

**NEW**

**2015**

**BCA**

**1st Semester Examination**

**PROGRAMMING IN C**

**PAPER—1102**

*Full Marks : 70*

*Time : 3 Hours*

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

*Attempt Q. No. 1 and any four from the rest.*

1. Attempt any *five* questions : 5×2
- (a) How do you pass parameters to main () function ?
  - (b) Give any two differences between compilers and interpreters.
  - (c) What will be the output of the program ?

*(Turn Over)*

```

# include <stdio.h>
int main ()
{
    int i = 2;
    printf ( "%d, %d\n", ++i, ++i);
    return 0;
}

```

- (d) What is function prototype ?
- (e) How does '&' differ from '&&'?
- (f) What is meant by explicit type casting ?
- (g) What is a recursive function ? Give an example.
2. (a) Compare if-else and switch statement with example. 4
- (b) Show the use of the typed of keyword in C to define a structure. 3
- (c) Find the number of bytes required to store the array : 2
- ```
int *x [2][5];
```
- (d) Write a program to calculate factorial of a given number using recursive function. 6
3. (a) Write down the Syntax of Switch Case Construct. What is the purpose to use break statement? 2
- (b) Write down the difference of : 3+3
- (i) getch ( ) of getche ( )
- (ii) structure of union.

- (c) What is the output of the following statement :
- ```
char name [10] = "VU";  
scanf ("%C", name);  
printf ("%S", name);
```
- 2
- (d) Write a C program to check whether a given number is prime or not. 5
4. (a) Distinguish between local & global variables. 3
- (b) What do you understand by a block scope for an identifier? How do nested blocks affect the accessibility of identifiers? 2+2
- (c) What are storage classes? What do they define? 1+2
- (d) What is the use of the extern keyword? Illustrate with an example. 3
- (e) What is the difference between function static and file static variable? 2
5. (a) What is function prototype? Explain with example. 3
- (b) Clearly differentiate between function prototype, function definition and function call. 4
- (c) Write down the following differences :
- (i) Actual parameter & Formal parameter.
- (ii) Call by value & Call by references. 3+3
- (d) When the return statement mandatory in a function? 2

6. (a) What is Array ? Write down the types of array. 1+2
- (b) What is Array of Pointer & Pointer of Array ? 2+2
- (c) What is the null character and what is it used for, in the context of string ? 2
- (d) Write a C program to count the number of Vowels, Consonants and Space in a line. 6
7. (a) What is the function of a Pointer Variables ? What are its uses ? 1+2
- (b) Explain the difference between the address operator '+' and bitwise operator '&' with examples. 2
- (c) What do you think a void pointer needs to be explicitly type cast before being dereferenced ? 3
- (d) What do you understand by a pointer to a pointer ? Can this be extended to any level ? Verify. 3
- (e) Write a C program to search a word into a string using pointer :

[ Example : I saw the cat click the mouse.

O/P → The String 2 is found at position 6 in String 1]

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