

COMMUNICATION SKILLS-I

1. Sana is a bright student who always has great ideas during group projects, but she hesitates to speak up. She fears others might not listen or laugh. One day, she missed the chance to share a brilliant science idea, and her group struggled.

You are Sana's friend. Help her overcome this problem by telling her the importance of communication.

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Explain the type of greeting being used in this image.

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- C. If English has only 26 letters, why do we need more than 40 sounds to speak it clearly? Can you elaborate on what phonetics is and how it helps us pronounce words better?

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COMMUNICATION SKILLS-I

1. Assertion-Reason Based Questions

a. Assertion (A): Articles are an essential part of speech in English grammar.

Reason (R): They help indicate whether a noun is specific or general.

Answer Options:

A. Both A and R are true, and R is the correct explanation of A.

B. Both A and R are true, but R is not the correct explanation of A.

C. A is true, but R is false.

D. A is false, but R is true.

b. Assertion (A): Nouns and verbs are essential components in structuring a clear and meaningful self-introduction.

Reason (R): Nouns identify who you are and what you like, while verbs describe your actions and interests.

Answer Options:

A. Both A and R are true, and R is the correct explanation of A.

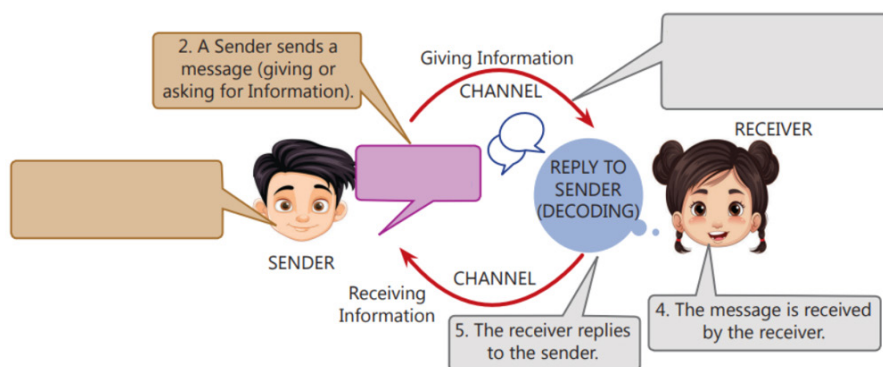
B. Both A and R are true, but R is not the correct explanation of A.

C. A is true, but R is false.

D. A is false, but R is true.

2. How can asking the right questions help us ensure we have complete information to achieve our goals?

3.



Fill in the empty boxes with the correct elements of communication.

Grade:



Teacher's Signature: _____

SELF-MANAGEMENT SKILLS-I

1. Justify the following statements.

- a. If you can identify your traits that hold you back, then it becomes easy to find a solution to overcome your weaknesses.

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- b. Physical factors will influence the personality of a person.

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- c. Only when we plan our day, can we achieve our goals.

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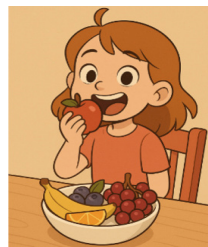
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2. Identify the following images as strength or weakness. Give reasons for your answers.

a.



b.



c.



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3. Elaborate on the three steps to personal hygiene.

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SELF-MANAGEMENT SKILLS-I

1. Raj is a 17-year-old student who recently got selected for a national-level youth summit. While he excels in academics and communication, he feels unsure about his dressing sense and grooming habits. With a series of formal and semi-formal events coming up, Raj wants to make a positive impression and boost his confidence through proper attire and appearance.

Your Task:

Help Raj by suggesting clear and practical guidelines for dressing and grooming.

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2. Fill in the blanks:

- a. Thinking about things is a dangerous habit.
 - b. An individual's personal is very important as it not only builds confidence but also keeps you healthy.
 - c. Knowing yourself is the beginning of all You are empowering yourself when you introspect.
3. Aman is a class 10 student managing studies, sports practice, and a science project. He plans his day, avoids junk food, stays calm under pressure, learns from mistakes, and always submits work on time.

Identify and explain any four self-management skills Aman is using.

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ARTIFICIAL INTELLIGENCE

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Unit-3

CLASS 9

ICT SKILLS-I

1. Match the following:

a.



(i) Chargeable Battery

b.



(ii) Touch Screen

c.



(iii) Bluetooth

d.



(iv) Camera

e.



