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Total Pages : 4

Roll No. -----

MCS-E7

Data Science for Engineers

(MCA)

4th Semester Examination 2024(Dec.)

Time: 2:00 hrs

Max. Marks: 70

Note : This paper is of Seventy (70) 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.

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Section-A (Long-Answer-Type Questions)

Note : Section 'A' contains Five (05) long-answer-type questions of Nineteen (19) marks each. Learners are required to answer any Two (02) questions only.

[2x19=38]

- Q.1. What is R and Why it is popular for data science?
- Q.2. What is a matrix and how does it represent data in machine learning?
- Q.3. Explain the life cycle of Data Science with neat diagram.
- Q.4. How do you evaluate the performance of classification model?
- Q.5. What are the key steps in implementing the kNN algorithm?

Section-B (Short-Answer-Type Questions)

Note : Section 'B' contains Eight (08) short-answer-type questions of Eight (08) marks each. Learners are required to answer any Four (04) questions only.

[4x8=32]

- Q.1. What are the benefits of using open-source tools like R for data analysis?
- Q.2. What is a diagonal matrix and how it is used in data science?
- Q.3. Differentiate between regression and classification with example.
- Q.4. What is hypothesis testing and why it is used in data science?
- Q.5. Explain the topology of Data Science problem in detail.

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- Q.6. What are objective functions and how they are used in optimizations problems?
- Q.7. Explain the typology of Data Science problems solution framework.
- Q.8. Explain the K-mean clustering.
