Version No.			

ROLL NUMBER						

Answer Sheet No._____

Sign. of Candidate _____

Sign. of Invigilator _____

COMPUTER SCIENCE HSSC–II (2nd Set)

SECTION – A (Marks 15)

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.**

Q.1 Fill the relevant bubble for each part. Each part carries one mark.

(1) Which of the following phase of SDLC involves training of personnel to use the new system?

A. System Analysis ◯ B. System Implementation ◯
C. System Design ◯ D. System Coding ◯

(2) Assume **value** is an integer variable. If the user enters **333.14** in response to the following programming statement, what will be stored in value? **cin>> value;**

A. 333 ◯ B. 33314 ◯
C. 333.14 ◯ D. Compile time error ◯

(3) Which one of the following Operating system is time bound and has a fixed deadline?

A. Embedded OS ◯ B. Distributed OS ◯
C. Time sharing OS ◯ D. Real time OS ◯

(4) What will be the last phase in SDLC?

A. Planning ◯ B. Design ◯
C. Maintenance ◯ D. Coding ◯

(5) Which one of the following header file is included in program to use **setw()** function?

A. iostream.h ◯ B. stdio.h ◯
C. iomanip.h ◯ D. conio.h ◯

(6) What will be the output of following program segment?

```
for (i = 1 ;i< 10 ;  i = i+ 5) ;
cout<<i<< " \ t ";
```

A. 11 ◯ B. 1 6 ◯
C. 1 6 11 ◯ D. Infinite iterations ◯

FBISE SOLVED PAST PAPERS

(7) In the following array definition, what value is stored in **number [4]**?

```
int number [5] = { 1, 2, 3 };
```

A. 0 ◯ B. 1 ◯
C. 2 ◯ D. 3 ◯

(8) What will be printed after executing the following code?

```
int x = 5;
if ( x++ = = 5)
cout<< " Five ";
else
if ( ++x = = 6)
cout<< " Six ";
```

A. Five ◯ B. Six ◯
C. FiveSix ◯ D. Compile time error ◯

(9) Which one of the following is a valid declaration, if a string needs to be store **10** characters?

A. char S[0] ◯ B. char S [10] ◯
C. char S [11] ◯ D. char S [12] ◯

(10) How many values a function can return at a time?

A. One value ◯ B. Two values ◯
C. Three values ◯ D. Any number of values ◯

(11) A pointer is a(n):

A. Operator ◯ B. Data type ◯
C. Keyword ◯ D. Variable ◯

(12) Which one of the following pointer hold address of any type and can be type-casted to any datatype:

A. Data ◯ B. Void ◯
C. NULL ◯ D. Function ◯

(13) Which one of the following is **FALSE** about destructor?

A. It does not accept any argument ◯
B. It deallocates memory of an object ◯
C. It can be overloaded ◯
D. There is always one destructor ◯

(14) Ofstream is a(n):

A. Command ◯ B. Class ◯
C. Object ◯ D. Method ◯

(15) Which one of the following is used to open a file for writing and move the read/write control to the end?

A. ios::ate ◯ B. ios::in ◯
C. ios::app ◯ D. ios::out ◯

FBISE SOLVED PAST PAPERS

Federal Board HSSC-II Examination
Computer Science Model Question Paper
(Curriculum 2009)

Time allowed: 2.40 hours | Total Marks: 60

Note: Answer any twelve parts from Section 'B' and attempt any three questions from Section 'C' on the separately provided answer book. Write your answers neatly and legibly.

