

INTERNAL ASSIGNMENT QUESTIONS

Advanced Diploma in Data science

Semester - I

2026



PROF. G. RAM REDDY CENTRE FOR DISTANCE EDUCATION

(RECOGNISED BY THE DISTANCE EDUCATION BUREAU, UGC, NEW DELHI)

OSMANIA UNIVERSITY

(A University with Potential for Excellence and Re-Accredited by NAAC with "A" + Grade)

DIRECTOR

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**PROF.G.RAM REDDY CENTRE FOR DISTANCE EDUCATION
OSMANIA UNIVERSITY, HYDERABAD – 500 007**

Dear Students,

Each student has to write the answers to the Assignment questions with neat own handwriting using Blue Pen (Black Ink not allowed) for each paper. Assignments have to submit after the payment of Rs.500/- by showing the receipt of the same. If the Assignment is not submitted within stipulated time i.e. before the theory exams / last date is treated as absent.

Methodology for writing the Assignments (Instructions) :

1. First read the subject matter in the course material that is supplied to you.
2. If possible read the subject matter in the books suggested for further reading.
3. You are welcome to use the PGRRCDE Library on all working days for collecting information on the topic of your assignments. (10.30 am to 5.00 pm).
4. Give a final reading to the answer you have written and see whether you can delete unimportant or repetitive words.
5. The cover page of the each theory assignments must have information as given in FORMAT below.

FORMAT

1. NAME OF THE STUDENT :
2. ENROLLMENT NUMBER :
3. NAME OF THE COURSE :
4. SEMESTER (I, II, III & IV) :
5. TITLE OF THE PAPER :
6. DATE OF SUBMISSION :
6. Write the above said details clearly on every subject assignments paper, otherwise your paper will not be valued.
7. Tag all the assignments paper wise and submit them in the concerned counter.
8. Submit the assignments on or before **10.09.2026** at the concerned counter at PGRRCDE, OU on any working day and obtain receipt.

DIRECTOR

INTERNAL ASSESSMENT

Paper : I

Subject : Data Analytics & Data Management

Note: Answer all the Questions. Each Question carries three marks

Q10x3M=30M

1. Explain about Hash File Organization.
2. Write a Program to demonstrate function in R.
3. Discuss measures of central tendency.
4. Explain operations of data frame.
5. Illustrate types of Analysis Of Variance (ANOVA).
6. Write about clustering in detail.
7. Explain CURD Operations.
8. Describe data pruning and data trimming operations.
9. Explain data analysis functions.
10. What are the macros? Explain them.

INTERNAL ASSESSMENT

Paper : II

Subject : Mathematics for Data Science

Note: Answer all the Questions. Each Question carries three marks

Q10x3M=30M

1. What are the methods to find the equation of a straight line?
2. Differentiate linear and nonlinear functions.
3. Explain about Regularization.
4. Define Encoding, Binary Encoding and Target-based Encoding.
5. Mahesh found how many hours of sunshine vs how many ice creams were sold at the shop from Monday to Friday.

"x" hours of sunshine	"y" hours of Ice Creams Sold
2	4
3	5
5	7
7	10
9	15

6. Write a short notes on Principal Component Analysis (PCA).
7. Explain Hypothesis Testing.
8. Differentiate population and sample.
9. What are the types of Graphs? Define them.
10. Draw and explain Euler graph and Hamilton graph.

INTERNAL ASSESSMENT

Paper : III

Subject : Python Programming

Note: Answer all the Questions. Each Question carries three marks

Q10x3M=30M

1. Explain the features, advantages, and limitations of Python. Why is Python considered a high-level and interpreted language?
2. Develop and explain a Python program to demonstrate various operations on lists, tuples, and strings, including indexing, slicing, concatenation, and repetition.
3. Discuss different looping statements in Python. Compare for and while loops with examples
4. Describe different methods of parameter passing in Python functions with examples.
5. Explain the concepts of classes and objects in Python with suitable examples.
6. Discuss inheritance, encapsulation, and polymorphism in Python with appropriate examples.
7. Explain the need for file handling in Python. Discuss different file opening modes with examples.
8. Describe the built-in methods of file objects in Python such as read(), write(), seek(), and tell().
9. Explain exception handling in Python using try, except, else, and finally blocks.
10. Discuss common exceptions in Python such as Name Error, Zero Division Error, Syntax Error, and Index Error.