Class : VIII   **Duration : 1 hour**

Date : 05-08-2024   **Max. Marks : 25**

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MARKING SCHEME

I. Multiple Choice Questions :   **(12 X 1 = 12)**

(1) What is your data footprint ?

    (a) the data trail left by you when you surf the internet

    (b) The time you spend on your computer

    (c) the number of electronics you buy in a year

    (d) the number of apps you have on your mobile

(2) What is the primary goal of data privacy ?

    (a) to protect personal data from unauthorized access,, use, disclosure, alteration or destruction

    (b) to ensure that personal data is collected, processed and used in a fair and lawful manner

    (c) to empower individuals with control over their personal data

    (d) all of the above

(3) What is the purpose of transforming data into information ?

    (a) to make the data easier to store

    (b) to make the data easier to analyze

    (c) to give the data meaning and context

    (d) to make the data more valueable

(4) Which of the following is an example of quantitative data ?

    (a) the colour of a product

    (b) the size of a customer's business

    (c) the number of items sold in a day

    (d) the customer's opinion of a product

(5) What is data privacy ?

    (a) the protection of personal information from unauthorised access are use

    (b) the sharing of personal information with others

    (c) the collection of personal information for marketing purposes

    (d) the sale of personal information to third parties

(6) Which of the following is a way to protect your data privacy ?

    (a) using strong passwords

    (b) only sharing personal information with trusted sources

    (c) using a virtual private network (VPN)

    (d) all of the above

(7) ………………is a field of computer science that works on enabling computers to see, identify and process images in the same way that human vision does, and then provide appropriate output

    (a) artificial vision

    (b) computer vision

    (c) computer sight

    (d) computer glimpse

(8) ……………… are images that contain text you have to type in before you can access a website.

    (a) CAPTCHAS

    (b) PNG

(c) JPG

(d) TIFF

(9) There is no……………… in a self driven car.

    (a) human

    (b) engine

    (c) Steering wheel

    (d) fuel

(10) A mega pixel means………………pixels.

    (a) 1 million

    (b) 2 million

    (c) one thousand

    (d) one hundred

(11) ………………is an Image recognition technology developed by Google, designed to bring up relevant information related to objects which identifies using visual analysis based on a neural network.

    (a) inner eye

    (b) Google lens

    (c) captchas

    (d) pixelit

(12) Which of the following is an application of computer vision ?

    (a) robotics

    (b) medicine

    (c) security

    (d) all of these

II. Short Answer Type Questions : (Answer any four)   **(4 X 2 = 8)**

(1) Explain the difference between data and information ?

Ans. :

Data : It refers to raw facts, figures and statistics that are collected and stored in a structured and unstructured format.

Information : It is data that has been processed and organized in a way that gives it meaning and context.

(2) Give any two examples of how data impacts our daily lives.

Ans. :

Healthcare : Data is revolutionizing the healthcare industry, from electronic health records to wearable devices that track our vital signs.

Education : Data is increasingly being used to improve education outcomes.

Business : Data is a critical tool for businesses looking to make informed decisions.

Online Shopping : Data plays a crucial role in online shopping, both from the perspective of the online retailer and the consumer.

Travel : Data is increasingly being used in the travel industry to provide a more personalized and seamless experience for travelers.

Online Platform : Data is used extensively in online shows and OTT (Over The Top) platforms to provide a personalized and engaging user experience.

(3) How do online streaming platforms use data ? Explain.

Ans. :

Data is used extensively in online shows and OTT (Over The Top) platforms to provide a personalized and engaging user experience.

Personalized Content Recommendations

Content Development
Advertising
Analytics

(4) Differentiate between Pixel and Resolution.

Ans. :

Pixel : The pixel (picture element) is the basic unit of programmable colour on a computer display or in a computer image. A pixel is a singlr point in a picture.

Resolution : It refers to the total number of pixels in a digital image. If an image has M rows and N columns then its resolution can be MXN.

(5) Explain the importance of images in Artificial Intelligence.

Ans. :

1. Enhanced Data Representation:
2. Key to Machine Vision:
3. Training Data for Deep Learning:
4. Cross-Modal Learning:
5. Improved Human-Computer Interaction:
6. Support for Creative Applications:
7. Advancements in Healthcare:
8. Enhanced Surveillance and Security:
9. Scientific Research and Exploration:

Overall, images are indispensable in AI, driving advancements across diverse domains and improving the interaction between humans and machines.

(6) Write any two ways in which the functionality of Radiologists can be augmented using computer vision.

Ans. ;

(a) Finding the dimensions of various games
(b) Tools to change contrast/brightness etc. of the images.
(c) Building 3D models of organs from series of 2D images.
(d) Segmenting an organ from images, to help in better viewing and detailed study.
(e) Registering a template to an organ in the image, for comparative study.

III. Long Answer Type Questions : (Answer any two)   **(2 X 2.5 = 5)**

(1) What are data footprints ? Why should you keep a data recovery plan ? Explain.

Ans. :

Data footprints are the traces left by an individual or organization's online activities and interactions. Data recovery software can be used to scan the storage device for recoverable data. On the other hand, hardware or software failure may require more advanced recovery techniques, such as disk imaging or the use of specialized hardware tools.

(2) What are the main causes of data loss, and what steps can individual and organizations take to prevent data loss incidents ?

Ans. :

Data loss can be caused by by various factors, including hardware or software failure,, natural disaster, transaction failure, system crash, or disk failure, cyber attacks, human error or theft.

Data recovery on the other hand, is the process of retrieving lost or corrupted data from backup sources or storage devices..

There are several methods of data recovery :

1. **Backup and restore :** This method involves regularly backing up data to an external storage device or cloud based service.
2. **Data recovery software :** There are
3. **Professional data recovery services :** These services use specialized equipment and techniques to recover data from damaged or corrupted storage devices.

(3) Explain any three areas where Computer Vision is being used.

Ans. :

Face Filters : Camera or machine or the algorithm is able to identify the facial dynamics of the person and applies the facial filter selected.

Google's Search by Image : Google lens is an image recognition technology developed by Google,, designed to bring up relevant information related to objects which identifies using visual analysis based on a neural network.

Computer Vision in retail : Retailers can use computer vision techniques to track customers movement through stores, analyse navigational routes and detect walking patterns.

Medical Imaging : Computer supported medical imaging application has been a trustworthy help for physicians.

……………………………………… XXXXXXXXX …………………………………………