ORANGE

WORKSHEET ①

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Chapter-1

CLASS 8

Name: _____

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NUMBER SYSTEM

A.   Match the following.

1.	Binary number system	a. base 16
2.	Octal number system	b. base 2
3.	Decimal number system	c. base 8
4.	Hexadecimal number system	d. base 10

B.   Circle the correct option.

1.   The digital computer represents all kinds of data and information in (binary / octal) numbers.

2.   The (binary / decimal) number system consists of ten digits from 0 to 9.

3.   (Decimal / Octal) number system is used as a shorthand representation of long binary numbers.

4.   The (hexadecimal / octal) number system consists of 16 digits from 0 to 15.

5.   The positional value of each digit in octal number is (twice / thrice) the place value.

C.   Write the full forms of the following:

1.   MSD – ....

2.   LSD – ....

D.   Extract the binary number from the given example and write below:

2	64 – 0
2	32 – 0
2	16 – 0
2	8 – 0
2	4 – 0
2	2 – 0
	1 – 0

Binary number is: ....

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Chapter-1

CLASS 8

NUMBER SYSTEM

A. Define the following:

1. Number system- ....

2. Radix- ....

3. Binary addition- ....

B. Tick (✓) the correct option.

1. Base 2 is another name for the ....

    a. Binary number system ☐   b. Decimal number system ☐

    c. Hexadecimal number system ☐   d. None of these ☐

2. In binary addition, 1 + 1 = ...

    a. 0 ☐   b. 10 ☐   c. 1 ☐   d. 11 ☐

3. Which of the following is a valid octal number?

    a. 183 ☐   b. 965 ☐   c. 983 ☐   d. 345 ☐

4. In binary number system, 1 Nibble is equals to ....

    a. 4 bits ☐   b. 8 bits ☐   c. 16 bits ☐   d. 1 bit ☐

5. The digital computer represents all kinds of data and information in .... numbers.

    a. binary ☐   b. decimal ☐

    c. hexadecimal ☐   d. None of these ☐

C. Convert the decimal number 44 into binary number.

....

....

....

....
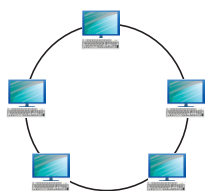
COMPUTER NETWORKING

A. Read the clues and answer the following:

1. The process of (connecting / separating) computers and peripheral devices with each other, so that they can exchange data is called computer networking.

2. A (server / client) is also called host computer.

3. (LAN / WAN) is a digital communication system that interconnects a large number of computers and other peripheral devices within a radius of less than 1 km.

4. In (Ring / Star) topology, all the nodes are connected in a circular path.

5. (Protocol / Bluetooth) is a set of rules that governs the communication between the computers on a network.

B. Complete the sentences.

1. Modem stands for MODULATOR ....

2. Networking cable is also known as ....

3. The computer which stores and provides the access to a database is called a ....

4. The computer which performs a specific task is called the ....

5. The total diameter of LAN is not more than ....

C. Name the type of topology used in below images.
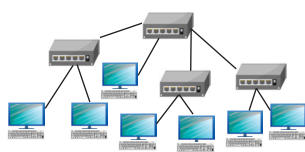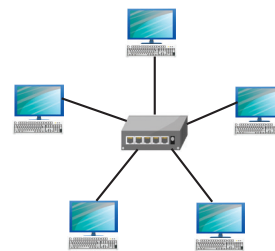
1. ....   2. ....   3. ....   4. ....

