



**BK BIRLA CENTRE FOR EDUCATION**  
SARALA BIRLA GROUP OF SCHOOLS  
SENIOR SECONDARY CO-ED DAY CUM BOYS' RESIDENTIAL SCHOOL  
PERIODIC TEST - 02 (2024-25)



**ARTIFICIAL INTELLIGENCE (843)**

**Class : XI SCIENCE/COMMERCE/ARTS (SUBJECT-5)**

**Date : 06-12-2024**

**Admission No.:**

**Duration : 1 Hr**

**Max. Marks : 25**

**Roll No.:**

**General Instructions:**

Try to attempt all questions in the given order.

All questions are compulsory.

The Question Paper is divided into three sections Section A to C.

- Section A has 10 questions and carry 1 mark each.
- Section B has 6 questions and carry 2 marks each.
- Section C has 1 question and carry 3 marks each.

**Section-A**

1. \_\_\_\_\_ is a branch of artificial intelligence that deals with the interaction between computers and humans using the natural language. 1  
(a) Computer Vision (b) Natural Language Processing (c) Computer Language Processing  
(d) Human Language Processing
2. Which feature of NLP helps in understanding the emotions of the people mentioned with the feedback ? 1  
(a) Virtual Assistant (b) Sentiment Analysis (c) Text classification  
(d) Automation Summarization
3. The main function of smart assistants like Apple Siri and Amazon Alexa is 1  
(a) Neural Network (b) Computer Vision (c) Data Science (d) Natural language Processing
4. When a machine possesses the ability to mimic the following human traits, it is said to have artificial intelligence. Identify the positive traits that an AI machine should possess. 1  
(i) make decisions (ii) bias (iii) predict (d) learn and improve on its own.  
(a) (i) and (iii) only (b) (i), (iii) and (iv) only (c) (ii) and (iv) only (d) (i), (ii) and (iv) only.
5. The Indian Government banned a few apps stating – “servers in the hostile nation are receiving and using the acquired data improperly”. Which terminology suits best for this nation ? 1  
(a) AI Ethics (b) Data Privacy (c) AI Bias (d) AI Access
6. Amazon had been working on a secret AI recruiting tool. The machine-learning specialists uncovered a big problem: their new recruitment engine did not like women. The system taught itself that male candidates were preferable. It penalized resumes that included the word “women”. This led to the failure of the tool. This is an example of : 1  
(a) Data Privacy (b) AI Access (c) AI Bias (d) Data Exploration
- 7 **Assertion & Reasoning:**  
Statement 1: Sentiment analysis can be used to gauge customer satisfaction with a product.  
Statement 2: Sentiment analysis can identify positive and negative words in customer reviews.

- (a) Statement 1 is correct, but statement 2 is incorrect. 1  
 (b) Statement 1 is incorrect, but statement 2 is correct.  
 (c) Both the statements are correct.  
 (d) Both the statements are incorrect.
8. Statement 1: Natural Language Processing does not use different techniques like parsing techniques, text recognition, and parts of speech tagging for implementation. 1  
 Statement 2: The range of NLP also include generating sentences in natural languages by computers just like humans do.  
 (a) Statement 1 is correct, but statement 2 is incorrect.  
 (b) Statement 1 is incorrect, but statement 2 is correct.  
 (c) Both the statements are correct.  
 (d) Both the statements are incorrect.
9. Statement 1: Transparency in AI is not always achievable or desirable, especially for complex deep learning models. 1  
 Statement 2: Explaining the inner workings of complex AI might not be easily understandable and could compromise intellectual property.  
 (a) Statement 1 is correct, but statement 2 is incorrect.  
 (b) Statement 1 is incorrect, but statement 2 is correct.  
 (c) Both the statements are correct.  
 (d) Both the statements are incorrect.
10. Statement 1: Developing ethical guidelines for AI is unnecessary because technology will eventually solve its own ethical issues. 1  
 Statement 2: Technological advancements will lead to AI systems that are inherently fair and unbiased.  
 (a) Statement 1 is correct, but statement 2 is incorrect.  
 (b) Statement 1 is incorrect, but statement 2 is correct.  
 (c) Both the statements are correct.  
 (d) Both the statements are incorrect.

### Section- B

11. Differentiate between Extraction based and Abstraction based summarisation. 2
12. Define the following: (Any two with examples) 2  
 (a) Intent (b) Entity (c) Dialog
13. List the different phases of NLP (Natural Language Processing). Explain any two: 2
14. Give some examples where AI is being used for good. 2
15. What do you understand about AI bias ? List the types and explain it briefly with examples. 2
16. Imagine you are a data scientist working on training an AI model for facial recognition. 2  
 During the developed phase, you discover that the AI system shows a significant bias against individuals with darker skin tones, leading to higher error rates in identifying them accurately. As an ethical data scientist, how would you approach this issue to ensure fairness and minimize discrimination in the facial recognition AI Model ?

### Section- C

17. Discuss different strategies and techniques for Mitigating bias in AI. Explain them briefly. 3

\*\*\*\*\* BEST OF LUCK \*\*\*\*\*