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FIRST SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2018

(CUCBCSS-UG)

Core Course (Computer Science)

BCS 1B 01—PROBLEM SOLVING USING C

(2014 Admissions)

Time: Three Hours

Maximum: 80 Marks

Part A

Answer all questions.

Each question carries 1 mark.

- 1. Which of the following is not a valid C variable name?
 - (a) int number;

- (b) float rate;
- (c) int variable_count;
- (d) int \$main;
- 2. What is the output of the following C code?

include <stdio.h>

#define a 10

int main()

const int a = 5;

 $printf("a = %d\n", a);$

(a) a = 5.

(b) a = 10.

(c) Compilation error.

- (d) Runtime error.
- 3. ———— is the arithmetic operator with lowest precedence.
- 4. A block of memory can be allocated using the function ———
- 5. Flowchart is a logic development tool (TRUE/FALSE)
- 6. Maximum number of arguments that a function can take is 12 (True/False)

Turn over

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7. Which type of files can't	be opened using fopen()?
(a) .txt.	(b) .bin.
(c) .c.	(d) None of the mentioned.
8. What is the output of the	C code?
# include <stdio.h></stdio.h>	
int main()	
int i=10;	
int *p=&I	
printf("%d\n", *p++);	
}	
(a) 10.	(b) 11.
(c) Garbage value.	(d) Address of i.
9. If there is any error whi	e opening a file, fopen() will return ———.
(a) Nothing.	(b) EOF.
(c) NULL.	(d) Depends on compiler.
10. A ——— is a collect storage.	on of data items under one name in which the items share the same
swingo.	$(10 \times 1 = 10 \text{ marks})$
	Part B
	Answer all five questions.
	Each question carries 2 marks.
11. What is the basic structu	re of a C program ?
12. What are keywords and	dentifiers?
13. Write the general form o	conditional operator and explain the evaluation procedure

14. Explain how one dimensional array is declared and initialized?

15. How pointer variables are initialized?

 $(5 \times 2 = 10 \text{ marks})$

Part C

Answer any **five** questions. Each question carries 4 marks.

- 16. Write an algorithm and draw a flowchart to find first and second largest of n numbers?
- 17. Write a program to compute the sum of digits of a given integer number to a single digit?
- 18. Explain the concept of call by value and call by reference with suitable examples?
- 19. Differentiate between structure and union with suitable examples?
- 20. Explain any two string handling functions with example?
- 21. Write a program to check whether a number is palindrome or not?
- 22. What are pointers? Explain how to perform arithmetic operations on pointers?
- 23. Write a program to display the prime numbers in a list of numbers?

 $(5 \times 4 = 20 \text{ marks})$

Part D

Answer any five questions. Each question carries 8 marks.

- 24. Explain the different types of data types available in C with examples.
- 25. Explain a) Arrays of structures b) Multidimensional arrays.
- 26. Explain different looping structures available in C with suitable examples.
- 27. Write a recursive function to generate and print first n Fibonacci numbers.
- 28. What are pointer expressions? Write a program using pointers to compute the sum of all elements stored in an array.
- 29. Write a program to merge two sorted array in to a single sorted array in ascending order.
- 30. What are Preprocessor directives in C? Explain various forms of macro substitution.
- 31. Write a program that appends one file at the end of another file.

 $(5 \times 8 = 40 \text{ marks})$