



First Year (F.Y.B.C.A.Science)  
BCA-12101: Advanced C Programming

(Semester II)

Program: BCA  
Program Specific: BCA(Sci)  
Course Type: Major  
Paper: I

Credits: 2  
Time: 2 Hours  
Max. Marks: 30  
SET: A

*Instructions to the candidate:*

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks.
- 3) Draw a well labelled diagram wherever necessary.

SECTION: A

Q1) Answer all of the following.

[5 X 1= 5]

1. Which function is used for reading a multi-word string?
2. Name the preprocessor directive used for file inclusion.
3. Calculate number of memory bytes required for below structure.

```
struct student
```

```
{
```

```
int rollnum;
```

```
char name[ 12 ];
```

```
};
```

4. Which type of pointer does not point to any memory location?
5. Which format specifier used to print Hexadecimal address of variable?

SECTION: B

Q2) Answer any five of the following.

[5 X 2 =10]

1. Explain Nested Macro with example.
2. Write a code to create a union employee having fields emp\_id, emp\_name and salary.
3. Define 1) void pointer 2) Null pointer
4. Explain use of strcpy () function with suitable example.
5. What is multiple indirection?
6. Explain any two predefined macros with example.

7. Trace the output.

```
void setToZero (int *a)// function definition
{
*a = 0;
}
int main()
{ int a = 10;
printf("Before calling the function a = %d\n",a);
setToZero(&a); //function call
printf("After calling the function a = %d\n",a);
return 0;
}
```

**SECTION: C**

**Q3) Answer any two of the following.**

**[2 X 5= 10]**

1. Write a C program to interchange values of two integers using pointers.
2. Explain Bitfield concept with example.
3. What is the purpose of the typedef keyword in C programming? Provide an example demonstrating the application of typedef with a structure.
4. Write a program to store and access “id, name and percentage” for 3 students using array of structures.

**SECTION: D**

**Q4) Attempt any one of the following.**

**[1X 5 = 5]**

1. What is array of pointers? explain with example.
2. Differentiate between structure and union.

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