

A-1058

Total Pages : 4

Roll No. -----

CDSA-101

**Foundations of Data Science and
Data Analysis Tools**

Certificate in Data Science & Applications

1st Semester Examination 2024 (June)

Time: 2:00 hrs

Max. Marks: 100

Note : This paper is of Hundred (100) marks divided into Two (02) Section A and B. Attempt the questions contained in these sections according to the detailed instructions given therein. Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

P.T.O.

Section-A (Long-Answer-Type Questions)

Note : Section 'A' contains Five (05) long-answer-type questions of Twenty Six (26) marks each. Learners are required to answer any Two (02) questions only.

[2x26=52]

- Q.1. a. What is Data Science? What are the challenges faced by Data Science Technology? [13]
- b. What do you mean by data? Differentiate between structured and unstructured data. Explain with suitable example. [13]
- Q.2. a. What are different Data Analytics tools available? Explain. [13]
- b. With the help of an example differentiate between List & Tuple data type used in Python. [13]
- Q.3. Write short notes on the following topics from MS-Excel.
- i. Data Validation.
 - ii. Rank & Percentile
 - iii. If condition
 - iv. Date & Time function
 - v. Text Functions
 - vi. Correlation [26]

- Q.4. Construct an E-R diagram for a hospital with a set of patients and a set of medical doctors. Associate with each patient a log of the various tests and examinations conducted. [26]
- Q.5. What is SPSS? Explain its use in industry with proper example. How loops are used in VBA macro programming? Explain with examples. [26]

Section-B (Short-Answer-Type Questions)

Note : Section 'B' contains Eight (08) short-answer-type questions of Twelve (12) marks each. Learners are required to answer any Four (04) questions only. [4x12=48]

- Q.1. What are the various data analytic methods and technique? Explain. [12]
- Q.2. What are various operators used in Python programming Language? Explain with example. [12]
- Q.3. How pivot tables and pivot charts are used? Explain with examples. [12]
- Q.4. What are Lookup functions used in MS-Excel? [12]

P.T.O.

- Q.5. Name & explain any six functions used for mathematical operations in MS Excel. [12]
- Q.6. What is VBA Macro Programming? What are the benefits and limitations of VBA macro programming. [12]
- Q.7. What is SQL? Write commands to insert and update data in a table? [12]
- Q.8. How scales are constructed in SPSS? How to check their reliability? [12]
