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END SEMESTER EXAMINATION – 2020

Semester- 4th (New)

Subject code : CAI-406

COMPUTER PROGRAMMING WITH C/C++

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks for the questions.

Instructions :

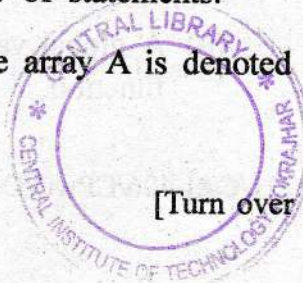
1. All questions of PART – A are compulsory.
2. Answer any five questions from PART – B.

PART – A

Marks – 25

1. Fill in the blanks : 1×10=10
 - (a) A _____ statement can be used as the replacement of multiple of statements.
 - (b) The base address of the array A is denoted by _____.

[Turn over



- (c) The parameters used in the function definition are called _____ parameters.
- (d) The header file for getch() library function is _____.
- (e) The process of converting one data to another type is called _____ casting.
- (f) The output of printf (“%d”, 17/3) ; is _____.
- (g) A _____ variable can store different types of data.
- (h) The loop that executes the body at least once is known as _____ loop.
- (i) In C++ _____ is used to initialize value to data members.
- (j) Reusability of codes in C++ is known as _____.

2. State true or false : 1×10=10

- (a) In C programming A++ and the ++A are the same.
- (b) A global variable can be accessed from any function.

- (c) A break statement is used to stop the execution of a program.
- (d) A pointer variable is a variable that stores the value of another variable.
- (e) Both getche () and getch () library functions are the same.
- (f) '\0' character is present at the end of a string.
- (g) Functions can not return more than one value at a time.
- (h) Malloc () library function is used for allocation of memory dynamically.
- (i) A structure can be nested inside another structure.
- (j) The length of a string can be obtained using strlen ().

3. Choose the correct answer : 5×1=5

- (a) Wrapping data and its related functionality into a single entity is known as
 - (i) Abstraction
 - (ii) Encapsulation
 - (iii) Polymorphism
 - (iv) Modularity

(b) What does polymorphism in OOPs mean ?

(i) Concept of allowing overriding of functions.

(ii) Concept of hiding data

(iii) Concept of keeping things in different modules/files.

(iv) Concept of wrapping things into a single unit.

(c) What is the other name used for functions inside a class ?

(i) Member variables

(ii) Member functions

(iii) Class functions

(iv) Class variables

(d) Which of the following is not a fundamental type and is not present in C but present in C++ ?

(i) int

(ii) float

(iii) bool

(iv) void

(e) Which of the following is an exit-controlled loop ?

- (i) for (ii) while
(iii) do while (iv) All of these

PART - B

Marks - 45

4. (a) What is a header file ? Name the header file for malloc () library function. 2+1=3
(b) Write a C program to input n numbers and count the odd and even numbers. 6
5. (a) Explain the use of break statement with a program in C. 3
(b) What is a flowchart ? Draw a flowchart for printing the even numbers between 50 and 100. 2+4=6
6. (a) What is advantage of a function ? How function call by value is different from function call by reference ? 2+3=5
(b) Write a program in C using a function to find the area of a circle. 4

7. (a) What is pointer variable? How would you declare a pointer to an integer? $2+2=4$
- (b) Write a C program to find the length of string without using library function. 5
8. (a) How an array is different from a structure? 2
- (b) Write a C program to enter records of n students (roll no. name, marks) and display the name of the students obtaining more than 50 marks. 7
9. Write short notes on any *three*: $3 \times 3 = 9$
- (a) Class
- (b) Data encapsulation
- (c) Inheritance
- (d) Constructor
- (e) Overloading.