BCM SCHOOL BASANT AVENUE DUGRI LUDHIANA

CLASS X

SUBJECT ARTIFICIAL INTELLIGENCE

ASSIGNMENT

SECTION A: OBJECTIVE TYPE QUESTIONS

Q.1.

i. There was a young boy who was fond of playing football and wanted to become a football player. He joined a football academy and came regularly to practice but never made it to the team. For four days, the boy didn't show up for practice. The matches had begun and his team was playing the finals. He showed up for the finals. He went up to the coach and pleaded him to let him play for the match. The coach had never seen the boy plead like this before. The Game started and the boy played like a ball on fire. Every time he got the ball, he shot a goal. Needless to say, he was the star of the game and his team won. What type of motivation did the boy demonstrate?

(a) External

(b) Internal

(c) Both internal and external

(d) Not any specific type of motivation

ii. Which one of the following is full form of SMART, in relation to Goal setting?

(a) Specific, Measurable, Achievable, Realistic, Time bound

(b) Specific, Miser, Achievable, Realistic, Time bound

(c) Specific, Measurable, Achievable, Reliable, Time bound

(d) Specific, Measurable, Achievable, Realistic, Terrific

iii. Here are the steps that take place when starting a computer. Rearrange the steps in the correct order.

(i) Desktop appears after login
(ii) Login screen appears
(iii) Power on Self-Test (POST) starts
(iv) Operating system starts
(v) Welcome screen appears

(a) (i) (ii)(iii) → (iv) → (v)
(b) (b) (ii) (iv) → (iii) → (v) → (i)

(c) (iii) (iv)->(v) → (ii) → (i)->(iv)

(d) (iii) → (v) → (iv) → (ii) → (i)

iv. A false belief or opinion about something is called a.....

v. According to the concept of sustainable development, the environment and development are___

issues.

(a) Inseparable

(c) Independent

(b) Separate

(d) Unrelated

vi. Rahul is unable to score good marks and often fails to submit his assignments on time. If this situation continues, he might suffer from which of the stress

(a) Financial
(b) Physical
(c) Mental
(d) Social

Q.2.

i. Rini Simon is a popular news reader. She possess the ability to speak clearly and is always able to convey the content skillfully to the audience. She possesses intelligence.

(a) Mathematical Logical Reasoning

(b) Musical Intelligence

(c) Spatial Visual Intelligence

(d) Linguistic Intelligence

ii. Statement 1: The basis of decision making depends upon the availability of information and how we experience and understand it.

Statement 2: 'Information' includes our past experience, intuition, knowledge, and self-awareness.

(a) Both Statement 1 and Statement 2 are correct.

(b) Both Statement 1 and Statement 2 are incorrect.

(c) Statement 1 is correct but Statement 2 is incorrect.

(d) Statement 2 is correct but Statement 1 is incorrect.

iii. A business problem wherein we categorize whether an observation is "Safe", "At Risk", or "Unsafe" is an example of

(a) Classification
(b) Clustering
(c) Regression
(d) Dimensionality Reduction

iv. Which of the following is true about neural networks?

(a) Neural Networks tend to perform better with larger amounts of data. (b) Neural Networks tend to perform poorer with larger amounts of data. (c) Neural Networks tend to perform better with smaller amounts of data. (d) Neural Networks need no data

V. In the _____stage of AI Project cycle, we extract the required information from dataset and clean it up in such a way that there exist no errors or missing elements in it.

vi. 2+3=3+2 with respect to programming language, the above statement is an example of

(a) Different semantics, same syntax (c) Same syntax, same semantics

(b) Different syntax, same semantics (d) Different syntax, different semantics

Q.3.

i. Name the humanoid robot with a citizenship.

ii. Assertion (A): We can use histograms when data is in categories (such as "Pop", "Rock", "Jazz", "Hip-Hop" etc).

Reason (R): We use bar charts when we have continuous data (such as a person's height or it weight).

(a) (A) is false but (R) is true
(b) (A) is true but (R) is false

(c) Both (A) and (R) are true

(d) Both (A) and (R) are false

ii. What is the value of precision and recall if FI score is 1?

(a) precision = 0, recall=1

(c) precision = 1, recall = 1

(b) precision = 1, recall=0

(d) precision = 0, recall=0

iii. What is the maximum number of patterns that can be generated for a bit size of 37

meaningful one.

iv. Name the process of removing affixes that result in a word which may or may not be s

V. Identify the step in which we list down all the words which occur in all documents in "bag of

words" algorithm.

(a) Step 1: Text normalisation

(b) Step 2: Create dictionary

(c) Step 3: Create document vector

(d) Step 4: Create document vectors for all documents

vi. A traffic monitoring Al app always predicts a traffic jam inspite of zero traffic on roads. This

is a case of high cost associated with

(a) True Positive

(c) False Negative

(b) True Negative

(d) False Positive

SECTION B

SUBJECTIVE TYPE QUESTIONS

Answer each question in 20-30 words.

Q.6. Communication skills are very important for any business. Explain any two elements of a communication cycle.

Q.7. Goal setting is a very essential factor in your personal life. List all the SMART methods to set the goals. Explain 'A' in brief.

Q.8. What are the measures to increase the performance of a computer system?

Q.9. Write any two misconceptions about the Entrepreneurship.

Q.10. How can an individual contribute to Sustainable Development Goals?

Answer each question in 20-30 words.

Q.11. Are all smart machines AI enabled? Explain.

Q.12. Differentiate between Supervised learning and unsupervised learning.

Q.13. Give two examples of online data collection.

Q.14. Explain the use of AI in medical imaging.

Q.15. Write down the steps to implement bag of words algorithm.

Q.16. What is a confusion matrix? What is it used for?

Answer each question in 20-30 words.

Q.17. How do humans become intelligent? Give two examples.

Q.18. Assume that you are working at My Flight which is a major airlines company and that you have noticed that the way passengers board your planes is an inefficient use of time and resources. On an average, the current boarding system wastes about four minutes per boarding. This wastes about 35000 rupees per day across all flights. The boarding protocols make the company less competitive and thus create an unfavourable brand image. Using a modified boarding, passengers can board the plane from the sides rather than from the back to the front. This will eliminate four minutes of waste. Taking this as the problem, frame the problem statement

Q.19. Explain learning based approach with an example.

0.20. We, human beings, can read, write and understand many languages. But computers can understand only machine language. Do you think we might face any challenges if we try to teach computers how to understand and interact in human languages? Explain.

Q.21. A lot of times people face the problem of a sudden downpour. People wash clothes and put them out to dry but due to unexpected rain, their work gets wasted. Thus, an AI model has been created which predicts if there will be rain or not. The confusion matrix for the same is:

The Confusion Matrix	Actual: 1	Actual: 0
Predicted: 1	5	0
Predicted: 0	45	50

Find out Accuracy, Precision, Recall, and F1 Score for the given problem: