

MATH LOVE INSTITUTE

Annual Examination 2025-26

Class: VII | Subject: Computer Science (SET - 3)

Time: 3 Hours | Maximum Marks: 80

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Student Name:	_____
Roll Number:	_____
Date:	_____

General Instructions:

1. All questions are compulsory.
2. The question paper is divided into 5 sections: A, B, C, D, and E.
3. Section A: Multiple Choice Questions (1 mark each) - 15 marks
4. Section B: Fill in the Blanks / True-False (1 mark each) - 15 marks
5. Section C: Short Answer Questions (2 marks each) - 20 marks
6. Section D: Long Answer Questions (3 marks each) - 15 marks
7. Section E: Practical/Programming Questions (5 marks each) - 15 marks
8. Write neatly and legibly.
9. For programming questions, write complete code with proper syntax.

SECTION A - Multiple Choice Questions (15 Marks)

Q1. Which Python keyword is used for checking multiple conditions in sequence? **[1]**

- (a) else
- (b) elif
- (c) if-else
- (d) switch

Q2. Which HTML tag is used to create an unordered list? **[1]**

- (a)
- (b)
- (c)
- (d) <list>

Q3. What is the purpose of the <td> tag in HTML tables? **[1]**

- (a) Table data/cell
- (b) Table definition
- (c) Table display
- (d) Table division

Q4. Which operator is used for "not equal to" comparison in Python? **[1]**

- (a) <>
- (b) !=
- (c) ==
- (d) /=

Q5. Which of the following is NOT a video conferencing platform? **[1]**

- (a) Zoom
- (b) Google Meet
- (c) Twitter
- (d) Microsoft Teams

- Q6.** Machine Learning is a subset of which technology? **[1]**
- (a) Internet
 - (b) Artificial Intelligence
 - (c) Database
 - (d) Cloud Computing
- Q7.** Which HTML attribute is used to merge table cells horizontally? **[1]**
- (a) rowspan
 - (b) colspan
 - (c) merge
 - (d) cellspan
- Q8.** In Python, what is the output of: $10 \% 3$? **[1]**
- (a) 3
 - (b) 1
 - (c) 10
 - (d) 0
- Q9.** What does NLP stand for in Artificial Intelligence? **[1]**
- (a) Natural Language Programming
 - (b) Network Language Processing
 - (c) Natural Language Processing
 - (d) New Language Processing
- Q10.** Which tag is used to create a hyperlink that opens in a new window? **[1]**
- (a) ``
 - (b) ``
 - (c) ``
 - (d) `<link href="url">`
- Q11.** What is the purpose of the `<th>` tag in HTML tables? **[1]**
- (a) Table header
 - (b) Table heading
 - (c) Both a and b
 - (d) Table height

Q12. Which internet service allows asynchronous communication via text messages? **[1]**

- (a) Video call
- (b) Email
- (c) Live chat
- (d) Voice call

Q13. Which comparison operator checks if one value is greater than or equal to another in Python? **[1]**

- (a) >=
- (b) =>
- (c) <=
- (d) ==

Q14. What type of AI learning involves training with labeled data? **[1]**

- (a) Unsupervised Learning
- (b) Supervised Learning
- (c) Reinforcement Learning
- (d) Deep Learning

Q15. Which HTML attribute is used to add a tooltip to an element? **[1]**

- (a) alt
- (b) title
- (c) tooltip
- (d) hint

SECTION B - Fill in the Blanks / True-False (15 Marks)

Q16. Fill in the Blank: The _____ operator in Python is used to check if a value is greater than or equal to another value. **[1]**

Q17. Fill in the Blank: The _____ tag in HTML is used to define the caption of a table. **[1]**

