Inter (Part-II) 2019

Computer Science		PAPER: II
Time: 2.10 Hours	(SUBJECTIVE TYPE)	Marks: 60

SECTION-I

(MS-ACCESS)

2. Write short answers to any SIX (6) questions: (12)

(i) What is the use of query language?

Ans **Uses of query language:**

Some important uses of query language are:

- Create table structures.
- Enter data in tables.
- Retrieve data from tables.
- Update data in tables.
- Delete data from tables etc.

(ii) What is the use of DDL?

Ans DDL (Data Definition Language) is a computer language that is used to define data structures. In DBMS, it is used to specify a database scheme as a set of definitions.

(iii) List different types of keys.

Ans Following are different types of keys:

1. Primary Key
2. Secondary Key
3. Candidate Key / Alternate Key
4. Composite / Concatenate Key
5. Sort / Control Key
6. Foreign Key

(iv) Define entity.

Ans Entity is anything which is participating in the system. It can be person, place, thing, concept or event for which data is collected and manipulated.

(v) What is functional dependency?

Ans A functional dependency is a relationship between two attributes. It means that if the value of one attribute is known, it is possible to obtain the value of another attribute. Suppose there is a relation of student entity with following fields: STUDENT(Roll_No, Name, Class, Email) If value of Reg_No is known, it is possible to find Name. It means that Name is functionally dependent on Reg_No.

(vi) When is a relation in 3NF?

Ans A relation is in 3NF (Third Normal Form), if it is in 2NF and no transitive dependencies exist.

(vii) What do you mean by IDE?

Ans An integrated development environment (IDE), is a programming environment that has been packaged as an application program, typically consisting of a code editor, a compiler, a debugger, and a graphical user interface (GUI) builder. The IDE may be a stand-alone application or may be included as part of one or more existing and compatible applications.

(viii) How is criteria specified in a query?

Ans Once you have selected all your query fields, you can narrow your query to include only data that matches specific criteria. You may want to display only records with certain field values, for example. A query that display only employees in a certain state is an example of the use of criteria or indicate what values not to include.

(ix) State the purpose of subform.

Ans A subform is a form that is placed in a parent form. Subforms are particularly useful to display data from tables and queries that have one-to-many relationships.

C-LANGUAGE

3. Write short answers to any SIX (6) questions: (12)

(i) Define the term Linking.

Ans Linking is the process in which the object file produced by the compiler is linked to many other library files by the linker.

(ii) What is compiler?

Ans The translator program that translates the complete source code (written in high-level language) as a whole in machine code before execution is called compiler.

(iii) List two keywords in C Language.

Ans Two keywords in C Language are:

1. int 2. char

(iv) Define standard output.

Ans Standard output (Stdout) is used for giving output to a device such as a monitor.

(v) Write a statement to declare an integer variable i initialized to 10.

Ans The statement will be:

```
j = 10;
i = – – j;
```

(vi) Determine the output int number = 6; printf ("%d \n", number + +);

Ans The output is 6.

(vii) Find the errors

int n = 4.2

Ans

1. First error = n

correction = num

2. Second error = 4.2

correction = 4.2 ;

(viii) Write the code to input a value for an integer n.

Ans

```
# include < stdio . h >
void main ( )
{
  int n ;
  printf ("Enter an integer");
  scanf ("%d", & n);
}
```

(ix) Determine the output printf ("Hello \n World \n Pakistan");

Ans Hello
World
Pakistan

(C-LANGUAGE)

4. Write short answers to any SIX (6) questions: (12)

(i) **Define compound statement.**

Ans A compound statement refers to a group of statements enclosed in opening and closing braces.

(ii) **Why is the sentinel value used in loop?**

Ans In computer programming, a sentinel value is a special value in the context of an algorithm which uses its presence as a condition of termination, typically in a loop or recursive algorithm.

(iii) **Convert the following conditional expression into if else statement**

x < 0 ? y = 10 : z = 20;

Ans
```
If (x < 0)
{
  y = 10;
}
else
z = 20;
```


(iv) **Determine the output of following code:**

```
if (1 ! = 2)
  printf ("OK");
else
  printf ("Correct it");
```

Ans The output is: OK.

(v) **Convert the following code in do-while loop:**

```
for (i = 1 ; i < = 5 ; i + +)
printf ("\n %d", i);
```

Ans
```
i = 1;
do
{
printf ("\n %d", i);
i + + ;
} while (i < = 5);
```

(vi) Write the output of the following code:

```
int i, j = 3;
for (i = 1; i < = 5; i + +)
printf ("\n %d %d", i, j);
```

Ans The output of the above code is:

```
13
23
33
43
53
```

(vii) What is function definition?