(v) WiFi

2. Write the steps for the following:

a. Changing Wallpaper

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b. Setting Screen Saver

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3. Write three differences between Postal mail and Email.

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Grade:



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Part A

Name: _____

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Class: _____ Section: _____ Date: _____

ARTIFICIAL INTELLIGENCE

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Unit-3

CLASS 9

ICT SKILLS-I

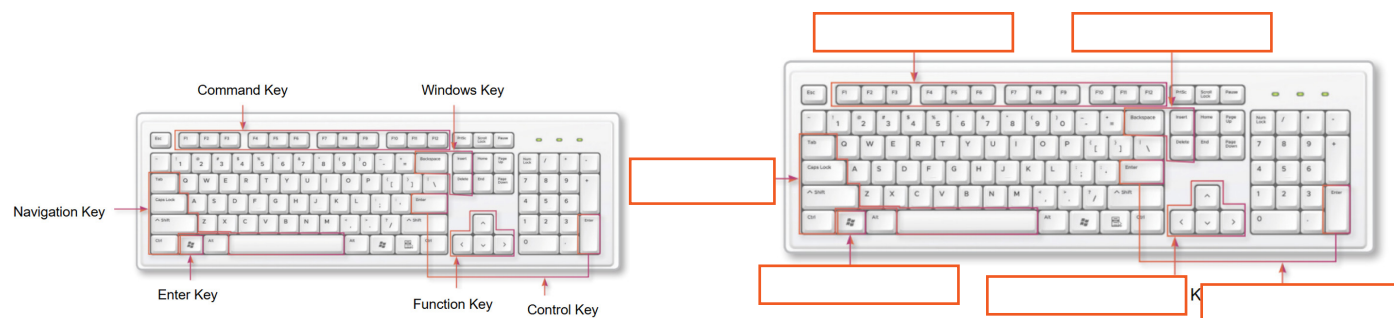
1. You are a Maya volunteering for an NGO that teaches underprivileged children and helps make them digitally literate. Today, you are teaching them how to use email. You start by explaining to them the common folders in a mailbox. How would you explain each of these folders to the students?

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2. Correct the key labels in the following image. Give one function of each.



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3. Recognize the devices in the images and define them:



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Grade: ☆ ☆ ☆ ☆ ☆

Teacher's Signature: _____

Part A

ENTREPRENEURIAL SKILLS-I

1. Who among the following can be identified as an entrepreneur? Justify your answer.

- Ananya noticed a lack of healthy snack options in her school canteen. She started making homemade granola bars and sold them to her classmates during lunch breaks. She later expanded her business by partnering with a local store.
- Rohit is passionate about coding. He creates mobile games for fun and uploads them for free on app stores. Although he has many users, he does not charge for the games or earn any income from them.
- Sneha joined her father's grocery store and helps him manage daily operations. She doesn't take any independent decisions or bring new ideas into the business.

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2. Short Answer Questions:

- What does the term risk mean in entrepreneurship?
- What is entrepreneurship development?

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3. "Nowadays, along with profit, customer's satisfaction is equally important for a successful business." Justify this statement.

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ENTREPRENEURIAL SKILLS-I

1. "Entrepreneurship plays a crucial role in both social and economic development, contributing to job creation, innovation, and the overall well-being of communities." Justify this statement.

a. Entrepreneurship is identifying opportunities and creating value through innovation.

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2. Identify the following as product business or service business. Give reasons for your answer.

a. Mehul, a Class 10 student, realized his school didn't have eco-friendly stationery options. He began designing and selling recycled notebooks, seed pens, and paper folders. He set up a small stall during school events and also took bulk orders from other schools.

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b. Riya, a college student good at graphic design, started offering logo and poster designing services to small businesses in her area. She doesn't sell any physical product but uses her skills to provide design solutions through online platforms.

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3. Fill the empty boxes in the following table:

Factors	Wage employment	Entrepreneurship
Nature of Work	Individuals work for an employer or a company and receive a fixed wage or salary in exchange for their labour.	
Risk and Responsibility		Entrepreneurship involves a higher level of risk-taking. It has uncertainties, financial risks, and market fluctuations.
Income Structure	Employees receive a regular and predictable income in the form of wages or salaries.	
Job Security		Entrepreneurs face the risk of business failure, which may result in financial losses and sometimes closing of the business.

GREEN SKILLS-I

1. Identify the following images as exhaustible and inexhaustible resources.

a.



