

**SAMPLE QUESTION PAPER 1**  
**CLASS X**  
**ARTIFICIAL INTELLIGENCE (417)**  
**TERM 1**

Maximum Marks: 25

Time: 60 Minutes

**General Instructions:**

1. Please read the instructions carefully.
2. This Question Paper is divided into 3 sections, viz., Section A, Section B and Section C.
3. Section A is of 5 marks and has 6 questions on Employability Skills.
4. Section B is of 15 marks and has 20 questions on Subject-specific Skills.
5. Section C is of 5 marks and has 7 Competency-based questions.
6. Do as per the instructions given in the respective sections.
7. Marks allotted are mentioned against each section/question.
8. All questions must be attempted in the correct order.

**Section A**

**Answer any 5 questions out of the given 6 questions.**

1. Kartik is a class X student. Due to the pandemic, he is learning online. His teacher asks him to create a YouTube video in which he can make people aware of protecting themselves against the Coronavirus. He uses his own voice in the video and adds some photos and background music to enhance its effect. After sharing it with his friends, relatives and teachers, he receives their feedback. Which of the following feedback is considered descriptive? (1)
  - (i) Well done, Bro!
  - (ii) Keep up the good work!
  - (iii) Fantastic video! You did an excellent job. You chose accurate images with extremely calming background music. Your explanation of the topic with perfect pronunciation was also quite effective.
  - (iv) Nice. Very informative video!
2. Which of the following is not an imperative sentence? (1)
  - (i) Read a lot to improve your writing skills.
  - (ii) Don't shout.
  - (iii) Clean your room.
  - (iv) What kind of movies do you like?
3. Ashish had put on weight as a result of his poor eating habits and unhealthy lifestyle. He was a big foodie who never worried about his weight. Looking at his increasing weight, people started mentioning it to him. So, one day he decided to change his daily regime and started going on walk, doing yoga and followed a healthy diet. Now he maintains his weight and lives a healthy lifestyle. What type of motivation did Ashish demonstrate? (1)
  - (i) Self-awareness
  - (ii) Work independently
  - (iii) Financially independent
  - (iv) Food management
4. **Statement 1:** Self-motivation teaches us self-discipline and hard work to achieve our goals. (1)  
**Statement 2:** Individuals experience increased anxiety and boredom when they motivate themselves.
  - (i) Both Statement 1 and Statement 2 are correct.
  - (ii) Both Statement 1 and Statement 2 are incorrect.
  - (iii) Statement 1 is correct but Statement 2 is incorrect.
  - (iv) Statement 1 is incorrect but Statement 2 is correct.
5. Given below are the steps to make a copy of folder 'D:\Myfolder' in 'C:\Documents'. Rearrange the steps in the correct order. (1)
  - (i) Right click anywhere in the folder and select Paste option from the shortcut menu or use Ctrl+V keyboard keys.
  - (ii) Select the C: drive and locate Documents folder.



