 University of Kerala  
 UoK -FYUGP

**TEMPLATE 5**

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| **University of Kerala** | | |
| Discipline: STATISTICS |  | Time: 1 Hour 30 Minutes (90 Mins.) |
| Course Code: UK1DSCSTA108 |  | Total Marks: 42 |
| Course Title : Fundamentals of Statistics |  |  |
| Type of Course: DSC |  |  |
| Semester: 1 |  |  |
| Academic Level: 100-199 |  |  |
| Total Credit: 4, Theory: 3 Credit |  |  |

Part A. 6 Marks. Time: 6 Minutes  
Objective Type. 1 Mark Each. Answer All Questions

(Cognitive Level: Remember/Understand)

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| **Qn. No.** | **Question** | **Cognitive Level** | **Course Outcome (CO)** |
| 1. | The data which have been collected already for a purpose is called --------------- | Understand | CO 1 |
| 2. | The scale of measurement which includes absolute zero is \_\_\_\_\_ | Remember | CO 2 |
| 3. | Which quartile is known as median ? | Understand | CO 2 |
| 4. | Mean deviation is minimum when deviations are measured from …. | Understand | CO 2 |
| 5. | The range of variation of probability is | Remember | CO 2 |
| 6. | If two events are mutually exclusive , then P(A∩B) is | Remember | CO 3 |

Part B. 8 Marks. Time: 24 Minutes  
Short Answer. 2 Marks Each. Answer All Questions (Cognitive Level: Understand/Apply)

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| **Qn. No.** | **Question** | **Cognitive Level** | **Course Outcome (CO)** |
| 7. | Compute the coefficient of variation for the dataset: 12, 10, 14, 16, 18, 20,21,25,15 | Apply | CO 3 |
| 8. | Define semi inter quartile range. | Apply | CO 2 |
| 9. | Distinguish between deterministic and nondeterministic experiments | Understand | CO 3 |
| 10. | :Define random experiments and sample space with example | Understand | CO 3 |

Part C. 28 Marks. Time: 60 Minutes  
Long Answer. 7 marks each. Answer all 4 Questions, choosing among options within each

question.  
(Cognitive Level: Apply/Analyse/Evaluate/Create)

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| **Qn. No.** | **Question** | **Cognitive Level** | **Course Outcome (CO)** |
| 11. | A. Prices of a commodity in five months at two regions are as follows:  Region A: 20 22 19 22 23  Region B: 18 12 10 20 15  Compare the consistency of the prices in the two Regions  OR  B. The following data refer the scores of two batsman A and B. Find which player is more consistent.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | A | 20 | 25 | 22 | 23 | 27 | | B | 25 | 30 | 32 | 18 | 36 | | Analyse | CO 3 |
| 12. | A. For a group of 10 items Σx=452, Σx2=24270 and mode =43.7. Find Pearson measure of skewness  OR  B. Show that for a discrete distribution β2 >1 | Evaluate | CO 3 |
| 13. | A. State and prove Bayes Theorem  **OR**  **B.** Show that the conditional probability is a probability measure | Apply | CO 3 |
| 14. | A. Compute the mean and variance of a random variable whose p.d.f is given by f(x)=6x(1-x), 0≤X≤1  OR  B. State and prove (i) addition theorem of expectation (ii) multiplication theorem of Expectation | Apply | CO 4 |

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| **Cognitive Level** | **Marks** | **Percentage** |
| Remember | 3 | 7.1 |
| Understand | 7 | 16.7 |
| Apply | 18 | 42.9 |
| Analyse | 7 | 16.7 |
| Evaluate | 7 | 16.7 |
| Create |  |  |
| **TOTAL** | **42** | **100** |

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| **Course Outcomes** | **Marks** | **Percentage** |
| CO 1 | 1 | 2.4 |
| CO 2 | 6 | 14.3 |
| CO 3 | 28 | 66.7 |
| CO4 | 7 | 16.7 |
| **TOTAL** | 42 | **100** |