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COMPUTER NETWORKING

A. Define the following:

1. Modem - ....

2. Hub - ....

3. Computer Network - ....

B. Tick (✓) the correct option.

1. Which networking device can convert the digital data into analog signal and vice versa?

   a. Hub ☐   b. Modem ☐

   c. Router ☐   d. LAN Card ☐

2. Which of these is not a protocol?

   a. HTTP ☐   b. HTTPS ☐

   c. FTP ☐   d. HTML ☐

3. Which of these is the Internet standard protocol that allows e-mail to retrieve e-mail messages from an e-mail server?

   a. HTTP ☐   b. FTP ☐

   c. POP3 ☐   d. None of these ☐

4. Which of the following is a wireless communication technology?

   a. Bluetooth ☐   b. Wi-Fi ☐

   c. Both a and b ☐   d. None of these ☐

C. Write the full form of the following:

1. HTTP - ....

2. MAN - ....

3. NIC - ....

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Chapter-3

CLASS 8

PHOTO EDITOR AND VIDEO EDITOR

A. Fill in the blanks using the hints given below:

Hints: Flipping, Motion, Light, Filter intensity

1. .... means to get the mirror image of the photo either horizontally or vertically.

2. You can also change the intensity of the applied filter by moving the .... slider.

3. To add motion effects in your video, click on the .... button.

4. Adjust the brightness of the photo by moving the .... slide.

B. Write 'T' for true and 'F' for false.

1. Photos app also allows you to apply different types of effects on your photos and videos. ....

2. You can remove the red eyes from a photo with the help of Red eye button. ....

3. The Photos app does not allow you to edit a video. ....

4. Rotating a video means to cut the portion of a video. ....

C. Answer the following questions:

1. Write the steps to start photos app.

   ....

   ....

2. What is cropping?

   ....

   ....

3. What do you mean by filters?

   ....

   ....

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PHOTO EDITOR AND VIDEO EDITOR

Chapter-3

A. Tick (✓) the correct option.

1. You need to import photos from your computer to .... app to edit them.

   a. Photos ☐   b. Videos ☐

   c. Pictures ☐   d. None of these ☐

2. .... are pre-designed special effects which you can directly apply on your video.

   a. 2D effects ☐   b. 3D effects ☐

   c. Both a and b ☐   d. None of these ☐

3. To increase or decrease the speed of the video, click on the .... button.

   a. Text ☐   b. Filters ☐

   c. Speed ☐   d. Flip ☐

B. Answer the following questions.

1. What do you mean by filters?

   ....

   ....

2. What is the use of adjustment feature?

   ....

   ....

C. Fill in the blanks to complete the steps to trim a video.

Step 1 Open a video and add it to the .... In this case, we have opened a girl with coffee video.

Step 2 Click on the .... button.

Step 3 Two handles appear at both ends of a video time line which allow you to trim a video from starting as well as from end. In this case, we have moved the left handle towards right-hand direction to trim the video from starting.

Step 4 Click on the .... button. The video will be trimmed.

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INTRODUCTION TO TUPI 2D

Chapter-4

CLASS 8

A. Match the following:

1.		a. Brushes tool
2.		b. Polyline tool
3.		c. Fill tool
4.		d. Pencil tool
5.		e. Ink tool
6.		f. Node selection
7.		g. Object selection

B. Complete the steps to draw a closed rectangle, by using Brushes tool:

Step 1   Click on .... tool and choose a type of brush: ....

Step 2   Click on .... button.

Step 3   Click on the .... to change the .... of the rectangle.

Step 4   Click on .... option to change the that is to be filled inside the
....

Step 5   Click on the .... option.

Step 6   Click on the .... option.

Step 7   Move to the .... and drag to draw the ....

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INTRODUCTION TO TUPI 2D

Chapter-4

A. Tick (✓) the correct option.

1. Which tool is used to draw ellipse?

   a. Pencil ☐   b. Polyline ☐

   c. Ink ☐   d. Brushes ☐

2. Which tool works like a Paint Bucket tool?

   a. Pencil ☐   b. Fill ☐

   c. Ink ☐   d. Brushes ☐

3. Which of these is a collection of different colors?

   a. Color Palette ☐   b. Exposure Sheet ☐

   c. Left side bar ☐   d. Toolbox ☐

B. Write 'T' for true and 'F' for false.

1. Cap option allows us to draw free hand drawing. ....

2. Pencil tool helps us to draw those shapes which we can not draw with shape tools. ....

3. Brush tool is used to draw a closed rectangle. ....

4. Ink tool is a free hand drawing tool. ....

C. Answer the following questions:

1. What is the use of Node Selection tool?

   ....