13. \_\_\_\_\_ is a technique used to solve a problem using computation processes in a structured sequence of computer-implementable instructions. (1)
- (i) Algorithm (ii) Program code  
(iii) Data (iv) Data visualization
14. Kartik is a professional psychologist. He runs a clinic where he helps people with mental health issues. He has a natural capability to read human behaviour, temperament and mood, which helps him in quickly diagnosing and treating the problem. Which of the following intelligence quality does Kartik possess? (1)
- (i) Musical Intelligence (ii) Spatial Visual Intelligence  
(iii) Interpersonal Intelligence (iv) Mathematical Logical Intelligence
15. A machine is called an intelligent machine only if it can: (1)
- (i) Click photos (ii) Do complex decision-making  
(iii) Do speech recognition (iv) Mimic human intelligence  
(a) (i) and (ii) (b) (ii) and (iii)  
(c) (i), (iii) and (iv) (d) (ii), (iii) and (iv)
16. Unscramble the letters and find the correct answer. (1)
- Machine Learning + \_\_\_\_\_ = Artificial Intelligence
- (i) TRNUALA GNLAGAUE CPSISEROGN (ii) UTECPOMR ISOVNI  
(iii) EPED RIGLENAN (iv) URAENL KNWTEOR
17. Life support systems and ventilators are equipped with multiple sensors that are designed to monitor and observe body signals in order to activate the device's features. For example, as soon as it senses a drop in the level of oxygen in a person's body, it turns on the artificial oxygen supply. Ventilators are an example of: (1)
- (i) Machine with emotional intelligence (ii) Artificial general intelligence  
(iii) Automated machine (iv) Computer vision technology
18. Match Column A with Column B: (1)
- | Column A                                     | Column B                                      |
|--|---|
| 1. Regression                                | (i) Unsupervised Learning                     |
| 2. K-NN (K-Nearest Neighbour)                | (ii) Supervised Learning                      |
| 3. Clustering                                |   |
| 4. Decision Tree                             |   |
| (a) 1 -> (i); 2 -> (ii); 3 -> (i); 4 -> (ii) | (b) 1 -> (ii); 2 -> (ii); 3 -> (i); 4 -> (ii) |
| (c) 1 -> (i); 2 -> (i); 3 -> (ii); 4 -> (i)  | (d) 1 -> (ii); 2 -> (ii); 3 -> (ii); 4 -> (i) |
19. **Assertion (A):** A self-driving car is made up of a combination of sensors, cameras, radar and AI. (1)
- Reason (R):** The owner is liable if a self-driving car is involved in an accident.
- (i) Both A and R are correct and R is the correct explanation of A.  
(ii) Both A and R are correct but R is NOT the correct explanation of A.  
(iii) A is correct but R is incorrect.  
(iv) A is incorrect but R is correct.
20. Which of the following is related to function of layers in a neural network? (1)
- (i) Information -> Input Layer -> Output Layer  
(ii) Bias -> Output layer -> Hidden Layer  
(iii) Hidden Layer -> Algorithms -> Output Layer  
(iv) Input Layer -> Output Layer -> Algorithms



- (iii) Remote employees have a problem that they are getting irrelevant and unwanted mails frequently from different departments. An ideal solution is to use the communication app and email should be used only for formal work messages.
- (iv) Remote employees have a problem that they are getting irrelevant and unwanted mails frequently from different departments. An ideal solution is to write letters and post them in the letterbox.
28. (i) CSV is a simple file format used to store tabular data. (1)
- (ii) A spreadsheet is used for managing data using rows and columns.
- (iii) SQL is used for managing data stored in Database Management Systems (DBMS).

The above given files are examples of structured data. Which of the following steps are involved in converting data from various sources into digital format?

- (i) Problem Scoping (ii) Data Acquisition
- (iii) Data Modelling (iv) Data Exploration
29. A well-known news channel broadcasts information on a wide range of topics, including politics, government, foreign affairs, sports and the latest movie and television news. Reporters are in charge of gathering, evaluating and transmitting information about current events. Furthermore, the news channel permits people to submit breaking news, which is subject to verification by the channel's reporters. However, it may be difficult to distinguish between real news and fake news, which can lead to confusion among readers and threaten a news organization's reputation. Which of the following domains is used to detect fake news so that the audience has a high level of trust in the news channel? (1)
- (i) Computer Vision (ii) Matrices
- (iii) Natural Language Processing (iv) Data Science
30. An AI application that has a higher level of intelligence and is capable of understanding open-ended questions and providing assistance in finding the most relevant replies beyond the pre-scripted responses it learns over time using NLP. It is ideal for dealing with customer support concerns, resolving typical issues, aiding account administration and offering general assistance. Which of the following applications can you relate to this? (1)
- (i) Automatic Number Plate Recognition (ii) Alexa
- (iii) Smart Chatbot (iv) Spam filters
31. An AI model uses input only from the dynamic environment that does not include any labelled data. It uses a behavioural learning model and improves as it learns about the environment. As the learning agent interacts with the environment while moving from one state to another, it is rewarded for success but penalized for failure. Identify the learning model. (1)
- (i) Supervised Learning (ii) Unsupervised Learning
- (iii) Reinforcement Learning (iv) All of the above
32. There is a visual representation question in an online test where students have to observe and write two statements about it in their notebooks. The question includes an image of a park where children are playing. Some elderly people are sitting in the park. The park looks very well maintained due to greenery. The students submitted their answer sheets and the teacher found variations in the submissions of six students. (1)

**Student 1:**

Statement 1: The park is surrounded by only trees.

