



**BK BIRLA CENTRE FOR EDUCATION**  
**SARALA BIRLA GROUP OF SCHOOLS**  
**SENIOR SECONDARY CO-ED DAY CUM BOYS' RESIDENTIAL SCHOOL**  
**MID TERM EXAMINATION 2024-25**  
**ARTIFICIAL INTELLIGENCE**



**Class: VIII**  
**Date: 19.09.2024**  
**Name: .....**

**Duration: 2 hrs.**  
**Max Marks: 50**  
**Exam No. :**

**General Instructions:**

1. Please read the instructions carefully.
2. This Question Paper consists of 16 questions in two sections: Section A & Section B.
3. Section A has Objective type questions (MCQ, Fill in the blanks) whereas Section B contains Subjective type questions.
4. All questions of a particular section must be attempted in the correct order.
5. **SECTION A - OBJECTIVE TYPE QUESTIONS (24 MARKS):**
  - i. This section has 02 questions.
  - ii. Marks allotted are mentioned against each question/part.
  - iii. There is no negative marking.
  - iv. Do as per the instructions given.
6. **SECTION B – SUBJECTIVE TYPE QUESTIONS (26 MARKS):**
  - i. This section has 14 questions.
  - ii. A candidate has to do 11 questions.
  - iii. Do as per the instructions given.
  - iv. Marks allotted are mentioned against each question/part.

**SECTION A: OBJECTIVE TYPE QUESTIONS**

**I. Multiple Choice Questions: (Answer any twenty)**

**(20 X 1 = 20)**

- (1) Which of the following is an example of a reinforcement learning task ?
  - (a) Training a self-driving car to navigate the roads
  - (b) Teaching a robot to play a game like chess
  - (c) Optimizing a portfolio of investments
  - (d) Detecting fraudulent transactions in real time
- (2) Which of the following is NOT a type of machine learning ?
  - (a) Supervised learning
  - (b) Unsupervised learning
  - (c) Reinforcement learning
  - (d) Deep Learning
- (3) Which of the following is NOT a characteristics of machine learning ?
  - (a) Ability to learn from data
  - (b) Ability to make predictions
  - (c) Ability to reason and make decisions
  - (d) Ability to adapt to new situations
- (4) Which of the following applications of machine learning is having a significant impact on the world ?
  - (a) Self driving cars
  - (b) Face recognition
  - (c) Fraud detection
  - (d) All of these
- (5) In unsupervised learning, the algorithm is provided with which of the following ?
  - (a) A set of labelled training data
  - (b) A set of unlabelled training data
  - (c) A set of rules and instructions
  - (d) A human expert to guide the learning process

- (6) 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
- (7) 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
- (8) 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
- (9) 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
- (10) 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
- (11) A leading multinational company that operates on a chain of hypermarkets and grocery stores deployed an AI application to make it easier for employees to keep their stores running smoothly. They used thousands of video cameras, weighted sensors on shelves, and other technologies that can tell employee when certain products are starting to go bad. One of the tasks of the application is to identify bananas that had started to turn brown, eliminating the need for employees to manually inspect fruit. Which of the following domains is used to achieve this ?
- (a) Data sciences
  - (b) Computer Vision
  - (c) Natural Language Processing
  - (d) Fuzzy logic
- (12) **Statement 1** : The drone technology helps farmers spot intrusions, crop diseases, predict the amount of crop production, and saves time and avoids the difficulties of physical manual inspections.
- Statement 2** : The statement given above is an example of Natural language Processing.
- (a) Both Statement 1 and Statement 2 are correct
  - (b) Both Statement 1 and Statement 2 are incorrect
  - (c) Statement 2 is correct and Statement 1 is incorrect
  - (d) Statement 1 is correct and Statement 2 is incorrect
- (13) ..... are images that contain text you have to type in before you can access a website.
- (a) CAPTCHAS
  - (b) PNG
  - (c) JPG
  - (d) TIFF
- (14) Which of the following is an application of computer vision ?
- (a) Robotics
  - (b) Medicine
  - (c) Security
  - (d) All of these
- (15) **Assertion (A)** : Automatic car allows you to identify objects at the back and raise an alarm while reversing.
- Reason (R)** : Automatic car won't move back if there is any other object at the back.
- (a) Both A and R are true and R is the correct explanation of A.
  - (b) Both A and R are true but R is not the correct explanation of A.
  - (c) A is true but R is false
  - (d) A is false but R is true
- (16) ..... is a branch of artificial intelligence that deals with the interaction between computers and humans using the natural language.
- (a) Computer Vision
  - (b) Natural language processing
  - (c) Computer language Processing
  - (d) Human Language Processing

