PM SHRI KV NO 2 JHANSI CANTT

PERIODIC TEST-II 2023-24

SUB- INFORMATICS PRACTICES(065) CLASS-XI

TIME: 1:30 Hrs
MM :40
Instructions: (i) Question paper is divided in three sections.
(ii)Attempt all questions from each sections.

SECTION A		
Q1.i	What is the primary advantage of 5G technology over previous generation of mobile networks ? a. Faster data transfer rates b.Longer battery life c.Lower cost of devices d.Improved voice quality	1
ii	What is the primary characteristics of Big Data ? a.Small volume of data b.Easily manageable data c.Variety,Volume and Velocity d.Structured data Only	1
iii	State True/False A software that manages and maintains a database is called DBMS	1
iv	..... refers to rows of a table in DBMS.	1
v	What is the role of natural language processing (NLP) in AI? a) Recognizing patterns in data b) Interpreting and generating human language c) Analyzing visual information d) Simulating decision-making processes	1
vi	What is the full form of RDBMS ?	1
vii	Full form of DML is .....?	1
viii	What does NLP stand for, and what is its purpose in AI?	1
ix	Which command is used to creating tables in MySQL ?	1
x	What does the term "Velocity" refer to in Big Data? a. Variety of data b. Speed of data generation c. Volume of data d. Value of data	1
xi	What does AI stand for? a. Advanced Internet b. Artificial Intelligence c. Automated Interaction d. Augmented Innovation	1
xii	Full form of DML is	1
xiii	What is the significance of the DATE data type in MySQL?	1
	Q-xiv and Q-x v are ASSERTION AND REASONING based questions. Mark the correct choice as a) Both A and R are true and R is the correct explanation for A b) Both A and R are true and R is not the correct explanation for A c) A is True but R is False d) A is false but R is True	1
xiv	Assertion (A): - The Keyword Like can be used in a Where Clause to refer to a range of values. Reasoning (R):- Where clause is used to apply the conditions in SQL Command.	1
xv	Assertion: Robotics is not a part of Artificial Intelligence.	

	Reason: Robotics deals with the design and construction of robots, which are physical devices.	
	SECTION B	
Q2.i	What is Machine Learning?	2
ii	Write the SQL Command to create table student with the studentid,class,section,gender,name,dob and marks as attributes where the studentid is primary key .	2
iii	Define the terms : i.Primary Key ii.Candidate Key	2
iv	How does the INT data type differ from the BIGINT data type in MySQL?	2
v	What is the difference between unique and primary key constraints ?	2
vi	**Write the SQL Command for the following Statements.** i. Create a Database "XICommerce" in MySQL. ii. Create a Table FeePayment with the following description. StudentUBI_ID – Type -Integer (Primary Key), StudentName - Type -Character size 20, PaymentDate - Type- Date	2
	SECTION C	
Q3.i	What is a database system ? What is its need ?	3
ii	A Watch Store is considering maintaining their inventory using SQL to store the data. One table is given below with its structure:	3

Table: Watches

Watch_ID	Watch_Name	Type	Qty_Store
W001	High Time	Unisex	100
W002	Life Time	Ladies	150
W003	Wave	Gents	200
W004	High Fashion	Unisex	250
W005	Golden Time	Gents	150

i)Identify the attribute best suitable to be declared as a primary key.
ii)Write a SQL command to display all the details of those watches whose type is Unisex.
iii)Write a SQL command to display the name of watches whose quantity is greater than 150..

Iii	Explain the following terms- i.DBMS ii.MySQL iii.Data Dictionary	3
	SECTION D	
Q4	Consider the following ***student*** table and write the SQL commands for (i to ii)and output for (iii to iv).	4

Rollno	First_name	Last_name	Gender	Stream
1	Akash	Singh	boy	Science
2	Deepak	Sarkar	boy	Commerce
3	Gajendra	Kumar	boy	NULL
4	Girija	Bardwaj	girl	Science

i. Write the SQL Command to display the records of Science stream students.

	ii. Write the SQL Command to display the records of Girls students. iii. Select * from student where stream is null; iv. Select Rollno,first_name where gender = 'girl' THE END	

BLUE PRINT
Class-XI B PT-II EXAM SUB-IP(065)

Type of questions	Marks per Question	Total no of Questions	Total Marks
SA I	1	1(15)	15
SA II	2	2(6)	12
LA-I	3	3(3)	09
LA-ii	4	4(1)	04

Chapter	VSA(1)	SQ-(2)	SQ-2(3)	LQ(4 M)	Total (Q)M
Ch-8 Database Concepts	1(5)	2(2)	3(1)	-	12M(8Q)
Ch-9 SQL	1(5)	2(2)	3(1)	4(1)	16M(9Q)
Ch 10 -Emerging Trends	1(5)	2(2)	3(1)		12M(8Q)
	1M(15 Q)	2M(6Q)	3M(3Q)	4M(1Q)	40M(25Q)

MARKING SCHEME		
Q1.a	**Ans-** a. Faster data transfer rates	1 marks for correct answer
b	c.Variety,Volume and Velocity	1 Marks for correct answer
©	True	1 Marks for correct answer
(d)	Record/Tuples	1 Marks for correct answer

