

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 any three features of Multi-user Operating System.	03	OR	How is an argument pass by value different from an argument pass by reference?	03
(ii)	Describe any three objectives of SDLC.	03	OR	How is multi-threading different from multi-tasking? Give any three reasons.	03
(iii)	Briefly explain the three steps of requirement engineering phase of SDLC.	03	OR	Write down any three differences between post-tested and pre-tested loops with example.	03
(iv)	Write down the use of string stream in file handling.	03	OR	How is a project manager responsible for planning execution and closing of a project?	03
(v)	Rewrite the following for loop into do-while loop. <pre>for(int n=0;n<10;n++) cout<<n<<" ";</pre>	03	OR	Briefly explain the concept of two-dimensional array with an example.	2+1
(vi)	Write down the purpose of <code>sizeof()</code> function in array.	03	OR	Write down the output of the following code-segment. <pre>int p,q,r; p=10; q=3; if(p%q==3) r=0; else r=1; cout<<r;</pre>	03
(vii)	Write a c++ code that prints sum of following. <pre>int arr[10]={1,2,3,4,5,6,7,8,9,10};</pre>	03	OR	Differentiate between <code>strlen()</code> and <code>strcat()</code> functions with an example.	2+1
(viii)	Briefly explain how a pointer variable is declared by using an example.	03	OR	Write down a piece of code in c++ that shows the use of inline function.	03
(ix)	Write a piece of code that shows how a string copies into another string using <code>strcpy()</code> function.	03	OR	Given the array definition: <pre>float a[5]={1,2,3};</pre> <p>a. How many elements are there in the array? b. What are the values of the first and last elements?</p>	1+2
(x)	Differentiate local and global variables.	03	OR	Briefly explain the concept of data hiding in c++.	03
(xi)	Explain the difference between the following statements if P is a pointer variable: <pre>cout<<P; cout<<*P;</pre>	03	OR	Write down the use of function overloading in terms of: • Number of arguments • Datatypes of arguments • Return types	03
(xii)	How is constructor different from destructor?	03	OR	Write a c++ code that reads 03 characters from user and stores them in a file.	03
(xiii)	How is a binary file different from a text file in c++?	03	OR	Briefly explain the concept of polymorphism with daily life example.	2+1
(xiv)	Rewrite the following code by using the conditional operator: <pre>if(a==b) cout<<"equal"; else cout<<"Not equal";</pre>	03	OR	Write down the output of the following code: <pre>int i,j,k; for(i=0,j=2,k=1;i<=2;i++) cout<<i+j+k;</pre>	03

SECTION – C (Marks 20)

Note: Attempt the following questions.

(5x4=20)

Q.3	Why is feasibility study important? Discuss any four types of it.	1+4	OR	Write down the use of type casting in c++. Briefly explain two types of casting with example.	2+2 +1
Q.4	Write down a c++ program by using class that input two values using a member function of a class named <code>input()</code> , then display the sum of two values by using another member function named <code>show()</code> .	2+2 +1	OR	What is the purpose of <code>setw</code> in c++? Also compare the use of <code>setw</code> and <code>endl</code> manipulators in c++.	2+2 +1
Q.5	Explain use of <code>exit()</code> function in c++ with an example.	4+1	OR	Write a c++ program that prints all the positive odd numbers upto 30 skipping those that are divisible by 5 using continue statement.	05
Q.6	Explain the concept of function. Also explain the use of function definition and function call with the help of examples.	2+2 +1	OR	Name four functions of operating system and explain any two functions in detail.	2+2 +1

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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? <pre>int i=3; int j=i++; int k=++i; cout<<i<< " " <<j<< " " <<k;</pre>	03	OR	What will be the output of the following code segment? <pre>for(int i=0; i<3;i++) { cout<< "Enter a character"; cin>>ch; out.put(ch); }</pre>	03												
(vi)	What will be the output of the following code? <pre>int m=5, c=0; while(c<100) { m=m+1; c=c+1; } cout<<m;</pre>	03	OR	Write down the output of the following code segment. <pre>{int a=7, b=12; fun(a,b); cout<<a<< " " <<b; } void fun(int m,int &n) { n=n-2*m; m=2*m; }</pre>	03												
(vii)	<pre>int arr[3][4]={{12,0,5,10},{7,8,19,30},{33,1,2,22}};</pre> 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. <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <thead> <tr> <th style="width: 60%;">Access</th> <th style="width: 20%;">Public</th> <th style="width: 20%;">Private</th> </tr> </thead> <tbody> <tr> <td>Access of members in same class</td> <td></td> <td></td> </tr> <tr> <td>Access of members in derived class</td> <td></td> <td></td> </tr> <tr> <td>Access of members outside the class</td> <td></td> <td></td> </tr> </tbody> </table>	Access	Public	Private	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: <pre>int arr[8];</pre> 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
Access	Public	Private															
Access of members in same class																	
Access of members in derived class																	
Access of members outside the class																	
(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. <ul style="list-style-type: none"> • Continue statement • Exit function 	05	OR	Write down the importance of using functions in c++. Also explain the following components of function: <ul style="list-style-type: none"> • 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

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