COMPUTER SCIENCE HSSC–II

SECTION – A (Marks 15)

Time allowed: 20 Minutes | **Version Number** | 4 | 1 | 2 | 1 |

Note: **Section – A is compulsory. All parts of this section are to be answered on the separately provided OMR Answer Sheet which should be completed in the first 20 minutes and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.**

Q. 1 **Choose the correct answer 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) The maximum capacity of int data type in C language is:

A. 255 B. 32,767 **C.** -32,769 D. 65535

2) Which one of the following is a logical operator?

A. < B. > **C.** || D. %

3) If $a = 2$ then what will be the result of the expression $1 * 1 + a - -$

A. -1 B. 3 **C.** 2 D. 4

4) The default return data type of a function is:

A. char B. double **C.** int D. float

5) In switch statement, the case block ends with a/an:

A. end select B. end case **C.** break D. case else

6) The parameters specified in function header are _____ parameters.

A. Actual B. Formal **C.** Default D. Command line

7) When writing one character at a time to a file the following function is used:

A. gets() B. fputs() **C.** fputc() D. puts()

8) Which of the following operators works ONLY with the integer values?

A. % B. + **C.** * D. /

9) Which of the following is an actual container of data?

A. Table B. Form **C.** Query D. Report

10) A table must have a:

A. Primary key B. Composite key **C.** Secondary key D. Sort key

11) The resulting collection of records in a query is called:

A. Macro B. Dynaset **C.** DFD D. Pointer

12) Which problem does occur when data is repeated in different files?

A. Data redundancy **B.** Data consistency

C. Data atomicity **D.** Data integrity

13) In 3NF, which form of dependency is removed?

A. Functional B. Non-functional **C.** Associative D. Transitive

14) An association between two or more entities is called:

A. Table B. Relation **C.** Relationship D. Link

15) $a+=b$ is equivalent to:

A. $b+=a$ B. $a=+b$ **C.** $a=a+b$ D. $b=b+a$

COMPUTER SCIENCE HSSC–II

Time allowed: 2:40 Hours **Total Marks Sections B, C and D: 60**

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

SECTION – B (Marks 21)

Note: Section – B consist of Part – I (Programming Using C Language)

Q. 2 Answer any SEVEN parts. All questions carry equal marks. **(7 x 3 = 21)**

(i) Differentiate between scanf() and gets() functions.

(ii) Differentiate between source code and object code.

(iii) What is the correct variable type in which the following information is stored?

a. Your age

b. Your marks

c. Your home city

(iv) a. What indication does a compiler get from the character % that is used in the string passed to printf()?

b. When does an overflow error occur? How can you avoid it? Give an example.

(v) Write down any three variable naming rules.

(vi) If there is a function named "factorial" of integer type and has an integer parameter "n":

a. Write the prototype for this function.

b. What will be the header of its function definition?

c. What will be the return type of this function?

(vii) What is the difference between 'include' and 'define' pre-processor directives?

(viii) Use conditional operator instead of if-else statement to produce the same output of the following piece of code:

```
int m=10;
if ( ( a==b)  I I (b>c) )
     m=1;
else
m=0;
printf( "%d" , m);
```

(ix) We use fopen() to open a file. What can happen to a file if it already exists and we use fopen() with parameters "a" , "w+" and "a+"?

(x) Write a program that accepts marks for a student and checks if he/she has passed or failed the test.

SECTION – C (Marks 21)

Note: Section – C consist of Part – I I (Database)

Q. 3 Answer any SEVEN parts. All questions carry equal marks. **(7 x 3 = 21)**

(i) What is the purpose of the following data types in MS Access?

a. Text b. Yes/No

(ii) Differentiate between Primary Key and Foreign Key.

(iii) a. Define the Degree and the Cardinality of a table.

b. What is the degree in the following table?

EMP-Code	Address	Contact
010	Lahore	2254101
022	Rawalpindi	3042951
015	Lahore	9800250
031	Gujrat	2102015
005	Peshawar	3514592

(iv) What are the uses of queries in database?

(v) Write down the advantages of using forms in MS Access.

(vi) List the main problems that can be faced in file-based management system.

(vii) Write the uses of reports in DBMS.

(viii) Differentiate between columnar ant Tabular form.

(ix) Discuss different types of relationships with E-R diagram.

(x) Differentiate between data and information with examples.

SECTION – D (Marks 18)

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

Q. 4 Complete the following table to show the values of variables used in the program during each step of execution:

Program: **(06)**

```
int i, j=3, a=0;
for (i=1;i<3;i=i+3)
 {
    do
          {
            a++;
            j--;
          }
        while (j>0);
}
        printf("%d\n",a);
        j=3;
                    }
```

Value of i	Value of j	Value of a

Q. 5 **a.** Explain role of DBA. **(03)**

b. Write down the advantages of DBMS. **(03)**

Q. 6 What is RDBMS? How many objects of RDBMS are there? **(06)**

Q. 7 Write a program that input a character from user and determines whether it is vowel or consonant using switch statement. Program should print "it is vowel" or "it is consonant". **(06)**