

This question paper contains 8 printed pages]

Roll No.

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S. No. of Question Paper : 2395

Unique Paper Code : 32345201 GC-4

Name of the Paper : Introduction to Database Systems

Name of the Course : GE : Computer Science for Honours

Semester : II

Duration : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Question No. 1 is compulsory.

Attempt any *four* of question Nos. 2 to 7.

Parts of a question must be answered together.

Marks are indicated against each question.

1. (a) Differentiate between tuples and attributes of a relation.

Illustrate by giving an example.

4

P.T.O.

(b) For the binary relationships given below, suggest the cardinality ratio based on the common sense meaning of entity types.

Entity1	Cardinality	Entity2	Ratio
(i) STUDENT	TEACHER	
(Enrolled in a Course)			
(ii) CLASSROOM	BLACKBOARD	
(iii) COUNTRY	CURRENT_PRESIDENT	
(iv) EMPLOYEE	DEPARTMENT	4

(c) Justify the following statements : 2×3=6

- (i) Primary key cannot be null.
- (ii) Weak entities do not have their own key attributes.

(d) Define foreign key. Why is it used ? 2

(e) What is a relational data model ? Explain in the context of a relation 'STUDENT'. 1+2=3

(f) Consider the following database schema.

STUDENT

Name	Student_id	Class	Major	Marks
Smith	17	1	CS	85
Browny	8	1	CS	76
Jane	14	1	CS	65
Bob	5	1	CS	90

Write SQL statements to perform the following operations on the above database.

(i) Insert a new student, <'Johnson', 25, 1, 'MATH'>, in the database.

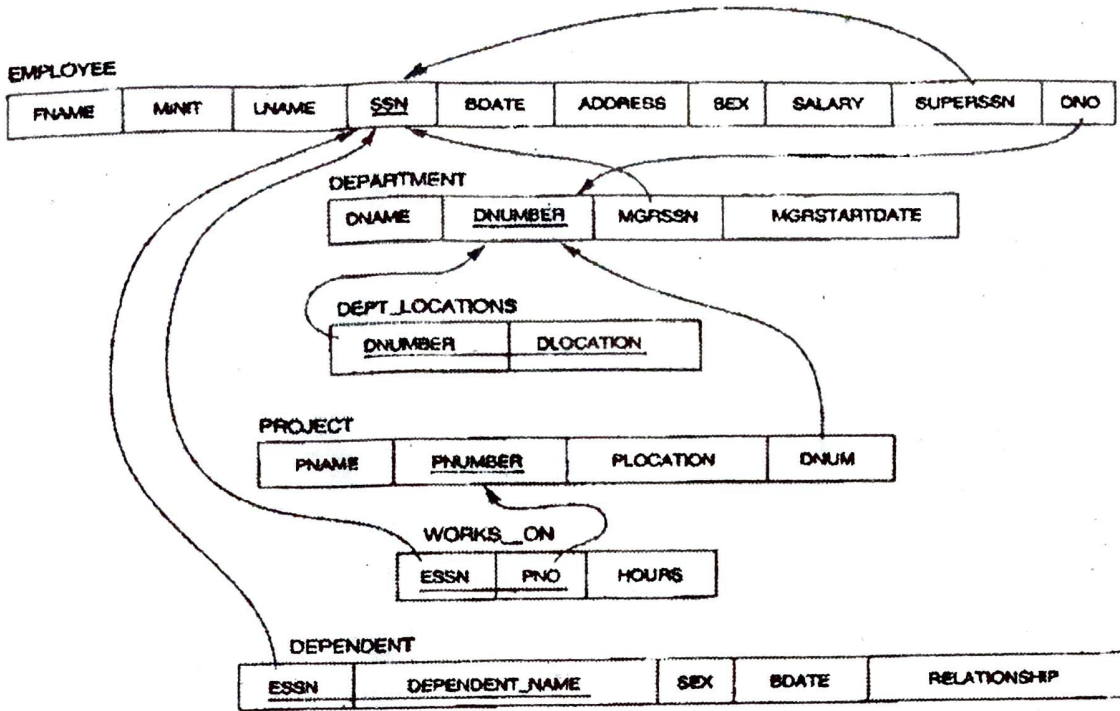
(ii) Change the class of 'Smith' to 2.

