SDM COLLEGE OF ENGINEERING & TECHNOLOGY, DHARWAD

Department of Computer Science and Engineering

Internal Assessment - 1

Course Title & Code: Advance C Programming (22PLC25E) Sem: II (CSE, ISE)
Date : 14-06-2023 Max. Marks : 20
Course Instructors: SSV, JCK, JDP Duration : 1 Hr.

Note: 1. Answer any one question from **Q1** and **Q2**. **Q3 is compulsory**.

Q1.

a. Distinguish between the following declarations:

i. char a[10]="SDMCET";

ii. char *p="SDMCET"; **[Marks:4, CO1]**

b. Write a C modular approach program using pointers to check whether a given string is palindrome or not. **[Marks:6, CO1]**

Q 2.

a. Write a function maxmin() which returns maximum and minimum element of a given list of 'n' elements. Use this function to compute highest and lowest marks of 'n' students in a particular course. Process the array elements using pointers.

[Marks:10, CO1]

Q3.

a. Write a C modular approach program using pointers to swap 2 numbers and print the result in the calling function. **[Marks:6, CO1]**

b. i. What is a pointer? Explain with an example how pointers are initialized?

ii. What is the output of the following code?

```
int m[2],*p=m;
m[0]=100;
m[1]=200;
printf("%d%d", ++*p,*(p+1));
```

[Marks:2M+2M, CO1]

SDM COLLEGE OF ENGINEERING & TECHNOLOGY, DHARWAD

Department of CSE and ISE

Internal Assessment - II

Course Title & Code: Advance C Programming (22PLC25E) **Date** : 22-07-2023
Semester : II **Max. Marks** : 20
Course Teachers : SSV, JCK, JDP **Duration** : 1 Hr

Note: 1. Answer any one question from **Q1** and **Q2**. **Q3 is compulsory.**

Q1.

a. Define a structure called **cricket** that will contain player name, team name and batting average as its members. Using **cricket,** write a C program to read the information about 50 players into an array **Players** and print a teamwise list containing names of players with their batting average.

[Marks:6, CO:1,5]

b. Explain the following with syntax and give an example for each.
i. register storage class ii. realloc() **[Marks:4, CO:2]**

Q 2.

a. Define a structure called **student_info** that will contain USN, Name of the student, marks in 3 IAs and CTA as its members. Using **student_info,** write a C program to read the information about 50 students into an array **Students.** Compute and print CIE (sum of best 2 IAs+CTA) marks of each student in the following format:

USN Name IA1 IA2 IA3 CTA CIE.

[Marks:6, CO:1,5]

b. Explain the following with syntax and give an example for each.
i. free() ii. extern storage class **[Marks:4, CO:2]**

Q3.

a. Differentiate between the following:
i. Structures and Unions ii. malloc() and calloc() **[Marks:4, CO:1,2]**

b. Define a structure called **Time** containing 3 members integer hour, integer minute and integer second. Write a C program to read the current time in terms of hours, minute and seconds which are the structure members and print the updated time which is incremented by 1 second in the following format hh : mm : ss by calling the function **update()** that would accept struct **Time** and returns the new time.
Hint: if the increment results in 60 seconds, then second member is set to zero and minute member is incremented by one, then if the result is 60 minutes the minute member is set to zero and the hour member is incremented by one. Finally when the hour becomes 24 and incremented by 1 then, it is set to 0.

[Marks:6, CO:1,5]

SDM COLLEGE OF ENGINEERING & TECHNOLOGY, DHARWAD

Department of CSE and ISE

Internal Assessment - III

Course Title & Code: Advance C Programming (22PLC25E) **Date** : 19-08-2023
Semester : II **Max. Marks** : 20
Course Teachers : SSV, JCK, JDP **Duration** : 1 Hr

Note: 1. Answer any one question from **Q1** and **Q2**. **Q3 is compulsory.**

Q1

a. What is the purpose of the following file handling functions with an example. **Marks:4 CO:3,5**

i. feof( ) ii. ferror( )

b. Write a modular c program to read marks of 'n' students and print the number of students who have obtained highest marks. **Marks:6 CO:4,5**

Q2

a. Explain command line arguments with an example. **Marks:4 CO:3,5**

b. Write a modular c program to search an element from the array of 'n' elements using Binary search algorithm. If element is found return its index value otherwise return -1. **Marks:6 CO:4,5**

Q3

a. Explain in detail (syntax and operations) of fseek() file handling function with an example. **Marks:4 CO:3,5**

b. Write a modular C program to sort the given marks of 'n' students in the course of C-programming using insertion sort technique. **Marks:6 CO:4,5**