

Unique Paper Code : 62341201
Name of the Course : B.A. (Prog.) Computer Applications (Old Course)
Name of the Paper : Database Management Systems
Semester : II
Duration : 2 Hours
Maximum Marks : 75

Instructions for Candidates:

Attempt any four questions. All questions carry equal marks.

Q1. Consider the following table EMPLOYEE. Identify the types of problems that may occur while performing insert, delete or update operations in the table. Give suitable examples for each of the problem.

EMPLOYEE

Emp_id	Emp_Name	Emp_Address	Emp_Dept
101	Rick	Delhi	D001
101	Rick	Delhi	D002
123	Maggie	Agra	D890
166	Glenn	Chennai	D900
166	Glenn	Chennai	D004

Q2. Consider the following table BOOKS:

BOOKS

Bookid	Title	Author	Price
101	DBMS	Varuna	600
102	Computer Fundamentals	Brijesh	650
103	Python	Swati	450
104	C++	Vaani	500

Give the output that will be produced on execution of the following SQL Commands:

```
SELECT COUNT(*) FROM BOOKS;
```

```
SELECT Title , SUM(Price) FROM BOOKS GROUP BY Title;
```

```
UPDATE BOOKS SET PRICE=700 WHERE Author="Varuna";;
```

```
INSERT INTO BOOKS VALUES (105, "OS", "KELVIN",700);
```

```
ALTER TABLE BOOKS ADD Publisher;
```

```
SELECT Title, Author FROM BOOKS WHERE Price BETWEEN 400 AND 600;
```

Q3. Consider the following relation instances R1 and R2:

R1

Roll No.	Name
1001	Amit
1002	Sunil
2001	Ojas
2002	Radha

R2

Roll No.	Name
1004	Ankit
1005	Sunil
2002	Radha
1001	Amit

Display the result of following operations:

R1 UNION R2, R1 PRODUCT R2, R1 INTERSECTION R2, R1 DIFFERENCE R2, R1 JOIN R2, and R1 LEFT JOIN R2.

Q4. Consider the following table Work_Allocation:

Stud_id, Stud_Name, Collge, Project_id, Project_Name, Project_marks

Following are the functional dependencies for the above table:

Stud_id → Stud_Name, College

Project_id → Project_Name

RollNo, Project_id → Project_marks

Reduce the table Work_Allocation in the 1st normal form (1NF) into third normal form (3NF) and identify the primary key in each of the resulting tables.

Q5. Consider the following table STUDENT with following attributes:

Attribute	Data Type
Stud_id	INTEGER(6), UNIQUE, NOT NULL
Name	VARCHAR (12), NOT NULL
Address	VARCHAR (15)
Course_id	INTEGER (2), NOT NULL
University_rollno	INTEGER(6), UNIQUE, NOT NULL

Identify the candidate keys in the table STUDENT.

Give SQL command to create the table STUDENT using suitable data types and constraints, define a suitable primary key for the table.

Populate the table STUDENT with information of four students.

Display the names of students whose Course_id is "Computer Science" and name starts from "A".

Add a column "Phone_no".

Update "Phone_no" of all the students with suitable values in the table.

Q 6. A Company maintains the following tables for its Database :

Table	Attributes
Executive	E_Id, Name, Address, Salary, Date_of_Joining,
Product	P_Id, Name, Price
Customer	C_Id, Name
Order	Invoice_No, Date_of_Purchase, P_Id, E_Id, C_Id, Quantity

Construct an ER diagram where an invoice is given by the executive. Each executive can write many invoices but each invoice is written by only one executive. The invoice is written for a single customer but each customer can have many invoices.

Unique Paper Code : 62344414
Name of the Paper : Multimedia Systems and Applications
Name of the Course : B.A. (Programme) Discipline Course
Semester : IV
Duration of Examination : Two Hours
Maximum Marks : 75
Year of admission : 2015, 2016, 2017

Instructions for Candidates:

Answer any FOUR questions out of SIX given in the question paper.

All questions carry equal marks.

- Q1. Describe different environments in which multimedia can be used. Give three aspects of multimedia that make it superior over other forms of information presentation.
- Q2. Describe primary multimedia delivery methods. You have been given the task of creating a new website for your college. What tools will you use to create the dynamic webpages?
- Q3. Differentiate between animation and virtual reality. Describe the types of animation techniques.
- Q4. Describe the terms anti-aliasing, rollovers, auto-tracing, dithering.
- Q5. Describe hardware components that are used in multimedia projects. How do you evaluate the appropriateness of multimedia authoring systems for a given project?
- Q6. Compare the use of MIDI and digitized audio in a multimedia production. List the important steps and considerations in recording and editing (any five) digital audio.

Unique Paper Code: 32345401
Name of the paper: Information Security and Cyber Laws
Name of the Course: Generic Elective (Computer Science)
Semester: IV

Duration: 2 hours

Maximum Marks: 75

Instructions for Candidates:

Attempt any four questions.

All questions carry equal marks

- Q1. Suppose you receive an e-mail saying "someone tried to login into your Facebook account from a new device, if it wasn't you, please confirm your identity. Please Sign in by clicking on the following link." What form of attack is this e-mail attempting? How should you respond to such e-mails? List some other ways in which your system can be maliciously attacked through e-mail?
- Q2. What are three important aspects related to information security. Explain each one in detail. List at least three kinds of damage a company could suffer when the integrity of a program or company data is compromised.
- Q3. Assume that you have found a pen drive in your parking area. You just plug in the pen drive into your personal laptop to examine its content. What threats might this pose to your laptop? What steps can be taken to mitigate these threats? List different ways to safely determine the contents of the pen drive? What are the four broad categories of payloads that a malware may carry?
- Q4. What is cryptanalysis? What are tasks performed by cryptanalysts? What are the differences between substitution ciphers and transpositions? Encrypt the message "hello, how are u" using the substitution cipher and Rail-fence techniques with key =3.
- Q5. What is risk analysis? List various steps involved in risk analysis? Explain different strategies to deal with risk? Consider a situation where system failure occurs as a result of overheating in a server room. List the consequences of such failure. What are the assets which will be effected? Identify the risks involved and suggest the solution to mitigate the identified risks.
- Q6. In e-commerce, safeguarding privacy of the customers is one of the characteristics of company's policies. List four other characteristics of such policies and explain them with the help of an example. Who are audiences of these policies apart from customers?