(iii) Delete the record for the student whose name is 'Smith' and whose 'Student_id' is 17. 3×2=6

P.T.O.

- (g) Differentiate between DROP and DELETE command with the help of one example each. 4
- (h) Consider the relation given in Q.1. (f). Write SQL queries for the following tasks :
- (i) Display the name and marks of the student who scored highest marks.
- (ii) Display total number of students.
- (iii) Display average marks of the class. 3×2=6
2. (a) Define the following terms :
- (i) Meta data
- (ii) Candidate key. 2×1=2
- (b) What are the four types of database users ? Discuss the role of each. 4
- (c) Differentiate between HAVING and WHERE clause. Illustrate the same by giving *one* example. 4

3. Consider the following COMPANY database schema :



(i) Specify six primary and six foreign keys for this database schema. 6

(ii) Write CREATE TABLE command for the relation DEPARTMENT specifying primary and foreign key constraints. 4

4. Consider the following set of requirements for a UNIVERSITY database that is used to keep track of students' transcripts.

(a) The University keeps track of each student's name, student number, social security number, current address, birthdate and sex.

- (b) Each department is described by a name, department code, office number, office phone, major department, minor department and degree program (B.A., B.Sc. etc.)
- (c) Each section has an instructor, semester, year, course and section number.

Design an ER diagram for the above problem. Specify key attributes of each entity.

10

5. (a) Consider the following tables:

WORKS (Pname, Cname, Salary)

LIVES (Pname, Street, City)

LOCATED_IN (Cname, City)

MANAGER (Pname, Mgrname)

Where Pname=Person name, Cname=Company name and
Mgrname=Manager Name

Write SQL queries for the following :

- (i) List the names of the people who work for the company Wipro along with the cities they live in.

(ii) Find the people who work for the company 'Infosys' with a salary more than Rs. 50,000. List the names of the people, along with the street and city addresses.

(iii) Find the names of the persons who do not work for the company 'HCL'. 3×2=6

(b) What do you understand by Normalization in database design ? Explain Third Normal Form (3NF) by taking suitable example(s). 4

6. (a) What is a relationship set ? 2

(b) Give short answers for the following :

(i) Properties that describe an entity's characteristics.

(ii) Language used to define data in a database.

(iii) SQL clause used for sorting the tuples.

(iv) SQL clause used for pattern matching in a string. 4×1=4

- (c) Suggest appropriate data types for the following attributes :
- (i) Date of birth
 - (ii) Marks of a student
 - (iii) Employee id
 - (iv) Name of a school. 4×1=4
7. (a) What is a binary relationship ? Illustrate the same with the help of an example. 4
- (b) Describe the three level architecture of database approach for a DBMS with the help of a block diagram. What is the difference between logical and physical data independence. 4+2=6

This question paper contains 4 printed pages]

Roll No.

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S. No. of Question Paper : 2686

Unique Paper Code : 32345401 GC-4

Name of the Paper : Information Security and Cyber Laws

Name of the Course : Computer Science : Generic Elective for
Honours

Semester : IV

Duration : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Question No. 1 is compulsory form Section A.

Attempt any *four* questions from Section B.

Section A

1. (a) Briefly describe the term authentication. 2
- (b) What do you understand by password cracker ? List any
two cracker programs. 3
- (c) Define electronic signature and denial of service
attack. 3

P.T.O.

- (d) Differentiate between law and ethics. 3
- (e) What is the punishment under Section 66A for sending offensive messages through communication service under ITAA 2008 ? 3
- (f) Explain briefly an intrusion detection system. 2
- (g) What is a security policy ? Explain the contents of a security policy. 4
- (h) Write notes on (any *two*) : 4
- (i) Incident Response Plan
 - (ii) Password selection criteria
 - (iii) Section 72 for Breach of confidentiality and privacy.
- (i) What is a firewall ? Why is it used ? Explain what a firewall can and cannot do ? 5
- (j) List the *three* security goals of a computer system. 3
- (k) What do you understand by default accounts in Windows ? What is its disadvantage ? 3

