

MARKING SCHEME

SAMPLE PAPER – 1

INFORMATICS PRACTICES – XI

TERM - 2

Q1. What is the basic difference between IoT and WoT? (2)

ANS: IoT (internet of things) is about creating a network of objects, things, people, systems and applications. WoT (web of things), tries to integrate the objects, things and people etc. to the web using existing web standards. While IoT needs a single Universal application protocol to integrate the things, WoT reuses and leverages readily available and widely popular. Web protocols, Standards and blueprints to make data and services offered by objects more accessible.

OR

How is Virtual Reality (VR) different from Augmented Reality (AR)?

Virtual Reality (VR): A fully immersive experience where a user leaves the real-world environment behind to enter a fully digital environment via headsets.

Augmented Reality(AR): An experience where virtual objects are superimposed onto the real-world environment via smartphones, tablets, heads up displays for AR glasses.

Q2.

(i) A company interested in cloud computing is looking for a provider who offers a set of basic services, such as virtual server provisioning and on demand storage that can be combined into a platform for deploying and running customised application. What type of cloud model fits these requirements? (1)

ANS: Infrastructure as a Service

(ii) _____ refers to the ability of machines to perform cognitive tasks like thinking, perceiving, learning, problem-solving and decision making

ANS: Artificial Intelligence

Q3. Suggest the technology which will be implemented to perform the following day to day task (2)

- i) you got a reminder to take medicine
- ii) you got an SMS alert that you forgot to lock the door
- iii) you got an SMS alert that parking space is available near your block
- iv) you turned off your LED TV from your wrist watch

ANS:

- i) smart health
- ii) Home Automation
- iii) smart parking
- iv) smart wearable

Q4. Give one word for the following:

- i) Software used to create, manipulate and maintain a relational database.
- ii) It refers to the total number of attributes in a relation.
- iii) A single record in a table.
- iv) An attribute that can uniquely identify each row of a table.

ANS:

- i) DBMS
- ii) Degree
- iii) Tuple
- iv) Primary Key

OR

Differentiate between DDL and DML

DDL	DML
it refers to data definition language	it refers to data manipulation language
these commands allow to perform tasks related to data definition, i.e., related to the structure of the table	these commands are used to manipulate or access records in a table
examples of DDL commands are: create table, drop table, alter table etc.	examples of DML commands are update, delete, insert into etc

Q5. List any two advantages of using database(DBMS).

(2)

ANS: (Any Two)

- i) A database is used to store information in the table form for future purposes so that the data can be used at any time.
- ii) Storage and retrieval of data become faster and more convenient.
- iii) It reduces data redundancy to some extent.
- iv) It controls data inconsistency to a large extent.
- v) It provides sharing of data with multiple users.

- vi) Integrity can be maintained through databases.
- vii) Databases in force standards.
- viii) It controls unauthorised access to data and other important information

Q6. What do you understand by DEGREE and CARDINALITY of a table. (2)

ANS: Degree of a table is the total number of attributes.

Cardinality of a table is the total number of rows

Q7. (i) What do you mean by data redundancy? (1)

(ii) And how does a database management system avoid redundancy in data through a database. (1)

ANS:

(i) Data redundancy means duplication of data. duplicate data is stored at different locations which violates the integrity of the database and cause wastage of storage memory.

(ii) A database stores the data at a Central location wherefrom all application programs can access data. This removes the need of saving on data by application program and does it reduces data redundancy.

Q8. An Organisation wants to create a database **EMP- DEPENDENT** to maintain following details about its employees. (3)

EMPLOYEE(AadharNumber, Name, Address, Department EmployeeID)

- i) Name the attributes of employee, which can be used as candidate keys
- ii) What is the degree of employee relation?
- iii) Can user assign duplicate values to the filed EmployeeID of EMPLOYEE table? Justify .

ANS:

- i) AadharNumber , EmployeeID
- ii) Degree of Employee Table: 5
- iii) No, EmployeeID being the primary key must be unique to each row.

or

- i) Which SQL clause eliminates duplicate rows from the results of a select statement.
- ii) Which SQL command is used to modify rows of a table.
- iii) Which of the keywords will you use in the following query to display all the values of table Employee?

Select _____ from Employee;

ANS :

- i) Distinct
- ii) Update
- iii) All or *

Q9. Nisha is a class teacher of 10. She has created a table **Marks** to record marks of PT exam of different subjects that have been conducted offline. The fields of marks table are RollNo, Name, AdmNo, English, Hindi, SST, Science, Maths, Status. She is facing problem in some tasks. Help her

- i) to add a new column computer with integer(3) data type. (1)
- ii) to see the structure of the table. (1)
- iii) to find a primary key of a marks table. (1)

ANS:

- i) Alter table marks add computer integer(3);
- ii) DESC marks;

OR

Describe marks;

- iii) She can assign RollNo or AdmNo as primary key as both the fields are uniquely identifying each row in a table.