- Q18.** True or False: Video conferencing requires both audio and video transmission. [1]
- Q19.** Fill in the Blank: In Python, the _____ keyword is used when we want to execute a block of code if none of the previous conditions are true. [1]
- Q20.** True or False: Computer Vision is an AI technology that enables machines to interpret visual information. [1]
- Q21.** Fill in the Blank: The _____ attribute in the tag specifies the path to the image file. [1]
- Q22.** True or False: In Python, indentation is optional for conditional statements. [1]
- Q23.** Fill in the Blank: _____ is a popular video conferencing software developed by Microsoft. [1]
- Q24.** Fill in the Blank: To create a nested list in HTML, you place another list tag inside an _____ element. [1]
- Q25.** True or False: Deep Learning is a subset of Machine Learning. [1]
- Q26.** Fill in the Blank: The logical operator _____ in Python returns True only if both conditions are true. [1]
- Q27.** True or False: The <marquee> tag is used to create scrolling text in HTML. [1]
- Q28.** Fill in the Blank: _____ is the ability of AI systems to understand and respond to human language. [1]
- Q29.** Fill in the Blank: The _____ attribute is used to merge table cells vertically in HTML. [1]
- Q30.** True or False: Python uses curly braces {} to define code blocks. [1]

SECTION C - Short Answer Questions (20 Marks)

- Q31.** Differentiate between if and elif statements in Python with examples. [2]
- Q32.** Write HTML code to create an unordered list with three items: Apple, Banana, and Orange. [2]
- Q33.** What is video conferencing? Name any two advantages of video conferencing. [2]
- Q34.** Explain the use of the alt attribute in the HTML tag with an example. [2]
- Q35.** What is the difference between supervised and unsupervised learning in AI? [2]
- Q36.** Write a Python program to check if a number is divisible by both 3 and 5. [2]
- Q37.** Explain the difference between ordered and unordered lists in HTML with examples. [2]
- Q38.** What are the hardware requirements for video conferencing? List any four. [2]
- Q39.** What is the purpose of the nested if statement in Python? Give an example. [2]
- Q40.** Write HTML code to create a hyperlink that opens www.google.com in a new window. [2]

SECTION D - Long Answer Questions (15 Marks)

- Q41.** Write a Python program to check whether a student has passed or failed based on marks in three subjects. A student passes if they score at least 40 marks in each subject and an average of 50 or more. [3]
- Q42.** Create an HTML table with the following structure: A table showing Student Data with columns for Roll No, Name, and Marks. Include a table caption "Class 7 Students" and at least 3 student records. [3]

Q43. Explain the concept of Artificial Intelligence. Describe any three real-world applications of AI with examples. **[3]**

Q44. What are the advantages and disadvantages of using internet services for communication? Explain any three advantages and two disadvantages. **[3]**

Q45. Differentiate between colspan and rowspan attributes in HTML tables with examples. **[3]**

SECTION E - Practical/Programming Questions (15 Marks)

Q46. Write a complete Python program that takes a person's age as input and determines their category according to the following rules: **[5]**

- Age less than 13: "Child"
- Age between 13 and 19 (inclusive): "Teenager"
- Age between 20 and 59 (inclusive): "Adult"
- Age 60 or above: "Senior Citizen"
- Also display if the person is eligible to vote (age 18 or above)

Q47. Create a complete HTML page with the following requirements: **[5]**

- Title: "My School Website"
- A heading "Welcome to ABC School"
- An ordered list of 3 school activities
- A table showing class schedule with columns: Period, Subject, Time (at least 4 periods)
- An image of your choice with proper alt text
- A hyperlink to your school's website that opens in a new tab

Q48. Write a Python program to create a simple calculator that performs addition, subtraction, multiplication, and division based on user choice. The program should: **[5]**

- Display a menu of operations
- Take user's choice
- Take two numbers as input
- Perform the chosen operation
- Handle division by zero error
- Display appropriate messages for invalid choices

ANSWER KEY AND MARKING SCHEME

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Section A - Multiple Choice Questions Answers

Q1. Answer: (b) elif

Explanation: 'elif' (short for else if) is used to check multiple conditions in sequence when the previous if condition is false. It allows checking additional conditions without nesting multiple if statements.