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b.



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c.



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d.



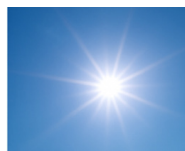
.....

d.



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d.



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2. Explain the following green projects in India:

- Feeding India:
- Bio-toilet by 'Green Solution Foundation':.....
- Save Trees:.....

3. Country XYZ is facing several critical challenges that are hindering its sustainable development:

- Air and water pollution in major urban areas, leading to severe health problems.
- High unemployment rates, particularly among the youth, with significant economic inequality between urban and rural areas.
- Limited access to quality healthcare, especially in remote regions, contributing to high mortality rates.
- Lack of access to quality education in rural areas, with overcrowded classrooms and undertrained teachers.
- Gender discrimination, which restricts women's access to education, healthcare, and equal employment opportunities.
- Climate change effects, including floods and droughts, impacting agriculture and natural resources.
- Food insecurity and malnutrition among vulnerable populations, particularly children.

Which SDGs do you think need to be addressed to overcome these challenges? Justify your answer.

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GREEN SKILLS-I

- After finishing his Coke, Aarav carelessly threw the glass bottle into the dustbin. Just as he was about to walk away, Meera noticed and stopped him. As his friend Meera teaches him the importance of the 5Rs by completing the following dialogue:

Meera: Aarav! Wait! Why did you throw that glass bottle into the dustbin?

Aarav: It's empty. Where else should I throw it?

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- Fill in the empty boxes:

Factors	Wage employment	Entrepreneurship
Nature of Work	Individuals work for an employer or a company and receive a fixed wage or salary in exchange for their labour.	
Risk and Responsibility		Entrepreneurship involves a higher level of risk-taking. It has uncertainties, financial risks, and market fluctuations.
Income Structure	Employees receive a regular and predictable income in the form of wages or salaries.	
Job Security		Entrepreneurs face the risk of business failure, which may result in financial losses and sometimes closing of the business.

- List the green jobs available in the following sectors:

- Agriculture
- Forestry
- Manufacturing
- Retail
- Education
- Automotive and Transport

AI REFLECTION, PROJECT CYCLE AND ETHICS

A. Correct the following statements by replacing a single word, the first one is solved for you:

- Apple's Siri is a good example of Strong AI systems.
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- NLP is the domain of artificial intelligence that is used to train computers to read, process, and analyse visual data in the same way as humans do.
.....
- Problem scoping refers to the techniques and tools used to visualise data collected in data acquisition through complex statistical methods. It is the process of analysing a large dataset.
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- Under the "Why" block, we analyse the people who are getting affected directly or indirectly by the problem.
.....

B. Complete the following Confusion Matrix table and label the values as True Positive (TP), True Negative (TN), False Positive (FP), and False Negative (FN):

Confusion Matrix		Reality	
		Yes	No
Prediction	Yes		
	No		

C. Write short answers to the following questions in 80–100 words each:

- Should AI have rights like humans?
.....
- Should AI be used for surveillance?
.....
- Is AI making people less creative?
.....
- What happens when an AI system is deployed with errors?
.....

AI REFLECTION, PROJECT CYCLE AND ETHICS

A. Give reasons for the following statements:

1. Data called the "fuel" for AI.

.....

2. It is necessary to have ethical guidelines for AI development.

.....

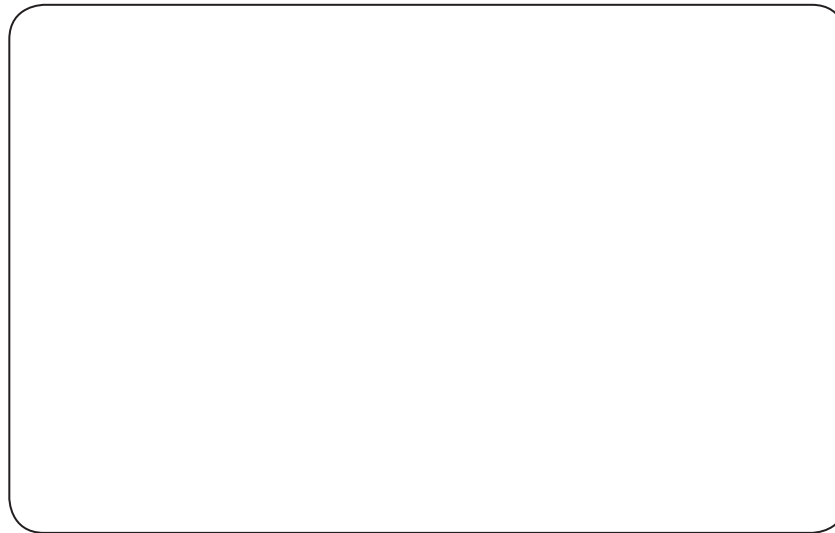
3. Super AI still a hypothetical concept.

