ANSWER KEY

Touchpad MODULAR Ver 1.0

Class-8

1. Computer Networking

EXERCISE

A. 1. (a) 2. (b) 3. (c) 4. (a)

B. 1. (T) 2. (T) 3. (T) 4. (T) 5. (T)

C. 1. Protocol 2. SMTP 3. Router 4. Mesh 5. NIC

D. 1. Protocol is a set of rules that governs the communication between the computers over a network.

2. The components needed for a network are:
   (i) Network Interface Card (NIC)
   (ii) Hub or switch
   (iii) Router
   (iv) Modem
   (v) Networking Cable (Ethernet Cable)

3. A client is a computer which depends on the server for all the resources.
   A server controls the access to the hardware and software on the network.

4. Topology refers to the geometric arrangement of computers or nodes in a network.

E. 1. Computer network means a system of interconnected computers. The advantages of computer network are:
   (i) The information can be easily shared by the people.
   (ii) It helps in reducing the cost of hardware.
   (iii) Store information on one centralised location.
   (iv) Reliability implies backing up of information. If a system crashes, then the information is accessible on another workstation for future use.
   (v) Reduction in installation cost.

2. LAN is a digital communication system that interconnects a larger number of computers and other peripheral devices within a radius of less than 1 km. MAN consists of two or more local area networks or campus area networks together that usually spans several buildings in the same city or town.

IN THE LAB (SUBJECT ENRICHMENT)

Do yourself.

IMPRINT 1

2. Database Management System

EXERCISE

A. 1. (a) 2. (b) 3. (a) 4. (a)

B. 1. (F) 2. (T) 3. (T) 4. (T)

C. 1. query 2. fields 3. primary 4. relational

D. 1. A database can be defined as a collection of data in an organised manner that can be easily accessed, managed and updated.

2. Flat File Database is a type of database that contains records having small number of fields without any structured relationship between them.

3. A form is used to create a user interface to enter or update a record in a table that is connected to it. It also allows us to view all the records in from the table one by one.

E. 1. Relational Database is a type of database that stores data in several tables and links those tables together to get a common piece of information. This type of database system is called Relational Database Management System (RDBMS).
Example of relational database system is MS Access.

2. Advantages of database system:
(i) It minimizes the duplication of data by integrating and sharing the data files.
(ii) It saves the storage space.
(iii) The files can be easily updated whenever any changes are being made.
(iv) It improves the data integrity as data is stored in a central location.
(v) It provides various techniques to recover and backup data.

IN THE LAB

SUBJECT ENRICHMENT

Do yourself.

Periodic Assessment-1

(Based on chapters 1 & 2)

A. 1. Network Server 2. Mesh Topology 3. MAN
4. Table 5. Form

B. 1. Local Area Network 2. Personal Area network

C. 1. It is a type of database that contains records having small number of fields without any structured relationship between them.

2. It is a type of database that stores data in several tables and links those tables together to get a common piece of information.

3. The final result of the manipulated data that comes from tables or queries in DBMS is known as a report.

4. It is a unique field by which the records are uniquely identified in a table. A table can have only one primary key.

3. Introduction to MS Access 2010

Exercise

A. 1. (c) 2. (a) 3. (b) 4. (b) 5. (b)

B. 1. (T) 2. (F) 3. (F) 4. (T)

C. 1. navigation 2. datasheet 3. field grid 4. primary key

D. 1. MS Access is an easy to use Relational Database Management System. It provides handy tools and graphical user interface (GUI) to maintain and manipulate the records more effectively.

2. Features of MS Access are:
   (i) It is easy to use and ideal application for individual users and smaller teams.
   (ii) It allows to import and export to other Microsoft Office and other applications.
   (iii) It provides templates for regular users to create and publish database.

3. Text,Memo,Number are the data types of MS Access 2010.

4. A primary key is a field in a table which uniquely identify each record in the table. The primary key field does not accept duplicate or null values.

