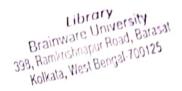




BRAINWARE UNIVERSITY



Term End Examination 2024-2025 Programme – BCA-Hons-2024/BCA(MAWT)-Hons-2024 Course Name – Problem-Solving Methodologies Course Code - VAC00012 (Semester I)

Full Marks: 60 Time: 2:30 Hours [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) 1 x 15=15 1. Choose the correct alternative from the following: (i) What is an algorithm? b) A step-by-step procedure to solve a a) A software application problem c) A programming language d) A computer hardware component (ii) "Interest rate is decreased by 2%", Select the statement below, which will display the same: a) printf("Interest rate is decreased by 2%"); b) printf("Interest rate is decreased by 2'%'"); d) printf("Interest rate is decreased by 2%"); c) printf("Interest rate is decreased by 2%%"); (iii) The variable retains its value in-between function calls is called . b) static a) auto d) extern c) register (iv) The preprocessor directives must be preceded by the symbol a) * b) & d) # c) @ (v) The keyword used to transfer control from a function back to the calling function is: b) goto a) switch d) return c) exit (vi) What will be the output for the following program segment? main() { int i; for(i=0; i < 4; ++i); printf("%d", i); } a) Compilation error b) 1234 d) 4 c) 0 1 2 3 (vii) Identify the correct functions which is used to concatenate two strings in C. b) strcat() a) strcopy() d) strlength() c) strcompare() (viii) What will be the correct output of the following program? main () { int k, num = 30; k =

(num > 5 ? (num < 10 ? 100 : 200) : 500); printf ("%d %d", num,k); }

	a) 200 30 c) 30 200	b) 30 100 d) 30 500	Brainware University 398, Ramkrishnapur Road, Barasar Kolkata, West Bengal Zoon		
(ix)	What will be the output? int i = 6; printf("%d %c		Kolkata, West Bengal-700125		
	a) 887 c) 788	b) 866 d) 877			
(×)	Identify the correct format specifier for double.				
(v:1)	a) %If c) %Id Chapse the function would be received and we single	b) %d d) %f e key from the keyboard			
(XI)	(xi) Choose the function used to receive only a single key from the keyboard.a) scanf()b) gets()				
(xii)	c) getcha() Identify which variable is accessed when global name.	d) getchar().	the same		
	a) local varable	b) global variable			
/v::::	c) compilation error	d) none of these			
(XIII	Select which operator is known as address of op				
	a) && c) !=	b) & d)			
(xiv)	(xiv) If p is a pointer variable pointing to another pointer variable, then find its correct syntax for declaration:				
	a) int *p	b) int **p			
(va.)	c) int p*	d) None of these			
(xv) If p is a variable of structure Person. Then select the correct syntax for accessing member 'name' of Person. struct Person { char name[20]; int age; } p; p;					
	a) p->name	b) p.name			
	c) *p.name	d) None of these			
Group-B					
	(Short Answer Typ		3 x 5=15		
2 14	rite short notes on:		4-1		
	strcmp()		(3)		
	strcpy()				
	strrev()				
3. Write a C program to calculate the roots of a quadratic equation.4. Write a C code to print the following pattern for n number of lines.					
	*		(3)		
*	**				
**	**				
5. Differentiate between break and continue with a suitable example.6. Design a 'C' program to print all prime numbers from 1 to 100.			(3) (3)		
De	OR esign a 'C' program to find all non fibbonacci numo	ers 1 to 100.	(3)		
Group-C (Long Answer Type Questions)					
S	evise an algorithm to reverse elements of an arrapace.		memory (5)		
8. C	onstruct a flowchart to find the maximum of thre	e numbers.	(5)		

11. 12.	Differentiate between call-by-value and call-by-reference with example. Devise a recursive function in C to find the GCD of two integers. Write a C program to find the sum of the following series: 2+22+222+222+ Write a C program to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer. Calculate percentage and grade according to following: Percentage >= 90%: Grade A Percentage >= 80%: Grade B Percentage >= 70%: Grade C Percentage >= 60%: Grade D Percentage >= 40%: Grade F	(5) (5) (5) (5)		
	OR			
Write a C program that converts a temperature from Celsius to Fahrenheit or Fahrenheit to (5)				
	Celsius, based on the user's choice, using a switch-case statement. The user should input a temperature and select the conversion option.			
	Brainwar 398, Ramkrishn	ibrary e University apur Road, Barasal Bengal-760125		