(e)	b)Interpreting and generating human language	1 Marks for correct answer
(f)	Relational Data Base Management System	1 Marks for correct output
(g)	Data Manipulation language(DDL)	1 Marks for correct answer
(h)	Answer: NLP stands for Natural Language Processing, and its purpose is to enable machines to understand, interpret, and generate human language.	1 Marks for correct answer
(i)	Create table command	1 Marks for correct answer
(j)	Answer: b. Speed of data generation	1 Marks for correct answer
(k)	**Ans-True**	1 Marks for any correct answer
(l)	Answer: b) Artificial Intelligence	1 Marks for correct answer
(m)	Answer: The `DATE` data type in MySQL is used to store dates in the format 'YYYY-MM-DD'. It allows for the efficient storage and retrieval of date values.	1 Marks for correct answer
(xiv)	d	1 Marks for correct answer
(xv)	Answer: The assertion is incorrect, but the reason is correct.	1 Marks for correct answer

SECTION B

Q2.a	Answer: Machine Learning is a subset of AI that involves the development of algorithms allowing computers to learn from data.	1 for definition and 01 for any one advantage
B	**mysql>Create table STUDENT(Studentid integer Not NULL Primary key ,class Integer Not Null,section char(1) ,gender char(1) Not null,dob date, marks float);**	
.c	MySQL is a relational database management system based on SQL – Structured Query Language. The application is used for a wide range of purposes, including data warehousing, e-commerce, and logging applications. The most common use for mySQL however, is for the purpose of **a web database**.	1 Marks for each correct output

D	Both `INT` and `BIGINT` are integer data types in MySQL, but `BIGINT` can store larger integer values compared to `INT`. `BIGINT` has a larger storage size and can accommodate a wider range of values	1 Marks for each correct answer
e.	**PrimaryKey:** Primary Key is a set of attributes (or attribute) which uniquely identify the tuples in relation or table. The primary key is a minimal super key, so **there is one and only one primary key in any relationship**. For example, Student{ID, F_name, M_name, L_name, Age} Here only **ID** can be primary key because the name, age and address can be same, but ID can't be same. **CandidateKey:** A candidate key is a set of attributes (or attribute) which uniquely identify the tuples in relation or table. As we know that Primary key is a minimal super key, so there is one and only one primary key in any relationship but there is more than one candidate key can take place. Candidate key's attributes can contain a NULL value which opposes to the primary key. For example, Student{ID, First_name, Last_name, Age} Here we can see the two candidate keys **ID** and **{First_name, Last_name, DOB}**. So here, there are present more than one candidate keys, which can uniquely identify a tuple in a relation.	1 Marks for each correct explanation
f	**Key Differences Between Primary key and Unique key:** 1.Primary key will not accept NULL values whereas Unique key can accept NULL values. 2.A table can have only one primary key whereas there can be multiple unique key on a table.	1 Marks for each correcr difference
SECTION C		

<table>
<tr>
<td>3.a</td>
<td>i.DBMS-Data base Management System
ii.MySQL-Free and open source software
iii.Data Dictionary-

A data dictionary contains metadata i.e data about the database. The data dictionary is very important as it contains information such as what is in the database, who is allowed to access it, where is the database physically stored etc.

The users of the database normally don't interact with the data dictionary, it is only handled by the database administrators.

The data dictionary in general contains information about the following –

● Names of all the database tables and their schemas.
● Details about all the tables in the database, such as their owners, their security constraints, when they were created etc.
● Physical information about the tables such as where they are stored and how.
● Table constraints such as primary key attributes, foreign key information etc.
● Information about the database views that are visible.

This is a data dictionary describing a table that contains employee details.

<table>
<tr><th>Field Name</th><th>Data Type</th><th>Field Size for display</th><th>Description</th><th>Example</th></tr>
<tr><td>Employee Number</td><td>Integer</td><td>10</td><td>Unique ID of each employee</td><td>1645000001</td></tr>
<tr><td>Name</td><td>Text</td><td>20</td><td>Name of the employee</td><td>David Heston</td></tr>
<tr><td>Date of Birth</td><td>Date/Time</td><td>10</td><td>DOB of Employee</td><td>08/03/1995</td></tr>
<tr><td>Phone Number</td><td>Integer</td><td>10</td><td>Phone number of employee</td><td>6583648648</td></tr>
</table>
</td>
<td>1 Marks for each correct definitioin</td>
</tr>
<tr>
<td>b</td>
<td>1.Primary key constraints
2.check constraints
3.default constraints</td>
<td>1 Marks for each correct answer</td>
</tr>
</table>

C	i. mysql>>create Database XICommerce; ii. mysql>>create table FeePayment(StudentUBI_ID Integer Primary Key, StudentName varchar(20), PaymentDate date); iii. mysql>>select * from Feepayment;	1 Marks for each correct SQl Commands
D	i.Degree of Relation- Total No of attributes of relations is called degree of Relation. ii.Cardinality of Relation- Total No of rows of relations is called Cardinality of Relation iii.Tuple- Rows of realtions are called Tuples or records of relation.	