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MASTER OF COMPUTER APPLICATIONS (MCA)

EXAMINATION :MAY/JUNE - 2026

SEMESTER – III

Sub : Data Analytics using Python (MCA24-302)

Date : 1/06/2026 **Total Marks : 60** **Time: 2.00 pm To 4.30 pm**

Instruction:

1. *All questions are compulsory unless and otherwise stated.*
2. *Bold figures to the right of every question are the maximum marks for that question.*
3. *Candidates are advised to attempt questions in order.*
4. *Answers written illegibly are likely to be marked zero.*
5. *Use of scientific calculators, Log tables, Mollier Charts is allowed.*
6. *Draw neat and labelled diagram wherever necessary.*

Q. 1. Answer the following in 2 - 3 lines. (Any 5) **(10)**

1. List any two applications of Data Analytics.
2. Define the terms Regression and classification.
3. What is the purpose of data cleaning?
4. What is data preprocessing?
5. What is the purpose of a confusion matrix?
6. Write any two features of Pandas.
7. What is Deep Learning?

Q. 2. Answer the following in short. (Any 4) **(20)**

1. Describe k-means clustering with steps.
2. Explain Apriori algorithm with an example of market basket analysis.
3. Explain feedforward neural networks.
4. Describe the steps involved in data cleaning.
5. Explain Simple Linear Regression with a suitable example.
6. Explain the importance of train-test split in model building.

Q. 3. Answer the following in detail. (Any 3) **(30)**

1. Explain the architecture, components, and applications of CNNs.
2. Describe in detail all Data Frame operations with suitable example.
3. Compare all four types of Data Analytics and their real-world usage with suitable examples.
4. Explain difference between supervised and unsupervised learning with suitable examples, diagrams, and equations.
5. Explain following terms in detail: training loss and validation loss.