Ans A function is a self-contained piece of code which performs a specific task.

(viii) What is the use of actual parameter?

Ans When parameters are passed to a function, the value of actual parameters is copied in the formal parameters of the functions. The function uses its formal parameters for processing data passed to it. Any change made to the value of formal parameters does not affect the value of actual parameters.

(ix) How is a file closed?

Ans When a program has no further use of a file, it should close it with fclose ( ) library function.

The syntax of fclose ( ) is as followed:

```
int fclose (FILE* f p)
```

SECTION-II

(MS ACCESS)

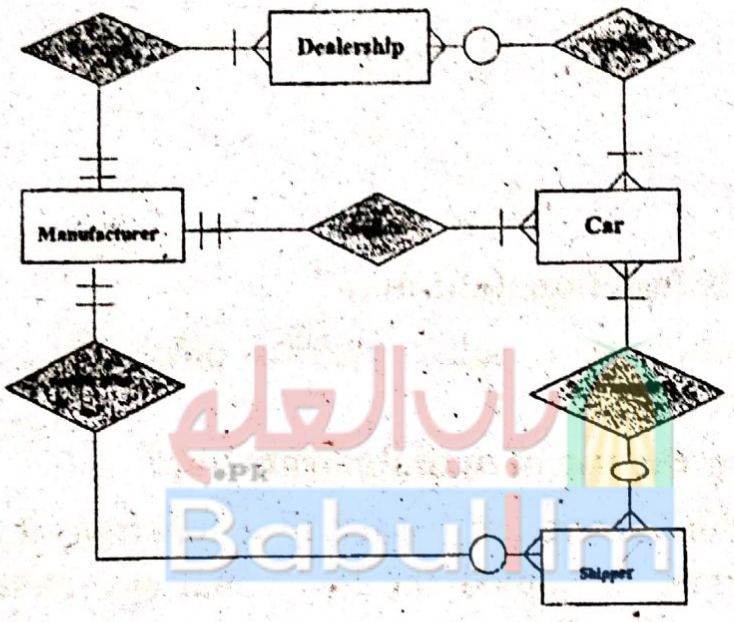
Note: Attempt any ONE (1) question.

5. Define ER Diagram. Explain it with the help of an example. (8)

Ans ER Diagram:

ER (Entity-Relationship) diagram is a logical representation of data in an organization. It reviews the entire system as a collection of entities related to one another. It is used to describe the elements of a system and their relationships.

Entity-Relation Diagram (An Example)



- The Entity/Object -- relationship pair discussed above is the objective of the Data Model.
- These pairs can be represented graphically using the Entity Relationship Diagram (ERD).
- It was basically proposed/used for design of a Relational Database System and now is being adopted for other Database types also.
- A set of primary components are identified for the ERD: Data objects, Attributes, Relationships, Cardinality and Modality.
- The primary objective of the ERD is to represent Entities/Objects and their relationships / association.

- Data Modeling and the Entity-Relationship diagram provide the Analyst or database administrator with a concise notation for examining data within the context of a Data Processing Application or constructing a Physical Database.

6. Discuss any four methods of modifying a table in MS Access. (8)

Ans Modifying A Table:

Once you create an Access table, you can easily modify it by adding, deleting, moving, or renaming table fields.

Adding Records:

Add new records to the table in datasheet view by typing in the record beside the asterisk (*) that marks the new record. You can also click the new record button at the bottom of the datasheet to skip to the last empty record.

Editing Records:

To edit records, place the cursor in the record that is to be edited and make the necessary changes. Use the arrow keys to move through the record grid. The previous, next, first, and last record buttons at the bottom of the datasheet are helpful in manoeuvring through the datasheet.

Deleting Records:

Delete a record on a datasheet by placing the cursor in any field of the record row and select Edit|Delete Record from the menu bar or click the Delete Record button on the datasheet toolbar.

Inserting and Deleting Fields:

Although it is best to add new fields (displayed as columns in the datasheet) in design view because more options are available, they can also be quickly added in datasheet view. Highlight a column by clicking its label at the top of the datasheet and select Insert|Column from the menu bar. The new column will be added to the left of the select column.

Entire columns can be deleted by placing the cursor in the column and selecting Edit / Delete Column from the menu bar.

