



COMPUTER SCIENCE HSSC-II

SECTION – A (Marks 13)

Time allowed: 20 Minutes

Section – A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent.

Deleting/overwriting is not allowed.

Do not use lead pencil.

حصہ اول لازمی ہے۔ اس کے جوابات اسی صفحہ پر دے کر ناظم مرکز کے حوالے کریں۔ کاٹ کر دوبارہ
لکھنے کی اجازت نہیں ہے۔ لیڈ پنسل کا استعمال ممنوع ہے۔

Version No.

4 0 0 7 1

ROLL NUMBER

① ① ① ① ①
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Answer Sheet No. _____

Invigilator Sign. _____

Fill the relevant bubble against each question according to curriculum: Candidate Sign. _____

Question	A	B	C	D	A	B	C	D
1. Which phase of the SDLC is used to assess the strengths and weaknesses of a proposed system?	Requirement engineering phase	Testing phase	Feasibility phase	Design phase	☐	☐	☐	☐
2. Which of the following operating systems executes without requiring user interaction during execution?	Batch processing OS	Time sharing OS	Multi-tasking OS	Multi programming OS	☐	☐	☐	☐
3. Which of the following DOS commands is used to display the contents of directory?	CD	MD	DIR	DEL	☐	☐	☐	☐
4. Header files are enclosed in:	[]	' '	{ }	< >	☐	☐	☐	☐
5. Which of the following escape sequences is used to play a beep sound during execution?	'\a'	'\b'	'\r'	'\n'	☐	☐	☐	☐
6. Which of the following operators has highest precedence?	!	++	*	&&	☐	☐	☐	☐
7. Which of the following is a valid case in switch structure?	case 'ab':	case x>10:	case 30:	case 2.5:	☐	☐	☐	☐
8. Which C++ statement will cause to execute the body of loop ten times?	for (a=1; a<=10; a++)	for (a=1; a<=10; a+=3)	for (a=10; a>1; a--)	for (a=1; a<10; a++)	☐	☐	☐	☐
9. The smallest subscript using int a[10] declaration is:	0	1	-1	9	☐	☐	☐	☐
10. Null character in strings is represented by the following symbol:	'\c'	'*'	'\n'	'\0'	☐	☐	☐	☐
11. a++; can also be written as:	a+=1;	a+=1;	1+=a;	1+=a;	☐	☐	☐	☐
12. In given C++ code segment, underlined element is:	Class st{ public: st(){} };	Object	Access specifier	Constructor	Destructor	☐	☐	☐
13. When reading one character at a time from a file the following function is used:	fputs()	fgets()	put()	get()	☐	☐	☐	☐



COMPUTER SCIENCE HSSC-II

26

Time allowed: 2:40 Hours

Total Marks Sections B and C: 62

SECTION – B (Marks 42)