Section B

2. (a) What is Computer Crime ? List any *three* examples where computers are used to commit crime. 4
- (b) What is the difference between vulnerability and threat ? Explain different kinds of threats. 6
3. (a) Encrypt the text "Meet me tomorrow at ten" using caesar cipher with key as 3. 5
- (b) Explain Section 66F on Cyber Terrorism of ITAA 2008. 5
4. (a) What are scanners and why they are used ? 4
- (b) What is the purpose for security policy ? Also explain durability of security policy. 6
5. (a) Explain any *four* means to commit Cyber Crime. 4
- (b) What do you understand by hacker ? Explain how hackers are classified into different categories. 6

6. (a) What do you understand by risk ? What are the strategies for dealing with risks ?
- (b) What is Hijacking ? Explain TCP Session Hijacking.
7. Differentiate between :
- (i) Virus and Trojan
 - (ii) Active and Passive Attacks
 - (iii) Fault and Failure
 - (iv) Symmetric and Asymmetric Encryption.

This question paper contains 4+1 printed pages]

Roll No.

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S. No. of Question Paper : 3044

Unique Paper Code : 62343414 GC-4

Name of the Paper : Search Engine Optimization

Name of the Course : SEC : Computer Science for B.A. (Prog.)

Semester : IV (CBCS)

Duration : 2 Hours

Maximum Marks : 25

(Write your Roll No. on the top immediately on receipt of this question paper.)

All questions in 'Section A' are compulsory.

Attempt any *three* questions from 'Section B'.

Section A

1. Choose the correct option. (Write the question along with the correct option) : 10

(i) Which one of these is not a Search Engine activity ?

(a) Crawling

(b) Copy Writing

(c) Processing

(d) Indexing

P.T.O.

(ii) On-Page SEO includes :

- (a) Good content, Good keyword selection
- (b) Copy writing, Giving appropriate title to every page
- (c) Link building, increasing link popularity
- (d) Good content, link building

(iii) Keyword stuffing is :

- (a) Placement of keywords within a page to raise the keyword count
- (b) Repeating keywords in meta tags
- (c) Creating a rogue copy of a popular website
- (d) None of the above

(iv) Which statement is FALSE ?

- (a) Use unique keywords
- (b) Use keywords in meta description tag
- (c) Page title of few pages can be same
- (d) A tactic that does not involve deception, is a White Hat SEO tactic

- (v) In SWOT analysis :
- (a) Weaknesses and opportunities are beneficial in reaching the business objectives
 - (b) Attempt is to remove threats and opportunities
 - (c) Strengths and Weaknesses are internal environment
 - (d) None of the above

- (vi) Statement 1 : A tactic should conform to search engine's guidelines

Statement 2 : Websites should include doorway pages

Select the *correct* option :

- (a) Both Statement 1 and Statement 2 are TRUE
 - (b) Both Statement 1 and Statement 2 are FALSE
 - (c) Only Statement 1 is TRUE
 - (d) Only Statement 1 is FALSE
- (vii) The two ways of optimization are :
- (a) On-Page SEO and Crawling
 - (b) Crawling and Indexing
 - (c) Ranking and Processing
 - (d) On-Page SEO and Off-Page SEO

(viii) Which statement is false for increasing page rank ?

- (a) Create a high quality web page
- (b) Cloaking SEO tactic is favorable
- (c) A web page should be designed to rank highest in the search engine results
- (d) Put main keywords in <title> tags

(ix) Which of the following is illegal way of SEO ?

- (a) Link Building
- (b) Writing Meta Tags
- (c) Creating sitemap
- (d) Creating doorway Pages

(x) Which of the following are the different techniques used while performing Search Engine Optimisation :

- (a) White Hat SEO
- (b) Black Hat SEO
- (c) Gray Hat SEO
- (d) Both (a) and (b)

Section B

2. (a) Explain White Hat tactics for Search Engine Optimization. 3
- (b) Explain search engine optimization process for achieving high page rank. 2
3. (a) Explain Canonical tag. Why is it important for Search Engine Optimization. 3
- (b) What is "Alt" text ? Why should we use this while designing web pages ? 2
4. (a) How an image can be optimized by search engine optimization ? 3
- (b) What is a Meta Description tag ? 2
5. (a) Why sitemap is important for a website ? 3
- (b) Define and explain domain name. 2
6. Write short notes on the following (any two) : 5
- (a) Social Book Mark
- (b) Door Way Pages
- (c) Blog submission.

