

CBSE | DEPARTMENT OF SKILL EDUCATION

ARTIFICIAL INTELLIGENCE (SUBJECT CODE 417)

CLASS X (SESSION 2021-2022) BLUE-PRINT FOR SAMPLE QUESTION PAPER FOR TERM – II

Max. Time Allowed: 1 Hour (60 min)

Max. Marks: 25

PART A - EMPLOYABILITY SKILLS (05 MARKS):

UNIT NO.	NAME OF THE UNIT	NO. OF QUESTIONS - VSA (1 MARK EACH)	NO. OF QUESTIONS - SA (2 MARKS EACH)	NO. OF QUESTIONS - LA (4 MARKS EACH)	TOTAL NUMBER OF QUESTIONS
4	Entrepreneurial Skills-II	2	1	-	3
5	Green Skills-II	2	1	-	3
TOTAL QUESTIONS		4	2	-	06
NO. OF QUESTIONS TO BE ANSWERED		Any 3	Any 1	-	04
TOTAL MARKS		3 x 1 = 3 Marks	1 x 2 = 2 Marks	-	05 Marks

PART B - SUBJECT SPECIFIC SKILLS (20 MARKS):

UNIT NO.	NAME OF THE UNIT	NO. OF QUESTIONS - VSA (1 MARK EACH)	NO. OF QUESTIONS - SA (2 MARKS EACH)	NO. OF QUESTIONS - LA (4 MARKS EACH)	TOTAL NUMBER OF QUESTIONS
6	Natural Language Processing	4	4	2	10
7	Evaluation	2	2	1	5
TOTAL QUESTIONS		06	06	03	15
NO. OF QUESTIONS TO BE ANSWERED		04	04	02	10
TOTAL MARKS		4 x 1 = 04 Marks	4 x 2 = 08 Marks	2 x 4 = 08 Marks	20 Marks
TOTAL MARKS		05 (Part A) + 20 (Part B) = 25 MARKS			

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Max. Time Allowed: 1 Hour (60 min)

Max. Marks: 25

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

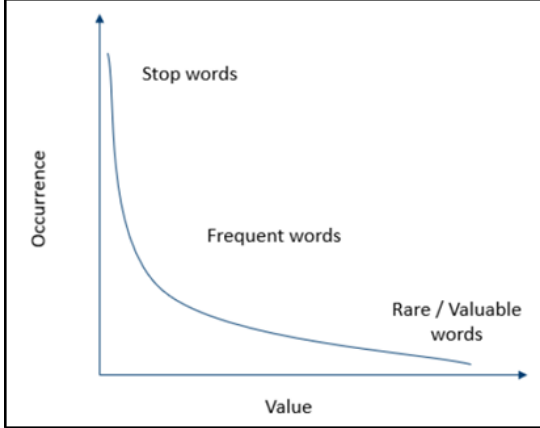
(3 + 2 = 5 marks)

Answer any 3 questions out of the given 4 questions. Each question is of the mark.		1 x 3 = 3
Q.1	Write any two qualities for being a good entrepreneur.	1
Q.2	What is sustainable development?	1
Q.3	Entrepreneurship has a positive impact on society. Write down any two.	1
Q.4	How many sustainable development goals were formulated by the United Nations?	1
Answer any 1 question out of the given 2 questions. Each question is of mark.		2 x 1 = 2
Q.5	"Entrepreneurs are born, not made." Do you agree with this statement? Justify your answer.	2
Q.6	Enlist any 2 SDGs which are formulated to address the problems related to water?	2

SECTION B

(4 + 8 = 12 marks)

Answer any 04 questions out of the given 06 questions		1 x 4 = 4
Q.7	What will be the output of the word " <u>studies</u> " if we do the following: a. Lemmatization b. Stemming	1
Q.8	How many tokens are there in the sentence given below? Traffic Jams have become a common part of our lives nowadays. Living in an urban area means you have to face traffic each and every time you get out on the road. Mostly, school students opt for buses to go to school.	1
Q.9	What is a corpus?	1
Q.10	Identify any 2 stopwords in the given sentence: Pollution is the introduction of contaminants into the natural environment that cause adverse change. The three types of pollution are air pollution, water pollution and land pollution.	1
Q.11	Why should we avoid using the training data for evaluation?	1
Q.12	What should be the value of F1 score if the model needs to have 100% accuracy?	1

Answer any 04 questions out of the given 06 questions		2 x 4 = 8
Q.13	“Automatic summarization is used in NLP applications” . Is the given statement correct? Justify your answer with an example.	2
Q.14	Give an example of a situation wherein false positive would have a high cost associated with it.	2
Q.15	Write any two applications of TFIDF	2
Q.16	Write down the steps to implement bag of words algorithm.	2
Q.17	What is a confusion matrix? What is it used for?	2
Q.18	<p>Explain from the given graph, how the value and occurrence of a word are related in a corpus?</p> 	2

SECTION C

(2 x 4 = 8 marks)

(COMPETENCY-BASED QUESTIONS)

Answer any 02 questions out of the given 03 questions		
Q.19	<p>Through a step-by-step process, calculate TFIDF for the given corpus</p> <p>Document 1: <i>Johny Johnny, Yes Papa,</i></p> <p>Document 2: <i>Eating sugar? No Papa</i></p> <p>Document 3: <i>Telling lies? No Papa</i></p> <p>Document 4: <i>Open your mouth, Ha! Ha! Ha!</i></p>	4
Q.20	<p><i>The world is competitive nowadays. People face competition in even the tiniest tasks and are expected to give their best at every point in time. When people are unable to meet these expectations, they get stressed and could even go into depression. We get to hear a lot of cases where people are depressed due to reasons like peer pressure, studies, family issues, relationships, etc. and they eventually get into something that is bad for them as well as for others. So, to overcome this, Cognitive Behavioural Therapy (CBT) is considered to be one of the best methods to address stress as it is easy to implement on people and also gives good results. This therapy includes understanding the behaviour and mindset of a person in their normal life. With the help of CBT, therapists help people overcome their stress and live a happy life.</i></p> <p>For the situation given above,</p> <ol style="list-style-type: none"> 1. Write the problem statement template 2. List any two sources from which data can be collected. 3. How do we explore the data? 	4

Q.21

Take a look at the confusion matrix:

4

The Confusion Matrix		Reality	
		Yes	No
Prediction	Yes	True Positive (TP)	False Positive (FP)
	No	False Negative (FN)	True Negative (TN)

How do you calculate F1 score?