Statement 2: There are 5 girls and 4 boys.

**Student 2:**

Statement 1: The park is surrounded by flowers and trees.

Statement 2: An old man and women are sitting on a tree.

**Student 3:**

Statement 1: There are 4 girls and 3 boys in the park.

Statement 2: Two boys are sliding and one is playing on the see-saw.

**Student 4:**

Statement 1: There are only 2 girls playing in the park.

Statement 2: An old man and women are sitting on a bench.

**Student 5:**

Statement 1: The park is surrounded by trees and flowers.

Statement 2: Two girls are sitting on a bench.

**Student 6:**

Statement 1: Two girls are skipping and two are playing on the see-saw.

Statement 2: Two old women are playing on the see-saw.

However, the teacher found that one student had written both statements wrong while another had written both statements right. The remaining students had written one true and one false description of the image. Can you answer the following while keeping this in mind?

- (i) How many girls are there in the park?
- (ii) How many boys are there in the park?
- (iii) How many children are playing on the see-saw?
- (iv) Are there any flowers or trees in the park?
- (v) Where are the old man and women sitting?
- (vi) How many elderly people are there in the park?
- (a) (i) 5; (ii) 4; (iii) 1; (iv) No; (v) Tree; (vi) 1
- (b) (i) 4; (ii) 3; (iii) 3; (iv) Yes; (v) Bench; (vi) 2
- (c) (i) 6; (ii) 4; (iii) 2; (iv) No; (v) Tree; (vi) 2
- (d) (i) 3; (ii) 3; (iii) 2; (iv) Yes; (v) Bench; (vi) 2

- 33.** A school uses an AI-based system to manage the learning process by delivering customized study materials. To assign appropriate subjects to students, the system takes into consideration all the factors such as gender, race, ongoing learning, economic level, minority status and previous educational institute. However, because it ignores a fundamental aspect of learning as an ongoing process based on an individual's abilities and knowledge, this approach may lead to a student's future prospects being hidden. What is the significance of this scenario? (1)

- (i) Deep fakes
- (ii) Algorithm bias
- (iii) Safety concerns
- (iv) Explainable AI

## ANSWERS (SAMPLE QUESTION PAPER 1)

1. (iii) Fantastic video! You did an excellent job. You chose accurate images with extremely calming background music. Your explanation of the topic with perfect pronunciation was also quite effective.
2. (iv) What kind of movies do you like?
3. (i) Self-awareness
4. (iii) Statement 1 is correct but Statement 2 is incorrect
5. (iii) (iv) -> (iii) -> (ii) -> (i)
6. (iii) Disk clean up
7. (iii) The labelled data fed with some rules by the developers.
8. (ii) 4Ws canvas -> collecting data-> data cleaning -> choosing the algorithm-> Evaluating the model
9. (i) LZEIA
10. (d) Only (iii)
11. (i) Both A and R are correct and R is the correct explanation of A
12. (iii) Clustering
13. (i) Algorithm
14. (iii) Interpersonal Intelligence
15. (iv) (ii), (iii) and (iv)
16. (iii) EPED RIGLENAN
17. (iii) Automated machine
18. (ii) 1 -> (ii); 2 -> (ii); 3 -> (i); 4 -> (ii)
19. (iii) A is correct but R is incorrect
20. (iii) Hidden Layer -> Algorithms -> Output Layer
21. (iv) (ii), (iii) and (iv)
22. (iii) TRPETAN
23. (iii) Both A and R are true
24. (iii) Input and output layers of neural network process the data.
25. (iii) Clustering -> unknown data set
26. (ii) NLP
27. (iii) Remote employees have a problem that they are getting irrelevant and unwanted mails frequently from different departments. An ideal solution is to use Discord app for communication and email should be used only for formal work messages.
28. (iv) Data Exploration
29. (iii) Natural Language Processing
30. (iii) Smart Chatbot
31. (iii) Reinforcement learning
32. (ii) (i) 4; (ii) 3; (iii) 3; (iv) Yes; (v) Bench; (vi) 2
33. (ii) Algorithm bias

**SAMPLE QUESTION PAPER 2**  
**CLASS X**  
**ARTIFICIAL INTELLIGENCE (417)**  
**TERM 1**

Maximum Marks: 25

Time: 60 Minutes

**General Instructions:**

1. Please read the instructions carefully.
2. This Question Paper is divided into 3 sections, viz., Section A, Section B and Section C.
3. Section A is of 5 marks and has 6 questions on Employability Skills.
4. Section B is of 15 marks and has 20 questions on Subject-specific Skills.
5. Section C is of 5 marks and has 7 Competency-based questions.
6. Do as per the instructions given in the respective sections.
7. Marks allotted are mentioned against each section/question.
8. All questions must be attempted in the correct order.