SECTION – B (Marks 36)

Q.2 Attempt any **TWELVE** parts from the following. All parts carry equal marks. (12×3=36)

i. Write down three differences between multi-threading and multi-tasking.

ii. What is the role of Testing/ Verification phase in System Development Life Cycle?

iii. What is a named constant? Write statements for the following values that create named constants: (1+1+1)

a. 3.14159 b. 1609

iv. The following C++ code has compile time errors. The line numbers are written along the left column. They are not part of the program code. Correct at least six errors in the given code.

```
1   \* identify and correct errors *\
2   void main(void)
3   {
4       int a, b, s
5       char c = A;
6   cout<< ”enter two numbers;
7   cin>> a >> b;
8       a + b = s;
9   cout<<\n <<s;
10  }
```

v. Differentiate between declaration and initialization of a variable with example.

vi. a. Write an if-else statement that assigns **1** to **x** if **y** is equal to **100**, otherwise it should assign **0** to **x**. (2)

b. The following statement should determine if count is outside the range of 0 through 100. What is wrong with it? (1)

```
if (count < 0 && count > 100)
```

vii. Write down three differences between break statement and exit( ) function.

viii. Write down the output of the following program segments. (1+2)

a)
```
int funny = 7, serious = 15;
funny = serious % 2;
switch (funny)
{
 case  1:  cout<< "That is funny";
           break;
 case  7:  cout<< "That is serious";
           break;
 case  30: cout<< "That is seriously funny";
           break;
default :cout<< funny <<endl;
}
```

b)
```
int i,j;
for(i=1;i<= 4;i++)
{
  for(j=1;j<=i;j++)
        cout<<i * i<<" ";
        cout<<"\n";
 }
```

FBISE SOLVED PAST PAPERS

ix. What is the purpose of **sizeof( )** function? How do you find the size of an array? (1+2)

x. Write down any three differences between string and array.

xi. What will be displayed after executing the following code?

```
int test (int x, int y)
{
        return  y % x ;
}
void main(void)
{
        int a = 3, b = 70, c , d ;
        c = test(a , b);
        d = test(b , a);
        cout<< b << "\t" << c << "\t" << d <<endl;
}
```

xii. Compare local and static variables in terms of scope, lifetime, and storage duration. (1+1+1)

xiii. Write down the purpose of asterisk (*) in the following statements: (1+1+1)

a. **distance = speed * time;**
b. **int *ptr = &n;**
c. ***ptr = 100;**

xiv. What is the relationship between a class and an object?

xv. Write down three differences between a text file and a binary file?

xvi. What is stream? Write down the purpose of the following functions: (1+1+1)

a. **getline( )** b. **get( )**

SECTION–C(Marks24)

Note: Attempt any **THREE** questions. All questions carry equal marks. (3×8= 24)

Q.3 a. Explain the following functions of Operating System: (2+2)

a. Memory management b. File Management

b. Write down four differences between pretest and posttest loops. (4)

Q.4 a. Write down four responsibilities of any two personnel involved in System Development Life Cycle. (2+2)

b. Explain two-dimensional array.Initialize two-dimensional arraysof two different data types. (2+2)

Q.5 Write a program that computes and displays the charges of a patient stay in hospital. (3+3+2)

The program should ask if the patient was admitted as an in-door patient or an out-door patient.

- If the patient was an in-door patient, the following data should be entered:
  - The number of days spent in the hospital
  - The daily rate
  - Hospital medication charges
  - Charges for hospital services (lab tests, etc.)

FBISE SOLVED PAST PAPERS

- If the patient was an out-door patient the following data should be entered:
  - Charges for hospital services (lab tests, etc.)
  - Hospital medication charges

The program should use **two overloaded functions** to calculate the total charges. One of the functions should accept arguments for the in-door patient data, while the other function accepts arguments for out-door patient information. Both functions should return the total charges to the main function.

Q.6 a. Explain inheritance with daily life example. (3+1)

b. Define a class declaration named **Inventory** in a retail store with following members: (1+1+1+1)

- Private members named item number, quantity, price, and total cost.
- Constructor to the class that initialize item number, quantity, and price to **0**.
- Public member function **get** to accept data of item number, quantity, and price.
- Public member function **display** to calculate and print total cost of inventory.

