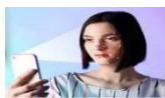


SECTION A - OBJECTIVE TYPE QUESTIONS (24 MARKS)

	Section A (Objective Type Questions)	
Q1	Answer any 4 out of the given 6 questions on Employability skill (1X4=4 Marks)	Marks
i	Statement 1: A realistic goal is one that cannot be achieved with in limited time. Statement 2: Breaking down big goal in to smaller parts helps in achieving the goal. a) Both statements 1 and statement 2 are correct. b) Both statements 1 and statement 2 are incorrect. c) Statement 1 is correct but statement 2 is incorrect. d)Statement 1 is incorrect but statement 2 is correct.	1
ii	Which of these is NOT a common communication barrier? (a) Linguistic barrier (b) Interpersonal barrier (c) Financial barrier (d) Organisational barrier	1
iii	The first screen that appears on monitor after loading OS is called _____ (a) Icons (b) Desktop (c) Wall paper (d) None of the above	1
iv	When you are under _____ for a prolonged period of time, it can cause health problems and mental troubles as well. a) Stress b) Discipline c) Timeliness d) Goal – Setting	1
v	Qualities of entrepreneur are: a) Never giving up b) Hard working c)Perseverance d) All the above	1
vi	Which organisation has made the Sustainable Development Goals. (a) United Nations (b) League of Nations (c) UNICEF (d) World Health Organisation	1
Q2	Answer any 5 out of the given 6 questions (1X5=5 marks)	
i	Companies use _____ application of NLP, to identify opinions and feelings/emotions online to help them understand what customers think about their products and services. a) Sentiment Analysis b) Automatic Summarization c) Text classification d) Virtual Assistants	1
ii	A Category of intelligence relating to the ability to process information on the environment around us is _____ a) Musical Intelligence b) Naturalist Intelligence c)Interpersonal Intelligence d) Kinaesthetic Intelligence	1
iii	Fill in the blank: Neural Network is a mesh of multiple _____.	1
iv	Identify the application of Computer Vision from the following: a) Voice Assistant b) Face recognition c) Recommendations d) None of the above	1
v	Which of the following is a common data source used in data science? a) Social Media Posts b) Weather Reports c) Sensor Data d) All of the Above	1
vi	Identify the domain of AI in the following image:  a) Data Science b) Natural Language Processing c) Computer Vision d) Rule Base	1
Q3	Answer any 5 out of the given 6 questions (1X5=5 marks)	
i	Which of the following is an example of a voice based virtual assistant? a)Alexa b)Siri c) Cortana d) All of the above	1

Q1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)	
i	SAINIKA is a class X student. Due to the pandemic, She is learning online. Her teacher asks her to create a YouTube video by which she can make people aware of protecting themselves from Coronavirus. She uses her own voice in the video and adds some photos and background music to enhance its effect. After sharing it with her friends, relatives and teachers, she receives their feedback. Which of the following feedback is considered descriptive? (i) Well done, Bro! (ii) Keep up the good work! (iii) Fantastic video! You did an excellent job. You chose accurate images with extremely calming background music. Your explanation of the topic with perfect pronunciation was also quite effective. (iv) Nice. Very informative video!	1
ii	Which of the following can be a cause of stress? (a) Yoga and meditation (b) Financial difficulties (c) Organized academic life (d) Enjoying holidays with family	1
iii	Which of the following is not a virtual assistant? (a) Alexa (b) Cortana (c) Siri (d) Chatbot	1
iv	What is the term used when you quickly click the left mouse button twice? (a) Hover (b) Drag and drop (c) Double clicking (d) Moving	1
v	CHARCHIT learnt that if a laptop gets overheated, the internal parts get damaged. What happens if he leaves his device plugged in even after it is charged 100%? (a) It can break (b) It can stop functioning (c) It can overheat (d) Data can get corrupt	1
vi	Sonakshi is a young lady who makes bags. She buys jute from a local farmer and makes bags from that. She sees that most women in her village do not work. So, she hires two women to help her. As her orders increase, she hires three more women to work for her. How was she helping her village grow? (a) By selling bags to women without a job. (b) By purchasing bags from the local market. (c) By buying jute from the local farmer and by providing jobs to local women (d) By attracting the women in her village with her creative earrings	1
Q.2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	

