

No. of Printed Pages : 4

Roll No.

170836/82435

3rd Sem./ Mechatronics

Subject : Prog. IN C

Time : 3 Hrs.

M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

- Q.1
- a) Define syntax error?
 - b) What is program debugging.
 - c) Which symbol is used as start symbol in flowchart?
 - d) Write two limitations of flowcharts.
 - e) How do you declare a variable?
 - f) Define keyword?
 - g) Write syntax of for loop?
 - h) What is nested if else statement?
 - i) What is function prototype?

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- j) What are symbols used for
 - a) OR b) AND c) NOT

- k) Define operator.
- l) Write down the types of constants in C.
- m) What is address operator.
- n) What is the difference between operator and operand?
- o) Write down the difference between = and ==?
- p) "Pointer operator is unary". This statement is True or False?
- q) What is array of pointer?
- r) Write advantages of union?

SECTION-B

Note: Short answer type questions. Attempt any ten parts 10x4=40

- Q.2
- i) What is flowchart? Draw a flow chart for calculation of simple interest?
 - ii) Write down the advantages of algorithm?

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- iii) Write short note on relational operator?
- iv) What is single dimension array? How it is declared and initialized?
- v) Write a short note on call by value with suitable example.
- vi) Write a short note on return statement.
- vii) Differentiate between break and continue statement.
- viii) Write a program in C to interchange the value of two variables without using third variable?
- ix) Write down advantages of pointers
- x) Write a short note on pointer to pointer.
- xi) What are various parts of C program?
- xii) What is switch case? What is its purpose?
- xiii) Define function? How function is called. Also write down types of function?
- xiv) Write short note on arrays of structure?
- xv) Differentiate between constant and variable?

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SECTION-C

Note: Long answer type questions. Attempt any three questions. 3x10=30

- Q.3 Define an algorithm? Write an algorithm to print greater number among three numbers.
- Q.4 Explain various types of control constructs available in C language.
- Q.5 Explain difference between actual and format argument with example.
- Q.6 Write a short note on
 - a) Multidimensional array
 - b) Structures
 - c) Unions
- Q.7 What is pointer. How it is declared and initialized. Explain with suitable example.

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SECTION-A

Note: Objectives questions. All questions are compulsory (10x1=10)

(Course Outcome/CO)

- Q.1 scanf() is user defined function. (True/False) (CO-6)
- Q.2 int is a keyword in C. (True/False) (CO-3)
- Q.3 Binary operator has _____ operands. (True/False) (CO-6)
- Q.4 For Loop is used for iteration. (True/False) (CO-7)
- Q.5 _____ symbol is used as "value at address" operator. (CO-11)
- Q.6 Array is called subscripted variable. (True/False) (CO-10)
- Q.7 A single dimensional array has _____ number of subscript. (CO-10)

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Q.8 Which function is used to concatenate two strings? (CO-6)

Q.9 Which keyword is used to declare union in C. (CO-6)

Q.10 _____ is pictorial representation of algorithm. (CO-1)

SECTION-B

Note: Very Short answer type questions. Attempt any ten parts (10x2=20)

- Q.11 Define algorithm. (CO-1)
- Q.12 a) Draw the symbol used as terminal symbol in flowchart. (CO-1)
- b) Give an example of syntax error. (CO-8)
- Q.13 Which two types of function are used in C? (CO-9)
- Q.14 Define in-built function in C. (CO-9)
- Q.15 a) == is arithmetic operator in C. (True/False)
- b) < = is relational operator in C. (True/False) (CO-6)
- Q.16 a) int data type occupies _____ bytes in memory.
- b) float data type occupies _____ bytes in memory. (CO-3)

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- Q.17 Write any two decision making statement in C. (CO-2)
- Q.18 Write two purpose of continue in C. (CO-7)
- Q.19 Write two operators used in pointers. (CO-11)
- Q.20 Define index of array. (CO-10)
- Q.21 a) Array is collection of data elements of same data type. (True/False) (CO-10)
- b) _____ header file is used to handle standard string library function. (CO-6)
- Q.22 What is structure in C? (CO-5)

SECTION-C

Note: Short answer type questions. Attempt any eight questions. 8x5=40

- Q.23 Define flowchart. Explain various symbols used in flowchart. (CO-1)
- Q.24 What is program development life cycle?(CO-1)
- Q.25 Write down the difference between actual parameters and formal parameters. (CO-9)
- Q.26 How variable is difference from constant in C. (CO-3)
- Q.27 Explain the use of logical operators in C. (CO-6)
- Q.28 Explain various decision control statements in C. (CO-2)

- Q.29 What is pointer variable? How to declare pointers in C? (CO-11)
- Q.30 Write any five benefits of using pointer. (CO-4)
- Q.31 Write a program to add two matrices in C. (CO-10)
- Q.32 How structure and union are different from each other? (CO-5)

SECTION-D

Note: Long answer type questions. Attempt any three questions. (3x10=30)

