine- Atherton, New York, 1965.
- Kuznets Simon, Modern Economic Growth, Yale University Press, New Haven, 1966 (Chapter 2, "Growth of Population and Product").
- Mishra R.S. (1990), Economic of Growth and Developing, Somaiya Publication Pvt. Ltd.
- Ray T. K. and G. Rama Rao (1984), Introduction in Evaluation of Demographic Impact of Family Planning Programme, Himalaya Publishing House, Bombay
- Todaro, M. 1981, Economic Development in the Third World, Longman, London.
- United Nations (1979), The Methodology of Measuring the Impact of Family Planning Programme on Fertility, Manual IX, Population Study, No. 66, New York.
- United Nations, (1993), Population Policies and Programmes, Department of Economics & Social Informal & Policy Analysis, New York.
- Yaukey, David, Demography: The Study of Human Population, St. Matin's Press, New York.