2. Which tool helps the user to modify, flip or group objects as per their requirements?

   ....

3. What is Toolbox?

   ....

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CLASS 8

ANIMATIONS IN TUPI 2D

Chapter-5

A. Fill in the blanks using the hints given below:

Hints: Scale, Exposure, frame, layer, Motion, Opacity

1. .... are used to work on the individual part of the image without affecting the other parts.

2. .... tween helps to move an object.

3. .... tween helps to control the opacity of an object at two points.

4. .... tween helps to give zooming effect to an object.

5. A .... is a single animation that is applied on an object or picture on a timeline.

6. .... Sheet located on the right side of the Tupi 2D interface.

B. Circle the incorrect words.

1. If an object is part of a tween, then that object (cannot / can be) edited as a vector path.

2. Tupi 2D help us to create an animation/transition.

3. Layers are like stack of (blank / transparent) sheets.

4. A frame holds the content of the project at a particular (moment / second).

5. Rotation tween automatically (moves / rotates) the object as per the specification given.

C. Answer the following questions:

1. What is the significance of frame?

    ....

2. What is the shortcut key to start Coloring Tween?

    ....

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CLASS 8

ANIMATIONS IN TUPI 2D

Chapter-5

A. **Tick (✓) the correct option.**

1. .... changes the color of the object at two points.

   a. Shear tween ☐   b. Scale Tween ☐

   c. Coloring tween ☐   d. Rotation Tween ☐

2. Which tween helps to move an object.

   a. Motion ☐   b. Coloring ☐

   c. Scale ☐   d. Shear ☐

3. Which tween helps to control the opacity of an object at two points.

   a. Rotation ☐   b. Opacity ☐

   c. Scale ☐   d. Rotation ☐

4. Which tween helps to give zooming effect to an object?

   a. Coloring ☐   b. Opacity ☐

   c. Scale ☐   d. Shear ☐

B. **Write the steps to give zooming effect to an object:**

Step 1: ....

Step 2 : ....

Step 3: ....

Step 4 : ....

Step 5 : ....

Step 6 : ....

Step 7 : ....

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LATEST TECHNOLOGICAL DEVELOPMENTS

A. Tick (✓) the correct option.

1. Which of the following is not an application of AI?

   a. Expert system ☐
   b. Natural Language Processing ☐
   c. 3D Printing ☐
   d. Robotics ☐

2. Which of the following app uses GPS location of the smartphone and the camera to collect information about the user's surroundings?

   a. Star Walk ☐
   b. Layar ☐
   c. Mimo ☐
   d. Compass ☐

3. Which of the following devices has a camera that .... recognizes and tracks the users hand gestures with the help of computer-vision techniques.

   a. SixthSense ☐
   b. Google Glass ☐
   c. Oculus Rift ☐
   d. Mimo ☐

4. Which of the following terms represents a system of connected computing devices?

   a. VR ☐
   b. IoT ☐
   c. RPA ☐
   d. AR ☐

B. Write 'T' for true and 'F' for false.

1. Apps are software written for mobile devices based on robotics and machine learning technology. ....

2. Facial recognition software and video surveillance cameras are examples of pattern recognition software. ....

3. 3D Printing was first developed at MIT (Massachusetts Institute of Technology) in the 2005. ....

4. Robotic automation creates a new IT structure with complex system integrations. ....

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Chapter-6

CLASS 8

LATEST TECHNOLOGICAL DEVELOPMENTS

A. Fill in the blanks using the hints given below:

Hints: AI, Virtual, RP, Augmented Reality, RPA

1. .... is the blending of Virtual Reality and real life.

2. The purpose of .... is to transfer the execution of the process from humans to robots.

3. Shakey was the first robot to use .... to navigate.

4. In Virtual Reality, a .... world is created that users can interact with.

5. .... method is used to create models to quickly test a new product before mass production.

B.   Answer the following questions:

1. State any 2 uses of AI.

    ....