Marking: 1 mark for correct answer

**Q2. Answer: (b) **

Explanation: tag stands for unordered list and displays items with bullets (•). Each item in the list is defined using tag.

Marking: 1 mark for correct answer

Q3. Answer: (a) Table data/cell

Explanation: <td> tag is used to define individual cells or data within a table row. It stands for "table data" and contains the actual content of the table.

Marking: 1 mark for correct answer

Q4. Answer: (b) !=

Explanation: In Python, != operator is used to check if two values are not equal. It returns True if values are different and False if they are same.

Marking: 1 mark for correct answer

Q5. Answer: (c) Twitter

Explanation: Twitter is a social media platform for sharing text posts and messages, not a video conferencing tool. Zoom, Google Meet, and Microsoft Teams are dedicated video conferencing platforms.

Marking: 1 mark for correct answer

Q6. Answer: (b) Artificial Intelligence

Explanation: Machine Learning is a subset of Artificial Intelligence where machines learn from data and improve their performance without being explicitly programmed for every task.

Marking: 1 mark for correct answer

Q7. Answer: (b) colspan

Explanation: The colspan attribute is used to span a cell across multiple columns horizontally. For example, colspan="2" makes a cell span across 2 columns.

Marking: 1 mark for correct answer

Q8. Answer: (b) 1

Explanation: The modulus operator (%) returns the remainder of division. 10 divided by 3 equals 3 with remainder 1, so $10 \% 3 = 1$.

Marking: 1 mark for correct answer

Q9. Answer: (c) Natural Language Processing

Explanation: NLP stands for Natural Language Processing, which is a branch of AI that enables computers to understand, interpret, and generate human language in a meaningful way.

Marking: 1 mark for correct answer

Q10. Answer: (b) ``

Explanation: The `target="_blank"` attribute in the anchor tag opens the link in a new browser window or tab. This is useful when you want to keep the current page open.

Marking: 1 mark for correct answer

Q11. Answer: (c) Both a and b

Explanation: `<th>` tag is used for table headers/headings. It displays text in bold and centered by default, making it distinct from regular table data cells.

Marking: 1 mark for correct answer

Q12. Answer: (b) Email

Explanation: Email allows asynchronous communication where messages can be sent and received at different times. Sender and receiver don't need to be online simultaneously.

Marking: 1 mark for correct answer

Q13. Answer: (a) >=

Explanation: The >= operator checks if the left operand is greater than or equal to the right operand. It returns True if the condition is met.

Marking: 1 mark for correct answer

Q14. Answer: (b) Supervised Learning

Explanation: Supervised learning uses labeled training data where the correct output is known for each input. The algorithm learns from these examples to make predictions on new data.

Marking: 1 mark for correct answer

Q15. Answer: (b) title

Explanation: The 'title' attribute displays a tooltip when the user hovers over the element. It provides additional information about the element.

Marking: 1 mark for correct answer

Section B - Fill in the Blanks / True-False Answers

Q16. Answer: >= (greater than or equal to)

Explanation: The >= operator checks if the left operand is greater than or equal to the right operand and returns a boolean value.

Marking: 1 mark for correct answer

Q17. Answer: <caption>

Explanation: The <caption> tag provides a title or caption for an HTML table and must be inserted immediately after the <table> tag.

Marking: 1 mark for correct answer

Q18. Answer: True

Explanation: Video conferencing is a service that allows people to communicate with both audio and video, enabling face-to-face interaction remotely.

Marking: 1 mark for correct answer

Q19. Answer: else

Explanation: The 'else' keyword provides a default block of code that executes when all previous if/elif conditions are false.

Marking: 1 mark for correct answer

Q20. Answer: True

Explanation: Computer Vision is a field of AI that enables computers to understand and interpret visual information from images and videos, similar to human vision.