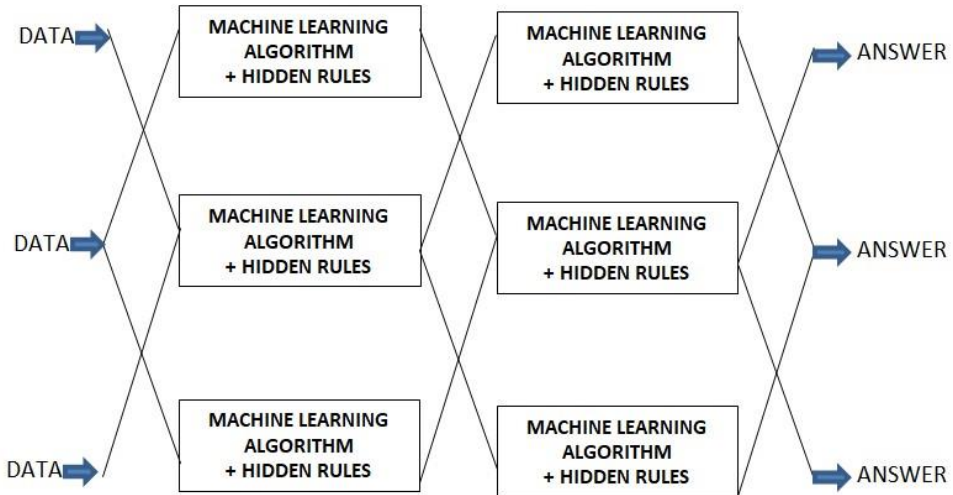
iv	Which of the following statements is correct? (a) An AI model is a computer program that has been taught to identify specific patterns. (b) An AI model is a human who has been trained to instruct machines. (c) An AI model is a robot that has been programmed to instruct humans. (d) An AI model requires a large amount of data to derive a relationship in the data. (i) (a) and (d) only (ii) (b) and (d) only (iii) (a) and (c) only (iv) (a), (c) and (d)	1
v	The _____ Sustainable Development Goals (SDGs) were launched at the United Nations Sustainable Development Summit in New York in the year 2015, forming the 2030 Agenda for Sustainable Development. (a) 17 (b) 15 (c) 13 (d) 19	1
vi	Which of the following is performed by Data Scientist? (a) Define the question (b) Create reproducible code (c) Challenge results (d) All of the mentioned	1
Q.4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i	_____ helps in assigning a predefined category to a document, organize it in such a way that helps customers to find information they want. For example, spam filtering in email, auto tagging on social media, categorization of news articles etc.	1
ii	Which of the following is the type of data used by NLP applications? (a) Images (b) Numerical data (c) Graphical data (d) Text and Speech	1
iii	Ayushi was learning about NLP. She wanted to know the term used for the whole textual data from all the documents altogether. Help her in identifying the term used for it.	1
iv	What is the full form of CV?	1

v	Choose the correct option: (i) Classification -> continuous data (ii) Regression -> discrete data sets (iii) Clustering -> unknown data set (iv) Decision Tree -> Only discrete data	1
vi	<i>Identify the type of chatbot [Script-bot or Smart-bot] with the information given below:</i> These bots work on pre-programmed instructions inside the application/machine and are generally easy to develop. They are deployed in the customer care section of various companies. Their job is to answer some basic queries that they are coded for and connect them to human executives once they are unable to handle the conversation.	1
Q.5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i	_____ is a term used for any word or number or special character occurring in a sentence . (Token/ Punctuator)	1
ii	_____ is used to record the result of comparison between the prediction and reality. It is not an evaluation metric but a record which can help in evaluation.	1

iii	A weather predicting AI model predicted that Tamil Nadu face a tsunami but no such incidence took place. Under which category of the confusion matrix will this be marked? (a) False Positive (c) False Negative (b) True Positive (d) True Negative	1
iv	Which two evaluation methods are used to calculate F1 Score? (a) Precision and Accuracy (b) Precision and Recall (c) Accuracy and Recall (d) Precision, F1 score	1
v	An AI application that has a higher level of intelligence and is capable of understanding open-ended questions and providing assistance in finding the most relevant replies beyond the pre-scripted responses it learns over time using NLP. It is ideal for dealing with customer support concerns, resolving typical issues, aiding account administration and offering general assistance. Which of the following applications can you relate to this? (i) Automatic Number Plate Recognition (ii) Alexa (iii) Smart Chatbot (iv) Spam filters	1
vi	BISHNUPRIYA was confused with the terms used in the evaluation stage. Suggest her the term used for the percentage of correct predictions out of all the observations. (a) Accuracy (b) Precision (c) Recall (d) F1 Score	1

