

Enrollment No.....



Faculty of Science

End Sem (Odd) Examination Dec-2019

BC3CO02 Problem Solving and Programming-I

Programme: B.Sc. (CS)

Branch/Specialisation: Computer
Science**Duration: 3 Hrs.****Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

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|-----|------|--|----------|
| Q.1 | i. | Terminal symbol in a flowchart indicates: | 1 |
| | | (a) End (b) Processing | |
| | | (c) Input/Output (d) Decision | |
| | ii. | Pseudo code is used for: | 1 |
| | | (a) Denoting the program flow | |
| | | (b) Program code | |
| | | (c) For coding the program | |
| | | (d) To write program steps | |
| | iii. | A C variable cannot start with: | 1 |
| | | (a) A number (b) A special symbol | |
| | | (c) Both (a) and (b) (d) An alphabet | |
| | iv. | Which one of the following is not a correct variable type? | 1 |
| | | (a) Float (b) Char (c) Int (d) Real | |
| | v. | #include<stdio.h> | 1 |
| | | int main() | |
| | | { | |
| | | int i = 1; | |
| | | switch(i) | |
| | | { | |
| | | printf("This is c program."); | |
| | | case 1: | |
| | | printf("Case1"); | |
| | | break; | |
| | | case 2: | |
| | | printf("Case2"); | |

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	break; } return 0; }	
	(a) Error: No default specified (b) Error: Invalid <i>printf</i> statement after <i>switch</i> statement (c) No Error and prints "Case1" (d) None of these	
vi.	#include<stdio.h> int main() { int i=1; while() { printf("%d\n", i++); if(i>10) break; }r eturn 0; }	1
	(a) There should be a condition in the <i>while</i> loop (b) There should be at least a semicolon in the <i>while</i> (c) The <i>while</i> loop should be replaced with <i>for</i> loop (d) No error	
vii.	What is an array in C language? (a) A group of elements of same data type (b) An array contains more than one element (c) Array elements are stored in memory in continuous locations (d) All of these	1
viii.	The string function to copy a string to another is: (a) strlen() (b) strcpy() (c) strcmp() (d) strcat()	1
ix.	What is the size of a C structure? (a) C structure is always 64 bytes (b) Total bytes of all the elements of the structure (c) Equal to the size of largest element in the structure (d) None of these	1

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	x. The keyword used to define a C macro is: (a) Def (b) Definition (c) Define (d) Defay	1
Q.2	Attempt any two: i. What is algorithm? Write down its advantages. ii. Explain flowcharts in detail with its symbols used. iii. Draw a flowchart to find the Fibonacci series till terms<=1000	5 5 5
Q.3	Attempt any two: i. What is data type, explain the basic data types used in C in detail. ii. Write a brief note on storage classes in C, with examples. iii. What do you mean by type conversion in C, explain implicit and explicit type conversion with examples?	5 5 5
Q.4	Attempt any two: i. Explain various operators used in C, with examples. ii. Write a C program to find the factorial of a given number. iii. Explain break, continue, goto and exit statements with examples.	5 5 5
Q.5	Attempt any two: i. What is array, types of arrays and explain memory mapping of 1D and 2D arrays. ii. Write a C program for addition of two 2D array (matrix). iii. Explain the following library functions with examples: Strlen(), strcpy(), strcat() and strcmp()	5 5 5
Q.6	Attempt any two: i. Write down a C program to enter a student record with following information about the student: Name, address, mobile no., course, fee ii. Explain #include, #define, #undef, #pragma pre-processor directives. explain Macro with example iii. Explain structure and union in C, compare structure and union with each other.	5 5 5

Marking Scheme

BC3CO02 Problem Solving and Programming-I

Q.1	i.	Terminal symbol in a flowchart indicates: (a) End		1	
	ii.	Pseudo code is used for: (c) For coding the program		1	
	iii.	A C variable cannot start with: (a) A number		1	
	iv.	Which one of the following is not a correct variable type? (d) Real		1	
	v.	#include<stdio.h> int main() (d) None of these		1	
	vi.	#include<stdio.h> int main() (a) There should be a condition in the <i>while</i> loop		1	
	vii.	What is an array in C language? (d) All of these		1	
	viii.	The string function to copy a string to another is: (c) strcpy()		1	
	ix.	What is the size of a C structure? (b) Total bytes of all the elements of the structure		1	
	x.	The keyword used to define a C macro is: (c) Define		1	
Q.2		Attempt any two:			
	i.	Definition of algorithm Its advantages	2 marks 3 marks	5	
	ii.	Flowcharts in detail with its symbols used Five symbols 1 mark for each	(1 mark * 5)	5	
	iii.	Flowchart to find the Fibonacci series till terms<=1000 I/O Logic	2 marks 3 marks	5	
Q.3		Attempt any two:			
	i.	Definition of data type Three data types used in C 1 mark for each (1 mark * 3)	2 marks 3 marks	5	
	ii.	Definition of Storage classes Three storage classes in C with example 1.5 marks for each (1.5 marks * 3)	0.5 mark 4.5 marks	5	
	iii.	Definition of type conversion in C Implicit type conversion with examples Explicit type conversion with examples	1 mark 2 marks 2 marks	5	
Q.4		Attempt any two:			
	i.	Operators used in C, with examples 1 mark for each operator	(1 mark * 5)	5	
	ii.	C program to find the factorial of a given number Input / Output Logic	2 marks 3 marks	5	
	iii.	Break, continue with example Goto and exit statements with example	3 marks 2 marks	5	
Q.5		Attempt any two:			
	i.	Definition of array Types of arrays Memory mapping of 1D and 2D arrays	1 mark 1 mark 3 marks	5	
	ii.	C program for addition of two 2D array (matrix) Input / Output Logic	2 marks 3 marks	5	
	iii.	Strlen(), strcpy(), strcat() 1 mark for each (1 mark * 3) strcmp()	3 marks 2 marks	5	
		Attempt any two:			
	i.	C program to enter a student record Input / Output Logic	2 marks 3 marks	5	
Q.6	ii.	#include, #define, #undef, #pragma pre-processor directives 1 mark for each (1 mark * 4) Macro with example	4 marks 1 mark	5	
	iii.	Union and structure definition Comparison	2 marks 3 marks	5	
