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Total No. of Printed Pages: 1

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M. Tech CSE (Semester – 1st)

DATA SCIENCE

Subject Code: MCSES1121

Paper ID: [23190207]

Time: 03 Hours

Maximum Marks: 60

Instruction for candidates:

1. Section A is compulsory. It carries 16 marks. It consists of 4 questions of 4 marks each.
2. Section B consist of 4 questions of 8 marks each. The student has to attempt any 3 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A

(4 marks each)

- Q1. What are the major roles of social and technical scientists for maintaining the data?
- Q2. Differentiate between supervised and unsupervised learning.
- Q3. What do you mean by central tendency and variance?
- Q4. List a few important libraries and functions under Python for effective data visualization.

Section – B

(8 marks each)

- Q5. Suppose you want to develop a social media application. For this explain what are the types of data you are going to consider, what are the different sources of that data & how you will plan to handle those data?
- Q6. How to effectively store the huge amount of data available and also continually generated data for any big data application software?
- Q7. Explain various techniques of data encoding with suitable examples.
- Q8. What are various methods in data science to develop an application? Give any real-life scenario of data science and its importance and implications on human life.

Section – C

(10 marks each)

- Q9. How to effectively collect and manage the data to develop a data analytic application. Assume any data analytic problem statement and explain different ways to collect and manage the data including some available APIs or Libraries.
- Q10. What do you mean by prediction and recommendation systems? What are the various steps to build models for prediction and recommendation systems based on vast amounts of data?
- Q11. State the importance and usage of Accuracy, Precision and Recall metrics with appropriate example data sets.