This question paper contains 4+1 printed pages]

Roll No.

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No. of Question Paper : 9130

Unique Paper Code

: 62273426

GC

Name of the Paper

: Research Methodology

(Skill Enhancement Course-II)

Name of the Course

: B.A. (Prog.) CBCS — SEC

Semester

: IV

Duration : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

(इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए ।)

Note :— Answers may be written *either* in English *or* in Hindi; but the same medium should be used throughout the paper.

टिप्पणी :— इस प्रश्न-पत्र का उत्तर अंग्रेजी या हिन्दी किसी एक भाषा में दीजिए; लेकिन सभी उत्तरों का माध्यम एक ही होना चाहिए।

All questions carry equal marks.

Attempt any *five* questions out of Eight questions.

सभी प्रश्नों के अंक समान हैं।

कुल आठ प्रश्नों में से किन्हीं पाँच प्रश्नों के उत्तर दीजिए।

P.T.O.

1. (a) Explain the characteristics of a good research and discuss the types of research in detail.
- (b) What is the difference between Quota sampling and snowball sampling ? 10.5
- (अ) एक अच्छे शोध की विशेषताएँ बताइए तथा विस्तार से शोध के प्रकार की व्याख्या कीजिए।
- (ब) कोटा प्रतिचयन तथा स्नोबॉल प्रतिचयन के बीच अन्तर क्या है ?
2. (a) Explain various steps involved in a research process.
- (b) How a researcher reviews the literature ? Explain various methods for it. 7.8
- (अ) एक शोध प्रक्रिया में सम्मिलित विभिन्न कदमों का विश्लेषण कीजिए।
- (ब) एक शोधकर्ता कैसे साहित्यिक समीक्षा करता है। इसके लिए विभिन्न पद्धतियों की व्याख्या कीजिए।
3. (a) Explain the principles of sampling. What are the methods of drawing a random sample ?

(b) What are the essential characteristics of a good questionnaire ? 8.7

(अ) प्रतिचयन के सिद्धान्त की व्याख्या कीजिए। एक दैव प्रतिचयन को निकालने के क्या तरीके हैं ?

(ब) एक अच्छी प्रश्नावली की आवश्यक विशेषताएँ क्या हैं ?

4. (a) Enumerate the different methods of collecting data giving one example of each.

(b) What are the steps in the process of data preparation ? Explain in detail. 7.8

(अ) प्रत्येक के लिए एक उदाहरण देते हुए आँकड़ा संग्रह की विभिन्न विधियों की गणना कीजिए।

(ब) आँकड़ा तैयारी करने की प्रक्रिया में क्या कदम हैं ? विस्तार से समझाइए।

5. (a) What are the Ethical issues concerning the research participants of a research activity. Explain.

(b) Statistical Analysis plays an important role in research. Justify. 8.7

(अ) एक शोध कार्य के शोध भागीदारी के अन्तर्गत नैतिक मुद्दे क्या हैं ? व्याख्या कीजिए।

(ब) शोध में सांख्यिकीय विश्लेषण एक महत्वपूर्ण भूमिका निभाता है। न्यायसंगत सिद्ध कीजिए।

6. (a) Define the main issues which should receive the attention of the researcher in formulating the research problem. Give suitable examples.

(b) Explain how qualitative research differs from quantitative research. 10.5

(अ) मुख्य मुद्दों को परिभाषित कीजिए जो शोध समस्या को बनाने में शोधकर्ता को ध्यान आकर्षित करना चाहिए।

(ब) परिमाणात्मक शोध से गुणात्मक शोध कैसे भिन्न होता है ? विश्लेषण कीजिए।

7. (a) Explain the various types of sampling techniques used by a researcher for a research activity.