SECTION-III

Note: Attempt any TWO (2) descriptive answers of the following questions.

(C-LANGUAGE)

7. Describe characteristics of High Level Language. (8)

Ans Besides having different features, all high level programming languages have some common characteristics are:

- These are English-like languages, hence are close to human languages and far from the machine language and are very easy to learn.
- Programs written in high level languages are easy to modify and debug, and more readable.
- These languages let the Programmers concentrate on problem being solved rather than human-machine interaction.
- These describe a well-defined way of writing programs.
- These do not require a deep understanding of the machine architecture.
- High level languages provide machine independence. It means programs written in a high level language can be executed on many different types of computers with a little modification. For example, programs written in C can be executed on Intel® processors as well as Motorola processors with a little modification.

8. What is Switch Statement? Write its syntax, draw flow chart and explain its working. (8)

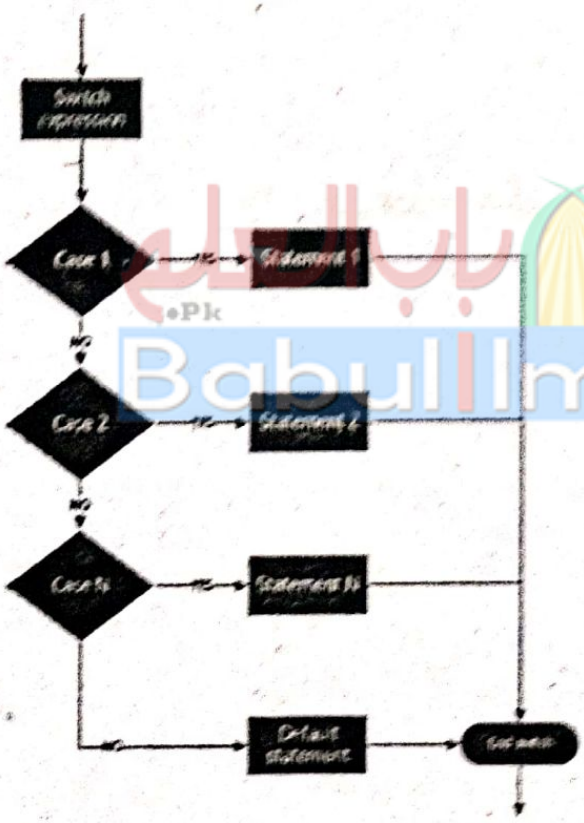
Ans **Switch Statement:**

The switch statement is a conditional structure. It is a good alternative of nested if-else. It can be used easily when there are many Choices available and only one should be executed. Nested if becomes very difficult in such situation.

Syntax:

```
switch(expression)
{
```

```
case val1:
statement 1 ;
break;
case val2:
statement2;
break;
case val3:
statement3;
break;
case valN:
statement n;
break;
default:
statements;
}
```



Working of "switch" Statement:

Switch statement compares the result of a single expression with multiple cases. Expression can be any valid expression that results in integer or character value. The expression is evaluated at the top of switch statement and its result is compared with different cases. Each case label represents one choice. If the

result matches with any case, the corresponding block of statements is executed. Any number of cases can be used in one switch statement. The default label usually appears at the end of all case labels. It is executed only when the result of expression does not match with any case label. Its use is optional. The position of default label is not fixed. 'break' statement in each case label is used to exit from switch body. It is used at the end of each case label. The break statement control exits from switch body if break is not used, all case blocks that come after the matching case, will also be executed.

Example

```
#include <stdio.h>
#include <conio.h>
void main()
{
int n;
clrscr();
printf("Enter number of a weekday: ");
scanf("%d", &n);
switch(n)
{
case 1:
printf("Friday");
break;
case 2:
printf("Saturday");
break;
case 3:
printf("Sunday");
break;
case 4:
printf("Monday");
break;
case 5:
printf("Tuesday");
break;
```

```
case 6:
printf('Wednesday");
break;
case 7:
printf("Thursday");
break;
default:
printf("Invalid number");
}
getche();
}
```

9. Write a program that inputs a number from the user and displays the factorial of that number. (8)

Ans

```
#include <stdio.h>
#include <conio.h>
void main()
{
int n,a, f;
clrscr();
a=1;
f =1;
printf("Enter a number to find factorial ");
scanf("%d",&n);
        while(a <= n)
        {
        f = f* a;
        a=a++;
        }
printf("Fatorial of %d is= %d",n,f);
getche();
}
```