Q.1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)	Mark
i.	Renuka wakes up every day at 5 AM, completes her homework and attends her dance classes, all by herself. No one tells her to do it, but she remains focused on her goal. Which self-management skill does Rekha demonstrate in this scenario?	1
ii.	Which of the following functions is not performed using a mouse? (a) Turn on (b) Hover (c) Right click (d) Drag and Drop	1
iii.	Assertion (A): Entrepreneurs are born with the qualities needed for business success. Reason (R): Entrepreneurial skills can be learned and developed over time through experience and education. (a) Both A and R are correct, and R is the correct explanation of A (b) Both A and R are correct, but R is NOT the correct explanation of A (c) A is correct, but R is not correct (d) A is not correct, but R is correct	1
iv	_____ is the ability to control one's emotions, thoughts, and behaviors effectively in different situations. a) Mental Health b) Emotional Health c) Self-Management d) Stress Management	1

v.	Consider a situation where a manager is trying to convey important instructions to a team member through a text message. However, the team member misinterprets the tone and intention of the message. - Interpersonal barrier - Physical barrier - Organisational barrier - Linguistic barrier	1
vi.	Education plays a key role in sustainable development by helping individuals secure jobs, support their families, and become responsible citizens. Efforts such as using available educational facilities, helping friends with their studies, and preventing school dropouts are essential." Which SDG can you relate this statement to? - Decent Work and Economic Growth - No Poverty - Quality Education - Reduced Inequalities	1
Q.2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Assertion (A): Some students are good at mathematics, while others excel at music. Reason (R): Different individuals possess various forms of intelligence, each at varying levels. - Both A and R are correct, and R is the correct explanation of A - Both A and R are correct, but R is NOT the correct explanation of A - A is correct, but R is incorrect - A is incorrect, but R is correct	1
ii.	What term refers to the protection of personal information from misuse, especially regarding apps and online data? - AI Ethics - Data Privacy - AI Bias - AI Access	1
iii.	Consider the following statements about neural networks: Statement 1: Neural networks typically have multiple layers. Statement 2: The layer responsible for producing the final output of a neural network is the first layer. Which of the following is true? - Both Statement1 and Statement2 are correct - Both Statement1 and Statement2 are incorrect - Statement 1 is correct but Statement2 is incorrect - Statement2 is correct but Statement1 is incorrect.	1

iv	Observe the representation. and fill in the blank:  The job of an input layer is _____	1
v.	Expansion of DBMS is _____ (a) Data Management System (b) Database Manages Systematic (c) Data board Managing System (d) Database Management System	1
vi.	If the words have highest occurrence in all the documents of the corpus, they are said to have negligible value hence they are termed as _____. (a) Stop words (b) Rare word (c) Frequent word (d) Common word	1
Q.3	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Consider the following examples: Example 1: Using a language model to generate text Example 2: Providing recommendations to the users of platforms like Netflix, Amazon, Spotify, YouTube etc. Example 3: Monitoring the physical and mental health using chatbots and other health apps. Example 4: Dispensing hand sanitizer automatically Which of these examples do not involve artificial intelligence? a. Example 1 and Example 2 b. Example 3 c. Example 4 d. Example 1, Example 3, and Example 4	1
ii.	_____ is known as the stage of acquiring data for the project.	1

iii.	Which of the following is NOT an application of data science? a. Fraud and Risk Detection in Finance b. Genetics & Genomics c. Targeted Advertising d. Face lock in smart phone	1
iv	_____ is a computer vision task of assigning/categorizing an input image one label from a fixed set of categories. a. Instance segmentation b. Object detection c. Image Classification d. Image segmentation	1
v.	Identify the given Chatbot type: It follows a predefined script and is limited in its ability to understand and respond to complex queries of the humans.	1
vi.	What is the formula for calculating the F1 score? a. $F1 = (\text{precision} + \text{recall}) / 2$ b. $F1 = \text{precision} * \text{recall} / 2$ c. $F1 = 2 * (\text{precision} * \text{recall}) / (\text{precision} + \text{recall})$ d. $F1 = \text{precision} / \text{recall}$	1
Q.4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Which type of machine learning involves using a labeled dataset to train the model? (a)Unsupervised Learning (b) Supervised Learning (c) Dimensionality Reduction (d) Deep Learning	1
ii.	Assertion (A): The confusion matrix is an evaluation metric used to measure the performance of a prediction model. Reason (R): Accuracy is calculated by dividing the sum of True Positives (TP) and True Negatives (TN) by the total number of observations. a. Both Assertion (A) and Reason (R) are true, and Reason (R) is the correct explanation of Assertion (A). b.Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A). c. Assertion (A) is true, but Reason (R) is false. d.Assertion (A) is false, but Reason (R) is true.	1

