COMPUTER SCIENCE HSSC–II

Time allowed: 2:40 Hours   **Total Marks Sections B and C: 62**

SECTION – B (Marks 42)

Q. 2   Answer the following questions briefly.   **14x3=42**

(i)	Write down one application for each of the following types of operating systems. **a.** Time-sharing **b.** Real time **c.** Embedded	03	OR	Write down any three differences between process and thread.	03
(ii)	How is protection system important in an operating system?	03	OR	Write down any three responsibilities of system analyst.	03
(iii)	Briefly describe any three types of deployment phase.	03	OR	Briefly describe the five states of process with diagram.	03
(iv)	Write down any three differences between if-else-if and switch statements.	03	OR	What is understood by functional and non-functional requirements in requirement gathering phase of SDLC?	03

(v)	What will be the output of following code segment?
	    int i=3;
	    int j=i++;
	    int k=++i;
	    cout<<i<< " " <<j<< " " <<k;
		03	OR	What will be the output of the following code segment?
				    for(int i=0; i<3;i++)
				    {
				        cout<< "Enter a character";
				        cin>>ch;
				        out.put(ch);
				    }
					03

(vi)	What will be the output of the following code?
	    int m=5, c=0;
	    while(c<100)
	    {
	        m=m+1;
	        c=c+1;
	    }
	    cout<<m;
		03	OR	Write down the output of the following code segment.
				    {int a=7, b=12;
				        fun(a,b);
				        cout<<a<< " " <<b;
				    }
				    void fun(int m,int &n)
				    {
				        n=n-2*m;
				        m=2*m;
				    }
					03

(vii)	**int arr[3][4]={{12,0,5,10},{7,8,19,30},{33,1,2,22}};** Write down a statement that replaces 19 with 50.	03	OR	Write a program that inputs a string and displays the number of character in it.	03
(viii)	Fill in the following table with Yes/No. 	Access	Public	Private
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Access of members in same class		
Access of members in derived class		
Access of members outside the class				03	OR	Consider the following array declaration: **int arr[8];** a. How many elements are there in the array? b. Determine the highest index of the array. c. Determine the lowest index of the array.	03
(ix)	What are strings? Briefly explain how to declare a string.	1+2	OR	Differentiate between local and static variables.	03
(x)	Compare binary files with text files in light of file handling in c++.	03	OR	Briefly describe any three modes of file opening in c++.	03
(xi)	What is the use of reference operator (&) in pointers?	03	OR	How is an array different from a simple variable? Explain with an example.	03
(xii)	Write down the syntax of using the **BOF** function in file handling.	03	OR	Briefly explain the concept of data hiding in classes using an example.	03
(xiii)	Write down any two advantages and one disadvantage of function overloading.	03	OR	Briefly explain the following terms related to array: **a.** Size of array **b.** Name of array **c.** Index	03
(xiv)	Explain the role of Project manager in SDLC.	03	OR	What is the use of break statement in c++?	03

SECTION – C (Marks 20)

Note: Attempt the following questions.   **(5x4=20)**

Q.3	Write down a c++ program that finds the area and perimeter of a square.	05	OR	Why we use pointers? What is the difference between pointer variable declaration and initialization? Explain with example.	3+1+1
Q.4	Write a c++ program that contains two integer data members which are initialized to 100 when an object is created. It has a member function **avg()** that displays the average of data members.	05	OR	Explain the difference between constant and variable with the help of programming examples.	3+2

Q.5	Explain the use of following in c++ by using examples.
	  • Continue statement
	  • Exit function
		05	OR	Write down the importance of using functions in c++. Also explain the following components of function:
				  • Function definition
				  • Function call
					2+2+1

Q.6	Write a c++ program that inputs a positive integer and prints whether it is prime or composite.	05	OR	Explain the concept of function signature. Also write down any four advantages of using functions in c++.	1+4

(B) ——