

Code No: 181AE**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech I Year I Semester Examinations, January/February - 2025****C PROGRAMMING AND DATA STRUCTURES****(Common to CE, ME, AE, BT, MIE, PCE)****Time: 3 Hours****Max. Marks: 60****Note:** This question paper contains two parts A and B.i) **Part- A** for 10 marks, ii) **Part - B** for 50 marks.

- Part-A is a compulsory question which consists of ten sub-questions from all units carrying equal marks.
- Part-B consists of **ten questions** (numbered from 2 to 11) **carrying 10 marks each**. From each unit, there are two questions and the student should answer one of them. Hence, the student should answer five questions from Part-B.

PART- A**(10 Marks)**

- | | | |
|------|---|-----|
| 1.a) | What is the need of operator precedence? | [1] |
| b) | Write about Constants. | [1] |
| c) | Discuss Break statement. | [1] |
| d) | What is an array? | [1] |
| e) | Write C statements to create array of pointers. | [1] |
| f) | Is addition of two pointers is allowed in C? Justify your answer. | [1] |
| g) | Differentiate Structure and Union. | [1] |
| h) | Write about typedef. | [1] |
| i) | Write the applications of Stacks. | [1] |
| j) | What is an Abstract data type? | [1] |

PART - B**(50 Marks)**

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|-----------|---|-------|
| 2.a) | Explain various types of Computing environments. | |
| b) | Write a C code to convert a character to integer. | [5+5] |
| OR | | |
| 3.a) | Explain left shift and Right Shift operators with examples. | |
| b) | Write a C program to illustrate logical operators. | [5+5] |
| 4.a) | Write about Switch statement. | |
| b) | Write a C code to find biggest of n numbers using Single Dimensional arrays. | [5+5] |
| OR | | |
| 5.a) | What are User defined functions? Give examples. | |
| b) | Write a C code to find the sum of squares of first N natural numbers using Recursion. | [4+6] |

QA QA QA QA QA QA QA G

- 6.a) What is pointer to pointer? Explain with an example.
- b) Explain various Memory Allocation functions? Write the syntaxes of them. [3+7]

OR

QA QA QA QA QA QA QA G

- 7.a) Write about various String manipulation functions.
- b) Write a C program to copy two given strings into third string. [5+5]

- 8.a) What are Enumerated data types? Explain. Write its applications.
- b) Write a C program for printing Months names using Enumerated data types. [5+5]

OR

QA QA QA QA QA QA QA G

- 9.a) Discuss about text file opening operation with various modes.
- b) Write a C program to read the contents of a file and display the same. [5+5]

- 10. Write about Linear Search method and explain with an example. And write the logic of it in C. [10]

OR

- 11. Explain Queue and its operations and write the C code for the Queue operations. [10]

QA QA QA QA QA QA QA G

QA QA QA QA QA QA QA G

QA QA QA QA QA QA QA G

QA QA QA QA QA QA QA G

QA QA QA QA QA QA QA G