(b) How the research report is prepared for any research ? Explain. 7.8

(अ) एक शोध क्रिया-कलाप के लिए शोधकर्ता द्वारा विभिन्न प्रकार के प्रतिचयन तकनीकों के उपयोग का विश्लेषण कीजिए।

(ब) किसी शोध के लिए शोध विवरण कैसे तैयार किया जाता है ? विश्लेषण कीजिए।

8. Write short notes on (any two) :

7.5,7.5

(a) Research design

(b) Types of interviews in any research

(c) Referencing systems

(d) Sample size.

किन्हीं दो पर संक्षिप्त टिप्पणी लिखिये :

(अ) शोध प्रारूप

(ब) किसी शोध में साक्षात्कार के प्रकार

(स) संदर्भ व्यवस्था

(द) प्रतिचयन आकार।

This question paper contains 3 printed pages]

Roll No.

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S. No. of Question Paper : 265

Unique Paper Code : 234251 G

Name of the Paper : Database Management System

Name of the Course : B.A. (Prog.) Discipline Course

Semester : II

Duration : 3 Hours

Maximum Marks : 45

(Write your Roll No. on the top immediately on receipt of this question paper.)

Part A (Q. No. 1) is compulsory.

Attempt any *three* questions from Part B.

Part A

1. (a) Describe the following with respect to database : 2

(i) Secondary key

(ii) Minimal key.

(b) When is a table in 2NF ? 2

(c) Write the syntax of the following : 2

(i) ALTER TABLE

(ii) INSERT.

P.T.O.

- (d) What is the difference between DDL and DML. 2
- (e) Why is Entity Relationship Diagram important ? 2
- (f) State two problems associated with data redundancy. 2
- (g) What do you mean by stored and derived attributes ?
Give example. 3

Part B

2. (a) Briefly describe any *four* disadvantages of file systems. 4
- (b) Explain any *three* relational set operators giving examples. 6
3. (a) Describe the following terms : 4
- (i) Partial functional dependency
- (ii) Group by clause.
- (b) Briefly describe logical and physical data independence. 4
- (c) What is a weak entity set ? Give an example. 2
4. (a) Differentiate between JOIN and UNION with example. 5
- (b) Define normalization. Explain its importance. Give an example to show how normalization is useful in database design. 5

5. (a) Explain referential integrity and entity integrity with suitable examples. 4
- (b) Give *two* advantages and two disadvantages of a network database model. 4
- (c) Mention different types of database users. 2
6. (a) With the help of a diagram, explain the three layered architecture of DBMS. 4
- (b) Give *two* advantages of using relational data model. 2
- (c) Write short notes on : 4
- (i) SQL CONSTRAINTS
- (ii) VARCHAR.

This question paper contains 4+2 printed pages]

Roll No.

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S. No. of Question Paper : 1994

Unique Paper Code : 62341201 GC-4

Name of the Paper : Database Management Systems

Name of the Course : B.A. (Prog.) Discipline Course

Semester : II

Duration : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Question No. 1 is compulsory.

Answer any *five* questions from Question Nos. 2 to 8.

1. (a) What are the problems caused due to data redundancy? 4
- (b) Explain any *two* functions of DBMS. 4
- (c) Give full form of the following : 2
 - (i) SQL
 - (ii) DML.

P.T.O.

- (d) How are entities and attributes represented in ER model ? 2
- (e) Differentiate between Single-Valued and Multi-Valued attributes with examples. 4
- (f) Explain the Integrity Rules to design a database. 4
- (g) What is partial dependency ? Explain with a suitable example. 3
- (h) Explain Foreign key in a relation. 2
2. What are the components of a database system ? 10
3. A college maintains data about the following entities : 10
- (i) Courses : including number, title, credits, syllabus, and prerequisites;
- (ii) Courses offered : including course number, year, semester, section number, instructor(s), timings, and classroom;

- (iii) Students : including student-id, name, and program;
- (iv) Instructors : including id_number, name, department and title.

Construct an E-R diagram for the same.

