

JK LAKSHMIPAT UNIVERSITY, JAIPUR

INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination (Regular), November 2016

B. Tech in CSE (IBM Batch) Engineering, Semester I

Roll No.....

CSESP101: Software Foundation and Programming I

Time: 3 hours

Max. Marks: 100

Instructions to students:

1. Do not write anything other than your roll number on question paper.
2. Assume suitable data wherever required and mention it clearly.
3. Writing appropriate units, nomenclature, and drawing neat sketches/schematics/ flow chart wherever, required are an integral part of the answer.

Q.1A	Objective type multiple choice questions (10 questions @ 1 mark)	10
i.	A global variable is a variable (A) declared in the main () function. (B) declared in any function other than the main () function. (C) declared outside the body of every function. (D) declared any where in the C program.	
ii.	main () is an example of (A) library function (B) user defined function (C) header (D) statement	
iii.	A single character input from the keyboard can be obtained by using the function. (A) printf () (B) scanf () (C) putchar () (D) getchar ()	
iv.	If the variables i, j and k are assigned the values 5,3 and 2 respectively, then the expression $i = j + (k++ = 6) + 7$ (A) gives an error message (B) assigns a value 16 to i (C) assigns a value 18 to i (D) assigns a value 19 to i	
v.	If 'y' is of integer type then the expressions $3 * (y - 8) / 9$ and $(y - 8) / 9 * 3$ (A) must yield the same value. (B) must yield different values. (C) may or may not yield the same value. (D) none of the above.	
vi.	In the following code fragment <pre>int x, y = 2, z, a; x=(y*=2) + (z=a=y); printf ("%d",x);</pre> (A) prints 8 (B) prints 6 (C) prints 6 or 8 depending on the compiler (D) is syntactically wrong	
vii.	In a for loop, if the condition is missing, then,	

	(A) It is assumed to be present and taken to be false.	
	(B) It is assumed to be present and taken to be true.	
	(C) It results in a syntax error.	
	(D) Execution will be terminated abruptly.	
viii.	If storage class is missing in the array definition, by default it will be taken to be	
	(A) automatic	
	(B) external	
	(C) static	
	(D) either automatic or external depending on the place of occurrence.	
ix.	The maximum number of dimensions an array can have in C is	
	(A) 3 (B) 4	
	(C) 5 (D) compiler dependent	
x.	Which amongst the following expression uses bitwise operator?	
	(A) a++ (B) !a>5	
	(C) a b (D) a!=b	
Q.2	Short answer type questions (4 questions @ 2.5 marks)	10
a	The output of the following is <pre>x = 'a'; printf("%d", x);</pre> Justify the answer.	
b	What are the different modes in which a file can be opened?	
c	How to write a comment statement in C Program?	
d	Write a short note on Finite Difference used in early computing.	
Q.3A	What is an unsigned integer constant? What is the significance of declaring a constant as unsigned?	05
Q.3B	Write a for statement to print sequence of integers: 1,3,9,27,81,243.	05
Q.4A	Compare the following pairs of statements with respect to their syntax and function: a. break and continue. b. goto and break.	05
Q.4B	Write a C program to generate a series of Armstrong numbers. A number is an Armstrong number if the sum of the cube of its digit is equal to the number.	05
Q.5A	Explain the difference between a function declaration and function definition by considering example.	05
Q.5B	Differentiate between i. Static variables and auto variables. ii. Execution error and compilation error.	05
Q.6A	Admission to a college in science branch is given if the following conditions are satisfied (i) Maths marks ≥ 80 (ii) Physics marks ≥ 75 (iii) Chemistry marks ≥ 70	05

(iv) Total percentage in all three subjects ≥ 80

Given the marks in three subjects, write a program to process the applications to list the eligible candidates.

Q.6B Write a C program to test whether given pair of numbers are amicable numbers. (Amicable number are pairs of numbers each of whose divisors add to the other number) 05

OR

Q.6B Define a structure. How it is different from union? Write a C program to illustrate a structure. 05

Q.7A Define a structure for a student of university having rollno, name, address, phone number and number of subjects. Write a function to display the details of a student given its rollno. 05

Q.7B Write a program to print the following outputs using for loop. 05
1
22
333
4444
55555

OR

Q.7B Write a program to read the age of 10 persons (take input from user) and count the number of persons in the age group 50 to 60. 05

Q.8 What are compilers and interpreters? List the advantages of an interpreter over a compiler. Under which situations you will prefer to use interpreter over compiler. 10

Q.9A Define Open Standard and Open Source Software. Explain LAMP technologies and key drivers of LAMP stack in details. 10

Q.9B Write a program to read three values using scanf statement and print the following results:- 10
a. Sum of the values.
b. Average of three values.
c. Largest of the three.
d. Smallest of the three.

OR

Q.9B Describe a brief about PHP. Compare Linear Search and Binary Search with examples. 10