Marking: 1 mark for correct answer

Q21. Answer: src (source)

Explanation: The 'src' attribute specifies the URL or path of the image to be displayed in the tag.

Marking: 1 mark for correct answer

Q22. Answer: False

Explanation: Indentation is mandatory in Python for defining code blocks within conditional statements. It is not optional and Python will raise an IndentationError if not properly indented.

Marking: 1 mark for correct answer

Q23. Answer: Microsoft Teams

Explanation: Microsoft Teams is a collaboration and video conferencing platform developed by Microsoft, widely used for online meetings and team collaboration.

Marking: 1 mark for correct answer

**Q24. Answer: **

Explanation: To create a nested list, you place another or tag inside an element of the parent list.

Marking: 1 mark for correct answer

Q25. Answer: True

Explanation: Deep Learning is a specialized subset of Machine Learning that uses neural networks with multiple layers to learn complex patterns from data.

Marking: 1 mark for correct answer

Q26. Answer: and

Explanation: The 'and' operator is a logical operator that returns True only when both conditions on either side are True. If any condition is False, it returns False.

Marking: 1 mark for correct answer

Q27. Answer: True

Explanation: The <marquee> tag creates scrolling or moving text/images. However, it is now deprecated in HTML5 and CSS animations are preferred.

Marking: 1 mark for correct answer

Q28. Answer: Natural Language Processing (NLP)

Explanation: NLP enables computers to understand, interpret, and generate human language in a meaningful way, powering applications like chatbots and voice assistants.

Marking: 1 mark for correct answer

Q29. Answer: rowspan

Explanation: The rowspan attribute allows a cell to span across multiple rows vertically. For example, rowspan="2" makes a cell span 2 rows.

Marking: 1 mark for correct answer

Q30. Answer: False

Explanation: Python uses indentation to define code blocks, not curly braces. Curly braces are used in languages like C, C++, Java, and JavaScript.

Marking: 1 mark for correct answer

Section C - Short Answer Questions Answers

Q31. Answer: Difference between if and elif statements

if statement: Used to check a single condition and execute code if the condition is true. It is the first condition to be checked.

elif statement: Used to check multiple conditions in sequence. It only executes if the previous if or elif condition was false.

Example:

```
age = 15
if age < 13:
    print("Child")
elif age < 18:
```

```
print("Teenager") # This will execute
elif age < 60:
    print("Adult")
else:
    print("Senior")
```

In this example, since age is 15, the first if condition (age < 13) is false, so it checks the first elif condition (age < 18), which is true, so "Teenager" is printed.

Marking: 1 mark for explanation, 1 mark for example

Q32. Answer: HTML code for unordered list

```
<ul>
  <li>Apple</li>
  <li>Banana</li>
  <li>Orange</li>
</ul>
```

Output: This will display a bulleted list with Apple, Banana, and Orange as items.

Marking: 1 mark for correct tags, 1 mark for proper structure

Q33. Answer: Video conferencing and its advantages

Video Conferencing: Video conferencing is a technology that allows people at different locations to communicate and interact with each other via audio and video transmission in real-time over the internet.

Two Advantages:

1. **Cost-effective:** Reduces travel costs and time as participants can join meetings from anywhere in the world without physical travel.
2. **Face-to-face communication:** Enables visual interaction and non-verbal communication like body language and facial expressions, making communication more personal and effective than phone calls or emails.

Marking: 1 mark for definition, 1 mark for two advantages

Q34. Answer: Use of alt attribute in tag

Purpose of alt attribute: The alt (alternative text) attribute provides alternative text for an image if the image cannot be displayed due to slow connection, error, or if the user is using a screen reader. It is also beneficial for SEO (Search Engine Optimization).

Example:

```

```

If the image fails to load, "Beautiful red rose flower" will be displayed instead. Screen readers will also read this text to visually impaired users.