**Section A**

**Answer any 5 questions out of the given 6 questions.**

(1 x 5 = 5 marks)

1. During the COVID-19 pandemic, government policies resulted in the closure of several schools and teachers were forced to go online in order to ensure that students can continue their studies. Thus, teachers had to develop lesson plans, homework assignments and assessments that were appropriate for online education. But it was not an easy transition. Educators' success is dependent on their knowledge, skills and capabilities for online teaching. Teachers who work online must adjust to new pedagogical concepts and ways of delivery of instructions for which they have not been trained. What do you think are the barriers to effective online education? (1)
  - (i) Language barriers
  - (ii) Cultural barriers
  - (iii) Attitude barriers
  - (iv) Technology barriers
2. Identify the sentence with an idiom that depicts the meaning, "Excessively hard work". (1)
  - (i) My youngest daughter, Alina, is the apple of my eye.
  - (ii) Parul has been burning the candle at both ends by doing a full-time job and preparing for an entrance exam.
  - (iii) Writing a blog on the internet is just a piece of cake.
  - (iv) She sees a movie once in a blue moon because she is busy with her education and part-time job.
3. According to a study conducted at a startup, workers were excited when they started their jobs. But, after a few years, the manager saw an increase in employee absenteeism due to illnesses such as back pain, sleep disorders, headaches as well as increased employee attrition due to long working hours, high workload, tight deadlines, high targets and a lack of job security. Which of the following techniques should the owner use to deal with this situation? (1)
  - (i) Internal motivation
  - (ii) Stress management
  - (iii) Work independently
  - (iv) Violent behaviour
4. **Statement 1:** Stress refers to a physical, mental or emotional strain or tension. (1)  
**Statement 2:** Stress can be positive if taken in the right sense and may result in effective outcomes.
  - (i) Both Statement 1 and Statement 2 are correct.
  - (ii) Both Statement 1 and Statement 2 are incorrect.
  - (iii) Statement 1 is correct but Statement 2 is incorrect.
  - (iv) Statement 1 is incorrect but Statement 2 is correct.
5. Given below are the components of the taskbar in Windows 7. Rearrange the icons from left to right of the taskbar. (1)
  - (a) Date/Time
  - (b) Start Button
  - (c) Notification Area
  - (d) File Explorer
  - (i) (c) -> (a) -> (b) -> (d)
  - (ii) (b) -> (d) -> (c) -> (a)
  - (iii) (d) -> (c) -> (b) -> (a)
  - (iv) (a) -> (b) -> (c) -> (d)



6. Which of the following is not a symptom of a computer affected with virus? (1)
- (i) Computer stops responding (ii) Computer restarts on its own  
(iii) Computer can't open a permanently deleted file (iv) Computer runs very slowly

