COMPUTER SCIENCE HSSC-II
SECTION-A (Marks 17)
Time allowed: 25 Minutes

Note: Section-A is compulsory. All parts of this section are to be answered on the question paper itself. It should be completed in the first 25 minutes and handed over to the invigilator. Deleting/ overwriting is not allowed. Do not use lead pencil.

Q -1: Encircle the correct option. Each part carries one mark.

1. Which one of the following types of processing has grouped transactions, executed in a sequence?

A) Real-time B) Batch
C) Time-sharing D) Distributed

2. Identify the type of system conversion in which the old system is directly replaced by the new system:

A) Pilot B) Parallel
C) Direct D) Phased

3. If a = 10; b = a++; what will be the value stored in b?

A) 1 B) 9
C) 10 D) 11

4. Which one of the following statements transfers the control to the start of loop body?

A) Switch B) Continue
C) Break D) Exit

5. If x = 5, which one of the following accesses the seventh element stored in an array A?

A) A[x++] B) A[++x]
C) A[7] D) A[x]

6. Which one of the following DOS commands is used to display content of the directory?

A) DIR B) CD
C) MD D) VIEW

7. 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

8. 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

9. 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

10. What will be the last phase in SDLC?

A) Planning B) Design
C) Maintenance D) Coding

11. 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

12. 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

13. 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

14. 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

15. Which of the following is an arithmetic operator?

A) &&
B) %
C) ++
D) <=

16. How is a single line for loop is terminated?

A) With a colon
B) With a right brace
C) With a semicolon
D) With a comma

17. Which of the following identifies the first element in an array named temp

A) temp[0]
B) temp[1]
C) temp[2]
D) temp[3]

COMPUTER SCIENCE HSSC-II

Time allowed: 2:35 Hours **Total Marks Section B and C: 68**

NOTE: Answer any FOURTEEN parts from Section B and any two questions from Section C on the separately provided answer book. Use supplementary answer sheet i.e. Sheet B if required. Write your answers neatly and legibly.

SECTION-B (Marks 42)

Q-2: Attempt any FOURTEEN parts. The answer to each part should not exceed five to six lines. [14×3=42]

i. Briefly write down three functions of an Operating System.

ii. Differentiate between process and thread along with one example of each.

iii. Write down the reasons of the following invalid variable names with the description:
i. 3a ii. S$ iii. float

iv. What will be the output of the following program segment?
```
int x = 3, y = 17;
cout << x / y << y / x << (y / x) + (x % y);
```

v. Write down the structure of a c++ program.

vi. Why header files are used in a c++ program also give two examples of header files?

vii. Write a C++ program that prints sum of squares of integers from 1 to 10.

viii. Rewrite the program segment after removing errors:
```
int a{10}, i;
cout >> " enter ten numbers ;
for (i = 1; i < 10: i++)
cin << a{i};
```

ix. What is a named constant? Write statements for the following values that create named constants:
a. 3.14159
b. 1609

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

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

xii. What is the purpose of sizeof( ) function? How do you find the size of an array?

xiii. Differentiate between if-else and else-if statements.

xiv. State three primary objectives of SDLC.

xv. State any three DOS commands with their functionalities.

xvi. Write down three difference between thread and process.

xvii. Define reserved words. Give example with description of any two.

xviii. What are the rules for declaring a variable?

xix. What is the purpose of getch() function?

xx. What is the advantage of using an array over a variable?

SECTION-C (Marks 26)

Note: Attempt any TWO Questions. Each carries equal marks. [2×13=26]

Q-3:

a) What are the objectives of System Development Life Cycle? Explain the following phases of SDLC:
   i. Feasibility
   ii. Requirement

b) Write down four differences between pretest and posttest loops with the help of while and do-while loop.

c) Write a program that reads ten numbers in an array and prints them in reverse order.

Q-4:

a) Describe any two types of loops.

b) Write a C++ program that reads a number and prints whether it is prime or composite.

c) Write a program that reads an integer between 1 to 7 that represent a day of the week starting from Monday and ending at Sunday. It prints the name of the day based on the value of the user.

Q-5:

a) Explain the following functions of Operating System:
   i. Memory management
   j. File Management

b) Define process in an operating system and describe its five stages.

c) Write a program that calculates and prints the sum of the following sequence of numbers:
   40, 44, 48, 52, ……, 90.
   Using while loop.