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END SEMESTER EXAMINATION, JUNE- 2025**BCA Semester - VI****Course Name: Computer Graphics****Course Code: BCA307****Time allotted: 03 Hours****Max. Marks: 100****Note: Read all the instructions carefully.****Q.1. Attempt all.****(10×2=20)**

	CO	PO
a. Define Projection.	1	1,2
b. Define persistence, resolution and aspect ratio.	1	1,2
c. What is frame buffer memory?	1	2
d. Distinguish between convex and concave polygons?	1	1
e. What is Multimedia?	1	1
f. What is Transformation?	1	1,2
g. What is Pixel?	1	1,2
h. What is the difference between Raster image and Vector image?	1	1,2
i. What are area filling techniques?	1	2
j. What are digitizers in computer graphics?	1	2

Q.2. Attempt any five out of Seven.**(5×4=20)**

	CO	PO
a. Write Bresenham's algorithm. How does it differ from DDA algorithm?	2	2,3
b. Explain any three types of Transformations. Also write their matrix representation.	2	2
c. What is 3D coordinate system? Explain 3D transformation.	2	1,2
d. Write and explain Bresenham's Circle generating algorithm.	2	2,3
e. Draw 8-way symmetry of circle.	2	1,2
f. Consider the line from (5, 5) to (13, 9). Use the Bresenham's algorithm to rasterize this line.	2	2
g. What are polygon rendering methods? Which method is most popular?	2	1

Q. 3. Attempt any three out of four.**(3×10=30)**

	CO	PO
a. List the major differences between DDA and Bradenham's Line drawing algorithm. Illustrate the DDA algorithm to the line width end points (2, 2) and (9, 2).	3	2
b. How polygon table is used in representing polygons? Explain the representations of any three curves.	3	2
c. What do you mean by projection? Differentiate between parallel projection and perspective projection.	3	1,2
d. Perform 45° Rotation of triangle ABC when A(0,0) , B(1,1) , C(5,2) about origin.	3	1,2

Q.4. Attempt any two out of three.**(2×15=30)**

	CO	PO
a. Let ABCD be the rectangle window with A(0, 0), B(10, 0), C(10, 10) and D(0, 10). Use Liang Barsky line clipping algorithm to clip the line XY where X(5, 3) and Y(15, 9)	4	1,2
b. Given a homogeneous point (1, 2, 3). Apply rotation 90 degree towards X, Y and Z axis and find out the new coordinate points.	4	1,2
c. Given the centre point coordinates (0, 0) and radius as 10, generate all the points to form a circle using Midpoint circle Algorithm.	4	2,5

END SEMESTER EXAMINATION, JUNE- 2025

BCA Semester – VI

Course Name: Web Development using PHP

Course Code: BCA306

Time allotted: 03 Hours

Max. Marks: 100

Note: Read all the instructions carefully.

(10×2=20)

Q.1. Attempt all.

S.No	Questions	CO	PO
a.	What is the function of "foreach" construct in PHP?	1	1
b.	List any two advantages of PHP?	2	2
c.	Define Strings.	3	2
d.	What is URL?	2	1
e.	What is Database?	1	1
f.	What is the difference between Drop and Delete table?	2	1
g.	Write a simple "Hello, world" PHP Program.	2	1
h.	Define echo statement.	2	1
i.	Why we use comments.	3	1
j.	Define do while statement.	2	1

Q.2. Attempt any five out of Seven.

(5×4=20)

S.No	Questions	CO	PO
a.	How to read data from web form control? Explain with an example.	1	1
b.	Write query in SQL and give one example of each (Select, insert, update, delete).	1	1
c.	List the PHP standard Flow-controls statements.	1	1
d.	Write a Program to check whether the given number is prime or not.	1	1
e.	Write a note on MySQL.	3	1
f.	Write a function that interchange and prints the value of two integers A and B without using any extra variable.	2	3
g.	Can we run PHP from HTML file? If yes, how?	3	1

Q.3. Attempt any three out of four.

(3×10=30)

S.No	Questions	CO	PO
a.	How to create a connection between PHP and My SQL? Explain its step by step procedure.	1	1
b.	Why we use strlen(), rtrim(), substr() and rand() functions. Explain with example.	2	2
c.	Write a program by using mysqli_connect().	3	2
d.	Explain array in PHP. Give example of each.	3	3

Q.4. Attempt any two out of three.