* * * * *

FBISE SOLVED PAST PAPERS

COMPUTERSCIENCE HSSC-II (2nd Set)

Student Learning Outcomes Alignment Chart

(Curriculum 2009)

Sr No	Section: Q. No. (Part no.)	Contents and Scope	Student Learning Outcomes	Cognitive Level **	Allocated Marks in Model Paper
1	A: 1(i)	2.1 System Development Life Cycle	v) Explain the following: Deployment/Implementation	U	1
2	A:1(ii)	3.3 Input/ Output Handling	ii) Explain the use of cin statement to get input from the keyboard during execution of the program	U	1
3	A: 1(iii)	1.1 Introduction to Operating System	iii) Explain the following types of operating system: • Real-Time Operating System	U	1
4	A: 1(iv)	2.1 System Development Life Cycle	iii) Explain the following Maintenance/Support	K	1
5	A: 1(v)	3.3 Input/ Output Handling	vii) Use manipulators endl and setw	K	1
6	A: 1(vi)	4.2 Loops	i) Explain the use of the following looping structures: • For	A	1
7	A: 1(vii)	5.1 Introduction	iv) Explain how to define and initialize an array of different sizes and data types	U	1
8	A: 1(viii)	4.1 Decisions	i) Explain the use of the following decision statements: • Else-if	A	1
9	A: 1(ix)	5.3 Strings	iii) Explain the techniques of initializing a string	U	1
10	A: 1(x)	6.2 Passing arguments and returning values	iii) Use return statement	U	1
11	A: 1(xi)	7.1 Pointers	i) Define pointers	K	1
12	A: 1(xii)	7.1 Pointers	v) Declare variables of pointer types	U	1
13	A: 1(xiii)	8.1 Classes	v) Define constructor and destructor • Default constructor/destructor	U	1
14	A: 1(xiv)	9.1 File Handling	v) Define stream	K	1
15	A: 1(xv)	9.1 File Handling	ii) Open the file • Modes of opening file	U	1

FBISE SOLVED PAST PAPERS

16	B: 2(i)	1.3 Process Management	iii) Differentiate between: • multi-threading & multi-tasking	U	3
17	B: 2(ii)	2.1 System Development Life Cycle	v) Explain the following: • Testing / verification	K	3
18	B: 2(iii)	3.2 C++ Constants and Variables	iv) Define constant qualifier – const	K+U	1+1+1
19	B: 2(iv)	3.1 Introduction 3.2 C++ Constants and Variables 3.3 Input/ Output Handling 3.4 Operators in C++	v) Explain the purpose of comments and their syntax iv) Know the use of a statement terminator (;) v) Explain the process of declaring and initializing variables v) Explain use of the following escape sequences using programming examples • Newline – \n iii) Define an expression	U	3 (0.5 each)
20	B: 2(v)	3.2 C++ Constants and Variables	v) Explain the process of declaring and initializing variables	U	3
21	B: 2(vi)	4.1 Decisions	i) Explain the use of the following decision statements: • If • If-else	U	2+1
22	B: 2(vii)	4.1 Decisions	iii) Use break statement and exit function	U	3
23	B: 2(viii)	4.1 Decisions 4.2 Loops	i) Explain the use of the following decision statements: • Switch-default iii) Know the concept of nested loop	U	1+2
24	B: 2(ix)	5.1 Introduction	vii) Use the size of ( ) function to find the size of an array	K+U	1+2
25	B: 2(x)	5.1 Introduction 5.3 Strings	i) Explain the concept of an array i) Explain what are strings.	U	3
26	B: 2(xi)	6.2 Passing arguments and returning values	i) Pass the arguments: • By value iii) Use return statement	U	3
27	B: 2(xii)	6.1 Functions	v) Explain the difference between local and static variables	U	1+1+1
28	B: 2(xiii)	3.4 Operators in C++ 7.1 Pointers	i) Define the following operators and show their use with examples: • Arithmetic operators (*) iii) Know the use of reference operator (&) iv) Know the use of dereference operator (*)	U	1+1+1
29	B: 2(xiv)	8.1 Classes	i) Define class and object	K	3
30	B: 2(xv)	9.1 File Handling	i) Know the binary and text file	U	3