E. 1. Text is used to store text. It can have maximum of 255 characters. It cannot be used for numeric calculations. On other hand, Memo It is used to store large amount of text or a combination of text and number. It stores up to 65,536 characters.

2. There are two types of views in MS Access: Datasheet view and Design view.

   Datasheet view is the default view of the table. It shows all the fields and the records as entered by the user. In this view, you can edit the content of the table.

   In Design view, the records are not visible. You can only see the field names along with their data types. You can add or delete a field name.

3. Rules for writing a field name in a database:
   (i) Field name can be up to 64 characters long.
   (ii) Field name can include any combination of letters, numbers, spaces, and special characters except a period (.), an exclamation mark (!), an accent grave (') and brackets ([ ]).
   (iii) Field name cannot begin with the leading spaces.
   (iv) Field name cannot include a double quotation mark (").

In the Lab

Subject Enrichment

Do yourself.

4. Working with Tables in MS Access

Exercise

A. 1. (a) 2. (c) 3. (a) 4. (a) 5. (c)

B. 1. (T) 2. (F) 3. (T) 4. (T) 5. (F)

C. 1. hide fields 2. navigation 3. field properties 4. blue-colour

D. 1. Freezing a column means to visible a column all times while scrolling in any direction. When you freeze a column in a table, the column will move to the leftmost side. column will move to the leftmost side.

2. We can add unlimited rows in a table.

3. Delete Record command is used to delete the records from a table.

E. 1. Steps to freeze a column:
Step 1 Right-click on the column header that you want to freeze.
Step 2 Select the Freeze Columns option.

2. Steps to add a column:
Step 1 Open the table and Click on the column header on the left.
Step 2 Click on Fields tab.
Step 3 Click on the type of field.

In the Lab
Subject Enrichment

Do yourself.

5. Advanced Features of MS Access

Exercise

A. 1. (a) 2. (c) 3. (b) 4. (a) 5. (c)

B. 1. sorting 2. excel 3. find 4. PDF or XPS

C. 1. (T) 2. (F) 3. (T) 4. (F)

D. 1. Sorting is the process of arranging data alphabetically either in ascending or descending order.

2. Filtering means to select specific data from the given set of data. MS Access also allows you to filter unwanted data from a set of data.

3. Exporting data means to save a MS Access table data into a different format like PDF or spreadsheet.

E. 1. Sorting means arranging the data either in ascending or descending order. On the other hand, Filtering means to highlight specific data and hide unwanted data from a set of data.

2. Importing data means to access the data from other applications like MS Excel into MS Access. On the other hand, exporting data means to save a MS Access table data into a different format like PDF or spreadsheet.

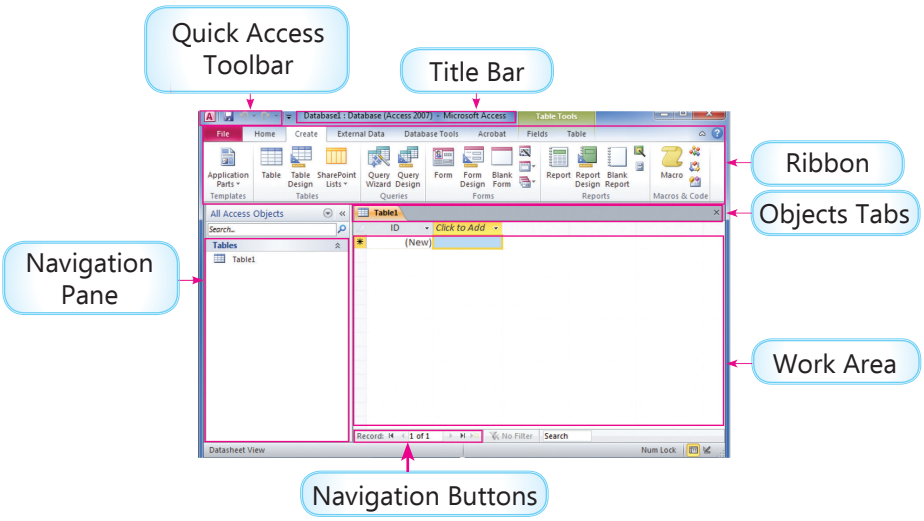
IN THE LAB SUBJECT ENRICHMENT

Do yourself.