4. Consider the following schema and write SQL for the following :

Student (RollNo, Name, Age, Sex, City)

Student_marks (RollNo, Marks1, Marks2, Marks3)

- (i) To create the given tables and declare primary keys and foreign keys. 4
- (ii) Display student details grouped by their city. 2
- (iii) Display name of students who got more than 75 marks in Marks-1. 2
- (iv) Delete the table Student_marks. 2

5. Consider the following relations R1 and R2 :

Roll No.	Name
1001	Ankit
1002	Suraj
2001	Vivek
2002	Ruchika

R1

Roll No.	Name
1004	Amit
1005	Suraj
2002	Ruchika
1001	Ankit

R2

Give the result of the following operations :

(i) **R1 PRODUCT R2**

(ii) **R1 UNION R2**

(iii) **R1 INTERSECTION R2**

(iv) **SELECT Roll No. greater than 1005 From R1**

(v) **R1 DIFFERENCE R2**

6. (a) Explain the different data anomalies in a database with example. 6

(b) Differentiate between primary key and secondary key in a relation with example. 4

7. (a) Explain any *two* advantages of DBMS. 4

(b) Explain different types of relationships that exist in a database model. 6

P.T.O.

8. Write short notes on any *four* :

- (i) Network Data Model
- (ii) Connectivity and Cardinality
- (iii) Relational set operator JOIN
- (iv) Data Dictionary and System Catalog
- (v) Third Normal Form.

This question paper contains 4 printed pages]

Roll No.

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S. No. of Question Paper : 1995

Unique Paper Code : 62341201

GC-4

Name of the Paper : Database Management Systems

Name of the Course : B.A. (Prog.) Discipline Course

Semester : II

Duration : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Q. No. 1 is compulsory.

Answer any five questions from Question No. 2 to 8.

1. (a) What is the importance of entity integrity and referential integrity in a database ? Give examples. 4
- (b) Define primary key with an example. 2
- (c) Define Third Normal Form with an example. 4
- (d) Give full form of : 2
 - (i) RDBMS
 - (ii) DDL.
- (e) Differentiate between SELECT and PROJECT operators with example. 4

P.T.O.

- (f) Explain the following data types :
- (i) DATE 4
- (ii) VARCHAR(4)
- (g) Define data redundancy. 2
- (h) Explain not NULL constraint with syntax. 3
2. Explain the various components of DBMS environment. 10
3. (a) Define relationship. Explain the different types of relationship with an example. 8
- (b) What are composite attributes ? 2
4. (a) Differentiate between the following with suitable example : 4
- (i) Attribute and Tuple
- (ii) DELETE and DROP command.
- (b) Explain JOIN relational operator with an example. 6
5. Consider the following relations PERSON1 and PERSON2 : 10

PERSON1	
Name	Age
Mark	23
Tom	28
Joe	21
Henry	32

PERSON2	
Name	Age
Mac	30
Tomy	42
Joe	21
Henry	32

Give the output of the following operations :

- (i) PERSON1 UNION PERSON2
- (ii) PERSON1 INTERSECT PERSON2
- (iii) PERSON2 DIFFERENCE PERSON1
- (iv) PERSON2 PRODUCT PERSON1
- (v) PROJECT name from PERSON1.

6. A car insurance company maintains data about the following entities : 10

- (i) person : including driver-id, name, address
- (ii) car : including license, year, model
- (iii) accident : including report-number, date, location
- (iv) participated : including driver-id, license, report-number, damage-amount.

Construct an ER diagram for the same.

7. (a) Explain hierarchical data model. 4
- (b) Describe any *three* problems with file system. 6

P.T.O.

8. Consider the following tables :

EMPLOYEE(ENO, ENAME, DOB, ADDRESS, SALARY, DNO)

DEPARTMENT(DNO, DNAME, DLOCATION, JOIN_DATE)

Symbols have their usual meanings.

- (a) Give the SQL commands to create the given tables and declare primary keys and foreign keys. 4
- (b) Write a query to get the names of the employees and their departments whose salary is greater than 1,00,000. 2
- (c) Write a query to calculate total and average salary. 2
- (d) Write a query to get employee names and the name of the department they work for, who joined on "1 Nov. 2004". 2

This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 3006

GC-4

Unique Paper Code : 62344414

Name of the Paper : Multimedia Applications

Name of the Course : B.A. (Prog.) Discipline Course

Semester : IV

Duration : 3 Hours

Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. The paper has two sections. All questions in 'Section A' are compulsory.
3. Attempt any five questions from 'Section B'. Parts of a question must be answered together.