- Q.33 What do you mean by structure? Explain with syntax and example. (CO-5)
- Q.34 Write difference between for loop/ while loop and do while loop by giving examples. (CO-2)
- Q.35 What is structure of a C program? Explain in details with an example. (CO-6)
- Q.36 How local variables are different from global variables in C? Explain with example. (CO-9)

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SECTION-A

Note: Objective type questions. All questions are compulsory 8×2 (10x1=10)

(Course Outcome/CO)

- Q.1 _____ is step by step solution procedure for any problem. (CO-1)
- Q.2 Printf() is user defined function is C.(True/False) (CO-6)
- Q.3 Struct is keyword in C.(True/False). (CO-5)
- Q.4 Unary operator has _____ operand. (CO-3)
- Q.5 If - else statement is used for decision making(True/False). (CO-2)
- Q.6 Which symbol is used as "address of" operator. (CO-11)
- Q.7 Array of character is called _____. (CO-6)
- Q.8 Two dimensional array has _____ number of subscript. (CO-10)

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- Q.9 Write down the name of the function used to compare two strings. (CO-9)
- Q.10 Which keyword is used for structure declaration? (CO-5)

SECTION-B

Note: Very Short answer type questions. Attempt any ten parts 8×3 10x2=20

- Q.11 Define flowchart. (CO-1)
- Q.12 a) Draw the symbol used for input / output in flowchart. (CO-1)
- b) Give any one example for syntax error in C. (CO-8)
- Q.13 Write down the two types of parameters used in C. <https://www.hsbteonline.com> (CO-9)
- Q.14 Define recursion. (CO-9)
- Q.15 a) && is logical operator in C.(True/False) (CO-6)
- b) % is arithmetic operator in C. (True/False)
- Q.16 Name any two header files used in a C program. (CO-7)
- Q.17 Write down the name of any two looping statements in C. (CO-2)
- Q.18 Write the purposes of break statement in C. (CO-7)

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- Q.19 Write two uses of pointers in C. (CO-11)
- Q.20 a) Array is collection of data elements of different data types. (True/False). (CO-10)
- b) Name the header file which is used to handle standard library string function. (CO-7)
- Q.21 Define union. (CO-5)
- Q.22 Why array is called subscripted variable. (CO-10)

SECTION-C 5 x 8

Note: Short answer type questions. Attempt any five questions out of ten questions. 5x8=40

- Q.23 Differentiate between structure and array. (CO-4)
- Q.24 Write a program to find transpose to matrix in C. (CO-10)
- Q.25 Briefly explain the steps involved in development of a program. (CO-1)
- Q.26 What is program debugging? Explain various types of errors with example. (CO-8)
- Q.27 How many types of functions are used in C? Explain in brief. (CO-9)
- Q.28 List any five characteristics of C. (CO-6)

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- Q.29 Discuss various basic data types available in C. (CO-6)
- Q.30 Explain switch statement with syntax and example. (CO-2)
- Q.31 Explain difference between "address of" and "value at address" operator in C. (CO-11)
- Q.32 What is pointer ? Explain the importance of pointer in array. (CO-4)

SECTION-D 2 x 10

Note: Long answer type questions. Attempt any three questions. 3x10=30

- Q.33 a) Explain the method of declaring structure and its variables. (CO-5)
- b) How structure members are accessed? (CO-5)
- Q.34 Discuss all types of looping statements available in C. (CO-2)
- Q.35 Explain all types of operator used in C language by giving examples. (CO-6)
- Q.36 Differentiate between call by value and call by reference. Explain with the help of example. (CO-9)

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SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 In C code, the line that begins with/ * and ends with */ is known as ? (CO-6)

- a) Multiline comment
- b) Single line comment
- c) Both A & B
- d) None of these

Q.2 Who developed C programming Language? (CO-6)

- a) James Gosling b) M.P Java
- c) Dennis Ritchie d) Blais Pascal

Q.3 Which symbol is used to assign a value to a variable.

- a) = b) ; (CO-3)
- c) / d) .

Q.4 Which access specifier is used to indicate integar data type . (CO-6)

- a) %c b) %f
- c) %d d) %s

Q.5 <= is a _____ operator. (CO-2)

- a) Arithmetic b) Unary
- c) Relational d) Logical

Q.6 How many bytes of memory does a integer data type takes for storage. (CO-2)

- a) 2 b) 4
- c) 8 d) 16

Q.7 How many keywords are available in C (CO-3)

- a) 30 b) 36
- c) 28 d) 32

Q.8 In which year C was developed (CO-6)

- a) 1972 b) 1986
- c) 1995 d) 2001

Q.9 _____ is a _____ operator. (CO-3)

- a) Arithmetic b) Unary
- c) Binary d) Relational

Q.10 Output of 8%2 is: (CO-2)

