



Roll No.

Answer Sheet No. _____

Sig. of Candidate. _____

Sig. of Invigilator. _____

COMPUTER SCIENCE HSSC-II

SECTION – A (Marks 15)

Time allowed: 20 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 20 minutes and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.

Q. 1 Circle the correct option i.e. A / B / C / D. Each part carries one mark.

- (i) What does the # sign indicate in an instruction of C-language?
A. Instruction for the programmer B. Instruction for the compiler
C. Instruction for the linker D. Instruction for the user
- (ii) Which of the following components is used to convert first.C to first.exe?
A. Compiler and header B. Compiler and linker
C. Header and linker D. Compiler only
- (iii) Which of the following escape sequences is used to erase a character left to the cursor position?
A. `\b` B. `\del`
C. `\f` D. `\c`
- (iv) Which of the following logical operators has the highest priority?
A. `!` B. `!=`
C. `&&` D. `||`
- (v) What do the C statements end with?
A. Comma B. Colon
C. Semi Colon D. Full Stop
- (vi) If the value of $x = 10$ and $y = 5$ then what would be the output of the expression $x > y ? x * y : x + y$?
A. 5 B. 10
C. 15 D. 50
- (vii) When is **for loop** more appropriate than **while loop**?
A. The termination condition is known in advance.
B. The number of iterations is not known in advance.
C. The loop should be executed once only.
D. The loop should be executed at least once.
- (viii) A database consists of various components called _____
A. Objects B. Entities
C. Properties D. Tools
- (ix) Which of the following is true for **return** statement in a function?
A. It can return one value only. B. It can return integer value only.
C. It cannot return any value. D. It cannot be used in a function.
- (x) If `fptr = fopen("Data.txt", "r")` statement is used to open a file then what would be the necessary condition?
A. The file must already exist B. The file should be data file only
C. The file must contain valid student data D. The type of file must be read only
- (xi) Which of the following is a list of numerical values which gives the order of the records when they are sorted on a particular field?
A. Query B. Primary key
C. Secondary key D. Index
- (xii) Which of the following terms is related to the feature of cascading deletion?
A. Data integrity B. Data redundancy
C. Referential integrity D. Indexing
- (xiii) What is another name for all the attributes about an entity?
A. Field B. Record
C. File D. Database
- (xiv) Which of the database objects allows to extract specific information from tables?
A. Queries B. Forms
C. Records D. Fields
- (xv) In what type of report, each field appears on a separate line with a label to its left?
A. Sales report B. Horizontal
C. Tabular report D. Columnar report

For Examiner's use only:

Total Marks:

15

Marks Obtained:

COMPUTER SCIENCE HSSC-II

Time allowed: 2:40 Hours

Total Marks Sections B and C: 60

NOTE:- Sections 'B' and 'C' comprise pages 1–2 and questions therein are to be answered on the separately provided answer book. Answer any thirteen parts from Section 'B' and attempt any three questions from Section 'C'. Use supplementary answer sheet i.e. Sheet-B if required. Write your answers neatly and legibly.

SECTION – B (Marks 39)

Q. 2 Attempt any THIRTEEN parts. The answer to each part should not exceed 5 to 6 lines. (13 x 3 = 39)

- (i) What is the purpose of following statements in a C-language source program?
- | | |
|----------------------|----|
| a. #include<stdio.h> | 01 |
| b. #include<conio.h> | 01 |
| c. #include<math.h> | 01 |
- (ii) State three differences between Global variables and Local variables. 03
- (iii) Write down three advantages of High Level Language with respect to Machine Level Language. 03
- (iv) Define **Field** and **Record**. 03
- (v) Write the output of the following statements:
- | | |
|---|----|
| a. $(7\%2) * (+ + x)$ where $x = 2$ | 01 |
| b. $(n < 10) (n > 25)$ where $n = 25$ | 01 |
| c. $a b \& \& c$ where $a = 5, b = 10, c = 15$ | 01 |
- (vi) What is a Loop? 03
- (vii) Consider the following piece of C-language program:
- ```
int number, f, i;
printf("\n Enter a number :");
scanf ("%d", &number);
f = 1;
for(i = 1; i <= number; i ++)
f = f * i;
printf("The value of f is %d", f);
```
- |                                                     |    |
|-----------------------------------------------------|----|
| a. Write the output of the code if $number = 5$ .   | 01 |
| b. Rewrite the program by using <b>while loop</b> . | 02 |
- (viii)
- |                                             |    |
|---------------------------------------------|----|
| a. Write advantage of Referential Integrity | 02 |
| b. Define Data Redundancy.                  | 01 |
- (ix) Compare the **if-else** structure and **conditional operator** and:
- |                                           |    |
|-------------------------------------------|----|
| a. Write syntax for both.                 | 01 |
| b. Write one difference between the both. | 01 |
| c. Write one similarity in both.          | 01 |
- (x) Define the following terms:
- |                                        |    |
|----------------------------------------|----|
| a. Function body.                      | 01 |
| b. Function parameters and arguments . | 01 |
| c. Return value.                       | 01 |
- (xi) Write three advantages of the **switch statement** in C-language. 03
- (xii) What is the difference between Primary key and Secondary key? 03
- (xiii) Write three responsibilities of Database Administrator. 03
- (xiv) A hospital has ten departments and some workers working in these departments. The hospital staff is conducting a research work on three abnormalities i.e. physical, mental and psychological. The staff working on mental abnormalities can also work on psychological abnormalities. Draw an ER-Diagram which satisfies the above system. 03

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- (xv) a. Complete the following table by using MS-Access rules : 01

| Student ID | Name | DOB | Co-curricular activity (Yes/No) |
|------------|------|-----|---------------------------------|
|            |      |     |                                 |
|            |      |     |                                 |
|            |      |     |                                 |

- b. Which field is suitable for becoming primary key and why? 01  
 c. What is the data type of field "Curricular Activity Yes/No? 01  
 (xvi) a. Define Query. 01  
 b. Write a query to display all the records from a table EMPLOYEE. 01  
 c. Write a query to delete all the record from the table. 01  
 (xvii) Define the following terms:  
 a. Data Inconsistency 1-1/2  
 b. Data Dependency 1-1/2

**SECTION – C (Marks 21)**

**Note:- Attempt any THREE questions. All questions carry equal marks. ( 3 x 7 = 21 )**

- Q. 3 a. The function *fopen()* is used to open a file. Write the *fopen()* with required parameters to:  
 (i) Open a file for reading. 01  
 (ii) Open a file for writing. 01  
 (iii) Open a file for reading and writing. 01  
 (iv) Open a file for appending data. 01  
 (v) Open a file for overwriting. 01  
 (vi) Open a file for reading and appending. 01  
 b. How is a file closed? 01

- Q. 4 Write a program in C-language which accepts the weight in pounds and converts it into kilograms by using a function. The relationship between pounds and kilograms is as below: 07  
 1 Pound = 0.4536 kilogram

- Q. 5 Complete the following table to show the values of variables used in the program during each step of Execution: 07

```

Program:
int i, j, count = 3, product;
for(i = 1; i < count; i++)
{
 for(j = 1; j <= i; j++)
 product = i * j * j;
 printf("%d \n", product);
}

```

| i | j | Count | Product |
|---|---|-------|---------|
|   |   |       |         |
|   |   |       |         |
|   |   |       |         |

- Q. 6 a. What is meant by Database? 01  
 b. Briefly describe three database objects. 06