### Section B

**Answer any 15 questions out of the given 20 questions.** (1 x 15 = 15 marks)

7. Which of the following is incorrect about Narrow AI? (1)
- (i) Narrow AI refers to computer programs that are specifically designed to do a single task.  
(ii) Narrow AI can deliver efficiency through smart automation and integration.  
(iii) Narrow AI employs supervised and labelled learning methods.  
(iv) Narrow AI is capable of doing any intellectual work that a human being can do.
8. Choose the incorrect working of AI life cycle: (1)
- (i) 4Ws Canvas: Who?, What?, Where?, Why?  
(ii) Data Exploration: Data Access and Cleaning  
(iii) Modelling: Model Testing  
(iv) Data Acquisition: Problem Statement
9. Unscramble the letters to find the name of the test that demonstrates the characteristics of true AI system. (1)
- (i) IOSMN (ii) IZLEA (iii) NUITGR (iv) CTIEHS
10. Ethics are loosely defined as a set of moral principles, guiding actions of an individual or a group to determine what is good or right. Identify which of the following is covered in Ethics of AI? (1)
- (a) Bias (b) Explainability  
(c) Emotional Intelligence (d) Accountability  
(i) (a) and (c) only (ii) (a), (b) and (c)  
(iii) (b) and (c) only (iv) (a), (b) and (d)
11. **Assertion (A):** When the desired output occurs, the neural connections causing that outcome become stronger. (1)
- Reason (R):** Learning occurs by repeatedly activating certain specific neural connections over others and this reinforces those connections.
- (i) Both A and R are correct and R is the correct explanation of A.  
(ii) Both A and R are correct but R is NOT the correct explanation of A.  
(iii) A is correct but R is incorrect.  
(iv) A is incorrect but R is correct.
12. A large number of input features can result in poor performance for machine learning algorithms. Which of the following helps in reducing the number of input features? (1)
- (i) Supervised Learning (ii) Decision Tree  
(iii) Classification (iv) Dimensionality Reduction
13. \_\_\_\_\_ assists in analyzing the outcome of each algorithm utilized and selecting the best method to produce the most efficient and accurate outcome. (1)
- (i) Modelling (ii) 4Ws Canvas  
(iii) Evaluation (iv) Data Exploration
14. Kartik is in the eighth grade. He loves books with pictures. He enjoys taking pictures, painting and sketching. He has the ability to see the outside world clearly in his mind and then recreate those pictures in his painting book exactly as they appear. He wishes to pursue a career as a painter. What type of intelligence does he have? (1)
- (i) Reasoning and Logical Intelligence (ii) Linguistic Intelligence  
(iii) Naturalist Intelligence (iv) Spatial Visual Intelligence

15. The efficiency of the model is calculated on the basis of the parameters: (1)
- (a) Precision (b) Accuracy (c) Speed (d) F1 Score  
 (i) (a) and (b) only (ii) (b) and (c) only (iii) (a), (b) and (d) (iv) (a), (b) and (c)
16. Unscramble the letters and find the correct answer. (1)
- Strong AI + Emotional Intelligence = \_\_\_\_\_ AI
- (i) NMHAU (ii) ORNAWR (iii) LENREAG (iv) GALOHRMIT
17. A technology with in-vehicle RADAR and LIDAR sensors provides assistance to drivers to take timely control of the vehicle by alerting them of potential hazards on the road. It also assists drivers with collision warning systems, night vision systems, tyre pressure, fuel level, engine temperature, brake fluid level, etc., and provides a more comfortable driving experience. Which of the following applications can you relate to this? (1)
- (i) Self-driving car (ii) Semi-automatic technology  
 (iii) Augmented Reality (iv) Remote control technology
18. Match Column A with Column B: (1)
- | Column A            | Column B |
|---------------------|----------|
| 1. Chatbots         | (a) CV   |
| 2. Self-driving car | (b) NLP  |
| 3. Snapchat filters |          |
| 4. Siri             |          |
- (i) 1 -> (a); 2 -> (b); 3 -> (b); 4 -> (a)  
 (ii) 1 -> (a); 2 -> (a); 3 -> (b); 4 -> (b)  
 (iii) 1 -> (b); 2 -> (a); 3 -> (a); 4 -> (b)  
 (iv) 1 -> (a); 2 -> (a); 3 -> (b); 4 -> (a)
19. **Assertion (A):** Talking to an NLP-enabled machine is similar to conversing with a person. (1)
- Reason (R):** NLP employs algorithms to analyze and interpret natural language data such as speech and text.
- (i) Both A and R are correct and R is the correct explanation of A.  
 (ii) Both A and R are correct but R is NOT the correct explanation of A.  
 (iii) A is correct but R is incorrect.  
 (iv) A is incorrect but R is correct.
20. Which of the following statements is incorrect? (1)
- (i) Snapchat filters use augmented reality and machine learning.  
 (ii) Siri uses NLP and machine learning.  
 (iii) Netflix uses CV and machine learning.  
 (iv) Self-driving cars use CV and deep learning.
21. Which of the following statements is correct? (1)
- (a) An AI model is a computer program that has been taught to identify specific patterns.  
 (b) An AI model is a human who has been trained to instruct machines.  
 (c) An AI model is a robot that has been programmed to instruct humans.  
 (d) An AI model requires a large amount of data to derive a relationship in the data.
- (i) (a) and (d) only  
 (ii) (b) and (d) only  
 (iii) (a) and (c) only  
 (iv) (a), (c) and (d)

