**Pakistan School, Kingdom of Bahrain
Preboard Exams May-June 2020
Computer Science – HSSC-II**

**SECTION – A**

Time allowed: 20 minutes Marks: 15

Note: Section-A is compulsory. Do not use lead pencil.

**Q.1 Choose the correct answer i.e. A/B/C/D by filling the relevant bubble for each question on the OMR Answer Sheet according to the instructions given there. Each part carries one mark**.

1. When a process is waiting for I/O or resource to become available it is in \_\_\_\_\_ state

A. Ready B. Block C. Running D. Dispatch

1. Which operating system shares the CPU time between the multiple programs that are loaded in main memory?

A. Parallel processing operating system B. Multi-tasking operating system

C. Time sharing operating system D. Multi-processor operating system

1. Which command in disk operating system makes the disk ready to use?

A. DEL B. Defragmentation C. Change directory D. Format

1. When you create an object of a class A like **A obj ;** then which one will be called automatically

A. Constructor B. Destructor C. copy constructor D. friend function

1. What is Abstract data type in C++

A. int B. float C. Class D. Array

1. If x = 5, then after executing the statement **x\*=++x** the value of **x** will be

A. 10 B. 20 C. 30 D. 36

1. Which of the following is use to terminate a C++ program before its normal termination and exit to the operating system
2. Break statement B. Exit function C. Continue statement D. Return
3. Inheritance allow in C++ program:

A. Class Re-usability B. Extendibility C. Creating a hierarchy of class D. All

1. Choose the correct statement regarding inline functions:

A. It speeds up execution B. It slows down execution

C. It increases the code size D. Both A & C

1. A constructor is called whenever:

A. A class is used B. Object is created C. object is destroyed D. None of these

1. A case can be defined as:

A. An individual condition to test B. A set of conditions to test

C. A statement that includes an If statement D. A block of selection code

1. Which function is used to read a string from the keyboard that may contain blank spaces?
2. cin B. cin.get() C. strcmp() D. scanf()
3. Data members & member functions of a class in C++ program are by default

 A. Private B. Protected C. Public D. None of these

1. Ability to use an operator or function in multiple ways is called:
2. Inheritance B. Data Hiding C. Polymorphism D. All of these
3. The concept in which the members of a class are protected against illegal access from outside the class:
	1. Inheritance B. Data Hiding C. Polymorphism D. All of these

**Pakistan School, Kingdom of Bahrain
 Preboard Exams March 2020
Computer Science – HSSC-II**

**Time allowed: 2.40 hours Total Marks: 6**0

**Note: Sections ‘B’ ‘C’ and ‘D’ comprise pages 1-3 and questions therein are to be answered on**

**the separately provided answer book. Write your answers neatly and legibly.**

**SECTION – B** (Marks 21)

 Q.2 Attempt any **SEVEN** parts from the following. All parts carry equal marks. (7 3 = 21)

* 1. Compare Process & Thread.
	2. Differentiate between Multiprogramming and Multitasking operating system.
	3. List any six personnel involved in SDLC
		1. List 4 types of implementation in SDLC. Also briefly describe any one.
	4. Define type casting. Also find and write the values of y and z.

**double x = 12.4;**

**int y;**

**y = int (x); z = (int) x;**

* + 1. What is the usage of break & continue in C++.
	1. Differentiate between the purpose of the following functions:

***puts( )*** and ***setw( )***

* 1. List types of loops in C++. Why do while loop is executed atleast once even the condition is false
	2. Write A C++ program that reads a number & prints Whether it is DIVISIBLE BY 5 or NOT.
	3. Compare for loop and while loop

**p**age 1 of 3

**SECTION – C** (Marks 21)

 Q.3 Attempt any **SEVEN** parts from the following. All parts carry equal marks. (7 3 = 21)

1. What is function signature? List its parts
2. Define Global, Local and Static variables.
3. Write a user defined function having prototype **int sum(int a, int b);** to find and return sum of two numbers a & b.
4. How are private and public access specifiers used in C++? Give an example of each.
5. Define the terms
	* 1. Polymorphism with daily life example b. Inheritance
6. Define an array named **marks,** that has 3 rows and 4 columns and assigns it values from 1 to 12 in the declaration statement.
7. Write output of following program

int marks[ ] = { 9,10, 8, 5, 2,10, 7 } ;

for ( i=6; i>1; i -- )

marks[i]+=marks[i-1] ;

cout<<marks[i]<< “ “ ;

1. Write a program that declares two dimensional integer array of 3 rows & 3 columns & initialize it with data 12, 89, 67, 34, 78, 90, 54, 92, 39 and finds the total of all values.
2. Write any three differences between Constructor and Destructor function with respect to object oriented programming
3. Develop C++ program which have 2 classes HSSC & SSC. Class SSC is publically derived from class HSSC. Inside main() create object **S** for class SSC and have called the member functions showHSSC() of base class HSSC & showSSC() of class b

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Page 2 of 3

**SECTION – D** (Marks 18)

**Note:** Attempt any **THREE** questions. All questions carry equal marks. (3 6 = 18)

Q.4 Explain the following phases of SDLC. (3+3)

 a. Design phase b. Implementation phase

Q.5 a) Write a function Circle that reads input radius & find its area & return area to main() (3)

 b) What are Virtual functions (2)

 c) List the ways to achieve polyporphism in C++ (1)

 Q.6 a) Define Multiprocessing (1)

b) Write C++ program to print the following output using nested loop (5)

 1 2 3 4 5 6

 2 3 4 5 6

3 4 5 6

4 5 6

5 6

6

Q.7 Define a **class** **Ele\_Bill** in C++ with the following descriptions: (6)

 **Private members:**

Cname of type character array

Pnumber of type long

No\_of\_units of type integer

Amount of type float.

Calc\_Amount( ) This member function should calculate the amount asNo\_of\_units\*Cost .

 Amount can be calculated accordingto the following conditions:

**No\_of\_units Cost**

First 50 units Free

Next 100 units 1.00 @ unit

Remaining units 1.20 @ unit

 **Public members:**

 \* A function Accept( ) which allows user to enter Cname, Pnumber, No\_of\_units and invoke function Calc\_Amount().

 \* A function Display( ) to display the values of all the data members on the screen.

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Page 3 of 3