Marking: 1 mark for explanation, 1 mark for example

Q35. Answer: Difference between supervised and unsupervised learning

Supervised Learning	Unsupervised Learning
Uses labeled training data with known input-output pairs	Uses unlabeled data without predefined outputs
The algorithm learns from examples with correct answers	The algorithm finds patterns and structures on its own

Used for prediction and classification tasks	Used for clustering and pattern discovery
Example: Email spam detection, image classification	Example: Customer grouping, data clustering

Marking: 1 mark for each difference (2 marks total)

Q36. Answer: Python program to check divisibility by 3 and 5

```
num = int(input("Enter a number: "))

if num % 3 == 0 and num % 5 == 0:
    print("Number is divisible by both 3 and 5")
else:
    print("Number is not divisible by both 3 and 5")
```

Explanation: The program uses the modulus operator (%) to check if remainder is 0 (meaning divisible), and the 'and' operator ensures both conditions are true.

Marking: 1 mark for correct logic, 1 mark for correct syntax

Q37. Answer: Difference between ordered and unordered lists

Ordered List (): Displays items in a numbered sequence (1, 2, 3...)

```
<ol>
  <li>First step</li>
  <li>Second step</li>
</ol>
```

Output: 1. First step

2. Second step

Unordered List (): Displays items with bullets (•)

```
<ul>
  <li>Apple</li>
  <li>Banana</li>
</ul>
```

Output: • Apple

• Banana

Marking: 1 mark for each list type with example

Q38. Answer: Hardware requirements for video conferencing

Four Hardware Requirements:

1. **Video Camera/Webcam:** Essential for capturing and transmitting video of the participant.
2. **Microphone:** Required for audio input and voice transmission to other participants.
3. **Speakers/Headphones:** Needed for audio output to hear other participants clearly.
4. **Computer/Device with Monitor:** Required to run video conferencing software and display participants on screen.

Additional requirement: Stable internet connection is also essential for smooth communication.

Marking: 0.5 marks for each hardware (2 marks total)

Q39. Answer: Nested if statement in Python

Purpose: Nested if statements allow checking a condition inside another condition, enabling more complex decision-making logic. The inner if statement is evaluated only when the outer if condition is true.

Example:

```
age = 20
has_license = True

if age >= 18:
    if has_license:
        print("You can drive")
    else:
        print("Get a license first")
else:
    print("You are too young to drive")
```

Explanation: The program first checks if age is 18 or more. Only if this is true, it then checks if the person has a license. The inner if only executes when the outer condition is met.

Marking: 1 mark for explanation, 1 mark for example

Q40. Answer: HTML code for hyperlink opening in new window

```
<a href="https://www.google.com" target="_blank">Visit
Google</a>
```

Explanation:

- **href attribute:** Specifies the URL (<https://www.google.com>)

- **target="_blank"**: Opens the link in a new browser window or tab
- **Link text**: "Visit Google" is the clickable text displayed to user

Marking: 1 mark for correct structure, 1 mark for target="_blank"

Section D - Long Answer Questions Answers

Q41. Answer: Python program to check pass/fail based on marks

```
# Input marks for three subjects
subject1 = int(input("Enter marks in Subject 1: "))
subject2 = int(input("Enter marks in Subject 2: "))
subject3 = int(input("Enter marks in Subject 3: "))

# Calculate average
average = (subject1 + subject2 + subject3) / 3

# Check passing criteria
if subject1 >= 40 and subject2 >= 40 and subject3 >=
40:
    if average >= 50:
        print("PASSED")
        print(f"Average marks: {average:.2f}")
    else:
        print("FAILED - Average is below 50")
        print(f"Average marks: {average:.2f}")
else:
    print("FAILED - Scored below 40 in one or more
subjects")
    print(f"Average marks: {average:.2f}")
```

Explanation:

- Takes input for three subjects using `int(input())`
- Calculates average of three subjects
- First checks if all subjects have marks ≥ 40 using 'and' operator
- If first condition is true, checks if average ≥ 50 using nested if
- Displays appropriate pass/fail message with average marks
- Uses f-string for formatted output with 2 decimal places

Marking: 1 mark for input, 1 mark for calculation, 1 mark for correct logic

Q42. Answer: HTML table with student data

```
<table border="1">
  <caption>Class 7 Students</caption>
  <tr>
    <th>Roll No</th>
    <th>Name</th>
    <th>Marks</th>
  </tr>
  <tr>
    <td>101</td>
    <td>Rajesh Kumar</td>
    <td>85</td>
  </tr>
  <tr>
    <td>102</td>
    <td>Priya Sharma</td>
    <td>92</td>
  </tr>
  <tr>
    <td>103</td>
    <td>Amit Patel</td>
    <td>78</td>
  </tr>
</table>
```

```
</tr>  
</table>
```

Explanation of tags used:

- **<table>**: Creates the table structure
- **<caption>**: Provides table title "Class 7 Students"
- **<tr>**: Defines table rows
- **<th>**: Creates bold, centered header cells
- **<td>**: Defines table data cells
- **border="1"**: Adds visible borders to the table

Marking: 1 mark for table structure, 1 mark for caption, 1 mark for data

Q43. Answer: Artificial Intelligence and its applications

Artificial Intelligence (AI): AI is the simulation of human intelligence by machines and computer systems. It is the ability of machines to perform tasks that typically require human intelligence, such as learning from experience, reasoning, problem-solving, perception, understanding language, and decision-making.

Three Real-World Applications of AI:

1. Virtual Assistants:

- **Examples:** Siri (Apple), Alexa (Amazon), Google Assistant
- **How it works:** These AI-powered assistants use Natural Language Processing (NLP) to understand voice commands and perform tasks like setting reminders, playing music, answering questions, providing weather updates, and controlling smart home devices.

2. Image Recognition and Computer Vision:

- **Examples:** Face unlock in smartphones, Google Photos, social media auto-tagging

- **How it works:** AI can identify and classify objects in images, recognize faces, and organize photos automatically based on people and places. This technology is also used in security systems and autonomous vehicles.

3. Healthcare and Medical Diagnosis:

- **Examples:** Disease diagnosis from medical scans, drug discovery, health monitoring apps
- **How it works:** AI systems can analyze X-rays, MRI scans, and CT scans to detect diseases like cancer, tumors, and other abnormalities. AI also helps predict health outcomes and assists doctors in making accurate diagnoses faster.

Marking: 1 mark for AI definition, 2 marks for three applications with examples

Q44. Answer: Advantages and disadvantages of internet services for communication

Three Advantages of Internet Services for Communication:

1. **Global Connectivity:** Internet services enable instant communication with people anywhere in the world, breaking geographical barriers. We can connect with friends, family, and colleagues across different countries and time zones in real-time, making the world more connected.
2. **Cost-Effective:** Most internet communication services (email, messaging apps, video calls) are free or very low-cost compared to traditional methods like international phone calls, SMS, or postal mail. This makes communication affordable for everyone.
3. **Multiple Communication Modes:** The internet offers various communication options including text (email, chat, messaging), audio (voice calls), video (video conferencing), and file sharing. Users can choose the most suitable method for their needs and can communicate through multiple channels simultaneously.

Two Disadvantages of Internet Services for Communication:

1. **Dependence on Technology:** Internet communication requires electronic devices (computers, smartphones), electricity, and stable internet connectivity. Technical issues, power outages, poor network coverage, or device failures can disrupt communication. People in remote areas with poor internet infrastructure face challenges.
2. **Security and Privacy Concerns:** Online communication is vulnerable to hacking, data breaches, cyberbullying, and privacy violations. Personal information, conversations, and sensitive data can be intercepted, stolen, or misused if proper security measures are not in place. Identity theft and online fraud are serious concerns.

