



BRAINWARE UNIVERSITY

Course – BCA

Principles of Programming Language (BCA201 / BCAC201)

(Semester – 2)

Time allotted:3 Hours

Full Marks: 70

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group –A

(Multiple Choice Type Questions)

10 x 1 = 10

1. *Choose the correct alternative from the following*

(i) In C language, an array is

- | | |
|---|---|
| a. a collection of heterogeneous data type. | b. a collection of homogeneous data type. |
| c. a user defined data type. | d. None of these |

(ii) Which one is the correct output?
`char a[]="language\0/programming";
printf("%d",strlen(a));`

- | | |
|-------|------|
| a. 10 | b. 9 |
| c. 8 | d. 0 |

(iii) Pointer is

- | | |
|---|-------------------|
| a. a variable containing the address of a variable. | b. a value. |
| c. a memory location. | d. None of these. |

(iv) Which of the following is not a valid relational operator?

- | | |
|-------|-------|
| a. * | b. == |
| c. >= | d. <= |

5. Write a C program to find the length of a string without using string library function like strlen(). [5]
6. Write a C program to generate a Fibonacci Series up to an user define range. [5]

Group – C

(Long Answer Type Questions)

3 x 15 = 45

Answer any *three* from the following

7. (a) How many types of storage classes does the C language support? Give the features of each storage class with examples. [2+8]
- (b) What is array of pointers? Exemplify it. [5]
8. (a) Define tail recursion with example. [5]
- (b) What are the differences between recursion and iteration? [5]
- (c) Write a recursive function to find the factorial of a number. [5]
9. (a) Explain with suitable example, the difference between structure and union in C language. [5]
- (b) Write a C program to compare two files to check whether they are identical or not. [10]
10. (a) Write down the difference between malloc() and calloc(). [5]
- (b) What are the utility of enumerated data types? [5]
- (c) Write a C program to find the largest of n numbers using array. [5]
11. Write short notes on any *three* of the following: [3x5]
- (a) Macro.
- (b) Dynamic memory allocation..
- (c) Array of structures.
- (d) Function prototype.
- (e) Increment and decrement operator.