

Enrollment No.....



Faculty of Engineering
End Sem (Odd) Examination Dec-2022
EN3ES09 Fundamentals of Computer Science

Programme: B.Tech.

Branch/Specialisation: CSBS

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.

- Q.1 i. Standard ANSI C recognizes _____ number of keywords? **1**
 (a) 30 (b) 32 (c) 16 (d) 64
- ii. Which of the following is not a valid variable name? **1**
 (a) int _a3 (b) int _A3 (c) int _3a (d) None of these
- iii. What is the output of following code? **1**

```
#include <stdio.h>
void main()
{
  int i;
  i=1;
  for(i++;i++<=6;i++)
  i++;
  printf("\ni=%d",i);
}
```

 (a) 8 (b) 9 (c) Compiler error (d) 7
- iv. Which of the following is not correct variable type? **1**
 (a) int (b) float (c) real (d) char
- v. Choose a corrects statement about C language function arguments. **1**
 (a) Number of arguments should be same when sending and receiving
 (b) Type of each argument should match exactly
 (c) Order of each argument should be same
 (d) All of these
- vi. In which order do the following gets evaluated: **1**
 I) Relational, II) Arithmetic, III) Logical and IV) Assignment
 (a) II-I-III-IV (b) I-II-III-IV (c) IV-III-II-I (d) III-II-I-IV

P.T.O.

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- vii. Which among the following is never possible in C when members in a structure are same as that in a union? **1**
 //Let P be a structure
 //Let Q be a union
 (a) sizeof(P) is greater than sizeof(Q)
 (b) sizeof(P) is equal to sizeof(Q)
 (c) sizeof(P) is less than to sizeof(Q)
 (d) None of these
- viii. Choose the best answer- Prior to using pointer variable **1**
 (a) It should be declared
 (b) It should be initialized
 (c) It should be both declared and initialized
 (d) None of these
- ix. In the given below code the function fopen() uses “r” to open file “source.txt” in binary mode for which purpose? **1**

```
#include<stdio.h>
int main()
{ FILE *fp;
  Fp=fopen(“source.txt”,”r”);
  Return 0; }
```

 (a) For reading
 (b) For reading and writing
 (c) For creating a new file”source,txt” for reading
 (d) For creating a new file”source,txt” for writing
- x. Which type of files can’t be opened using fopen()? **1**
 (a) .txt
 (b) .bin
 (c) .c
 (d) None of these
- Q.2 i. What is variable? Explain it. **2**
 ii. Define the flowchart. Explain the symbols used in flowchart. **3**
 iii. What is data_type? List primary datatype of ‘C’. **5**
 OR iv. Write an algorithm to find roots of algebraic equation $ax^2+bx+c=0$. **5**
- Q.3 i. Give the difference between while loop and do-while loop. **2**

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- ii. (a) Explain switch statement with its syntax? **8**
 (b) Read two integer numbers a and b from keyboard. Write menu driven program to perform arithmetic operation addition, subtraction, multiplication perform on this two number according to choice enter from keyboard?
- OR iii. Discuss about control statements with example. **8**
- Q.4 i. Write a recursive function to find factorial of any number. **3**
 ii. Write a program to find the smallest and the largest number from given 10 numbers using functions. **7**
- OR iii. Discuss the difference between call by value and call by reference parameter passing technique with the suitable example. **7**
- Q.5 i. What is the purpose of union in C? Explain it with suitable example. **4**
 ii. Explain about declaration, initialization and accessing of structure and also write a program to store and display Name, Roll_number and marks of ‘n’ students using structure? **6**
- OR iii. (a) What is pointer? Explain it. **6**
 (b) Write a program to implement pointer.
- Q.6 Write a short note on any two:
 i. File handling functions **5**
 ii. Random access file functions **5**
 iii. Use of fgetc and fgets function **5**

Marking Scheme
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Q.1	i)	b) 32	1
	ii)	d)none of these	1
	iii)	b)9	1
	iv)	c)real	1
	v)	d) All the above	1
	vi)	a)2134	1
	vii)	(c)sizeof(P) is less than to sizeof(Q)	1
	viii)	(c)it should be both declared and initialized	1
	ix)	a) For reading	1
	x)	d) None of the mentioned	1
Q.2	i.	What is variable.Explain it? Variable -1 mark Example -1 mark	2
	ii.	Define the flowchart?Explain the symbols used in flowchart. Definition -1 mark Symbols used -2 mark	3
	iii.	What is data_type and List primary datatype of 'C'? data_type -1 mark primary datatype of 'C' -4 mark	5
OR	iv.	Write an algorithm to find roots of algebraic equation $ax^2+bx+c=0$?	5
Q.3	i.	Give the difference between while loop and do-while loop? Each point -1 mark	2
	ii.	a) Explain switch statement with its syntax? -4 marks b) Read two integer numbers a and b from keyboard.Write menu driven program to perform arithmetic operation addition,subtraction,multiplication perform on this two number according to choice enter from keyboard? -4 marks	8
OR	iii.	Discuss about control statements with example?	8
Q.4	i.	Write a recursive function to find factorial of any number?	3
	ii.	Write a program to find the smallest and the largest number from given 10 numbers using functions?	7

OR	iii.	Discuss the difference between call by value and call by reference parameter passing technique with the suitable example? call by value -3.5 marks call by reference -3.5 marks	7
Q.5	i.	What is the purpose of union in C.Explain it with suitable example? purpose of union -2 marks Example -2 marks	4
	ii.	Explain about declaration,initialization and accessing of structure. And also write a program to store and display Name,Roll_number and Marks of n students using structure? Structure -2 marks Program -4 marks	6
OR	iii.	(a)What is pointer.Explain it.? -3 marks (b) Write a program to implement pointer? -3 marks	6
Q.6		Attempt any two:	
	i.	File handling functions. Each function -1 mark	5
	ii.	Random access file functions	5
	iii.	Use of fgetc and fgets function Fgetc -2.5 marks Fgets -2.5 marks	5