2. What is the use of Pattern Recognition?

    ....

3. Explain RPA briefly.

    ....

4. What is 3D printing?

    ....

C. Match the following:

1. Industry   a. Application

2. Financial service   b. Premium information

3. Telecom   c. Checking frauds

4. Insurance   d. Service order management

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Chapter-7

CLASS 8

IMAGES, LINKS AND FRAMES IN HTML5

A.   Circle the correct option.

1.   HTML allows you to insert images inside the web pages through the (<IMG> / <IMAGE>) tag.

2.   The (ALT / SRC) attribute specifies the source or URL of the image that has to be inserted in the web page.

3.   HTML (allows / does not allows) you to divide a browser window into many sections or parts.

4.   We (can / cannot) add audio and video on a HTML web page.

5.   Hyperlink text is generally seen in (blue / green) color.

B.   Read the clues and answer the following:

1.   It is an attribute that is used to specify the identity of the field on the web page.

     ....

2.   It is an attribute that is used to specify the default value of the field.

     ....

3.   It is a tag used for creating links, that is, hyperlinking in HTML web pages.

     ....

4.   It is an attribute that specifies the thickness of the border surrounding the image.

     ....

5.   It is a value used to create a check box control.

     ....

C.   Write the HTML code to create a Web page that has different sections or parts using <IFRAME> tag.

     ....

     ....

     ....

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Chapter-7

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IMAGES, LINKS AND FRAMES IN HTML5

A. Tick (✓) the correct option.

1. Which attribute specifies the alternate text to be displayed in the web browser, if the provided image is not found?

   a. SRC ☐   b. ALT ☐

   c. ALTERNATE ☐   d. None of these ☐

2. Which of the following attributes of the <FRAME> tag is used to specify the URL of the web page which you want to display in the frame?

   a. SRC ☐   b. HEIGHT ☐

   c. WIDTH ☐   d. NAME ☐

3. Which of the following file formats are currently supported to embed audio?

   a. MP3 ☐   b. WAV ☐

   c. Both a and b ☐   d. None of these ☐

B. Write the tag to:

1. Create a multiline text box that can accept long text values. ....

2. Insert an image on the Web page. ....

3. Create a hyperlink. ....

4. Divide a browser window into many sections. ....

C. Write 'T' for true and 'F' for false.

1. The default colour of the visited link is red. ....

2. We can specify the width and height of an image in a web page. ....

3. PNG image file format stands for Portable Ink Group. ....

4. The <INPUT> tag is used to create external linking between web pages. ....

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COMPUTER SAFETY AND SECURITY

A. **Fill in the blanks using the hints given below:**

Hints: biological, malicious, encrypted, decryption, spyware

1. .... software is known as malware.

2. Recognition of .... characteristics is an example of biometric authentication.

3. Decryption is the process of converting .... data into a readable form.

4. Encryption is the opposite of ....

5. Zombie in a similar way as the ....

B. **Answer the following questions:**

1. State the types of authentication.

   ....

   ....

2. Explain the working of Trojan horse in brief.

   ....

   ....

3. State any 4 examples of antivirus programs.

   ....

   ....

4. What is ransomware?

   ....

   ....

5. What are some authentication procedures to protect our computer from illegal access?

   ....

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COMPUTER SAFETY AND SECURITY

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   ....

   ....

2. Explain the working of Trojan horse in brief.

   ....

   ....

3. State any 4 examples of antivirus programs.

   ....

   ....

4. What is ransomware?

   ....

   ....

5. What are some authentication procedures to protect our computer from illegal access?

   ....

   ....

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LOOPS IN PYTHON

A. **Tick (✓) the correct option.**

1. Which of the following is a looping statement in Python?

   a. for statement ☐   b. while statement ☐

   c. if statement ☐   d. break statement ☐

2. Which of the following statements allow to repeat a task for a fixed number of times?

   a. for statement ☐   b. while statement ☐

   c. if…else statement ☐   d. continue statement ☐

3. Which of the following statements terminates the execution of the loop?

   a. if ☐   b. for ☐

   c. break ☐   d. continue ☐

B. **Write the output of the following programs:**

1.
```
i = 0
while i < 3:
print (i)
i += 1
else:
print (0)
```
....

