

INTERNAL ASSIGNMENT QUESTIONS

Advanced Diploma in Computer Applications

Semester - I

ANNUAL EXAMINATIONS, 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

Prof. N. Ch. Bhatracharyulu
Hyderabad – 7 Telangana State

**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: PROGRAMMING IN C AND DATA STRUCTURES

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

Q10x3M=30M

1. Explain the different looping statements in C, namely while, for, and do while. Discuss the use of break, continue, and goto statements with suitable examples.
2. Explain the selection statements in C – if, if-else, nested if, and switch. Illustrate each with suitable examples.
3. Explain storage classes in C – auto, register, static and extern.
4. Explain the selection sort, bubble sort and insertion sort algorithms.
5. Discuss the functions malloc(), calloc(), realloc(), and free () with suitable examples.
6. Explain strings in C and discuss string input / output and string manipulation functions.
7. Explain file handling in C. Discuss streams, file opening modes and standard file input / output functions used for reading and writing data.
8. Discuss nested structures and arrays of structures with suitable examples.
9. Explain the application of stacks in infix-to-postfix conversion.
10. Define an Abstract Data Type (ADT). Explain the concept of linear lists and describe the implementation of a singly linked list with suitable diagrams.

INTERNAL ASSESSMENT

PAPER – II : ELEMENTS OF INFORMATION TECHNOLOGY

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

Q10x3M=30M

1. What is an Information System? What are the characteristics of valuable information and describe the categories of information in Business organization.
2. Write notes on
 - (i) 1's and 2's complement of a binary number.
 - (ii) (ii) Unsigned and Signed numbers.
 - (iii) (iii) Weighted and non-weighted codes.
3. Briefly describe the block diagram of Computer Organization with a neat sketch.
4. Write notes on
 - (i) Input Devices and Output devices.
 - (ii) (ii) Compilers and Interpreters.
 - (iii) (iii) Computer Software and Programming Languages.
5. Write notes on
 - a) Batch Processing.
 - b) b) Multiprogramming and Time Sharing.
 - c) c) Functions of Operating System.
6. Write notes on
 - a) Conceptual view of a Computer System.
 - b) Tasks of Operating System.
 - c) Characteristics of UNIX operating System.
7. Describe the features of Word Processing and Spreadsheet Software.
8. Write notes on
 - a) Database Packages.
 - b) Desktop Publishing Packages.
9. a) Briefly describe the elements of Communication System.
b) What are the criteria that must be met for a Computer network system? Briefly describe each one of them.
10. Write notes on
 - a) Types of Computer Networks.
 - b) Internet and Intranet.
 - c) Components of Multimedia and Applications of Multimedia technologies.
 - d) Features and types of Multimedia.

INTERNAL ASSESSMENT

PAPER – III : OPERATING SYSTEMS

ASSIGNMENT - I

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

Q10x3M=30M

1. Define an Operating System. State its functions
2. List the different types of OS
3. Explain the Process Control Block (PCB)
4. Differentiate between User-level and Kernel -level threads
5. What are the methods for handling deadlocks
6. Discuss the concept of Swapping
7. Explain the method of Segmentation
8. Explain the concept of Paging with neat diagram
9. Discuss about Thrashing Mechanism
10. Illustrate Segmentation with Paging

INTERNAL ASSESSMENT

PAPER – IV : DATABASE MANAGEMENT SYSTEMS

ASSIGNMENT - I

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

Q10x3M=30M

1. Discuss the three-level database architecture and explain the concept of data independence with suitable diagrams
2. Differentiate between strong and weak entities with examples.
3. Write SQL queries to create, alter, and delete database tables using DDL commands.
4. Explain aggregate functions, GROUP BY, HAVING, and ORDER BY clauses with suitable examples.
5. Explain ISAM indexing with a neat diagram.
6. Compare static hashing and dynamic hashing techniques.
7. Explain transaction management and discuss the ACID properties of transactions.
8. Compare serializable and non-serializable schedules.
9. Explain the ARIES recovery algorithm with a neat flow diagram.
10. Discuss digital signatures, biometric authentication, and their applications in database security.