| **University of Kerala** | | |
| --- | --- | --- |
| Discipline: Computer Science |  | Time: 1 Hour 30 Minutes (90 Mins.) |
| Course Code: UK1DSCCSC106 |  | Total Marks: 42 |
| Course Title: DATA SCIENCE FUNDAMENTALS |  |  |
| Type of Course: DSC |  |  |
| Semester: 1 |  |  |
| Academic Level: 100-199 |  |  |
| Total Credit: 4, Theory: 3 Credit Practical : 1 Credit |  |  |

**Part A. 6 Marks. Time: 6 Minutes**

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

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

| **Qn.**  **No.** | **Question** | **Cognitive**  **Level** | **Course**  **Outcome (CO)** |
| --- | --- | --- | --- |
| 1. | Name any 2 data science tools. | Remember | CO1 |
| 2. | Recall the expansion of DALC. | Remember | CO1 |
| 3. | List various forms of data. | Understand | CO2 |
| 4. | Summarize the purpose of data reduction in one sentence. | Understand | CO2 |
| 5. | Define work sheet. | Understand | CO3 |
| 6. | Classify different types of charts used for data visualization. | Understand | CO4 |

**Part B. 8 Marks. Time: 24 Minutes**

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

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

| **Qn.**  **No.** | **Question** | **Cognitive**  **Level** | **Course**  **Outcome (CO)** |
| --- | --- | --- | --- |
| 7. | Give the pros and cons of data science. | Understand | CO1 |
| 8. | Show the working of recommender systems with an example. | Understand | CO2 |
| 9. | Illustrate conditional formatting in MS Excel with suitable examples. | Apply | CO3 |
| 10. | Compare the features of bar charts and Pie charts | Apply | CO4 |

**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)**

| **Qn.**  **No.** | **Question** | **Cognitive**  **Level** | **Course**  **Outcome (CO)** |
| --- | --- | --- | --- |
| 11. | a) Show different types of data analysis with examples.  OR  b)Demonstrate different data science tools and their application. | Apply | CO1 |
| 12. | a)Illustrate the process of data cleaning with an example  OR  b)Illustrate the concept of outliers with an example | Analyze | CO2 |
| 13. | a)Illustrate the various methods sorting and filtering methods in MS Excel using suitable examples.  OR  b)Examine any five Excel functions with syntax and examples. | Analyze | CO3 |
| 14 | a)Demonstrate the use of LOOKUP functions.  OR  b)Demonstrate data visualization using different types of charts. | Apply | CO4 |

| **Cognitive Level** | **Marks** | **Percentage** |  | **Course Outcomes** | **Marks** | **Percentage** |
| --- | --- | --- | --- | --- | --- | --- |
| Remember | 2 | 4.8 |  | CO1 | 11 | 26.2 |
| Understand | 8 | 19.0 |  | CO2 | 11 | 26.2 |
| Apply | 18 | 42.9 |  | CO3 | 10 | 23.8 |
| Analyse | 14 | 33.3 |  | CO4 | 10 | 23.8 |
| **TOTAL** | **42** | **100** |  | **TOTAL** | **42** | **100** |