(2×15=30)

S.No	Questions	CO	PO
a.	a) Write a program in HTML (Web-Page) having a form with first name, last name and a submit button. On clicking the button form data entry should be saved in a DB (PHP code needed, for insertion of data from "form" to database). b) What are the differences between Get and post methods in form submitting. Give the case where we can use get and we can use post methods?	1	1
b.	a) List out the database operations. Explain each operation with the help of examples. b) Which tags and sections must all HTML documents contain?	2	2
c.	a) Explain CRUD Operations, with example. b) Write a program to find average of first ten natural numbers using for loop.	3	3

END SEMESTER EXAMINATION, JUNE- 2025**BCA Semester - VI****Course Name: Network Security****Course Code: BCA308****Time allotted: 03 Hours****Max. Marks: 100****Note: Read all the instructions carefully.****Q.1. Objectives Type****(10 X 2=20)****(Very short/ Short Answer, MCQ, One-liners, Fill in the Blank, True/ False) Attempt all.**

		CO	PO
a.	Define HTTPS.	4	1
b.	What is prime number factorization?	2	2
c.	SHA stands for.....	4	1
d.	Using the Vigenere cipher, encrypt the word "answer" using the key 'leg'.	1	2
e.	Give examples of symmetric encryption?	1	1
f.	List the design goals of firewalls?	5	12
g.	Define worm.	5	12
h.	Define one way function?	3	2
i.	What you meant by IP spoofing?	3	1
j.	Give an example of key exchange algorithm	2	1

Q.2. Short notes / Short Answer Type (Attempt any five out of Seven)**(5 X 4=20)**

a.	How we can identify whether a number is prime or not?	2	1
b.	Why SSL is required?	5	2
c.	Explain malware and their types?	5	1
d.	How authentication is different from authorization?	1	2
e.	Explain two types of passive attacks	4	2
f.	How pseudorandom numbers can be generated.	3	2
g.	Explain Fermat's little theorem?	1	1

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Q.3. Structured Question (Attempt any three out of four)

(3 X 10=30)

a.	(i.) Why factorization is considered as one way function? (ii) How Prime number are different from composite numbers? (iii) Find the GCD (1260, 366) using Euclid's algorithm	2	2
b.	(i) Write in detail about Caesar cipher. (ii) Define any three types of cryptanalysis attacks (iii) How Vernam cipher works? Show with the help of an example	1	1
c.	(i) How Block cipher is different from stream Cipher? (ii) Elliptic curve cryptography is not based on prime number. Elaborate it (iii) Explain Congruence operation with the help of example	3	2
d.	(i) What is HMAC? Why it is required? (ii) Explain Trojan horse (iii) Why PGP is needed?	5	2

Q.4. Long Answer / Essay type (Attempt any two out of three)

(2 X 15=30)

a.	(i) Explain RSA algorithm by using a suitable example (ii) What are Kerberos?	1	2
b.	(i) How encryption is different from hashing? Write desired properties of hash functions (ii) Websites uses SSL. Why?	3	1
c.	(i) What are some common cyber-attacks? (ii) Explain the concept of Field. How it is used in cryptography?	5	2

END SEMESTER EXAMINATION, JUNE- 2025

BCA Semester - VI

Course Name: Introduction to Cyber Security

Course Code: BCE315

Time allotted: 03 Hours

Max. Marks: 100

Note: Read all the instructions carefully.

Q.1. Objective Type

(Very short/ short Answer, MCQ, One-liners, Fill in the blanks, True/ False) Attempt all. (10×2=20)

QN	Questions	CO	PO
a.	Define security.	1	1
b.	What is the need for security in modern systems?	1	1
c.	Explain the Passive Attacks.	2	1
d.	Name any two categories of Cyber Crimes.	2	1
e.	What is a Firewall?	3	1
f.	List two characteristics of a Firewall.	3	1
g.	What is Cyber Squatting?	4	1
h.	Define Cyber Terrorism.	4	1
i.	What is section 43 in cyber law?	5	1
j.	What is Evidence?	5	1

Q.2. Short notes / Short Answer Type (Attempt any five out of Seven)

(5×4=20)

QN	Questions	CO	PO
a.	Differentiate between Computer Security, Network Security, and Cyber Security.	1	1,8
b.	Discuss any five principles of Cyber Security.	1	1,8
c.	What is a DoS attack? How does it affect systems?	2	1,2
d.	Describe the working of a Virus and a Worm.	2	1,2
e.	What is Tunneling in VPN? How is it used?	3	1,4
f.	What is Intellectual Property Right (IPR) violation?	4	1,2
g.	Name and describe any four forensic tools.	5	1,2

Q.3. Structured Question (Attempt any three out of four)

(3×10=30)

QN	Questions	CO	PO
a.	Explain Linux and Windows Firewalls in detail.	3	1,4
b.	Explain Email Spoofing, Spamming, Email Bombing, and Threatening Emails.	2	1,2
c.	What is Phishing? Explain Social Engineering crimes with examples	4	1,8
d.	What is Cyber Forensics? Discuss Crime Scene Evaluation and Evidence Collection.	5	1,2

Q.4. Long Answer / Essay type (Attempt any two out of three)

(2×15=30)

QN	Questions	CO	PO
a.	Discuss network defense tools like Firewalls, VPN, and Authentication Mechanisms with examples.	3	1,4
b.	Discuss in detail Banking and Investment frauds, Cyber Defamation, and Cyber Stalking.	4	1,8
c.	Explain Indian IT Act 2000 with its salient features, objectives, and importance	5	1,8
