

**Bharti Vidyapeeth's
Institute of Computer Applications and Management
A-4, Paschim Vihar, New Delhi-63**

MCA-01st Semester , Internal Examination, Batch: 2015-18

<i>Paper Code: MCA 103</i>	<i>Subject: Programming in C (2010 Onwards)</i>
<i>Max. Marks: 45</i>	<i>Max. Time: 02 Hrs</i>
<i>Note: Attempt one question from each unit including Q.no.1 which is compulsory.</i>	

Q.1. Attempt any ten questions, Answer briefly: (15 Marks)

- i. With example code explain the lifetime of an automatic variable?
- ii. What will be the position of the file marker: `fseek(ptr,0,SEEK_CUR);`
- iii. Predict the output of the following code and explain the reason:

```
int main() { char *str1="abcd";  
char str2[]="abcd";  
printf("%d %d %d",sizeof(str1),sizeof(str2),sizeof("abcd")); return 0; }
```
- iv. Predict the output of the following code and explain the reason:

```
int main() {  
char not;  
not=!2;  
printf("%d",not); return 0; }
```
- v. Predict the output of the following code and explain the reason:

```
#define FALSE -1  
#define TRUE 1  
#define NULL 0  
int main() {  
if(NULL)  
puts("NULL");  
else if(FALSE)  
puts("TRUE");  
else  
puts("FALSE");  
return 0; }
```
- vi Predict the output of the following code and explain the reason:

```
struct point  
{ int x;  
int y; };  
struct point origin,*pp;  
main()  
{ pp=&origin;  
printf("origin is(%d%d)\n",(*pp).x,(*pp).y);  
printf("origin is (%d%d)\n",pp->x,pp->y);}
```
- vii. Variable Declarations can appear anywhere in a C program (True/False)
- viii. The switch can only test for _____.
- ix. _____ keyword helps in exiting from a loop.

- x. Explain the usage of the keyword `extern` with example.
- xi. Write a function to demonstrate the difference between the use of `auto` and `register` variables.
- xii. Write a function to demonstrate a pointer to a function
- xiii. Discuss the `#define` and `#undef` preprocessor with an example.
- xiv. Differentiate between `exit()` and `atexit()` using code example.

UNIT-I

Q.2. a. Discuss the performance of `if-elseif` ladder and `switch` statements (5)
example code.

b. Write a program that uses a recursive function to sum the digits of a number. (5)

OR

Q.3. a. Write a program that accepts values from user in a 2-Dimensional 3 by 3 (5)
array and displays the sum of all of its elements.

b. Write a program that uses a recursive function to sum first `n` numbers. (5)

UNIT-II

Q.4. a. Differentiate between constant pointer and pointer to a constant with example. (5)

b. With an example explain how we can define a new data type in C (5)

OR

Q.5. Explain the usage of all dynamic memory allocation functions in C with (10)
Example program

UNIT-III

Q.6. a. Write program to demonstrate the use of different functions resulting in (6)
abnormal program termination in C

b. Explain the different modes in which a file can be opened in C. (4)

OR

Q.7. a. Write a program to demonstrate the use of `bsearch()` function to find a (5)
character from an array containing all 26 characters of the English alphabet.

b. Explain with an example how formatted I/O can be accomplished in a file in C. (5)

*******ALL THE BEST*******