Periodic Assessment-2

(Based on chapters 3 to 5)

A.



B.

1. Field Name is used to enter name of the field to be displayed as column heading in the table.
2. It stores a sequential number automatically for every record added to a table. The maximum size of the field is 4 bytes.
3. A Lookup Wizard helps you to create a field whose values are chosen from the values in another table, query or list of values. By default, Access sets the Lookup fields to the Number data types.
4. Custom filter allows you to filter data according to particular criterion. MS Access provides different criteria from which you can choose the criteria according to your requirement.

Test Sheet-1

(Based on chapters 1 to 5)

Section A

A.

1. (a)	2. (b)	3. (a)	4. (a)	5. (a)	6. (b)
7. (a)	8. (c)	9. (a)	10. (a)		

C. 1. (T) 2. (T) 3. (T) 4. (T) 5. (T) 6. (T)
7. (T) 8. (T)

B. 1. Protocol 2. mesh 3. query 4. relational 5. field grid 6. Navigation
7. Sorting

Section B

A. 1. The components needed for a network are:
(i) Network Interface Card (NIC)
(ii) Hub or switch
(iii) Router
(iv) Modem
(v) Networking Cable (Ethernet Cable)

2. Topology refers to the geometric arrangement of computers or nodes in a network.

3. A database can be defined as a collection of data in an organised manner that can be easily accessed, managed and updated.

4. A form is used to create a user interface to enter or update a record in a table that is connected to it. It also allows us to view all the records in from the table one by one.

5. Delete Record command is used to delete the records from a table.

6. Sorting is the process of arranging data alphabetically either in ascending or descending order.

B. 1. Computer network means a system of interconnected computers. The advantages of computer network are:
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2. Relational Database is a type of database that stores data in several tables and links those tables together to get a common piece of information. This type of database system is called Relational Database Management System (RDBMS).
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4. Steps to freeze a column:
Step 1 Right-click on the column header that you want to freeze.
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5. Sorting means arranging the data either in ascending or descending order. On the other hand, Filtering means to highlight specific data and hide unwanted data from a set of data.

6. Queries in MS Access

Exercise

A. 1. (c) 2. (b) 3. (a) 4. (b)

B. 1. (F) 2. (T) 3. (T) 4. (T)

C. 1. field 2. select query 3. relationship 4. run

D. 1. A query is the most important object provided by MS Access 2010. Using a query, you can search data from one or more tables by giving specific search conditions.

2. An association between two tables on the basis of a common field is called relationship.

3. The parameters of the design grid are Field and table.

E. 1. Steps to create a query:
Step 1 Click on Create tab.
Step 2 Click on Query Design command from Queries group.
Step 3 Select the desired table and click on the Add button.
Step 4 Add the field's name to the query window and specify the criteria.

2. Crosstab Query is a query that uses a row heading and column heading so that you can see your data in terms of two categories at once.

In the Lab
Subject Enrichment

Do yourself.

7. Forms in MS Access

Exercise

A. 1. (a) 2. (c) 3. (c) 4. (c) 5. (a)

B. 1. (F) 2. (F) 3. (T) 4. (T) 5. (F)

C. 1. logo, title 2. form 3. split 4. create

D. 1. A form is a database object used to create, edit and display data stored in tables in a user-friendly manner.

2. The three main views in which a form can be displayed are: Form View, Design View and Layout View.

3. Design View gives a detailed view of the structure of the form.

E. 1. (i) Design View is used to adjust the design of your form. It gives you a more detailed view of the structure of a form such as Header, Detail and Footer sections.

(ii) Layout View is used to change the appearance and size of various controls of a form. When you create a form, by default it appears in the Layout view.