Marking: 1.5 marks for three advantages, 1.5 marks for two disadvantages

Q45. Answer: Difference between colspan and rowspan

colspan Attribute: Used to merge cells horizontally (across columns). It specifies how many columns a cell should span.

rowspan Attribute: Used to merge cells vertically (across rows). It specifies how many rows a cell should span.

Example with colspan (merging columns):

```
<table border="1">
  <tr>
    <th colspan="2">Student Details</th>
  </tr>
  <tr>
    <td>Name</td>
    <td>Marks</td>
  </tr>
</table>
```

The header "Student Details" spans across 2 columns horizontally.

Example with rowspan (merging rows):

```
<table border="1">
  <tr>
    <td rowspan="2">Subject</td>
    <td>Math</td>
  </tr>
  <tr>
    <td>Science</td>
  </tr>
</table>
```

The cell "Subject" spans across 2 rows vertically.

Key Difference: colspan merges cells horizontally (left to right) while rowspan merges cells vertically (top to bottom).

Marking: 1 mark for each attribute with example, 1 mark for difference

Section E - Practical/Programming Questions

Answers

Q46. Answer: Python program for age category determination

```
# Age Category Determination Program

print("=== Age Category Checker ===")
print()

# Input age from user
age = int(input("Enter your age: "))
```

```
# Validate age
if age < 0 or age > 120:
    print("Invalid age! Please enter a valid age.")
else:
    # Determine age category
    if age < 13:
        category = "Child"
    elif age <= 19:
        category = "Teenager"
    elif age <= 59:
        category = "Adult"
    else:
        category = "Senior Citizen"

    # Display category
    print(f"\nAge Category: {category}")

    # Check voting eligibility
    if age >= 18:
        print("Voting Status: Eligible to vote")
    else:
        years_left = 18 - age
        print(f"Voting Status: Not eligible. You can
vote in {years_left} years.")

    print("\nThank you for using the Age Category
Checker!")
```

Sample Output:

```
=== Age Category Checker ===
```

```
Enter your age: 16
```

```
Age Category: Teenager
```

```
Voting Status: Not eligible. You can vote in 2 years.
```

```
Thank you for using the Age Category Checker!
```

Explanation:

- Uses if-elif-else structure for checking multiple sequential conditions
- Validates input to ensure age is between 0 and 120
- Categorizes age into Child, Teenager, Adult, or Senior Citizen
- Separate if statement checks voting eligibility (age 18+)
- Provides informative output with remaining years to vote if not eligible
- Uses f-strings for formatted output

Marking: 2 marks for age category logic, 1 mark for voting eligibility, 1 mark for input/output, 1 mark for validation

Q47. Answer: Complete HTML page for school website

```
<!DOCTYPE html>
<html>
<head>
    <title>My School Website</title>
</head>
<body bgcolor="#f0f8ff">

    <h1 align="center">Welcome to ABC School</h1>

    <hr>

    <h2>School Activities</h2>
```

- ```

 Annual Sports Day
 Science Exhibition
 Cultural Festival

```

```
<hr>
```

```
<h2>Class Schedule - Class 7</h2>
```

```
<table border="2" cellpadding="10" cellspacing="0">
```

```
 <caption>Monday Schedule</caption>
```

```
 <tr>
```

```
 <th>Period</th>
```

```
 <th>Subject</th>
```

```
 <th>Time</th>
```

```
</tr>
```

```
<tr>
```

```
 <td>1</td>
```

```
 <td>Mathematics</td>
```

```
 <td>8:00 AM - 8:45 AM</td>
```

```
</tr>
```

```
<tr>
```

```
 <td>2</td>
```

```
 <td>Science</td>
```

```
 <td>8:45 AM - 9:30 AM</td>
```

```
</tr>
```

```
<tr>
```

```
 <td>3</td>
```

```
 <td>English</td>
```

```
 <td>9:30 AM - 10:15 AM</td>
```

```
</tr>
```

```
<tr>
```

```
 <td>4</td>
```

```
 <td>Computer Science</td>
 <td>10:30 AM - 11:15 AM</td>
 </tr>
</table>

<hr>

<h2>School Building</h2>

<hr>

<h3>Visit Our Website</h3>
<p>
 For more information, visit our official
website:
 <a href="https://www.abcschool.edu"
target="_blank">
 ABC School Official Website

</p>

<hr>

<footer>
 <p align="center">
 <i>© 2025 ABC School. All Rights Reserved.
</i>
 </p>
</footer>
```

```
</body>
</html>
```

