

June 2022

COMPUTER PROGRAMMING LANGUAGE

Time Allowed: 3 Hours

Full Marks: 60

Answer the following questions from Group-A, B & C as directed.

Group A

1. Choose the correct answer from the alternatives (any ten): 1 x 10
- i) The data type character used for float is a) %f b) %d c) %c d) %x
 - ii) Which of the following is not an arithmetic operator? a) || b) % c) * d) +
 - iii) The process of arranging the elements of an array in some logical order is known as a) searching b) sorting c) finding d) ordering
 - iv) clrscr() is a member of a) stdio.h b) conio.h c) math.h d) dos.h
 - v) Which syntax is used for multiple line comment in C? a) // ... b) \\ ... c) /* ... */ d) * ... *\
 - vi) A variable which is visible only in function in which it is defined is called a) Static variable c) auto variable c) external variable d) local variable
 - vii) Set of values of the same type, which have a single name followed by an index is called a) function b) structure c) array d) union
 - viii) Compiler converts the .c file into a) .class file b) .obj file c) .lib file d) .batch file
 - ix) Which of the following is not a valid C variable name? a) int number b) float rate c) int variable_count d) int \$main
 - x) What will be the output?

```
Void main() {
int a=1, b=0; if
(a,b){
printf("EXAM");
}
}
```

a) exam is printed b) EXAM is printed c) compiler error d) nothing is printed
 - xi) int **ptr; is a) invalid declaration b) pointer to pointer c) pointer d) none of the above
 - xii) How many times will the following loop execute?
for (j = 1; j <= 10; j = j-1) i) 1, ii) forever, iii) never, iv) 10.
 - xiii) How many characters can a string hold when declared as char str[20] a) 18 b) 19 c) 20 d) none of these
 - xiv) The 'Break' statement causes an exit i) Only from the innermost loop, ii) only from the innermost switch, iii) from the innermost loop or switch iv) None of these.

xv) What will be the output of the following code snippet?

```
#include <stdio.h>
int main() {
int a = 3, b = 5;
int t = a;
a = b;
b = t;
printf("%d %d", a, b);
return 0;
}
```

a) 3 5 b) 3, 5 c) 5 3 d) 5, 3

2. Fill in the blanks (any ten):

1x10

- i) Execution of the C program begins at _____.
- ii) By default return value by main() function is _____.
- iii) `int ar[4]=124;` initializes the _____ element of the array with value 124.
- iv) The statement `return 0;` returns 0 to the _____.
- v) The ASCII code for 0-9 varies from _____.
- vi) _____ is an example of escape sequence.
- vii) The operator “++” is known as _____ operator.
- viii) Function that calls itself is known as a _____ function.
- ix) 32 numbers of keywords are there in C program.
- x) The elements of an array are stored in _____ memory locations.
- xi) Pointer is a special kind of _____.
- xii) _____ is the base address of the first element in the array.
- xiii) `strcat()` is defined in _____ header file.
- xiv) _____ function can be used to read a single character.
- xv) The default storage class for local variable is _____.

3. Answer the following questions (any ten):

1x10

- i) What is header file?
- ii) What are built in functions?
- iii) What is a union?
- iv) What is global variable?
- v) How to open a file?
- vi) Why return statement is used?
- vii) What is an algorithm?
- viii) C is a mid-level Language. Why?
- ix) What is token?
- x) What is null pointer?
- xi) `int x=10, y=11, z; z=x|y;` (bitwise or) What is the value of z?
- xii) What is fire resistance rating?
- xiii) Write two relational operator names in C.
- xiv) `int x=75; printf(“%4d,%4d”, ++x, x++);` What are the output of the program segment?

Group B

4. Answer the following questions (any six):

2x6

- i) Difference between while & do-while loop?
- ii) What are the three steps needed to write a user defined function?
- iii) What do you mean by debugging?
- iv) Differentiate between syntax vs logical error.

- v) Compare toupper() andstrupr() in C.
- vi) What are the differences between malloc () and calloc ()?
- ✓vii) Differentiate between Prefix vs. Postfix operators
- ✓viii) What is the use of ternary operator?
- ✓ix) What do you mean by unary operators of C
- x) Differentiate between arrays and linked list?
- xi) What is the difference between gets(name) and scanf("%s", name)?
- ✓xii) Write a program to detect an integer either positive or negative.

Group C

5. Answer the following question (any one):

1x6

- ✓a) Write a C program to print sum of first n natural numbers.
- b) Define storage classes in C. Give a comparative study between each of them
- c) Write a program in C to accept five values from user in an array and then display the sum of them.

6. Answer the following question (any one):

1x6

- a) Draw a flowchart to display the largest number among three different numbers.
- b) Write short note on pointer arithmetic.
- ✓c) Any year is input through the keyboard. Write a program to determine whether the year is leap year or not.

7. Answer the following question (any one):

1x6

- ✓a) Compare call by value and call by reference with the help of an example program.
 - b) Differentiate between an iterative function and a recursive function.
 - c) Write a program in C to calculate the factorial of a number using recursion.
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