2. Three types of forms in MS Access are Multiple Items, Datasheet and Split Form.

(i) Multiple Items: In this form, you will see multiple records at the same time.

(ii) Datasheet: It looks like a datasheet but it is actually a form. It is useful when you want to show a datasheet on a sub-form.

(iii) Split Form: This form shows two parts. The upper part shows the datasheet and the lower part shows form for entering information about the record selected in the datasheet.

IN THE LAB SUBJECT ENRICHMENT

Do yourself.

8. Reports in MS Access

EXERCISE

A. 1. (a) 2. (b) 3. (c) 4. (a) 5. (b)

B. 1. (T) 2. (T) 3. (F) 4. (T) 5. (F)

C. 1. A report is a feature which allows you to view, format and summarize the information in a user-friendly format so that it can be printed.

2. Page Footer contains general information about the report like page number and total number of pages.
On other hand, Report Footer shows the final result of the report. It appears at the end of the report.

3. Detail section is used to contain the main matter of the report.

D. 1. A report contains five sections.
Page Header: The text or image that you add to the report header section.
Report Footer: This section shows the final result of the report. It appears at the end of the report.

2. The Report Design command allows you to design a report manually by using the controls provided by MS Access or fields from an existing table. On the other hand, the Report Wizard command uses built-in layout and provides and step-by-step wizard to create report.

IN THE LAB SUBJECT ENRICHMENT

Do yourself.

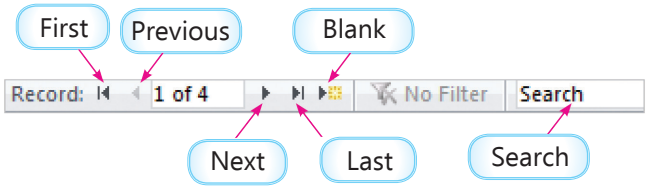
Periodic Assessment-3

(Based on chapters 6 to 8)

A. 1. (c) 2. (a) 3. (d) 4. (b)

B. 1. Field 2. Sort 3. Layout View 4. select 5. or

C.



D. 1. The information placed in this section appears at the top of each page of the report. This section generally contains logo, title of the report or date and time.

2. This section shows the final result of the report. It appears at the end of the report.

9. Introduction to Python

EXERCISE

A. 1. (b) 2. (c) 3. (a) 4. (b)

B. 1. (T) 2. (T) 3. (T) 4. (F) 5. (T)

C. 1. object-oriented programming 2. reserved 3. operators

4. print( ) 5. input( )

D. 1. Python is a powerful, high-level, general purpose, interpreted, interactive, multi-platform, and object-oriented programming language.

2. The % operator returns the remainder. For example, 11%4 returns 3 as remainder.

The ** operator raises the first operand to the power of the second and returns the result. For example, 11**4 returns 14641.

3. A character set means the characters like alphabet, digits or special symbols that can be used to write programs in Python language.

E. 1. Four features of Python are:

(i) Easy to learn: Python has relatively few keywords, simple structure and a clearly defined syntax.

(ii) Easy to read: Python code is just like English language.

(iii) Case Sensitive: Python is case sensitive language. In Python, 'pay' and 'PAY' are not the same. They are interpreted differently.

(iv) Free and Open source: Python is an example of open source software. It means you can freely distribute copies of this software, read its source code and make changes to it.

2. Variables are memory locations that are used to store values. Rules for defining a variable are:

(i) A variable name must start with a letter (a–z, A–Z) or an underscore (_).

(ii) A variable name cannot start with a digit.

(iii) Keywords cannot be used as variable names.

(iv) A variable can only contain alpha-numeric characters and underscore (A-Z both capital as well as small) and (0 – 9) numbers.

(v) No special symbols like !, @, #, $, %, etc. can be used in variable name.

(vi) Variable names are case sensitive.

(vii) Variable names can be of any length.