22. Unscramble the letters and find the algorithm that is NOT a Supervised Learning model. (1)
- (i) SGERISNORE (ii) TEIULGCRSN  
(iii) IASFCTIANOSCIL (iv) CISDEINO RETE
23. **Assertion (A):** A pie chart is divided into segments to represent values of different sizes. (1)  
**Reason (R):** Pie chart is very effective when we have so many data series.
- (i) A is false but R is true (ii) A is true but R is false  
(iii) Both A and R are true (iv) Both A and R are false
24. Which of the following is not a layer of neural networks? (1)
- (i) The input layer is used to access data and feed it into neural network.  
(ii) The data layer is used to provide data to input and hidden layer.  
(iii) The hidden layer is used to perform processing by using machine learning algorithms.  
(iv) The output layer gives the final result to the user.
25. Choose the correct option: (1)
- (i) Classification helps in predicting Temperature, Salary, Price, Profit  
(ii) Clustering helps in predicting Yes or No, 1 or 0, Spam or Not Spam  
(iii) Regression helps in predicting recommendation system, search engines, diseases  
(iv) Classification helps in predicting Black or white, Infected or Not Infected
26. 'ASK DISHA' is an inquiry-based chatbot of IRCTC that instantly replies to live queries from users related to questions like cancellation of e-ticket, check refund status, check availability, Tatkal timing, etc. This chatbot uses \_\_\_\_\_. (1)
- (i) Deep Learning (ii) NLP  
(iii) Problem Statement (iv) Dimensionality Reduction

### Section C Competency-Based Questions

**Answer any 5 questions out of the given 7 questions.** (1 x 5 = 5 marks)

27. Suppose you are working as a librarian in ABC Public School. Your duty is to organize books by class, subjects and authors. But the library doesn't have any database system and all books are mixed up. Thus, you encounter several problems when looking for a particular book. In order to find a book, the library requires an effective technique. So you recommend to the management for the creation of a database of books, after which the books are categorized into shelves so that students can quickly search for them. Taking this as a problem, choose which of the following would be the ideal problem statement template. (1)
- (i) Librarian and students are facing problem regarding searching for books in a library. An ideal solution would be to assign a duty to the student to find books in the library.  
(ii) Librarian and students are facing problem regarding searching for books in a library. An ideal solution would be to create a database of books and place books on shelves according to category.  
(iii) Librarian and students are facing problem regarding searching for books in a library. An ideal solution would be to restrict the entry of students in the library.  
(iv) Librarian and students are facing problem regarding searching for books in a library. An ideal solution would be to close the library.
28. (a) With more and more data, an algorithm becomes better and more accurate. (1)  
(b) We can choose from various techniques such as Regression, Classification, Clustering, depending on the data set.  
(c) Algorithms are mainly used in pattern recognition which help in deriving meaningful insights and describe the data better to the users.

The above points are regarding algorithms. Which stage of AI project life cycle requires algorithms?