2.
```
fruits = ["apple", "banana","cherry"]
for x in fruits:
print(x)
```
....

3.
```
i = 2
while i < 10:
print(i)
if i == 8:
break
i += 2
```
....

4.
```
number = ["fifty", "hundred", "thousand"]
for x in number:
print(x)
if x == "hundred":
break
```
....

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Chapter-10

CLASS 8

LOOPS IN PYTHON

A. Fill in the blanks using the hints given below:

Hints: infinite, break, while, continue, non-zero, zero

1. The .... statement executes a set of statements repeatedly, until the logical expression remains true.

2. Any .... value in the while loop indicates an always true condition whereas zero indicates .... condition.

3. The .... loop never ends.

4. The .... and .... are the jump statements in Python.

B. Write 'T' for true and 'F' for false.

1. We can use do-while loop in Python.   ....

2. The continue statement breaks the loops one by one.   ....

3. The break is a keyword in Python which is used for bringing the

    program control out of the loop.   ....

4. A single break statement will break out of any number of loops. ....

5. The while statement is the looping statement.   ....

C. Answer the following questions:

1. What are jump statements?

    ....

2. Write the syntax of the 'for loop'.

    ....

3. Demonstrate the use of the while loop using else statement.

    ....

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Chapter-11

CLASS 8

DOMAINS OF AI

A. **Tick (✓) the correct option.**

1. Which of the following technology will be used to track player movements in cricket?

   a. NLP ☐
   b. Machine Learning ☐
   c. Computer Vision ☐
   d. None of these ☐

2. Humans spend a large amount of time and effort to analyse and filter data, but AI systems can manage and organise huge volumes of data in .... time.

   a. Less ☐
   b. More ☐
   b. Equal ☐
   d. None of these ☐

3. Which of the following domains of AI is used by a self-driving car?

   a. Big Data ☐
   b. Computer Vision ☐
   c. Natural Language Processing ☐
   d. None of these ☐

4. Which of the following have the tendency to get bored while performing repetitive tasks?

   a. Humans ☐
   b. AI System ☐
   c. Both (i) & (ii) ☐
   d. None of these ☐

B. **Define the following:**

1. Artificial Intelligence - ....

2. Big Data - ....

3. Computer Vision - ....

4. Natural Language Processing - ....

C. **Answer the following questions:**

1. Write any two advantages of AI.

   ....

2. How is Big Data used in AI?

   ....

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DOMAINS OF AI

Chapter-11

A. Fill in the blanks using the hints given below:

Hints:

1. AI enabled .... can explore in space, go underwater, help in digging and mining tasks.

2. Humans spend a large amount of time and effort to .... and filter data, but AI systems can manage and organise huge volumes of data in much less time.

3. Human intelligence is not .... proof, but AI systems are.

4. The speed at which humans take decisions is much .... than AI systems.

5. Self-driving cars use .... to examine their surroundings and plan its path.

B. State whether these statements are true or false.

1. Computer Vision is also used for security and surveillance.   ....

2. Using data from many sources, AI can build a store house of knowledge   ....
    that ultimately leads to accurate predictions about a consumer.

3. AI's ability to work so well with data analytics is because of its use of NLP.   ....

4. Big Data is a subfield of AI which helps in communication between   ....
    human and computer in natural language.

5. NLP checks the sender of the email and categorises the mails as   ....
    spam or junk.

C. Assertion and reasoning based question.

1. Assertion (A): AI enabled machines/systems can explore in space, go underwater, help in digging and mining tasks.

2. Reason (R): The tasks that are considered dangerous for human beings can be easily handled by using AI enabled machines.

    a. Both A and R are correct and R is the correct explanation of A.

    b. Both A and R are correct but R is NOT the correct explanation of A.

    c. A is correct but R is not correct.

    d. A is not correct but R is correct.

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