.....

4. Intelligence is not limited to humans.

.....

B. Draw a flowchart categorizing AI into Narrow AI, General AI, and Super AI with examples.



C. Using the 4Ws Problem Canvas, analyze the given case and frame a problem statement for the AI project.

"A city is facing severe traffic congestion, leading to long commuting hours, increased pollution, and frequent accidents. The local government wants to implement an AI-based smart traffic management system to optimize traffic flow, reduce congestion, and enhance road safety".

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DATA LITERACY

A. Justify the following statements with proper reasons.

1. A structured data is easier to analyze than unstructured data.

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2. Data security should be a priority in the digital era.

.....

3. Data preprocessing is crucial before performing data analysis.

.....

B. Complete the following table of differences.

1.	<table border="1"> <tr> <td>Data Privacy</td><td>Data Security</td></tr> <tr> <td>It is governing how data is collected, shared, and used.</td><td></td></tr> </table>	Data Privacy	Data Security	It is governing how data is collected, shared, and used.	
Data Privacy	Data Security				
It is governing how data is collected, shared, and used.					
2.	<table border="1"> <tr> <td>Data Processing</td><td>Data Interpretation</td></tr> <tr> <td>Operation on data to produce meaningful information.</td><td></td></tr> </table>	Data Processing	Data Interpretation	Operation on data to produce meaningful information.	
Data Processing	Data Interpretation				
Operation on data to produce meaningful information.					

C. Write whether the following statement is Myth vs. Reality.

1. Some believe that encryption makes data 100% secure. Is this true? Why or why not?

.....

2. Some people believe that having an antivirus alone is enough for cybersecurity.

.....

3. AI can fully automate data acquisition without human intervention.

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Unit-2

CLASS 9

DATA LITERACY

A. Write short answers for the following:

1. A hospital collects patient records but struggles with incorrect and incomplete data. What steps should they take to improve data quality?

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2. A bank wants to prevent fraud using data literacy skills. What steps should they take?

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B. The following dataset contains information about students' test scores. However, there are inconsistencies and missing values in the data.

Student Name	Age	Score	Subject	Grade
Aditi	14	85	Math	A
Rahul	15	92	Science	A ⁺
Missing	14	78	Math	B
Meera	Error	88	English	A ⁻
Kunal	16	N/A	Science	Missing
Priya	15	95	English	A ⁺

C. Examine the dataset and highlight missing values, duplicate records, and inconsistent formats.

Id	Name	Age	E-Mail	City	Salary(\$)
101	Priya Venkath	34	PriyaV@gmail.com	Delhi	450
102	Sachin Sondhi	41	SondhiS@abcmail.com	California	2500
103	Divya Narayan		DNarayan@tatas.net	New York	340
104	Aekagra Divya	51	AekagraD@IBM.net	NewYork	5600
105	Varun Bhartiya	34		Dubai	5100
102	Seema Mehta	39	SeemaM@gmail.com	New Delhi	550
102	Sachin Sondhi	41	SondhiS@abcmail.com	California	2500
104	Aekagra Divya	51	AekagraD@IBM.net	NewYork	5600

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ARTIFICIAL INTELLIGENCE

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Unit-3

CLASS 9

MATH FOR AI (STATISTICS & PROBABILITY)

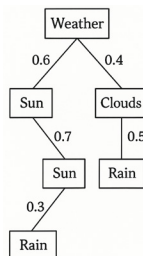
A. Attempt the following picture-based questions:

- Here is an AI-generated bar graph comparing AI model accuracy with different training data sizes.



What does this graph tell us about the importance of data size in AI training?

- Here is a probability tree diagram illustrating different weather predictions



Based on this probability tree, what is the likelihood of an accurate weather forecast for a rainy day?

B. Write short answers to the following questions in 80–100 words each:

- If AI is like a brain, what role does mathematics play in its functioning?
- Imagine you are designing an AI assistant. What mathematical concepts would you use to improve its decision-making?
- Why is probability considered the 'backbone' of AI decision-making?