### Explanation of components:

- **<title>**: Sets "My School Website" as page title
- **<h1>**: Main heading "Welcome to ABC School"
- **<ol>**: Ordered list with 3 school activities
- **<table>**: Class schedule with 4 periods showing Period, Subject, and Time
- **<img>**: Image with proper alt text "ABC School Building Front View"
- **<a target="\_blank">**: Hyperlink that opens in new tab
- **Additional elements**: bgcolor for background color, <hr> for horizontal lines, <caption> for table title

Marking: 1 mark each for title, heading, list, table, image, and hyperlink (5 marks total)

### Q48. Answer: Python calculator program

```
Simple Calculator Program

print("=" * 40)
print(" SIMPLE CALCULATOR")
print("=" * 40)
print()

Display menu
print("Select an operation:")
print("1. Addition (+)")
print("2. Subtraction (-)")
print("3. Multiplication (*)")
print("4. Division (/)")
print()
```

```
Get user's choice
choice = input("Enter your choice (1/2/3/4): ")

Check if choice is valid
if choice in ['1', '2', '3', '4']:
 # Input two numbers
 num1 = float(input("Enter first number: "))
 num2 = float(input("Enter second number: "))

 print()
 print("=" * 40)

 # Perform operation based on choice
 if choice == '1':
 result = num1 + num2
 print(f"{num1} + {num2} = {result}")

 elif choice == '2':
 result = num1 - num2
 print(f"{num1} - {num2} = {result}")

 elif choice == '3':
 result = num1 * num2
 print(f"{num1} × {num2} = {result}")

 elif choice == '4':
 # Check for division by zero
 if num2 == 0:
 print("Error! Division by zero is not
allowed.")
 else:
 result = num1 / num2
 print(f"{num1} ÷ {num2} = {result}")
```

```
print("=" * 40)

else:
 print()
 print("Invalid choice! Please select 1, 2, 3, or
4.")

print()
print("Thank you for using the calculator!")
```

### Sample Output 1 (Addition):

```
=====
SIMPLE CALCULATOR
=====

Select an operation:
1. Addition (+)
2. Subtraction (-)
3. Multiplication (*)
4. Division (/)

Enter your choice (1/2/3/4): 1
Enter first number: 25
Enter second number: 15

=====
25.0 + 15.0 = 40.0
=====

Thank you for using the calculator!
```

### Sample Output 2 (Division by Zero):

```
Enter your choice (1/2/3/4): 4
Enter first number: 10
Enter second number: 0

=====
Error! Division by zero is not allowed.
=====
```

### Explanation:

- Displays menu of operations using print statements
- Uses if-elif-else structure for menu-based selection
- Nested if statement checks for division by zero error
- Uses float() to accept decimal numbers
- Input validation ensures choice is valid (1-4)
- Formatted output using f-strings for better presentation
- Error handling prevents program crashes on invalid operations
- Clear display with separator lines (===) for better readability

*Marking: 1 mark for menu display, 1 mark for choice validation, 1 mark for operations logic, 1 mark for division by zero handling, 1 mark for proper output*

## END OF ANSWER KEY

**Total Marks: 80**

This is a solved practice paper for Class 7 Computer Science Annual Examination.

Study thoroughly and understand all concepts.

For doubts and queries, contact: **Math Love Institute**

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