

Enrolment No. \_\_\_\_\_



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**Pimpri Chinchwad University**

Established under Govt. of Maharashtra Act No. V of 2023  
Sate, Maval (PMRDA) Dist - Pune, Maharashtra - 412 106.



**SCHOOL OF ENGINEERING & TECHNOLOGY**

**DEPARTMENT OF BCA**

**ACADEMIC YEAR: - 2024-25(ODD SEM.)**

**Class Test-I Examination – September- 2024**

**Program : BCA**

**Batch: 2023-25**

**Semester: I**

**Max**

**Marks: 20 marks**

**Date:**

**Time:**

**Course Name: Programming with C++**

**Course Code: UBC103**

**Course Outcomes (CO):**

- 1.To identify basic web development methodologies
2. Understand static web-based application using suitable client-side web technologies
3. Apply Knowledge of foundational understanding of web development concepts for further study
4. Analyze and create responsive layouts that adapt to various devices and screen sizes.
5. Evaluate the JavaScript, enabling dynamic content generation, effective event handling, and efficient DOM traversal techniques.

**Instructions:**

1. *Each question carries equal marks.*
2. *Answer any four questions.*
3. *Include relevant figures and examples where necessary.*

Question	CO	BL	Marks
Q.1) Explain basic HTML tags	1	1	5 Marks
Q.2) A list of your favorite fruits (using the <ul> tag).	1	2	5 Marks
Q.3) Create Login Page, with username, password and submit button.	2	2	5 Marks
Q.4) Create a form with two radio button for Gender values Male and female. With submit button	2	2	5 Marks
Q.5) Using style tag , give background color to the body and color to the paragraph of the web page	2	2	5 Marks
Or			
Q5) Explain what is website , web page, WWW and internet			

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**Program : BCA**

**Batch : 2024-25**

**Semester: I**

**Maximum Marks: 20 marks**

**Time: 1 Hr.**

**Course Name: Fundamentals of Computer Architecture**

**Course Code : UBC105**

**Course Outcomes (CO):**

1. Identify the digital security measures taken to protect device from threats
2. Explain the access control mechanism and understand how to protect servers.
3. Explain the importance of network basics and security of network protocols.
4. Analyze the cyber-attacks, learn data privacy issues and preventive measures
5. Discuss the various attacks in the web interface.

**Instructions:1) Draw the diagram wherever necessary**

**2) Solve any Four Questions**

Question	CO	BL	Marks
<b>Each question carries equal marks.</b>			
Q.1) Brief history of computer evolution.	1	1	5 Marks
Q.2) Explain functional diagram of computers.	1	2	5 Marks
Q.3) List the different registers. <i>MDR, MDR, IR, ALU</i>	2	2	5 Marks
Q.4) Explain types of Memory.	2	2	5 Marks
Q.5) Short Note a) PC b) MDR	1	2	5 Marks

\*\*\*\*\*Best of Luck\*\*\*\*\*





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B-209

**SCHOOL OF ENGINEERING & TECHNOLOGY**

**DEPARTMENT OF BCA**

**ACADEMIC YEAR: - 2024-25(ODD SEM.)**

**Class Test-I Examination – September- 2024**

**Program : BCA**

**Batch : 2024-25**

**Semester: I**

**Maximum Marks: 20 marks**

**Time: 1 Hr.**

**Course Name: Introduction to IoT**

**Course Code : UBC108A**

**Course Outcomes (CO):**

1. Understand various concepts, terminologies and architecture of IoT systems
2. Explain the Use sensors and actuators for design of IoT.
3. Apply various protocols for design of IoT systems.
4. Analyse the various techniques of data storage and analytics in IoT.
5. Discuss the APIs to connect IoT related technologies.