Grade:



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MATH FOR AI (STATISTICS & PROBABILITY)**A. Justify the following statements:**

1. AI models require probability to make predictions.

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2. Statistics is crucial for AI and machine learning.

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3. Can AI work efficiently without probability and statistics?

.....

B. A chatbot predicts the next word in a conversation. Which mathematical concept is used?

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C. Answer the following questions in brief:

1. Chatbot predicts the next word in a conversation, which mathematical concept is used?

.....

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2. If a self-driving car calculates the probability of collision, which AI technique is it using?

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ARTIFICIAL INTELLIGENCE
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Unit-4

CLASS 9

INTRODUCTION TO GENERATIVE AI

A. Give reasons for the following:

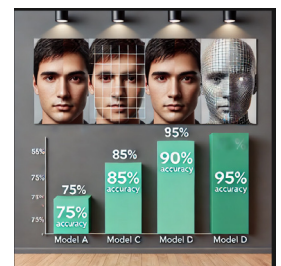
- Why does supervised learning require a large dataset with labeled examples to function effectively?
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- Why do AI-generated images sometimes have unnatural distortions, such as extra fingers or inconsistent lighting?
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.....
- Why is Generative AI debated as both a creative asset and an ethical concern?
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.....

B. Observe the two landscapes in the image. One is a real photograph, while the other is AI-generated. Look at the differences, such as repeating cloud patterns, inconsistent shadows, and unnatural blending of elements. Give reasons why AI-generated landscapes often contain these flaws.



C. Observe the bar chart comparing the accuracy of different AI models in detecting deep fake images. Analyse the data and answer the following:

- Which AI model has the highest accuracy?
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- Which AI model performs the worst in detecting deepfakes?
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.....
- How much higher is the accuracy of Model D compared to Model C?
.....
.....
- If a new AI model is developed with 97% accuracy, how would it compare to the existing models?
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INTRODUCTION TO GENERATIVE AI

A. Identify whether the following tools belong to Generative AI or traditional AI:

1. ChatGPT

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2. Google Translate

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3. DALL-E

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4. Face recognition software

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B. A website claims to use real images for product advertisements. What steps would you take to verify their authenticity?

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C. Can AI-generated content lead to job displacement in creative fields?

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INTRODUCTION TO PYTHON

A. If L1 = [13,25,41,25,63,25,18,78] and L2= [58,56,25,74,56]

Write Python statement to do the following:

1. To remove the fourth element from L1.

.....

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2. Insert the value 15 at 2nd index position in L2

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B. Rewrite the following logic using a while loop using the same variables and without making any change in the expected output:

```
Start = 20;End=40
for C in range(1, 11, 3):
    Start += C
    End -= C
print(Start,End)
```

C. The following code in Python is used to display the sum of all its digits except the first digit from the left of an integer N entered by the user. Fill in the blanks with correct statements

```
Num1=int(input("Enter an integer"))
Num2=Num1
Sum=0
C=___
while Num2!=__:
    Val=Num2%__
    Sum+=Val
    Num2//=10
    C+=1
P=C-1
Sum=Sum-Num1//10**___
print(Sum)
```

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Unit-5

CLASS 9

INTRODUCTION TO PYTHON

A. Tick (✓) the correct option.

- Which of the following is a step-by-step process to identify and solve a problem?

a. Flowchart	☐	b. Algorithm	☐
c. Code	☐	d. All of these	☐
- Which of the following is not an advantage of Python?

a. Cross platform language	☐	b. Easy to learn and use	☐
c. Supports GUI	☐	d. None of these	☐
- Which data type is used to store numbers?

a. Integer	☐	b. Sequence	☐
c. Sets	☐	d. None of these	☐
- Which of the following is not a valid identifier?

a. _Class8th	☐	b. Myclass	☐
c. Class9	☐	d. Work123	☐
- Which of the following is not a mathematical operator?

a. +	☐	b. -	☐
c. #	☐	d. ==	☐

B. Define the following:

- | | |
|----------------------|--------------|
| 1. Variable | 2. For loop |
| 3. While loop | 4. Algorithm |
| 5. Logical operators | |

C. Short answer type questions.

- What is a single line comment?
- What are keywords?
- How many types of data types are there in Python?
- What are relational operators?
- What is order of precedence in Python?