Q10. Write SQL query to create the 'Sales' table from the given data (3)

Column Name	Data Type	Size	Constraints
Orderid	Integer	4	Primary Key
Pname	Varchar	20	Not Null
Quantity	Integer	5	Not Null
Rate	Integer	5	Not Null
Discount	Integer	3	Null

ANS:

```
CREATE TABLE Sales (
Orderid Int (4) Primary Key,
Pname Varchar(20) Not Null,
Quantity Int (5) Not Null,
Rate Int(5) Not Null,
```

```
Discount Int (3) Null  
);
```

Q11. Write the output of the queries (a) to (d) based on the table, Graduate given below

SID	Name	Stipend	Subject	Average	Div
1	Karan	400	Physics	68	1
2	Divakar	450	Computers	68	1
3	Divya	300	Chemistry	62	2
4	Arun	350	Physics	63	1
5	Sabina	500	Mathematics	70	1
6	John	400	Chemistry	55	2
7	Robert	250	Physics	64	1
8	Rubina	450	Mathematics	68	1
9	Vikas	500	Computers	62	1
10	Mohan	300	Mathematics	57	2

- (a) `SELECT LEFT(NAME,3) FROM Graduate WHERE SNO>7;`
- (b) `SELECT Name, Stipend FROM Graduate WHERE Subject="Chemistry" OR Subject="Physics";`
- (c) `SELECT * FROM Graduate WHERE Subject LIKE 'C%' AND Average=68;`
- (d) `SELECT Name FROM Graduate WHERE DIV=2;`

(a)

LEFT (NAME, 3)
Rub
Vik
Moh

(b)

Name	Stipend
Karan	400
Divya	300
Arun	350
John	400
Robert	250

(c)

SNO	Name	Stipend	Subject	Average	Div
2	Divakar	450	Computers	68	1

(d)

Name
Divya
John
Mohan

Q12. Consider the following database. **Table: Product:**

(4)

ProductCode	Product Name	DateofSale	QtySold	CustomerName	Amount
P001	Pencil	05/10/11	5	Himanshu	25
P002	Eraser	04/01/12	4	Ali	8
P003	Sharpner	09/12/11	6	Deepak	12
P004	Whitener	25/04/11	2	Ankit	30
P005	Glue Pen	20/07/12	3	Ruchi	30

Answer the following questions.

- i) Write the name of the field that contains numeric data.
- ii) Identify the field type of the DateofSale field.
- iii) Identify the names of the fields that contain textual data.
- iv) What is the Cardinality of the table Product?

ANS:

i) QtySold , Amount

ii) date/time data type

iii) ProductCode , ProductName and CustomerName

iv) 5

OR

From the above given table **Product**.

Write SQL commands:

- i) To show all the information of product.
- ii) To list the details of all the products whose amount between 25 to 30.
- iii) List the records whose product name is Pencil or Whitner.
- iv) To display the list of names of all the products in alphabetical order.

ANS:

i) Select * from product;

ii) Select * from product where amount between 25 and 30;

OR

Select * from product where amount >= 25 and amount <= 30;

iii) Select * from product where ProductName = 'Pencil' or ProductName = 'Whitner';

OR

Select * from product where ProductName IN ('Pencil' , 'Product Name');

iv) Select ProductName from product order by ProductName;

Q13. Write SQL commands for the questions from (i) to (iv) on the basis of table SHOP. (4)

Table : SHOP

S_NO	P_Name	S_Name	Qty	Cost	City
S1	Biscuit	Priyagold	120	12.00	Delhi
S2	Bread	Britannia	200	25.00	Mumbai
S3	Chocolate	Cadbury	350	40.00	Mumbai
S4	Sauce	Kissan	400	45.00	Chennai

- i) Display all products whose quantity in between 100 and 400.
- ii) Display data for all products sorted by their quantity.
- iii) To list S_Name, P_Name, Cost for all the products whose quantity is less than 300.
- iv) To display S_NO, P_Name, S_Name, Qty in descending order of quantity from the SHOP table.

i) Select * from Shop where Qty between 100 and 400;

OR

Select * from SHOP where Qty \geq 100 and Qty \leq 400;

ii) Select * from Shop order by qty;

iii) Select S_Name, P_Name, Cost from Shop where qty < 300;

iv) Select S_NO, P_Name, S_Name, Qty from Shop order by qty desc;