

(7 pages)

S.No. 2765

21UCA01/ 21UCS01/ 21UIS01
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(For the candidates admitted from 2021-2022 onwards)

**B.C.A./B.Sc. DEGREE EXAMINATION,
JANUARY 2022.**

First Semester

PROBLEM SOLVING THROUGH C

(Common for B.Sc. CS/IS)

Time : Three hours

Maximum : 75 marks

PART A — ($15 \times 1 = 15$ marks)

Answer ALL questions.

All questions carry equal marks.

1. _____ is the set of programs associated with a computer.
 - (a) Program
 - (b) Software
 - (c) Hardware
 - (d) Firmware

2. A variable can be made constant by declaring it with the qualifier _____ at the time of initialization.
- (a) Const (b) Static
(c) Extern (d) Short
3. What is the output of the following program?
- ```
main () { int a=100, b=200; printf("%d", (a>b)?
a:b);}
```
- (a) 100                      (b) 200  
(c) a                      (d) b
4. What is the output of this C code?
- ```
void main()  
{  
    int k = 0;  
    for (k< 3; k++)  
        print("Hello");  
}
```
- (a) Compile time error
(b) Hello is printed thrice
(c) Nothing
(d) Varies
5. What is the result after execution of the following code if a is 10, b is 5, and c is 10?
- ```
if ((a> b) && (a <= c))
 a = a + 1; else c = c + 1;
```
- (a) a = 10, c= 10              (b) a = 11, c = 10  
(c) a = 10, c = 11              (d) a = 11, c =11

- (a) Compiler error is thrown
- (b) 0 value will be returned
- (c) 1 value will be returned
- (d) some garbage value will be returned

(a) %s                      (b) %c  
(c) %f                      (d) %d

- I. The body of the function should have only one return statement.
  - II. The body of a function may have many return statements.
  - III. A function can return only one value to the calling environment.
  - IV. If return statement is omitted then the function does its job but returns no value to the calling environment
- (a) I and II                      (b) I and III
- (c) II and III                    (d) II and IV

9. Choose a correct statement about C String. `char ary[] = "Hello.....!"`;
  - (a) Character array, `ary` is a string
  - (b) `ary` has no Null character at the end
  - (c) String size is not mentioned
  - (d) String cannot contain special characters
10. Which one is an indirection operator from the following?
  - (a) `&`
  - (b) `*`
  - (c) `->`
  - (d) `.`
11. Which of the following cannot be a structure member?
  - (a) function
  - (b) structure
  - (c) pointer
  - (d) array
12. Determine the output.

```
void main()
{
 char *p
 p- "Hello";
 printf("%c", *&*p);
}
```

  - (a) Hello
  - (b) Error
  - (c) H
  - (d) o

13. `getc()` returns EOF when
- (a) When `getc()` fail to read the character
  - (b) When end of file is reached
  - (c) Both (a) and (b)
  - (d) None of the above
14. What type of array is generally generated in Command-line argument?
- (a) Single dimensional array
  - (b) 2-Dimensional Square Array
  - (c) Jagged Array
  - (d) 2-Dimensional Rectangular Array
15. What is the C Preprocessor directive to be used to add a header file or any file to existing C program?
- (a) `#add`
  - (b) `#define`
  - (c) `#include`
  - (d) `#macro`

PART B — ( $2 \times 5 = 10$  marks)

Answer any TWO questions.

(All questions carry equal marks)

16. How to evaluate an expression? Explain it with example.
17. Compare while and do...while looping statement?
18. Write a C program to read a string from terminal and write the string on screen.
19. List out the benefits of using pointer in c.
20. Describe the use and limitations of the functions `getc()` and `putc()`.

PART C — ( $5 \times 10 = 50$  marks)

Answer ALL questions.

(All questions carry equal marks)

21. (a) Explain the components of Computer.

Or

- (b) List out and explain types of constants with example.

22. (a) Illustrate looping statements with example.

Or

- (b) Explain Multidimensional array with example.

23. (a) Explain about user defined function and need for user defined function.

Or

- (b) Discuss about the scope and lifetime of variables in functions

24. (a) Explain how to implement functions in structure with example?

Or

- (b) How to initialization a pointer variable and accessing a variable through its pointer?

25. (a) Explain about random access to file function.

Or

- (b) Describe in details on defining, opening and closing a file.

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