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END SEMESTER EXAMINATION, JUNE- 2024**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.

Q.1. Attempt all.**(10×2=20)**

S.No	Questions	CO	PO
a.	What is PHP?	1	1
b.	What these tags specify in PHP : <? php and ?>	2	2
c.	What are variables in PHP?	3	2
d.	List some built in functions in PHP.	2	1
e.	List any two advantages of PHP?	1	1
f.	Define the use of foreach loop in php.	2	1
g.	Define String.	2	1
h.	List different data-types available in PHP.	2	1
i.	Why we use comments.	3	1
j.	Is PHP a case sensitive language? Give example.	2	1

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

S.No	Questions	CO	PO
a.	How strings are declared in PHP? How will you concatenate two strings in PHP?	1	1
b.	List and Explain PHP development framework.	1	1
c.	Write a program in PHP to calculate Square Root of a number?	1	1
d.	How do you include comments in PHP?	1	1
e.	Write a program by using mysqli_connect().	3	1
f.	What are FORMS? Explain different Form fields.	2	3
g.	Explain all operators with an example.	3	1

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

S.No	Questions	CO	PO
a.	Explain php data types with example? Build simple calculator using PHP.	1	1
b.	Write Update and Delete operations on table data.	2	2
c.	What is an array? How array is declared in PHP. Also explain various types of array with proper examples.	3	2
d.	Explain with example the use of substring function?	3	3

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

S.No	Questions	CO	PO
a.	a) How do you insert a new row values and a new column to an existing table? Explain with an example. b) How do you change a variables data type in PHP? Explain with example.	1	1
b.	a) Create form for student registration with the help of SQL query. b) Why we use strtolower(), strcmp(), floor() and pow() functions. Explain with example.	2	2
c.	a) Write a PHP script which takes the username, password and e-mail values from user and checks whether the user has filled the textboxes or not. b) Explain control statements with example.	3	3

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END SEMESTER EXAMINATION, JUNE- 2024**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 scan conversion.	1	1
b. List any four areas of applications of computer graphics.	1	1,2
c. What is frame buffer memory?	1	2
d. List two polygon filling methods.	1	1
e. What is Multimedia?	1	1
f. Define "Shear" transformation.	1	1,2
g. Define pixel and resolution.	1	1,2
h. Give the matrix representation for 2D Scaling.	1	1,2
i. State the concept of Vanishing point.	1	2
j. State any two graphics functions with its syntax.	1	2

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

	CO	PO
a. Write algorithm to clip line using Cohen Sutherland line clipping algorithm.	2	2,3
b. Explain any three types of Transformations. Also write their matrix representation.	2	2
c. Explain Window to Viewport 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. Explain DDA line drawing algorithm with its drawbacks. Draw a line using DDA, having coordinates as (-1, -4) and (5, 6)?	3	2
b. What is Transformation? Explain the basic 2-D transformation with example.	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. Apply the Shearing transformation to square with A(0,0), B(1,0), C(1,1) and D(0,1) as given below: i. Shear parameter value of 0.5 relative to the line $Sh_y = -1$; ii. Shear parameter value of 0.5 relative to the line $Sh_x = -1$;	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

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END SEMESTER EXAMINATION, JUNE- 2024**BCA Semester - VI****Course Name: Cloud Computing****Course Code: BCE313****Time allotted: 03 Hours****Max. Marks: 100****Note: Read all the instructions carefully.****Q.1. Attempt all.****(10×2=20)**

QN	Questions	CO	PO
a.	What is the full form of AWS?	1	1
b.	What is the full form of EC2?	1	1
c.	What is the full form of S3?	1	1
d.	What is the full form of IAM?	2	1
e.	What is the full form of SAAS?	2	2
f.	What is the full form of PAAS?	3	1
g.	What is the full form of IAAS?	3	3
h.	What is the full form of API?	3	1
i.	What is the name of Microsoft's Cloud Service?	4	1
j.	What is the place where ALL of Cloud Data is stored called?	5	2

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

QN	Questions	CO	PO
a.	What is IaaS?	1	1
b.	What is PaaS?	1	1
c.	What is SaaS?	1	1
d.	Name an IaaS Service from a Cloud Provider?	1	1
e.	Name a PaaS Service from a Cloud Provider?	1	1
f.	Name a SaaS Service You have used?	1	1
g.	Name Top 3 Cloud Providers in the world?	1	1

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Q.3. Attempt any three out of four.

(3×10=30)

QN	Questions	CO	PO
a.	(i) In the American Airlines Case Study, what was the core objective of American Airlines when they moved to the IBM Cloud? (ii) How did American Airlines become successful in their move to the cloud? (Please describe or provide as much detail as possible)	2	
b.	(i) How are AI and Cloud Computing relevant or related to each other? (ii) How and in what way would AI impact the cloud and/or benefit from it? (iii) Please describe a scenario where you have used an AI tool like ChatGPT? What was the purpose and experience of using AI Tools?	2	
c.	(i) What are the key methods to secure a cloud environment? (ii) Can you share some best practices for securing customer data on the cloud? (iii) What are the Top 5 challenges wrt security in the cloud environment?	3	2
d.	(i) What is AWS and how does it work? (ii) What is EC2 and S3? (iii) Draw a diagram of AWS with various services including Compute and Storage	3	2

Q.4. Attempt any two out of three.

(2×15=30)

QN	Questions	CO	PO
a.	(i) In the IBM Case Study, what is the single biggest factor in determining the success of the company i.e. how do we, as consumers, know how well the company is doing? (ii) In the IBM Case Study, what are Microservices ? How did they help American Airlines achieve what they did in terms of transformation?	2	2
b.	(i) What is Product Management? What are the three main reasons a Product is created? What are the 4 main stages of a Product Lifecycle? (Please describe or provide as much detail as possible) (ii) What are the main components of Product Strategy? What are the 5 components of 'Design Thinking' Framework? (Please describe or provide as much detail as possible (with diagram)	3	3
c.	(i) How does the Internet work? (with diagram) (ii) What is the role of a Data Center in the Internet?	4	3

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END SEMESTER EXAMINATION, JUNE- 2024
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.	Name two examples of substitution ciphers.	1	1
b.	What is Integrity of message?	1	2
c.	Explain the terms confusion.	2	1
d.	Write two differences between stream cipher and block cipher	2	1
e.	What is a Virus?	5	12
f.	Give an example of rail fence cipher.	2	1
g.	Write two applications of Fermat's Little Theorem.	2	2
h.	Where field algebraic structure is used in cryptography	3	2
i.	Name two cryptographic system which uses trapdoor functions.	3	1
j.	What is the full form of PGP and MD5	5	1

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

a.	Explain Euler's Phi-function giving example for each case and find $\phi(400)$.	2	1
b.	Explain X.800 security Architecture	1	2
c.	Explain the concept of Groups.	3	1
d.	How Pseudorandom number can be generated.	3	1
e.	How MAC is different from Hashing	4	2
f.	What is the role of SSH in web security	5	2
g.	What is DDoS? How it is different from DoS?	5	12

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

(3 X 10=30)

a.	(i). Write in detail about the Euclid's algorithm? Also find GCD (1970, 1066) using Euclid's algorithm. (ii) How Prime number are different from composite numbers? (iii) Explain trapdoor function?	2	2
b.	(i) Write the difference between substitutional and transposition cipher (ii) Explain the working of Chinese remainder theorem (iii) Why cryptography is considered science as well as art?	1	1
c.	(i) What are the principles of public key cryptography? (ii) Elaborate the Elliptic curve cryptography? (iii) Write the difference between MD5 and SHA	3	2
d.	(i) What is WAP? (ii) Explain Trojan horse (iii) What is TLS?	5	2

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

(2 X 15=30)

a.	(i) Encrypt the following plain text, "war is on", using Vigenere cipher. Use "SRHU" as a key word. (ii) Explain the Digital Signature Scheme with the help of an example	1	2
b.	(i), Find out the Public key, Private key and the value of d when the value of p= 3, q = 5 and e= 11, Show the encryption & decryption process when value of plaintext is 2. For sending a file of 20 KB which when is better, RSA or DES. Why? (ii) Explain about CIA triad in cyber security	3	2
c.	(i) Explain the DES in details? (ii) Explain Diffie-Hellman key exchange protocol. Find out the secret key, when the value of n= 23, g= 5, x= 4, y = 9?	4	1
