**First Semester FYUGP Degree Examination November 2024**

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| **University of Kerala** | | |
| Discipline |  | **STATISTICS** |
| Course Code |  | **UK1DSCSTA107** |
| Course Title |  | **BASIC STATISTICS I** |
| Type of Course |  | **DSC** |
| Semester |  | **1** |
| Academic Level |  | **100-199** |
| Total Credit |  | **4** |
| Name of College |  |  |

**Time: 1 Hr 30 Min Total : 42 Marks**

**Part A.**

**Objective Type Questions. Answer All Questions. 1 Mark Each.**

**6 Marks. Time: 6 Minutes**

**(Cognitive Level: Remember/Understand)**

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| **Qn.**  **No.** | **Question** | **Cognitive Level** | **Course**  **Outcome**  **(CO)** |
| 1. | Identify which pair of institutions in India as a merger of NSO?   1. CSO and NSSO 2. CSO and RBI 3. NSSO and MoSPI 4. NITI Aayog and CSO | Remember | CO1 |
| 2. | Which of the following is an example of a probability sampling method?   1. Convenience sampling 2. Purposive sampling 3. Simple random sampling 4. Quota sampling | Remember | CO4 |
| 3. | Which type of representation is most appropriate for displaying the distribution of a continuous data set?   1. Bar diagram 2. Histogram 3. Pie chart 4. Line diagram | Understand | CO2 |
| 4. | Which of the following best describes the Gini Index?   1. A measure of economic growth 2. A measure of income inequality 3. A measure of population density 4. A measure of inflation | Understand | CO2 |
| 5. | Which graphical method is commonly used to determine quartiles, deciles and percentile?   1. Histogram 2. Frequency polygon 3. Bar diagram 4. Ogives | Understand | CO3 |
| 6. | The first raw moment about the origin is equivalent to which statistical measure?   1. Mean 2. Median 3. Mode 4. Variance | Understand | CO3 |

**Part B.**

**Short Answer Questions. Answer All Questions. 2 Marks Each.**

**8 Marks. Time: 24 Minutes**

**(Cognitive Level: Understand/Apply)**

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| **Qn.**  **No.** | **Question** | **Cognitive Level** | **Course**  **Outcome**  **(CO)** |
| **7.** | Explain the role of the Ministry of Statistics and Programme Implementation (MoSPI) in India’s Statistical System. | Understand | CO1 |
| 8. | Give two situations where sampling alone can be used. | Understand | CO4 |
| 9. | How can you use an ogive graph to estimate the median of a data set? | Apply | CO3 |
| 10. | Distinguish between discrete and continuous frequency distributions giving examples. | Apply | CO2 |

**Part C.**

**Long Answer Questions. Answer All Questions. 7 Marks Each.**

**28 Marks. Time: 60 Minutes**

**Choosing among options within each question**

**(Cognitive Level: Apply)**

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| **Qn.**  **No.** | **Question** | **Cognitive Level** | **Course**  **Outcome**  **(CO)** |
| 11. | Explain the construction of a Pie chart to a data. | Apply | CO2 |
| OR | | |
| Draw a less than ogive and greater than ogive for the following data  Age: 10-20 20-30 30-40 40-50 50-60 60-70  Frequency: 3 7 12 15 9 2 | Apply | CO2 |
| 12. | Represent the following data by a suitable diagram (Balance of Trade=Export– Import)   |  |  |  | | --- | --- | --- | | Year | Export | Import | | 1993 | 98 | 115 | | 1994 | 110 | 140 | | 1995 | 115 | 96 | | 1996 | 120 | 100 | | Apply | CO2 |
| **OR** | | |
| Draw a histogram for the following data:  Age: 2-5 5-11 11-12 12-14 14-15 15-16  No. of boys: 6 6 2 5 1 3 | Apply | CO2 |
| 13. | Draw a suitable bar-diagram to represent the following data related to a school.   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Year | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | | No. of Students | 210 | 242 | 290 | 315 | 340 | 355 | | Apply | CO2 |
| **OR** | | |
| Construct a pie diagram for the following data giving the distribution of monthly household expenditure of a family:  Item: Food Rent Utilities Entertainment Savings  Expenditure: 500 800 200 150 350  (in $) | Apply | CO2 |
| 14 | The following data represents the no. of hours studied by a group of students. Calculate the first 4 moments about the origin.  Hours studied: 0-2 2-4 4-6 6-8  No. of students: 3 7 12 5 | Apply | CO3 |
| **OR** | | |
| Show that central moments are not affected by the change of origin, but affected by the change of scale. | Apply | CO3 |

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| **Cognitive Level** | **Marks** | **Percentage** |
| Remember | 2 | 4.8 |
| Understand | 8 | 19.0 |
| Apply | 32 | 76.2 |
| Analyse |  |  |
| Evaluate |  |  |
| Create |  |  |
| **TOTAL** | **42** | **100** |

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| **Course Outcomes** | **Marks** | **Percentage** |
| CO 1 | 3 | 7.1 |
| CO 2 | 25 | 59.5 |
| CO 3 | 11 | 26.2 |
| CO4 | 3 | 7.1 |
| **TOTAL** | 42 | **100** |