FBISE SQ WEB PAST PAPERS

31	B: 2(xvi)	9.1 File Handling	iv) Define stream v) Use the following streams • Single character • String	K	1+1+1
32	C: 3(i)	1.2 Operating System Functions	Describe the following main functions of operating system: • Memory Management • File Management	K	2+2
	C: 3(ii)	4.2 Loops	i) Explain the use of the following looping structures: • For • While • Do-while	U	4
33	C: 4(i)	2.1 System Development Life Cycle	vi) Explain the role of following in the system development life cycle • Management • Project Manager • System Analyst • Programmer • Software Tester	K	2+2
	C: 4(ii)	5.2 Two dimensional Arrays	i) Explain the concept of a two-dimensional array ii) Explain how to define and initialize a two-dimensional array of different sizes and data types	K+U	2+2
34	C: 5	6.3 Function overloading	iii) Understand the use of function overloading with: • Number of arguments • Data types of arguments • Return types	A	3+3+2
35	C: 6(i)	8.1 Classes	vii) Understand the concept of following only with daily life examples: • Inheritance	K	3+1
36	C: 6(ii)	8.1 Classes	iii) Understand and access specifier: • Private • Public v) Define constructor and destructor • User defined constructor/destructor	A	1+1+1+1

****CognitiveLevel**
K:Knowledge
U: Understanding
A:Application

FBISE SOLVED PAST PAPERS

COMPUTER SCIENCE HSSC-II (2nd Set)

Table of Specification

Assessment Objectives		Unit 1: Operating System **10%**	Unit 2: System Development Life Cycle **10%**	Unit 3: Object Oriented Programming Using C++ **10%**	Unit 4: Control Structure **15%**	Unit 5: Arrays and Strings **15%**	Unit 6: Functions **15%**	Unit 7: Pointers **5%**	Unit 8: Objects and Classes **10%**	Unit 9: File Handling **10%**	Cognitive level Marks	Cognitive level Total marks: 95	Cognitive level **%**
Knowledge	Section A			1-v-(01) 1-iv-(01)				1-xi-(01)		1-xiv-(01)	**4**	**30**	**31.6**
	Section B		2-ii-(03)	2-iii-(01)		2-ix-(01) 2-x-(01)			2-xiv-(03)	2-xvi-(03)	**12**		
	Section C	3(04)			4(04)	4(02)			6(04)		**14**		
Understanding	Section A	1-iii-(01)	1-i-(01) 1-ii-(01)			1-vii-(01) 1-ix-(01)	1-x-(01)	1-xii-(01)	1-xiii-(01)	1-xv-(01)	**9**	**45**	**47.4**
	Section B	2-i-(03)		2-iii-(02) 2-iv-(03) 2-v-(03) 2-xiii-(01)	2-vi-(03) 2-vii-(03)	2-ix-(02) 2-x-(02)	2-xii-(03)	2-xiii-(02)		2-xv-(03)	**30**		
	Section C		3(04)			4(02)					**6**		
Application	Section A				1-vi-(01)	1-viii-(01)					**2**	**20**	**21.1**
	Section B				2-viii-(03)		2-xi-(03)				**6**		
	Section C						5(08)		6(04)		**12**		
Total marks		**8**	**9**	**12**	**14**	**13**	**15**	**4**	**12**	**8**	**95**		**100**

KEY: 1-i-(01) Q.No - Part No - (Allocated Marks)

Note: (i) The policy of FBISE for knowledge based questions, understanding based questions and application based questions is approximately 30% knowledge based,50% understanding based, 20% application based.

(ii) The total marks specified for each unit/content in the table of specification is only related to this model question paper.

(iii) The level of difficulty of the paper is approximately 40% easy, 40% moderate, 20% difficult