R.N.G.PATEL INSTITUTE OF TECHNOLOGY-RNGPIT
(An Autonomous College U/s UGC Act 1956)

B.Tech SEMESTER - I, SEMESTER END EXAMINATION – SUMMER 2025

Subject Code: 1IT101	**Date: 06-06-2025**
Subject Name: FUNDAMENTALS OF COMPUTER PROGRAMMING	
Time: 11:00AM to 01:30PM	**Total Marks: 70**

Instructions

1. It is **compulsory** for students to write **Enrolment No. /Seat No.** on the question paper.
2. Write answers of **Section A** and **Section B** in **separate answer books**.
3. Attempt all questions from both **Section A** and **Section B**.
4. Each section carries **35 marks**, with a total of **70 marks** for the examination.
5. The figures to the right of each question indicate full marks, make suitable assumptions with justification.
6. BL - Bloom's Taxonomy Levels (R-Remember, U-Understanding, A –Application, N –Analyze, E – Evaluate, C -Create), CO - Course Outcomes.

SECTION A

		Marks	BL	CO
Q.1	**Multiple-Choice Questions**	**[05]**		
(a)	How to write a single line comment in 'C' program?	1	R	1

    (i) //   **(ii)** */ … */

    (iii) /* … */   **(iv)** Both i and ii

		Marks	BL	CO
(b)	Which keyword is used for the value obtained in the function for giving back to the main function?	1	R	4

    (i) Static   **(ii)** Return

    (iii) New   **(iv)** Volatile

		Marks	BL	CO
(c)	What will be the output of the following C code?	1	U	4

```c
#include <stdio.h>
 void main()
 {
   m();
 }
 void m()
 {
  printf("hi");
   m();
 }
```
    (i) Compile time error   **(ii)** hi

(iii) Infinite hi   **(iv)** Nothing

(d) What will be the output of the following C code?   **1**   **U**   **5**

```c
#include <stdio.h>
int main()
{
    int i = 10;
    void *p = &i;
    printf("%d\n", (int)*p);
    return 0;
}
```

  (i) Compile time error   **(ii)** 10

  (iii) Undefined behavior   **(iv)** Runtime error

(e) If the mode includes b after the initial letter, what does it indicates?   **1**   **U**   **5**

  (i) Text file   **(ii)** Big text file

  (iii) Binary file   **(iv)** Blueprint file

Q.2   **Attempt Any Two**   **[10]**

  (a) Enlist all the operators in 'C' program. Explain any four operators in detail.   **5**   **R**   **1**

  (b) Write a 'C' program to compute Fahrenheit from Centigrade (Hint: f = 1.8 *c   **5**   **U/A**   **1**
+ 32)

  (c) Write an algorithm and draw the flowchart to calculate sum of digits of a given   **5**   **U**   **1**
number N.

Q.3   **Attempt Any Two**   **[10]**

  (d) Write a 'C' program which uses a user defined function that receives an   **5**   **U/A**   **4**
integer and returns square and cube of it and prints in main function.

  (e) Explain the concept of call by value and call by reference with an example.   **5**   **R**   **4**

  (f) Define Recursion. Write a 'C' program to find the factorial of any given   **5**   **U**   **4**
number using recursion.

Q.4   **Attempt Any Two**   **[10]**

  (a) Define Union. Describe how to declare, initialize and access members of   **5**   **U**   **4**
union with an example.

  (b) Enlist the advantages of pointer. Write a 'C' program to perform summation   **5**   **U/A**   **5**
of two numbers using pointer to function.

  (c) List and discuss file handling functions used in C.   **5**   **R**   **5**

SECTION B

	Marks	BL	CO

Q.5 **Multiple-Choice Questions** **[05]**

(a) What is the purpose of the scanf() function in C? **1** **R** **1**

    (i) To display output to the console.   **(ii)** To open files for reading.

    (iii) To read formatted input from the user.   **(iv)** To create new variables.

(b) Which of the following option is the correct representation of the following C statement? **1** **A** **1**
e = a * b + c / d * f;

    (i) e = (a * (b +(c /(d * f))));   **(ii)** e = ((a * b) + (c / (d * f)));

    (iii) e = ((a * b) + ((c / d)* f));   **(iv)** e = (a * (b +((c / d) * f)));

(c) Which of the following operator has the highest precedence in the following? **1** **R** **1**

    (i) ()   **(ii)** sizeof()

    (iii) +   **(iv)** *

(d) Which of the following are unary operators? **1** **R** **1**

    (i) ++   **(ii)** sizeof()

    (iii) -   **(iv)** All mentioned

(e) What is the output of the following code? **1** **R** **1**
int a = 5;
float b = 2;
printf("%d", a / b);

    (i) 2.5   **(ii)** 2

    (iii) 3   **(iv)** None of the mentioned

Q.6 **Attempt Any Two** **[10]**

(a) Differentiate while and do-while loop. **5** **U** **2**

(b) Explain conditional operator with syntax and example. **5** **U** **2**

(c) Write a C program to find the largest number among three numbers. **5** **A** **2**

Q.7   **Attempt Any Two**   **[10]**

    (a) Write a C program for following pattern: **5**   **A**   **2**
```
*
* *
* * *
* * * *
* * * * *
```

    (b) What is an Array? Explain with declaration and initialization.   **5**   **U**   **3**

    (c) Explain any five string handling functions with an example.   **5**   **U**   **3**

Q.8   **Attempt Any Two**   **[10]**   **3**

    (a) Explain storage for strings with an example.   **5**   **U**   **3**

    (b) Write a C program to create a file, write in it and close the file.   **5**   **A**   **3**

    (c) Explain file handling functions.   **5**   **U**   **3**

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