3. The input ( ) statement is used to take input from the user during the execution of the program. The input statement acts as a message communicator between user and the computer. For example, X = input ("What is your name?")

   In this example, the input statement uses the prompt "What is your name?" to get the input from user and assigns it to the variable X.

10. Artificial Intelligence and Robotics

Exercise

A. 1. (a) 2. (c) 3. (a) 4. (b) 5. (c) 6. (a)

B. 1. (T) 2. (T) 3. (T) 4. (F) 5. (T)

C. 1. brain 2. Mc Carthy 3. Deep blue
4. Machine learning 5. integrated circuit

D. 1. Artificial Intelligence is an area where computer science and engineering emphasise on creation of intelligent systems that can work and react like humans.

2. A robot is however any machine that can execute programmed instructions and thus reduce labour or manpower requirement.

3. The field of mechanics and electronics together have given rise to a new emerging sector called Mechatronics.

4. Unmanned surgery, surgery with minimum cutting or puncturing of skin has been possible because of robots.

5. Kuri is a family style robot that was designed to interact with your family. It also has the ability to capture images and shoot videos.

E. 1. Artificial Intelligence has advanced very rapidly in the past decade because of greater use of science, engineering and mathematics in experimenting and comparing approaches. Artificial Intelligence research also overlaps with tasks such as robotics, control systems, scheduling, data mining, logistics, speech & facial recognition, etc.

2. There are two types of robots:

   (i) Industrial robots are mainly used in manufacturing industries such as automotives industries. These robots are programmed using computers.

   (ii) Service robots include domestic robots that clean the carpet or cut grass in the garden and move on their own. They are fully or semi-autonomous robots and controlled by electronic circuits.

3. Robotics gained a vital place in the environmental sector. A robot developed in England can attack insects like some omnivorous plants. Also a London aquarium exhibits a robot that has been inspired by a fish.

Periodic Assessment-4

(Based on chapters 9 & 10)

A. 1. Variables are memory locations that are used to store values.

2. These are the reserved words which cannot be used as variable names as they carry a special meaning for the interpreter.

3. The input( ) statement is used to take input from the user.

4. The print( ) statement is used to display text on the screen.

B.
```
print("* * * * * * * * * * *")
print("*                   *")
print("*                   *")
print("*                   *")
print("*                   *")
print("*                   *")
print("*                   *")
print("*                   *")
print("*                   *")
print("*                   *")
print("* * * * * * * * * * *")
```

C. 1. MC carthy 2. Karel Capek 3. Isaac Asimov 4. Tetsuro Mori

D.
```
num = float(input("Enter the distance measured in centimeter : "))
inc = num/2.54
m = inc/36;
print("Distance in inch : ", inc)
print("Distance in meter : ", m)
```

Test Sheet-2

(Based on chapters 5 to 8)

Section A

A. 1. (b) 2. (a) 3. (a) 4. (c) 5. (b) 6. (b)
7. (c) 8. (b) 9. (b) 10. (c)

B. 1. (T) 2. (F) 3. (T) 4. (T) 5. (T) 6. (F)

C. 1. relationship 2. Logo, title 3. report
4. Operators 5. reserve 6. brain

Section B

A. 1. An association between two tables on the basis of a common field is called relationship.

2. A form is a database object used to create, edit and display data stored in tables in a user-friendly manner.

3. Page Footer contains general information about the report like page number and total number of pages.

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4. Integrated Development and Learning Environment.

5. Python is a powerful, high-level, general purpose, interpreted, interactive, multi-platform, and object-oriented programming language.

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B. 1. Steps to create a query:

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3. A report contains five sections.

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   In this example, the input statement uses the prompt "What is your name?" to get the input from user and assigns it to the variable X.

5. Artificial Intelligence has advanced very rapidly in the past decade because of greater use of science, engineering and mathematics in experimenting and comparing approaches. Artificial Intelligence research also overlaps with tasks such as robotics, control systems, scheduling, data mining, logistics, speech & facial recognition, etc.