

## **BRAINWARE UNIVERSITY**

#### Course - BSc(CS)

# **Principle of Programming Language (BCSC 201)**

(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 Question)  $10 \times 1 = 10$ Answer *any ten* of the following 1. Choose the correct alternative for the following: i) for(i=0; ; i++); will result in a b) Run Time Error a) Compilation Error c) Infinite Loop d) None of these ii) strcmp() method is used to a) Compare two strings b) Count String length c) Concatenate two strings d) Not a valid Function iii) If p is a integer pointer declared as int \*p; and holding an address 1000, what will be the result of p++? b) 1002 a) 1001 c) 1003 d) Compilation Error Which of the following operator can be used to access value at address stored in a pointer iv) variable? a) \* b) &

d) &&

b) Union

d) Array

c) #

a) Structure

c) Pointer

union keyword is used in C programming to create a

v)

vi)	A double pointer can hold address of a			
	a) Variable	b) Constant		
	c) Another Pointer	d) All of these		
vii)	How to round-off a value 5.77 to	5.0?		
	a) ceil(5.77)	b) round-up(5.77)		
	c) round-off(5.77)	d) floor(5.77)		
viii)	malloc(sizeof(int)); will allocate			
	a) 1 byte	b) 2 bytes		
	c) 4 bytes	d) 6 bytes		
ix)	& is a/an			
	a) Binary Operator	b) Ternary Operator	b) Ternary Operator	
	c) Unary Operator	d) Not an Operator		
x)	Which of the following is not a function			
	a) strcpy()	b) printf()		
	c) sizeof()	d) gets()		
xi)	A union is defined as union $s\{int x; char c[10];\}$ . What will be the size of a union variable			
	a) 12 bytes	b) 10 bytes		
	c) 2 bytes	d) None of these		
		Group – B		
		Short Answer Type Question)	$3 \times 5 = 15$	
	An	swer any three of the following		
2.	What is a structure? How structure members are accessed? What is an array of structure? Describe with example. $1+2+2$			
3.	Write a C program to add two matrices inputted by user.			
4.	Discuss briefly about several loop control structures with example in C.			
5.	Write a C function to create and initialize a matrix and transpose it.			
6.	What is dynamic memory allocation? Why Linked List is called dynamic data structure? Write down the advantages of using linked list over array. $1+2+2$			

# Group - C

## (Long Answer Type Question)

 $3 \times 15 = 45$ 

Answer any three of the following

- 7. a) What are the major differences between if-else and switch-case.
  - b) Create a structure named Student with the attributes as: Roll, name, Department, marks. Now write a C program to create an array obtain records of 5 students and find out the maximum and average marks of the students and finally display it.

[5 + 10]

- 8. a) What is the difference between "Call by Value" and "Call by Reference".
  - b) What is the difference between local and global variable.
  - c) Write a recursive function to compute factorial of a number.

[5+3+7]

- 9. What is the difference between While loop and do-while loop? Create a menu driven program that will implement the following (a) create an array, (b) search element from this array. Proper validation check should be included.
- 10. Write short notes on any three of the following
  - A. Preprocessor Directives
  - B. strcmp() and strcat()
  - C. Actual and Formal arguments
  - D. Entry-controlled and Exit-controlled Loop

 $[3 \times 5]$ 

11. What are the different FILE operation modes available in C? Write a program to copy the text content of a file into another file.

[5 + 10]