- (17) ..... Bots work around a script which is programmed in them.  
 (a) Script (b) Smart (c) Sentiment (d) Analysis
- (18) ..... analysis is the interpretation and classification of emotions (positive, negative and neutral) within text data using text analysis techniques.  
 (a) Natural (b) Computer (c) Sentiment (d) Language
- (19) No or little language processing skills are required while making ..... bots.  
 (a) Script bot (b) Smart bot (c) Stem bot (d) Language bot
- (20) The ..... vacuum cleaner robot is a little, self-contained cleaning robot that you can control to clean rugs, carpets and floors.  
 (a) Roomba (b) Sophia (c) Nao (d) Eagle 2.0
- (21) The ..... has been called an “Ultra compact assistant robot” due to its small size and kind demeanour.  
 (a) Roomba (b) Sophia (c) Wakamaru (d) Nao
- (22) ..... bots are used to automate repetitive operations like filling out forms to post advertisements on websites.  
 (a) Hardware (b) Internet (c) Software (d) Multiuser
- (23) ..... is an artificially intelligent robot toy with a strong personality and a range of emotions.  
 (a) Sophia (b) Cozmo (c) Nao (d) Eurobot
- (24) Among the top producers of weeding robots worldwide are Nexus Robotics and Naio Technologies, both from :  
 (a) Spain (b) USA (c) Japan (d) France
- (25) Which of the following is the first Humanoid Robot teacher in India ?  
 (a) Sophia (b) Eagle 2.0 (c) Roomba (d) None

**II. Fill in the blanks. (Answer any four)**

**(4 X 1 = 4)**

- (1) In June 2005, a ..... at a hospital in Philadelphia malfunctioned during surgery.
- (2) TAY is an artificial intelligence chatter bot and is named “Tay” after the acronym .....
- (3) An Uber self-driving SUV struck and killed a .....in tempe, Arizona.
- (4) ..... consists of the standards of behaviour our society accepts.
- (5) ..... are AI-generated video or audio content with an intent to deceive.

**SECTION B: SUBJECTIVE TYPE QUESTIONS**

**III. Short Answer Type Questions : (Answer any seven)**

**(7 X 2 = 14)**

- (1) Differentiate between Artificial intelligence and Machine Learning.
- (2) Define Ethics. Give two examples where AI is being used for good.
- (3) Your younger sibling has spent a lot of time in preparing a 3D model of India Gate which is 3 ft tall and kept it on ground for safety concerns. Your mother started the autonomous robot to clean the floor and it tries to clean the area near the model but it falls and breaks.  
 (a) Who can be held liable for damages caused by autonomous systems ?  
 (b) List two AI Ethics.
- (4) Explain the difference between data and information ?
- (5) What is personal data, and how can you keep your data safe online ? Explain.
- (6) Explain the importance of images in Artificial Intelligence. Give one example in support of your answer.

- (7) Most of the virtual assistants like Google assistant, Cortana, Siri, Alexa, etc. have female voices. Do you consider this as a bias ? Why is a female voice chosen over any other and why are other voices not so popular ? Justify it.
- (8) How are robots used in the domestic sector ? Explain with a few examples.

**IV. Long Answer Type Questions : (Answer any four)**

**(4 X 3 = 12)**

- (1) Explain the differences between supervised learning, unsupervised learning and reinforcement learning.
- (2) As Artificial Intelligent machines become more and more powerful, their ability to accomplish tedious tasks is becoming better. Hence, it is now that AI machines have started replacing humans in factories. While people see it in a negative way and say AI has the power to bring mass unemployment and one day, machines would enslave humans, on the other hand, other people say that machines are meant to erase our lives. If machines over take monotonous and tedious tasks, humans should upgrade their skills to remain their masters always. What according to you is a better approach towards this ethical concern ? Justify your answer.
- (3) What are the privacy risks associated with social media use, and what steps can individuals take to protect their personal information on social media platforms ? Explain.
- (4) Explain any three areas where Computer Vision is being used.
- (5) Compare Script-bot and Smart-bot using any three points.
- (6) Write advantages and disadvantages (three each) of using Robots in Warfare.

\*\*\*\*\* ALL THE BEST \*\*\*\*\*