SECTION A

1. (i) What is Multimedia ? (2)
- (ii) Write the difference between Serif and Sans Serif. (4)
Give examples also.

P.T.O.

- (iii) What do you understand by the Tweening and Kinematics techniques of animation. (4)
- (iv) What is Vector Drawing? Give two examples where we use Vector Drawing. (5)
- (v) What is the use of color palettes in Multimedia? (3)
- (vi) Write any two uses of Intelligent Multimedia System. (2)
- (vii) Explain any two Sound-editing operations in Multimedia. (5)

SECTION B

2. (a) Discuss the differences among Interactive Multimedia, Hypertext, Hypermedia. (6)
- (b) Briefly discuss the origin of Cel Animation and the concepts that go into creating these animations. (4)
3. (a) Explain Types of Authoring Tools. (6)
- (b) Write the precautions to be taken while Shooting and editing a video for a multimedia project. (4)

4. (a) What is Analog Video. Describe the three channels of Color information in analog video. (6)
- (b) What are Image-Editing Tools ? Give any 2 features of Image-Editing Tools. (4)
5. (a) Differentiate between MIDI and Computer Animation. Also explain which audio file format are best used in multimedia project ? (6)
- (b) Explain HDTV. (4)
6. (a) Describe the stages of a Multimedia project. (6)
- (b) Write the application of Multimedia in Schools and Public places. (4)
7. Write short on (Any 5) of the following : (10)
- (i) Dithering Process
- (ii) Anti aliasing
- (iii) Morphing
- (iv) Role of Multimedia in Virtual Reality
- (v) 3-D Drawing and Rendering
- (vi) Codec

8. (a) Differentiate between Web Page Makers and Site builders. Also give an example of both. (5)
- (b) Differentiate between Typeface and a Font. Write at least three examples of both. (5)

This question paper contains 3 printed pages]

Roll No.

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S. No. of Question Paper : 328

Unique Paper Code : 234657

G

Name of the Paper : Information Security

Name of the Course : B.A. Prog. Discipline Course (CA-3B)

Semester : VI

Duration : 3 Hours

Maximum Marks : 45

(Write your Roll No. on the top immediately on receipt of this question paper.)

The paper has two sections.

All questions in Section 'A' are compulsory.

Attempt any *three* questions from Section 'B'.

Parts of a question must be answered together.

Section 'A'

1. (a) Define the terms exploit and exposure. 2
- (b) What are Risk assessment and Risk control ? 2
- (c) Define Steganography. 2
- (d) What is the value of information security for an organization ? 2

P.T.O.

- (e) What are determining conditions for penalties associated with laws and policies ? 3
- (f) What is access control ? Describe its different approaches. 4

Section 'B'

2. (a) Describe any *five* components of an information system. 5
- (b) What is C.I.A. triangle with respect to information security ? Explain characteristics of information on which C.I.A. triangle is based. 5
3. (a) What do you understand by threat ? Explain any *four* types of threats come under forces of nature. 5
- (b) How can deviations in quality of service affect the availability of information and system ? 5
4. (a) Explain how cultural differences can make it difficult to determine what is and is not ethical when it comes to the use of computer. 5
- (b) How a defender *know yourself* and *know the enemy* to protect an organization when many threats are constantly attacking ? 5

5. (a) Differentiate between trusted network and untrusted network. How do packet-filtering firewall and dynamic packet-filtering firewall work ? 5
- (b) What is Cryptography ? Differentiate between Symmetric and Asymmetric cryptography. 5
6. Write short notes on any *five* : 10
- (a) Digital certificate
- (b) Worms
- (c) Criminal law
- (d) Civil law
- (e) Vulnerability
- (f) Virus
- (g) Utility.

This question paper contains 4 printed pages]

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S. No. of Question Paper : 330

Unique Paper Code : 234652

G

Name of the Paper : Internet Technologies-II

Name of the Course : B.A. Prog. Discipline Course (CA-2B)

Semester : VI

Duration : 3 Hours

Maximum Marks : 45

(Write your Roll No. on the top immediately on receipt of this question paper.)

