

PRE-BOARD / X / ARTIFICIAL INTELLIGENCE / 2020-21

Time: 2½ Hrs.

MM : 50

General Instructions :

- i. This Question Paper consists of 46 questions grouped into two parts viz. Part A: Employability Skills and Part B: Subject Specific Skills.
- ii. This question paper contains $(11 + 35 =)$ 46 questions out of which $(7 + 27 =)$ 34 questions are to be answered.
- iii. All questions of a particular part/section must be attempted in the correct order.

PART A

Q1. Attempt any 4 questions out of 6 ((MCQ/ FILL IN THE BLANKS/ DIRECT QUESTIONS ETC.)

1	_____ is helpful when trying to understand others' thoughts and feelings. (Fill up the blank with most appropriate word)	1
2	_____ refers to a "physical, mental, or emotional strain or tension". (Fill up the blank with most appropriate word)	1
3	The full form of BIOS is _____. (Fill up the blank with most appropriate word)	1
4	_____ entrepreneurship is the process where women organise all the factors of production. (Fill up the blank with most appropriate word)	1
5	_____ is a new concept wherein old, used material is modified and a new product is created to share with needy/interested people. (Fill up the blank with most appropriate word)	1
6	_____ and _____ are the two types of motivation . (Fill up the blank with most appropriate word)	1

Q2. Attempt any 3 questions out of 5 (SHORT ANSWER TYPE QUESTIONS)

1	Name any 4 barriers to effective communication. Write any two ways of overcoming these barriers.	2
2	What are Stressors ? What do you mean by "ABC" of stress management?	2
3	Write two ways of creating a folder in file explorer.	2
4	Mention any four Myths of Entrepreneurship.	2
5	Write any 4 ways that can make waste management easier.	2

PART B

Q3. Attempt any 20 questions out of 24 ((MCQ/ FILL IN THE BLANKS/ DIRECT QUESTIONS ETC.))

1	Which type of intelligence relates to religious and spiritual awareness ?	1
2	_____ and AI can definitely open the doors to humanoids and self-driving cars. (Fill up the blank with most appropriate word)	1
3	_____ is a domain of AI related to data systems and processes, in which the system collects numerous data, maintains data sets and derives meaning/sense out of them. (Fill up the blank with most appropriate word)	1
4	Define the term “Machine learning”.	1
5	What do you mean by Deep Learning?	1
6	All the virtual assistants have a female voice. ” Which part of AI does this example highlight?	1
7	Which type of dataset is used by unsupervised learning model ?	1
8	Regression model works on _____ data. (Fill up the blank with most appropriate word)	1
9	What do you mean by Rule Based approach ?	1
10	What is hidden layer in neural network ?	1
11	Which stage of AI project cycle has accuracy, precision , recall and F1 score ?	1
12	The _____ learning models are used to identify relationships, patterns and trends out of the data which is fed into it.(Fill up the blank with most appropriate word)	1
13	What do you mean by NLP?	1
14	How are virtual assistant helpful ?	1
15	Name the two things that “ Bag of words ” process gives us.	1
16	_____ is a term used for any word or number or special character occurring in a sentence. (Fill up the blank with most appropriate word)	1
17	What is the main difference between human and computer language?	1
18	How is Text classification different from sentiment analysis?	1
19	Mention the two parameters used in F1 score .	1
20	What do you mean by Evaluation stage?	1
21	What is confusion matrix ?	1

22 How is true positive different from false positive ? 1

23 What will be the accuracy, if True positive = 0, True negative=90 and total cases are 100? 1

24 What is the difference in the way of calculation made between F1 score and prediction ? 1

Q4. Attempt any 4 questions out of 6 (SHORT ANSWER TYPE QUESTIONS)

1 What is the difference between Interpersonal and Intrapersonal intelligence? 2

2 Briefly explain “Dimensionality Reduction”. In which application area do we use Dimensionality Reduction? 2

3 What is Text Normalization and Corpus in NLP? 2

4 Differentiate between Script bot and smart bot. (Any 2 differences) 2

5 What is the difference between prediction and reality? 2

6 Explain the recall parameter in Evaluation along with the calculation formula. 2

Q5. Attempt any 3 questions out of 5 (LONG/ ESSAY TYPE QUESTIONS)

1 Explain the two application areas of Computer Vision and Natural language processing each. 4

2 Rehan was asked to make an AI project cycle for controlling traffic during peak hours. In one of the stage of project cycle , Rehan used observation, sensors and camera as data collection technique . How can observation, sensors and camera help him to collect the data ? Name the stage in which Rehan will collect the data. 4

3 Explain the process of stemming and lemmatization with the help of examples in NLP? 4

4 a. How is TFIDF useful ? Explain document frequency in IDF. 2+2 =4
 b. Write the significance of stop words and rare words in TFIDF?

5 How can we calculate accuracy in a real life application ? Explain the various parameter used in accuracy along with the definition of accuracy. 4