# उत्तर प्रदेश राजर्षि टण्डन मुक्त विश्वविद्यालय, इलाहाबाद

सांख्यिकी (परास्नातक डिप्लोमा) कार्यक्रम अधिन्यास सत्र 2017—18

(July-2017 and January-2018)

| Course Code:<br><br>PGDBSD – 01 / PGDBSPS – 02 | Course Title:<br><br>Concepts of Demography | Maximum Marks : 30 |
|---|---|---|

## Section -A

Long Answer Questions

**Note:** Attempt any three questions. Each question should be answered in 800 to 1000 Words.

Maximum Marks: 18

1. Discuss about the migration with its type and deferent methods of estimation?

2. Discuss about the steps of construction of abridge life table Also define abridge life table?

3. Discuss about the life time survival ratio method and census survival method?

4. Describe the structure of abridge life table?

5. Define GRR and NRR? Prove that NRR $\leq$ GRR? Give the reason, why NRR is less than GRR?

6. Construct the all steps of abridged life table?

7. Discuss about the migration? Also define estimation of internal migration from duration of residence statistics?

8. Discuss about the Brass P/F ratio for adjusting fertility rates?

9. Discuss about the aging of the population?

10. Describe the various components of a life table? How is the expectation of life at birth determined from a life table?

11. Define and compare the various measures of fertility?

12. Define and compare the various measures of mortality?

## Section - B

Short Answer Questions

Maximum Marks: 12

**Note:**    Attempt any four questions? Answer should be given in 200 to 300 Words?

1.    Write short notes on  (a) NRR        (b) GRR
2.    Write short notes on  (a) ASFR       (b) TFR
3.    Write short notes on  (a) CEB        (b) Brass P/F ratio
4.    Write short notes on  (a) Mean Length of Generation        (b) Expectation of life
5.    Write short notes on In-migration & immigration?
6.    Write short notes on IMR (Infant mortality rate) and CEB (Children ever Born)?
7.    Write short notes on intrinsic birth rate and intrinsic death rate?
8.    Write short notes on intrinsic rate of natural increase and mean length of generation?
9.    Discuss about the types of birth intervals?
10.   Write short notes on TFR and CBE?
11.   Discuss about CDR and STDR?
12.   Discuss about IMR and CEB?
13.   Mean length of generation and intrinsic rate of natural increase?
14.   Write a note on expectation of life?

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## (July-2017 and January-2018)

| Course Code: PGDBSD - 02 | Course Title: Demographic Models | Maximum Marks : 30 |
|---|---|---|

## Section -A

Long Answer Questions

**Note:** Attempt any three questions. Each question should be answered in 800 to 1000 Words.

Maximum Marks: 18

1. Write a note on stable and stationary population theory?

2. Describe the structure of abridge life table?

3. Describe the various components of a life table? How is the expectation of life at birth determined from a life table?

4. Discuss about the Keyfitz Method of construction of life table?

5. Discuss in detail Greville's Method of construction an abridge life table?

6. Discuss about the any two methods for measurement of internal migration?

7. Calculate the mean length of generation in stable population?

8. Estimate the mean age of the stable population?

9. Give the all steps of construction of Net Nuptiality Table?

10. Discuss about the birth Poisson process?

11. Discuss about the death Poisson process?

12. Write a note on population projection?

## Section - B

### Short Answer Questions

Maximum Marks: 12

**Note:** Attempt any four questions. Answer should be given in 200 to 300 Words.

1. Discuss about the stable and stationary population?
2. Discuss about Lee's theory of migration?
3. Discuss about the LFR model of development theory?
4. Write Ravenstein's laws of migration?
5. Discuss about the expectation of life and survival ratio?
6. Write a note on birth intervals? Also define types of birth intervals?
7. Write a note on straddling birth interval?
8. Discuss about the Coale's model for age pattern of fertility?
9. Write a note on fecundity and fecundability?
10. Discuss about the PPR (parity progression ratio)?
11. Find TFR through Boongaart's model with all notations?
12. Write a note on the estimation of mean age at widowhood?

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## (July-2017 and January-2018)

| Course Code: PGDBSPS - 01 | Course Title: Population Studies: Concepts, Issues and Developments | Maximum Marks : 30 |
|---|---|---|

## Section -A
Long Answer Questions

**Note:** Attempt any three questions. Each question should be answered in 800 to 1000 Words.

Maximum Marks: 18

1. Write a note on population projection?
2. Differentiate the demography and population studies?
3. Discuss about the population transition theory?
4. Explain how can all socio-economic factors change the population size?
5. Discuss in detail about some population policies?
6. Write the NPP (National Population Policy)-2000?
7. Discuss about the National Health Policy?
8. Discuss about the National Health and Family Planning Programmes?
9. Write the different methods of population projection?
10. Discuss about the mathematical methods of population estimation and projection?
11. Discuss about the component method of population projection?
12. Discuss about the population growth? Give its impact on socio-political environment in India?