Q. 2 Answer the following parts briefly.

14x3=42

(i)	Give any three comparisons between distributed and time-sharing operating systems.	03	OR	Differentiate between void *ptr1; and int *ptr2;	03
(ii)	Write a C++ program to determine whether the given number is divisible by 7 or not.	03	OR	Write a C++ program to input distance in kilometres and display in meters. (1km=1000 m).	03
(iii)	What is meant by function overloading? Enlist two advantages.	1+2	OR	What is meant by implementation in SDLC? Briefly explain any two implementation methods.	1+2
(iv)	Write a C++ program to print the following output using single statement: "I can wait"	03	OR	Write a C++ program to print the following sequence using any loop. 2 5 8 11	03
(v)	Identify and correct the errors in the following code segment: <pre>int a[10]; a[10.2]=30; a[-1]=20;</pre>	03	OR	Complete the given code to print following series: 1 1 2 3 5 8 <pre>int a = 0 , b=1, c; while(a _____ 8){ _____ = a+b; cout<< _____; a=b; b=c; } </pre>	03
(vi)	Predict output of the following code segment: <pre>char S1[10]="NBC", S2[10]="nbc", S3[10]; cout<<strcmp(S1, S2)<<strlen(S2); strcat(S1, S2); cout<<S1;</pre>	03	OR	Rewrite the following code using do-while loop: <pre>for(i=1;i<=10;i++) cout<<i;</pre>	03
(vii)	Why are 3xy , void and your(age) invalid variable names?	03	OR	Compare private and public access specifiers.	03
(viii)	How does constructor differ from destructor? (any three differences)	03	OR	Write down three differences between formal and actual parameters.	03
(ix)	What is control statement? Write down the purpose of any two examples.	1+2	OR	Briefly explain the use of any three file opening modes.	03
(x)	Write C++ statements for the following: a. Declare an array to store floating point numbers in 3x3 matrix b. Store 10.5 at first location c. Display the element present at last location	1+2	OR	Differentiate between pre-test and post-test loops with examples.	2+1
(xi)	Why is cin.get() used instead of cin when working with strings?	03	OR	Differentiate between (=) and (==) in C++ with examples.	03
(xii)	Predict the output: <pre>int a[5], i; a[0]=2; for(i=1; i<4; i++){ a[i]=a[i-1]*2; cout<<a[i]<<endl; } </pre>	1.5+ 1.5	OR	Write down the purpose of asterisk (*) in the following statements: a. c=a*b; b. float *p=&a; c. *p=90;	03
(xiii)	Write down any three responsibilities of system analyst.	03	OR	Write down any three features of Windows Operating System.	03
(xiv)	Predict output of following code segment: <pre>int i; for(i=1; i<=5; i++){ if(i%2==0) continue; cout<<i; } </pre>	03	OR	Rewrite using if-else statement: s= (a>0) ? a*a : a*a*a;	03

SECTION – C (Marks 20)

Note: Attempt the following questions.

(5x4=20)

Q.3	Explain five states of a process. Also discuss five features of thread with respect to process.	2.5 + 2.5	OR	What is meant by file handling? Explain binary and text files in C++.	1+4
Q.4	Why are design and development phases of SDLC important? Discuss how are both phases related with each other?	3+2	OR	Discuss two features of OOP (Object Oriented Programming) that enables code reusability in different classes and provides multiple ways of functionality usage.	2.5+ 2.5
Q.5	Write a C++ code to input time in seconds and display time in seconds, minutes and hours. e.g., 5466 seconds=1 hours 31 minutes and 6 seconds	05	OR	Write a C++ program that reads an alphabet and prints whether it is: a. Vowel or consonant b. Lowercase or uppercase	05
Q.6	Write a C++ program to input five numbers in array, display these numbers in reverse order, also display their average.	05	OR	Write a program to input two numbers and display the greater number using inline function.	05



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Version No.				
4	2	0	7	3

ROLL NUMBER						

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2	2	2	2	2
3	3	3	3	3
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5	5	5	5	5
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9	9	9	9	9

0	0	0	0	0	0	0
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6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

Answer Sheet No. _____

Invigilator Sign. _____

Fill the relevant bubble against each question according to curriculum:

Candidate Sign. _____

Question	A	B	C	D	A	B	C	D
1. Which of following is the valid process state transition?	Terminated to running state	Running to ready state	Ready to blocked state	Blocked to running state	☐	☐	☐	☐
2. Preprocessor directive starts with:	?	~	#	{ }	☐	☐	☐	☐
3. Which of the following escape sequences is used to play a beep sound during execution?	'\b'	'\a'	'\r'	'\n'	☐	☐	☐	☐
4. Which of the following is a valid case statement is switch statement?	case 20:	case 1.5:	case 'ab':	case x>10:	☐	☐	☐	☐
5. What happens to the value of a static variable between function call?	It is deleted from memory after returning from function	It is only accessible in other files	It gets reset to its initial value	It retains its previous value	☐	☐	☐	☐
6. Which of the following is reference operator?	*	&	?	#	☐	☐	☐	☐
7. Which is correct way to declare destructor?	*A()	void A()	A()	~A()	☐	☐	☐	☐
8. When reading one character at a time from a file the following function is used:	fputs()	fgets()	put()	get()	☐	☐	☐	☐
9. char name[20]="FBISE 2025"; cout<<strlen(name); will display:	11	20	9	10	☐	☐	☐	☐
10. Which statement will print the natural numbers from 1 to 10?	for(i=10; i<=1; i++) cout<<i<<"\t";	for(i=1; i<10; i++) cout<<i<<"\t";	for (i=1; i<=10; i++) cout<<i<<"\t";	for (i=1; i>=10; i++) cout<<i<<"\t";	☐	☐	☐	☐
11. a++; can also be written as:	1+=a;	1=a;	a+=1;	a+=1;	☐	☐	☐	☐
12. In which operating system job runs at different locations (computers) in a network?	Distributed	Embedded	Batch processing	Multitasking	☐	☐	☐	☐
13. Which phase of SDLC is used to assess the strengths and weaknesses of a proposed system?	Design phase	Requirement Engineering phase	Feasibility phase	Testing phase	☐	☐	☐	☐



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 parts briefly.

