Seat No. : _____

MA-139

March-2019

B.C.A., Sem.-I

CC-102 : Introduction to Programming Language using C

Time : 2:30 Hours] **[Max. Marks : 70**

1. (a) (i) Write a short note on : **7**
   (a) Basic structure of a 'C' program (b) Assembly Language
   (ii) Explain the following :
   (a) Identifiers **2**
   (b) Constants **2**
   (c) Typecasting **3**

   OR

   (i) Define flow chart. Draw Flowchart for the following : **7**
   (a) To read 3 numbers and print their sum and average.
   (b) To read 2 numbers and find maximum number from it.
   (ii) Define algorithm. Write algorithm for the following : **7**
   (a) Read a number and find its factorial.
   For example, the factorial of number 3 is $3 \times 2 \times 1 = 6$
   (b) Read a number and find out whether it is positive, negative or zero.

   (b) State whether the following statements are **true** or **false**. (Any **4** out of **6**) **4**
   (i) 3GLs are procedural languages.
   (ii) Assembly language is a low level programming language.
   (iii) The closing bracket of main() is the logical end of the program.
   (iv) Commented statements are not executed by the compiler.
   (v) Word processor is an example of educational software.
   (vi) Underscore can be used anywhere in the variable name.

2. (a) (i) Explain the following functions. **7**
   (a) printf() (b) scanf()
   (ii) Explain in detail the following functions. **7**
   (a) getchar() (b) putchar()

   OR

   (i) Explain the following operators with example.
   – Arithmetic operator. **2**
   – Relational operator **2**
   – Logical operator **2**
   – Equality operator **1**
   (ii) Explain the following with suitable example : **7**
   (a) If statement (b) If-else statement (c) Nested if-else statement

(b) State whether the following statements are **true** or **false**. (Any **4** out of **6**) **4**

(i) The modulus operator % can be used only with integers.

(ii) Increment and decrement operators have two possibilities : prefix and postfix.

(iii) Scanf() is a function of stdio.h.

(iv) An expression in if statement must be enclosed within parenthesis.

(v) C does not permit nested switch statements.

(vi) The default label in the switch statements can only be placed in the beginning.

3. (a) (i) What is an array ? **1**

Explain one dimensional and two dimensional array with suitable example. **4**

Design an array to store the marks of 7 subjects of 60 students. **2**

(ii) Explain while and do-while loop. **7**

OR

(i) Explain the use of go to and continue statement with a suitable example. **7**

(ii) Explain for loop. Give difference between for loop and do while loop. **7**

(b) Fill in the blanks with correct option. (Any **3** out of **5**) **3**

(i) The _____ is a multi-way decision statement.
(switch, if..then, if-else-if, do-while loop)

(ii) When the _____ statement is found, the rest of the statements of the loop are skipped. (default, break, case, continue)

(iii) The _____ is used to transfer the control to a specified label.
(case, for, goto, dowhile)

(iv) While loop is a _____loop. (post-test, both, pre-test)

(v) _____ number of bytes are occupied in the array *int arr1[24]*. (48, 96, 0, 1)

4. (a) (i) Explain different storage classes and its use. **7**

(ii) What is recursion ? Give an example to show its use. **7**

OR

(i) What is a user defined function ? **1**

Explain the following categories of a user defined function : **6**

(a) No arguments no return value

(b) No arguments but return value

(c) Argument but no return value

(ii) What is a string ? **1**

Explain three different ways to read a string. **6**

(c) Fill in the blanks with correct option. (Any **3** out of **5**) **3**

(i) The default storage class of a local variable is _____.
(auto, static, register, extern)

(ii) A string can be written using _____function.
(getchar(), puts(), getch(), clrscr())

(iii) String related functions are stored in _____ header file.
(stdio.h, conio.h, string.h, none)

(iv) The function that is invoked is known as _____.
(calling function, caller function, called function, None)

(v) _____ return type does not return any value. (int, char, float, void)

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MA-139

March-2019

B.C.A., Sem.-I

CC-102 : Problem Solving and C Programing

(Old Course)

Time : 2:30 Hours] **[Max. Marks : 70**

1. (A) Answer the following : **14**

   (i) Write a short note on classification of computer language. Also explain Procedural Language and Non-Procedural Language.

   (ii) Write a short note on different data types of C Programming Language. Also mention their range and size.

   OR

   Answer the following :

   (i) Explain in brief Machine level, Assembly and Higher level language.

   (ii) Draw a flow chart and also write and algorithm for printing 10 odd numbers starting from 1.

   (B) Define the range of any **four** of the following data types. **4**

   (1) int (2) float

   (3) double (4) char

   (5) long (6) short

2. (A) Answer the following : **14**

   (i) Write a short note on types of operators in C programming language.

   (ii) Write a short note on switch case.

   OR

   Answer the following :

   (i) Write a short note on precedence and associativity.

   (ii) Write a short note on if, if-else and nested if-else.

   (B) Define any **four** of the following terms : **4**

   (1) printf() (2) scanf()

   (3) getch() (4) getchar()

   (5) putchar() (6) #include

3. (A) Answer the following : **14**

(i) Write a short note on while loop and do-while loop.

(ii) Write a short note on One Dimensional Array.

OR

Answer the following :

(i) Write a short note on For loop and nested for loop.

(ii) Write a short note on Multi Dimensional Arrays.

(B) Explain in one line, any **three** of the following terms : **3**

(1) break (2) continue

(3) goto (4) exit

(5) Array

4. (A) Answer the following : **14**

(i) Write a short note on User defined functions.

(ii) Explain in detail : (a) recursion function, (b) nesting function.

OR

Answer the following :

(i) Explain in detail variable scope in an function. Also explain lifetime and visibility in function.

(ii) Explain in detail storage classes.

(B) Explain in one line any **three** of the following : **3**

(1) strcpy() (2) strcat() (3) strcmp()

(4) strlwr() (5) strlen()