## Section - B
Short Answer Questions

**Note:** Attempt any four questions. Answer should be given in 200 to 300 Words.

1.  Discuss about the concept of sustainable development?
2.  Write a note on ratio and rates?
3.  Discuss about (a) population density (b) population pyramid
4.  Discuss about the dependency ratio?
5.  What is Malthusian theory?
6.  Write a note on the need and uses of population estimates?
7.  Discuss about the ratio method of population projection?
8.  Give the definition and scope of development?
9.  Discuss about the growth rate? If its mathematical value is zero then what is the interpretation of this?
10. Write a note on natural resources and human resources?
11. Discuss about any one growth rate model?

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## (July-2017 and January-2018)

| Course Code: | Course Title: | Maximum Marks : 30 |
|---|---|---|
| PGDBSPS – 03 / PGDBSD - 03 | Research Methodology | |

## Section -A

Long Answer Questions

**Note:** Attempt any three questions. Each question should be answered in 800 to 1000 Words.

Maximum Marks: 18

1. Calculate the mean and variance of SRSWOR?

2. Discuss about the Non Sampling Errors?

3. Discuss about the Systematic sampling also find its mean and variance?

4. What is Research? Give the Criteria of a good research problem?

5. Discuss about the Different methods of data Collection?

6. Write a note on Analysis of Covariance?

7. Distinguish between Research methods and Research methodology?

8. What is research problem? Also define the techniques?

9. Explain the meaning and significance of a research design?

10. Write a note on

    a. Likert-type scale

    b. Arbitrary scales

11. Write in detail about

    a. Criteria of Good Research

    b. Research and Scientific Methods

**Section - B**

Short Answer Questions

Maximum Marks: 12

**Note:** Attempt any four questions. Answer should be given in 200 to 300 Words.

1. Discuss about the different methods for collecting the sample under simple random sampling?

2. Distinguish the Difference Between multistage Sampling and two phase Sampling?

3. Discuss about the Measures of Sampling Errors?

4. Discuss about the sources of non response errors?

5. Discuss about the selection methods of Simple Random Sampling?

6. What is the difference between multiple bar diagram and divided bar diagram?

7. Discuss about Histogram?

8. Write a detailed note on the Ogives?

9. Discuss about the Pie Chart and Pictogram?

10. Distinguish between Frequency Curve and Frequency Polygon?

11. Define (a) Critical Region (b) Level of Significance?

12. Write shout notes on (a) Types of Error (b) Types of Hypothesis

13. Write the basic principles of Experimental design?

14. Define Research Design?

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### (July-2017 and January-2018)

| Course Code: PGDBSPS / PGDBSD - 04 | Course Title: Bio-Statistics | Maximum Marks : 30 |
|---|---|---|

### Section -A
Long Answer Questions

**Note:** Attempt any three questions. Each question should be answered in 800 to 1000 Words.

Maximum Marks: 18

1. Discuss about the all Measures of Central Tendency with its merits, demerits and applications?

2. Discuss about the Dispersion? Also define its all measures of Dispersion in detail?

3. Discuss about the different methods of diagrammatic representation of statistical data?

4. Discuss about the Arithmetic Mean with its application and merits and demerits?

5. Define Variance? State and prove its additive property?

6. Discuss about the Regression? Find out the angle between two regression lines?

7. Define non parametric tests? Also discuss about the Mann – Whitney U-test?

8. Discuss about the all properties of a good estimator?

9. Discuss about the Mann-Whitney U-test?

10. Write in short about the wilcoxon signed Rank Test?

11. Give the complete layout and statistical analysis of two way classified data? Also give its ANOVA table?

12. Discus about the analysis of Co-variance? Give its different steps for its statistical analysis, also give its ANOVA table?

13. Define linear models? Also give the complete lay out of one way classified data also give its ANOVA?

## Section - B
### Short Answer Questions

Maximum Marks: 12

**Note:** Attempt any four questions. Answer should be given in 200 to 300 Words.

1. Discuss about the Weighted Mean?

2. Define coefficient of variation? For what purpose is it used?

3. Write a note on the Mode with its merits, demerits and uses?

4. Show that the median of a variable is the intersection point of ogives?

5. Write short notes on efficiency and sufficiency?

6. Discuss about Unbiasedness and Consistency?

7. Discuss about the effect of change of origin and scale on correlation coefficient?

8. Write down the all properties of regression coefficient?

9. Discuss in detail about
   a) Goodness of fit
   b) Sign test and Run test

10. Discuss about
   a) Contingency table
   b) Yates correction

11. Define
   a) Critical region and Acceptance region
   b) MP & UMP test

12. Write detail notes on
   a) Significance test for "equality of means"
   b) Types of error

13. Distinguish between correlation coefficient and regression coefficient?

14. Write short note on (a) Precision (b) Efficiency of Design