- (i) Problem Scoping (ii) Data Acquisition  
(iii) Modelling (iv) Evaluation

29. Customer churn or attrition is one of the toughest challenges for every organization. Acquiring a new client is more expensive than retaining an existing customer. The customer churn directly affects the company's operating costs and market spending. This happens if a consumer is no longer a paid customer of a certain company. Using an AI application, it is possible to identify a customer's feelings with data sets such as phone records, web chats and feedback on social media platforms. Which of the following domains can help an organization predict customer churn? (1)
- (i) Metrics (ii) Computer Vision  
(iii) Natural Language Processing (iv) Data Science
30. It is an application which offers appropriate results on the basis of the same search behaviour or user intention, so people will find what they need. It not only supports voice-enabled queries but also offers real-time auto-complete suggestions based on factors such as browsing history, the intention commonly associated with the words used and best ranked contents from comparable searches. Which of the following applications can you relate to this? (1)
- (i) Siri (ii) Alexa (iii) Search Engine (iv) Chatbot
31. A teacher instructs the students to draw and colour five geometric objects in different colours. The sheets provided by the children are then put into an AI machine which is then sorted, based on similar shapes and colours. The model is able to predict if the image is a red circle, a green rectangle, or a white square, etc. This is an example of: (1)
- (i) Neural Networks (ii) Supervised Learning  
(iii) Unsupervised Learning (iv) Reinforcement Learning
32. Local shopkeepers filed an FIR along with a fellow shopkeeper who was injured while fighting off thieves who tried to loot his shop at gunpoint in broad daylight. The eyewitnesses gave the following contradicting statements of the incident: (1)
- There were five people with weapons and three people with weapons.
  - Two people were in black clothes and had a pistol.
  - They arrived in a black vehicle with two gunmen.
  - The incident took place at 15 hours and there were 6 persons.
  - Three people were in black clothes and one carried a pistol.
  - A man in a black shirt hit the shopkeeper on the head and wrist.
- Only one of the six eyewitnesses provided a complete description of this incident when the FIR was registered. One true and one false information was provided by each of the other five. Can you identify the following keeping this in mind?
- (a) How many people have been there?  
(b) What have they been wearing?  
(c) How many people had the weapon?  
(d) Where did the gangster hit the shopkeeper?  
(e) How did they get to the site of the incident?  
(f) What was the incident's actual time?
- (i) (a) three, (b) black shirts, (c) one, (d) head only, (e) black car, (f) 5 pm  
(ii) (a) five, (b) black shirts, (c) three, (d) head and wrist, (e) black jeep, (f) 3 pm  
(iii) (a) three, (b) white shirts, (c) two, (d) head and wrist, (e) black jeep, (f) 3 pm  
(iv) (a) six, (b) black shirts, (c) two, (d) head and wrist, (e) black jeep, (f) 3 pm
33. According to *The New York Times*, Facebook users who viewed a video of Black males on a British tabloid were asked, "Would you like to keep viewing videos of primates (apes and monkeys)?" after seeing the video. As a result, the company disabled the AI function that made the recommendation, apologized for the "unacceptable error" and began an investigation into what went wrong. What do you think the company found as the reason of this incident? (1)
- (i) Gender bias (ii) Biased data fed into the machine  
(iii) Data Privacy (iv) Data Availability

## ANSWERS (SAMPLE QUESTION PAPER 2)

1. (iv) Technology barriers
2. (ii) Parul has been burning the candle at both ends by doing a full-time job and preparing for another entrance exam.
3. (ii) Stress management
4. (i) Both Statement 1 and Statement 2 are correct
5. (ii) (b) → (d) → (c) → (a)
6. (iii) Computer can't open a permanently deleted file
7. (iv) Narrow AI is capable of doing any intellectual work that a human being can do.
8. (iii) Modelling : Model Testing
9. (iii) NUITGR
10. (iv) (a), (b) and (d)
11. (i) Both A and R are correct and R is the correct explanation of A
12. (iv) Dimensionality Reduction
13. (iii) Evaluation
14. (iv) Spatial Visual Intelligence
15. (iii) (a), (b) and (d)
16. (iii) LENREAG
17. (iii) Augmented Reality
18. (iii) 1 → (b); 2 → (a); 3 → (a); 4 → (b)
19. (i) Both A and R are correct and R is the correct explanation of A
20. (iii) Netflix uses CV and machine learning
21. (i) (a) and (d) only
22. (ii) TEIULGCRSN
23. (ii) A is true but R is false
24. (ii) The data layer is used to provide data to input and hidden layer.
25. (iv) Classification helps in predicting Black or white, Infected or Not Infected
26. (ii) NLP
27. (ii) Librarian and students are facing problem regarding searching books in a library. An ideal solution would be to create a database of books and place books on shelves according to category.
28. (iii) Modelling
29. (iii) Natural Language Processing
30. (iii) Search Engine
31. (iii) Unsupervised Learning
32. (ii) (a) five , (b) black shirts, (c) three, (d) head and wrist, (e) black jeep, (f) 3 pm
33. (ii) Biased data fed into the machine