14x3=42

(i)	Write down any three advantages of using Time-sharing operating system over batch processing operating system.	03	OR	What is implementation method in SDLC? Compare parallel and phased implementation methods.	1+2
(ii)	Why is operating system important for process management? Give three reasons.	03	OR	Why is testing of system important in SDLC? Give three reasons.	03
(iii)	Rewrite $z = (a < b) ? a + b : a - b$; using if-else structure.	03	OR	Predict the output of following code segment: <pre>int a=50, b=3, c=15; cout<<a*b+c<<"\t"<<c/a-3<<"\t"<<b%a;</pre>	03
(iv)	What will be the output of following code segment using? <pre>for(int c=1; c<=3; c++) cout<<c*3-1<<endl;</pre>	03	OR	Write down the function prototype, having name swap with two floating point reference parameters and no return type.	03
(v)	What will be displayed after executing the following code segment? <pre>int x=5, y=10, z; z= ++x * y--; cout << x << "\t" << y << "\t" << z;</pre>	03	OR	Write C++ statements for following: a. Declare an array to store integer numbers in 3x2 matrix b. Store 51 at last location of array. c. Display element present at 2 nd row and 1 st column.	03
(vi)	What is the advantage of using void pointer? Give an example of void pointer declaration.	03	OR	Why is cin.get() used instead of cin when working with string?	03
(vii)	What will be the output of the following program segment? <pre>for(n=1; n<=10; n++) { if(n>3 && n<8) continue; cout<<n<<"\t"; }</pre>	03	OR	Compare private and public access specifiers with respect to accessibility: a. In the same class b. In derived class c. Outside the class	03
(viii)	Why are a+3 , float and 3af invalid variable names?	03	OR	Write three differences between formal and actual parameters.	03
(ix)	How polymorphism is achieved in C++? Enlist three ways.	03	OR	Why switch statement is preferable over else-if statement ? Give any three reasons.	03
(x)	Differentiate between pre-test and post-test loops with examples.	2+1	OR	Differentiate between strcat() and strcpy() with examples.	1+2
(xi)	What is inline function? Why is it used in C++?	1+2	OR	Differentiate between break and exit() with examples.	03
(xii)	Enlist the parts of function signature with their purpose.	03	OR	What are control statements? Give two examples.	2+1
(xiii)	Write down the purpose of asterisk (*) in following statements: a. meters = km * 100; b. int *p=&n; c. *p=100;	03	OR	Write three differences between Binary and Text files.	03
(xiv)	What is the purpose of assignment operator? Give one example.	2+1	OR	Briefly explain the purpose of any three file opening modes.	03

SECTION – C (Marks 20)

Note: Attempt the following questions.

(5x4=20)

Q.3	How are Project Manager and System Analyst responsible for efficient working and development of a system? Explain at least five aspects of each.	2.5+ 2.5	OR	Explain constructor and destructor class member functions with examples.	2.5+ 2.5
Q.4	Describe five states of a process. Also write down any five differences between thread and process.	2.5+ 2.5	OR	Write purpose of any five of the following C++ statements: a. #include<fstream.h> b. fstream fp; c. fp.open("abc.txt"); d. fp.close(); e. if(!fp)..... f. while(!fp.eof())	05
Q.5	Write a C++ program that reads a character and prints whether it is uppercase , lowercase or a digit .	05	OR	Write a C++ program having two functions to calculate sum of two numbers and sum of three numbers respectively. (Use the concept of function overloading by defining functions with same name and different parameters)	05
Q.6	Write a C++ program to take input weight in kg convert it into grams and pounds and display grams and pounds. (1 kg =1000 grams 1 pound=454 grams)	05	OR	Write a C++ program that inputs ten numbers in array and displays largest number in the array.	05