

Class X

Max. Marks 25

Subject : Artificial Intelligence.

Time : 1 hr

General Instructions:

1. Please read the instructions carefully
2. This Question Paper is divided into 03 sections, viz., Section A, Section B and Section C.
3. Section A is of 05 marks and has 06 questions on Employability Skills.
 - a) Questions numbers 1 to 4 are one mark questions. Attempt any three questions.
 - b) Questions numbers 5 and 6 are two marks questions. Attempt any one question.
4. Section B is of 12 marks and has 12 questions on Subject Specific Skills.
 - a) Questions numbers 7 to 12 are one mark questions. Attempt any four questions.
 - b) Questions numbers 13 to 18 are two marks questions. Attempt any four questions.
5. Section C is of 08 marks and has 03 competency-based questions.
 - a) Questions numbers 19 to 21 are four marks questions. Attempt any two questions.
6. Do as per the instructions given in the respective sections.
7. Marks allotted are mentioned against each section/question.

SECTION A

(3 + 2 = 5 marks)

1	Mention any 2 characteristics, one should have to be a successful entrepreneur.	1
2	Enlist any 2 SDGs which are formulated to address the problems related to Environment.	1
3	Give 2 examples for Service type of business	1
4	Which organization has made the Sustainable Development Goals.	1
	Answer any 1 question out of the given 2 questions. Each question is of 2 mark.	
5	Write about any 2 ways to reduce/reuse/recycle for energy efficiency which can be included for sustainable development.	2
6	List out the different types of business enterprises . Give example for each of them.	2

SECTION B**(4 + 8 = 12 marks)**

	Answer any 04 questions out of the given 06 questions 1 x 4 = 4	
7	Why should we avoid using the training data for evaluation?	1
8	How many tokens are there in the sentence given below? Goal setting allows you to choose the right path and to have a clear vision as to what we want to do in life.	1
9	What is True positive in Evaluation ?	1
10	Give 2 applications of NLP	1
11	Write sentences to show the same word with different meaning.	1
12	What is Term Frequency ?	1

Answer any 04 questions out of the given 06 questions**(2x4=8)**

13	Compare and contrast Stemming and lemmatization explain with example.	2
14	What is Confusion matrix . Draw a Confusion matrix.	2
15	What are stop words ? What is the purpose of removing stop words from corpus ?	2
16	Differentiate between script bot and smart bot.	2
17	Give an example of a situation wherein false negative would have a high cost associated with it.	2
18	Explain the term Bag of Words in Language Processing.	2

SECTION C

(2 x 4 = 8 marks)

(COMPETENCY-BASED QUESTIONS)

Answer any 02 questions out of the given 03 questions

19	<p>Create a 4W Project canvas for the following .</p> <p>As more and more new technologies get into play, risks will get more concentrated into a common network. Cyber security becomes extremely complicated in such scenarios and goes beyond the control of firewalls. It will not be able to detect unusual activity and patterns including the movement of data.</p> <p>Think how AI algorithms can scrape through vast amount of logs to identify susceptible user behavior. Use an AI project cycle to clearly identify the scope, how will you collect data.</p>	4
20	<p>Calculate TFIDF for the following documents.</p> <p>Document A = 'the man went out for a walk' document B = 'the children sat around the fire'</p> <p>Draw document vector for TF, DF, IDF</p>	4
21	<p>Let us say we are using an AI model to predict if there will be a delay in production in a factory. To understand the efficiency of this model, we need to check if the predictions which it makes are correct or not. Thus, there exist two conditions which we need to ponder: Prediction and Reality.</p> <p>Here is the sample data for outcomes:</p> <p>TP- 120 TN - 85 FP – 62 FN- 70</p> <p>Considering all the possible situations make a Confusion matrix for the above situation. Also calculate Accuracy, F1 Score.</p>	4