**Instructions:1) Q.1 is compulsory**

**2) Solve any Two from Q.2 to Q.4**

**Q.1) Solve all Multiple Choice Question**

**10 Marks**

1. What is the full form of IoT?
  - a) Internet of Technology
  - b) Incorporate of Things
  - c) Internet of Things
  - d) Incorporate of Technology
2. Which of the following is not an IoT device?
  - a) Table
  - b) Laptop
  - c) Arduino
  - d) Tablet
3. Which of the following is false about IoT devices?
  - a) IoT devices use the internet for collecting and sharing data
  - b) IoT devices need microcontrollers
  - c) IoT devices use wireless technology
  - d) IoT devices are completely safe
4. Which of the following is not an application of IoT?
  - a) BMP280
  - b) Smart home
  - c) Smart city
  - d) Self-driven cars
5. Which of the following is used to capture data from the physical world in IoT devices?
  - a) Sensors
  - b) Actuators
  - c) Microprocessors
  - d) Microcontrollers



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**Program: BCA Batch: 2024-Semester: I<sup>st</sup> Maximum Marks: 20 marks Time: 1 Hr**

**Course Name: Basics of Mathematics**

**Course Code: UBC106**

**Course Outcomes (CO):**

1. To memorize the Matrices and its operations.
2. Classify the trigonometric functions.
3. To execute various operations on analytical geometry.
4. To compare the various forms of differential calculus.
5. To evaluate the different forms of calculus.

**Instructions:**

1. Answer any 4 out of the 5 questions provided.
2. Each question carries equal marks.
3. Where applicable, provide examples so support your answers.

Question	CO	EL	Marks
<b>Maximum 5 Questions has to be given and ask for Solve any 4 questions.</b>			
<b>Each question carries equal marks.</b>			
<b>Q1. Explain row matrix, column matrix, square matrix, rectangle matrix and skew symmetric matrix with example.</b>	CO1	1	5 Marks
<b>Q2. Solve the following examples:</b>			
<b>A. Matrix multiplication. (Any 2) 2Marks each</b>			
1. $\begin{bmatrix} 1 & -2 & 3 \\ 2 & 3 & -3 \\ -3 & 1 & 2 \end{bmatrix}$ $\begin{bmatrix} 1 & 0 & 2 \\ 0 & 1 & 2 \\ 1 & 2 & 0 \end{bmatrix}$	CO1	2	5 Marks
2. $\begin{bmatrix} 1 & 8 & 3 \\ 9 & 4 & 5 \\ 6 & 2 & 7 \end{bmatrix}$ $\begin{bmatrix} 6 & 7 & 4 \\ 1 & 3 & 2 \\ 5 & 9 & 8 \end{bmatrix}$			
3. $\begin{bmatrix} 2 & 1 & -3 \\ 1 & 4 & 5 \end{bmatrix}$ $\begin{bmatrix} 3 & 1 \\ -1 & 0 \\ 4 & 2 \end{bmatrix}$			
<b>B. Matrix Addition: (Any 5) Each ½ Marks</b>			
1. $\begin{bmatrix} 1 & 6 \\ 5 & 7 \end{bmatrix}$ $\begin{bmatrix} -5 & 2 \\ 4 & 10 \end{bmatrix}$			



2.	$\begin{bmatrix} 17 & 8 & 0 \\ 3 & -5 & 2 \end{bmatrix}$	$\begin{bmatrix} 4 & 6 & 5 \\ 2 & -2 & 9 \end{bmatrix}$			
3.	$\begin{bmatrix} 5 & 9 & 6 \\ 6 & 5 & 8 \end{bmatrix}$	$\begin{bmatrix} -8 & 9 & -6 \\ -7 & 9 & -5 \end{bmatrix}$			
4.	$\begin{bmatrix} -1 & 3 & 6 \\ 5 & 5 & -5 \\ -8 & 8 & -6 \\ -2 & 9 & 8 \end{bmatrix}$	$\begin{bmatrix} -2 & -8 & -6 \\ 7 & 2 & 5 \\ -1 & 8 & 2 \\ 0 & -9 & -3 \end{bmatrix}$			
5.	$\begin{bmatrix} -1 & 2 & 9 \\ 2 & 0 & 8 \\ 4 & 4 & -8 \end{bmatrix}$	$\begin{bmatrix} -1 & 2 & 3 \\ 6 & -5 & 4 \\ 7 & 8 & -9 \end{bmatrix}$			
6.	$\begin{bmatrix} 1 & 1 \\ -3 & 1 \end{bmatrix}$	$\begin{bmatrix} 5 & 2 \\ 0 & 1 \end{bmatrix}$			