Section 'A' is compulsory.

Attempt any *three* questions from Section 'B'.

Section 'A'

1. (a) Define the following terms : 2

(i) WWW

(ii) HTTP.

(b) Give the output of the following PHP program :

```
<?php
```

```
function printCity($NameOfCity)
```

```
{
```

```
    print("The city is $NameOfCity.<Br>");
```

```
}
```

P.T.O.

```
function California( )
```

```
{
```

```
    $capital="Sacramento";
```

```
    printCity($capital);
```

```
}
```

```
function Utah( )
```

```
{
```

```
    $capital ="Salt lake City";
```

```
    printCity($capital);
```

```
}
```

```
function Nation( )
```

```
{    global $capital;
```

```
    printCity($capital);
```

```
}
```

```
    $capital="Washington DC";
```

```
    Nation( );
```

```
    California( );
```

```
    Utah( );
```

```
    Nation( );
```

- (c) List the uses of CMS. 2
- (d) What is Escape Sequence ? Give *two* examples. 2
- (e) Differentiate between (==) and (===) operators ? 2
- (f) In pattern matching where and how a period(.), a carat(^) and a dollar sign(\$) in pattern matching. 3

Section 'B'

2. (a) Explain the working of a do-while loop with a suitable example. 5
- (b) Write a PHP program to Print first ten odd numbers. 5
3. (a) Explain the different kinds of data types in PHP with *one* example of each. 6
- (b) What do you understand by form processing ? Give a suitable example. 4
4. (a) Explain the concept of recursive function with the help of a suitable example. 6
- (b) Write a program to ensure that a ZIP code is in the proper form of five digits followed by a dash and four more digits. 4

5. (a) Write short notes on the following : 6

(i) Search Engines

(ii) Break statement.

(b) Write a PHP program to print the following pattern : 4

```

*
* *
* * *
* * * *

```

6. Create a database named "Person" having a table named "Details" on the localhost. The table has following fields : 10

ID	Username	Password	Age	Address	Profession
----	----------	----------	-----	---------	------------

Write PHP program to insert values into the above table.

This question paper contains 3 printed pages]

Roll No.

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S. No. of Question Paper : 331

Unique Paper Code : 234657

G

Name of the Paper : Information Security

Name of the Course : B.A. Prog. Discipline Course (CA-3B)

Semester : VI

Duration : 3 Hours

Maximum Marks : 45

(Write your Roll No. on the top immediately on receipt of this question paper.)

The paper has two sections.

All questions in Section 'A' are compulsory.

Attempt any *three* questions from Section 'B'.

Parts of a question must be answered together.

Section 'A'

1. (a) Explain any *two* characteristics of information with respect to security. 2
- (b) List any *four* threats by forces of nature. 2
- (c) Write the difference between exposure and vulnerability. 2

- (d) Explain the term malware. 2
- (e) Differentiate between laws and ethics. 2
- (f) Why is the risk identification important to the risk management process ? 2
- (g) Describe Non-discretionary access control approach. 2
- (h) What is Link encryption ? 1

Section 'B'

2. (a) Explain various components of information system. 6
- (b) Explain the term security. 1
- (c) What is the difference between a denial-of-service attack and a distributed denial-of-service attack ? 3
3. (a) What is the most common form of violation of intellectual property ? How does an organization protect against it ? 4
- (b) Define firewall and describe its various processing modes. 6
4. (a) How is due diligence different from due care ? 2
- (b) What can be done to deter someone from committing an unethical and illegal behaviour ? 3
- (c) Describe risk management and its various components. 5

5. (a) What is access control ? Describe *four* mechanisms on which all access control approaches rely. 6
- (b) What is symmetric encryption ? Why is it important to exchange keys out of band in it ? 4
6. Write short notes on (any *five*) : 10
- (a) Spoofing
 - (b) Dictionary attack
 - (c) Digital Signatures
 - (d) Asymmetric encryption
 - (e) Man-in-the-middle
 - (f) Proxy server.