- a) 4 b) 6
- c) 0 d) 2

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 Expand PDL C. (CO-1)
- Q.12 How a pointer is declared. (CO-4)
- Q.13 Name any two header files. (CO-3)
- Q.14 What is a keyword. (CO-3)
- Q.15 Define Recursion. (CO-4)
- Q.16 Write the syntax of for loop. (CO-2)
- Q.17 Define variable. (CO-3)
- Q.18 Define Algorithm. (CO-1)
- Q.19 Define Array. (CO-5)
- Q.20 Define Function. (CO-9)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Difference between compiler & Interpreter. (CO-8)
- Q.22 Draw a flowchart to find greatest of two numbers. (CO-7)
- Q.23 Explain various operator available in C. (CO-1)
- Q.24 Explain input & output statement used in C. (CO-3)

- Q.25 Define between While & do- While loop. (CO-2)
- Q.26 Define array. Explain its various type. (CO-9)
- Q.27 Difference between structure and union. (CO-5)
- Q.28 Write a program in C to print odd numbers upto 30. (CO-7)
- Q.29 Explain various data types available in C. (CO-3)
- Q.30 Explain various forms of IF statement. (CO-2)
- Q.31 Write a program to print factorial of 5. (CO-8)
- Q.32 Explain for loop with example. (CO-2)
- Q.33 Explain various steps in development of a program. (CO-7)
- Q.34 Explain various symbols used in flowchart. (CO-2)
- Q.35 Difference between call by value & call by reference. (CO-4)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Explain various operators available in Java with example. (CO-7)
- Q.37 Define function. Explain its type with example. (CO-5)
- Q.38 Write a program to add two matrices. (CO-8)

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SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 The pictorial representation of a algorithm is called _____
a) Algorithm-
b) Program
c) Code
d) Flow chart
- Q.2 Among unary operation which operator represent increment?
a) -
b) ++
c) -
d) !
- Q.3 A function _____
a) May or may not pass parameters
b) May or may not return a value
c) Both a and b
d) None of these
- Q.4 C programs are converted into machine language with the help of
a) An Editor
b) A compiler
c) An operating system
d) None of the above

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Q.5 What is an array?

- a) An array is a collection of variables that are the dissimilar data type.
b) An array is a collection of variables that are of the same data type.
c) An array is not a collection of variables that are the same data type.
d) None of the above.

Q.6 What is the work of break keyword?

- a) Halt execution of program
b) Restart execution of program
c) Exit from loop or switch statement
d) None of the above

Q.7 C language developed at _____?

- a) AT & T's Bell Laboratories of USA in 1972
b) AT & T's Bell Laboratories of USA in 1970
c) Sun Microsystems in 1973
d) Cambridge University in 1972

Q.8 Which symbol is used as a statement terminator in C?

- a) !
b) #
c) ~
d) ;

Q.9 Which pair of functions below are used for single character I/O.

- a) Getchar() and putchar()
b) Scanf() and printf()
c) Input() and output()
d) None of these

Q.10 Continue statement is used

- a) to go to the end of the loop
b) come cut of a loop
c) exit and return to the main function
d) go to beginning of the loop

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SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 Give the syntax for the while loop in C.
- Q.12 Define Variable.
- Q.13 While defining a variables name, you can use any special character. (True/False)
- Q.14 Define pointer.
- Q.15 Give the syntax of "if statement" in C language.
- Q.16 Where are the global variables declared in a C program.
- Q.17 What are various types of comment statements used in C language.
- Q.18 A character type variable requires _____ bytes to be stored in memory.
- Q.19 Give the format specifier used for
a) Integer b) float
- Q.20 Name any two unconditional control statements in C.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Differentiate between STRUCTURE and UNION.
- Q.22 Discuss the various symbols used for constructing a flow chart.
- Q.23 Define recursion? Give the program for finding factorial of a number using recursion.
- Q.24 Write a program to print the table of a given number.
- Q.25 Give the difference between call by value and call by reference.
- Q.26 Define Array. What are the various types of arrays? Discuss in brief.
- Q.27 What are strings? Discuss any three string related

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functions

- Q.28 Are the following statements in C correct ? If not give reasons.

- a) Print ("Hello Everyone")
- b) Scanf ("%d", fact);
- c) int a==30;
- d) for (i=0, i<=10, i++)
- e) a + b = c;

- Q.29 Give advantages of using functions in a program.
- Q.30 Why do we use STRUCTURE? How a structure is declared.
- Q.31 Discuss the formatted input and output statements used in C.
- Q.32 Write a short note on any one of the following
 - i) Program Debugging
 - ii) Data type casting
- Q.33 Give the syntax of SWITCH statement. Discuss in brief.
- Q.34 Differentiate between WHILE and DO-WHILE loops.
- Q.35 What are Global and Local variables. Discuss in brief.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. 2x10=20

- Q.36 Write a program in C for multiplication of two matrices.
- Q.37 Explain the steps involved in development of a program.
- Q.38 Discuss the various operators used in C.

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