**Q3. Solve the following examples:**

1. Find the value of 3P if	$\begin{bmatrix} 2 & -3 & 4 \\ 1 & 0 & 5 \\ 7 & -4 & 6 \end{bmatrix}$				
2. Find the value of 9P if	$\begin{bmatrix} 2 & -3 & 4 \\ 1 & 0 & 5 \\ 7 & -4 & 6 \end{bmatrix}$				
3. Find the value of 6P if	$\begin{bmatrix} 3 & -3 & 2 \\ 6 & 8 & 5 \\ 9 & 5 & 6 \end{bmatrix}$				
4. Find the value of 4P if	$\begin{bmatrix} 5 & -5 & 4 \\ 9 & 6 & 5 \\ 8 & -5 & 6 \end{bmatrix}$				
5. Find the value of 8P if	$\begin{bmatrix} 5 & -5 & 4 \\ 9 & 6 & 5 \\ 8 & -5 & 6 \end{bmatrix}$				

Handwritten calculations:

$$\begin{array}{r} 5 \\ 17 \\ \hline 130 \\ 1360 \\ + 1700 \\ \hline 3060 \end{array}$$

$$\begin{array}{r} 500 \\ \times 6 \\ \hline 3000 \end{array}$$

**Q4. Solve the followings:**

**A. Convert into degree (Any 3)**

1.  $17^\circ$       2.  $9^\circ$       3.  $7^\circ$       4.  $7^\circ$

**B. Convert into radians (Any 3)**

1.  $11^\circ$       2.  $13^\circ$       3.  $23^\circ$       4.  $21^\circ$

**C. Solve the trigonometric ratios.**

1. If  $\tan A = 6/8$ , then find other five trigonometric ratios.  
 2. If  $\sec B = 6/8$ , then find other five trigonometric ratios.

<b>Q5. Explain Gauss elimination method and explain Gauss Jordan method.</b>	<b>CO1</b>	<b>1</b>	<b>5 Marks</b>
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**Time: 1 Hr.**

**Course Name: Programming Concepts Using C Language**

**Course Code : UBC101**

**Course Outcomes (CO):**

1. To remember the Knowledge about Computer fundamentals.
2. To understand and trace the execution of programs written in c language.
3. To apply input and output operation using program in c language.
4. To analyse the concepts and techniques in programming language.
5. To Design and create C code for a given problem.

**Instructions:**

- Answer any 4 out of the 5 questions provided.
- Each question carries equal marks.
- Where applicable, provide examples to support your answers.

	Question	CO	BL	Marks
Q.1	Explain the Classification of computers based on size, purpose, and functionality?	I	II	5 M
Q.2	What is memory management in a computer system? Discuss the differences between primary and secondary memory.	I	I	5 M
Q.3	Explain Difference between system software and application software. Provide examples of each ?.	I	II	5 M
Q.4	Explain an overview of the operating system?	I	II	5 M
Q.5	Explain the various types of programming languages. How do translators (compilers and interpreters) help in the execution of programs?	I	II	5 M



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**Time: 1 Hr.**

**Course Name: Management Information System**

**Course Code : UBC107/VSC**

**Course Outcomes (CO):**

1. Define the Role of Management Information system in various organizations.
2. Explain the application of the Information System.
3. Illustrate the role of Information Processing and Computer devices for designing a system.
4. Integrate the various parts of a System for designing a functional information system.
5. Discuss the Importance of Decision support system for enhancing the decision making.

**Instructions:**

1. All questions carry equal marks.
2. Draw the diagram wherever necessary.
3. Solve any 4 questions given below.

Question	CO	BL	Marks
Q.1) Define MIS. Illustrate the characteristics of MIS.	1	1,2	5 Marks
Q.2) What are the features and functions of MIS?	1	1	5 Marks
Q.3) Summarize how MIS supports planning.	1	2	5 Marks
Q.4) Explain key components of MIS.	1	1	5 Marks
Q.5) Explain types of information with examples?	1	1	5 Marks

\*\*\*\*\*Best of Luck\*\*\*\*\*