

ATOMIC ENERGY CENTRAL SCHOOL-1, HYDERABAD
PERIODIC TEST-III EXAMINATION, 2025-'26

Class: X

Duration: 1½ hours

Subject: AI (Artificial Intelligence)

Max. Marks: 40

General Instructions:

1. This Question Paper consists of two sections: Section-A & Section-B
2. All questions of a particular section must be attempted in the correct order.

Section-A

1. Answer any 5 out of the given 6 questions: (1 X 5 = 5)

- i. What is the primary goal of Computer Vision?
(A) To understand and interpret visual information from the world
(B) To simulate human brain activity
(C) To create 3D models from images
(D) To develop algorithms for natural language processing ()
- ii. Which of the following is an application of Computer Vision?
(A) Speech recognition (B) Autonomous vehicles
(C) Text to speech conversion (D) Chatbot development ()
- iii. What does the pixel value represent in an image?
(A) Width of the pixel (B) Brightness or colour of the pixel
(C) Height of the pixel (D) Resolution of the pixel ()
- iv. What technology does Google's Search by Image feature rely on?
(A) Speech recognition (B) Computer Vision
(C) Data compression (D) Text-based search only ()
- v. What happens when an image has more pixels?
(A) The image becomes larger but less detailed
(B) The image appears blurry
(C) The image looks more detailed and closer to the original
(D) The image changes its format automatically ()
- vi. In grayscale images, a pixel value of 255 represents:
(A) Black (B) White
(C) Gray (D) Transparent ()

2. Answer any 5 out of the given 6 questions: (1 X 5 = 5)

- i. What is the purpose of NLP in AI?
(A) To make decisions
(B) To help machines understand and use human language
(C) To improve computer programming
(D) To recognize images ()

- ii. What does AI typically use to find patterns and solve problems?
 (A) Direct programming (B) Random guesses
 (C) Machine learning and deep learning (D) Manual input from humans ()
- iii. Which of the following is not a rule that governs languages?
 (A) Syntax (B) Lexicon
 (C) Algorithm (D) Semantics ()
- iv. What do personal assistant like Siri, Cortana and Alexa primarily use to understand human language?
 (A) Image recognition (B) NLP
 (C) Data analysis (D) Machine learning algorithms ()
- v. How can business benefit from using keyword extraction?
 (A) By understanding the grammar of customer feedback
 (B) By enhancing their customer service and addressing customer needs more effectively
 (C) By eliminating irrelevant information from customer feedback
 (D) By generating random content for advertisements ()
- vi. Which stage of NLP converts speech into text and arranges from into sentences and paragraphs?
 (A) Lexical Analysis (B) Syntactic Analysis
 (C) Named Entity Recognition (D) Machine Translation ()

3. Answer any 5 out of the given 6 questions: (1 X 5 = 5)

- i. Computer Vision works on the same phenomena as that of _____,
- ii. _____ refers to the dimensions that determine the number of pixels present on a screen or in an image.
- iii. _____ is the process of identifying or detecting the instances of real-world objects.
- iv. _____ means where the object is located in the image.
- v. Grayscale images are simpler to process and take up less memory compared to colour images. (True / False)
- vi. Computer vision operates at a lower level of abstraction than Image Processing. (True / False)

4. Answer any 5 out of the given 6 questions: (1 X 5 = 5)

- i. _____ is used to produce descriptive text for images, videos or real-world contexts.
- ii. _____ keep track of your choices and references and help in giving relevant recommendations.

- iii. _____provides valuable insights into public opinions about a business on social media.
- iv. _____ are generated using speech-to-text and image-to-text features on a real time basis.
- v. Stemming is better than Lemmatization. (True / False)
- vi. BoW is a technique used for extracting features from the textual data.(True / False)

Section-B

Answer any 3 of the following 4 questions:

(2 X 3 = 6)

- 5. What is the concept of Computer Vision?
- 6. How are face filters used in Computer Vision?
- 7. What is classification in Computer Vision?
- 8. What role does Computer Vision play in self-driving cars?

Answer any 3 of the following 4 questions:

(2 X 3 = 6)

- 9. Define Semantics.
- 10. Write the features of natural languages.
- 11. Why is NLP important?
- 12. What do you understand by the term text classification?

Answer any 1 of the following 2 questions:

(4 X 1 = 4)

- 13. Differentiate between Computer Vision and Image Processing.
- 14. Describe the applications of facial recognition in Computer Vision

Answer any 1 of the following 2 questions:

(4 X 1 = 4)

- 15. Explain any 4 stages of NLP.
- 16. Write any 4 differences between smart-bot and script-bot.

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