iii.	A movie theater wants to analyze its ticket sales and refreshment purchases, both offline and online, to identify peak sales times and determine the most popular refreshments. The theater aims to use this data to make predictions for better stocking and staffing decisions. Which of the following is the most appropriate method for collecting relevant data for analysis? - Conducting surveys at the ticket and refreshment counters to gather customer preferences. - Searching government portals to obtain ticket sales data. - Visiting private websites to gather data from other theaters. - Visiting a nearby theater to compare sales records	1
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iv	All the colors that are present can be made by combining different intensities of three primary colors. What are they?	1
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v.	What does the Bag of Words model provide when applied to a text corpus? - The sequence of words in the corpus and their synonyms - A vocabulary of unique words and their frequency of occurrence - The grammatical structure of the sentences in the corpus - A list of sentences and their lengths in the corpus	1
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vi.	In a confusion matrix, which value represents the correct positive predictions made by a model? - True Positive - False Positive - True Negative - False Negative	1
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Q.5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
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i.	You're tasked with developing an AI system that can automatically analyze medical images to detect anomalies. Which field of artificial intelligence would be most relevant for this task? - Natural Language Processing - Computer Vision - Machine Learning - Data Science	1
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ii.	In a confusion matrix, which value represents the correct negative predictions made by a model?	1
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iii.	In pixel value, _____ value is to be taken as no colour or black. (a) 255 b) 1 c) 0 d) 3	1
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iv	Which of the following describes tokenization in Natural Language Processing (NLP)? - Splitting text into smaller units like words or phrases - Processing images into pixels - Creating labelled datasets - Detecting patterns in large data	1
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v.	In the process of text normalization, which technique aims to reduce words to their root form while ensuring that the resulting word remains meaningful? a. Tokenization b. Stemming c. Segmentation d. Lemmatization	1
vi.	Which of the following best defines Accuracy in a classification model? a. The percentage of correct predictions out of all observations made by the model. b. The proportion of positive cases that were correctly predicted. c. The percentage of correct negative predictions out of all predictions. d. The percentage of False Positives and True Negatives.	1

Q. 1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)	
i.	Sonika gets up at 6 am and goes to her hobby classes. Then she comes back home and finishes her homework before going to school. She does all work by herself. No one tells her to do so. Which self-management skill is clearly visible in the given statement? a. Self-Awareness b. Self-Motivation c. Self-Regulation d. Discipline	1
ii.	Which Operating System is used to control machineries like robots in complex animations and computer-controlled automated machines. a. Real Time b. Multi-user c. Single-user, multi-task operating system d. Distributed	1
iii.	Assertion (A): Entrepreneurship is the act of creating a new and innovative enterprise/ product or service. Reason(R): An entrepreneur must be creative, organized and risk taker. 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.	1

iv.	Stay current with best practices and read up on new information always. Prepare yourself for new changes, so that you can transition seamlessly. This skill is known as _____. a. Self-awareness b. Responsibility c. Time Management d. Adaptability	1
v.	You need to apply leave at work? Which method of communication will you use? (a) e-mail (b) Poster (c) Newsletter (d) Blog	1

vi.	A corpus contains 4 sentences in which the word 'such' was appearing frequently. Identify the term in which we can categorise the word 'such'. a. Stop word b. Rare word c. Frequent word d. Removable word	1
vi.	Solution to these global problems like scarcity of clean water to drink, scarcity of pure air to breathe, scarcity of unadulterated food, rising issue of global warming is _____. a. Stop using these resources. b. Sustainability c. to make people aware d. None of the above	1

Q. 2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Assertion (A): Alex says to his students that we use many types of intelligence to perform well in our daily life tasks. Reason(R): John McCarthy proposed many types of intelligence such as linguistic intelligence, naturalistic intelligence, visual-spatial intelligence. 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. Both A and R are false. d. A is true but R is false.	1
ii.	Results based on discriminatory assumptions made while developing algorithm by the developer is called as _____. a. AI Ethics b. Test Data c. AI Bias d. Training Data	1
iii.	Assertion(A): Neural networks are the backbone of deep learning algorithms Reason(R): Neural networks use vast amounts of data a. Both A and R are correct b. Both A and R are not correct c. A is correct but R is not correct d. A is not correct but R is correct.	1
iv.	The makes the data understandable for humans as we can discover trends and patterns out of it. a) Random Data b) Graphical Representation c) Unstructured Data d) None of the above	1
v.	It not only gives us a clearer idea around the dataset, but also adds value to it by providing deeper and clearer analyses around it. a. Data Privacy b. Data Piracy c. Data Collection d. Data Science	1

Q. 3	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
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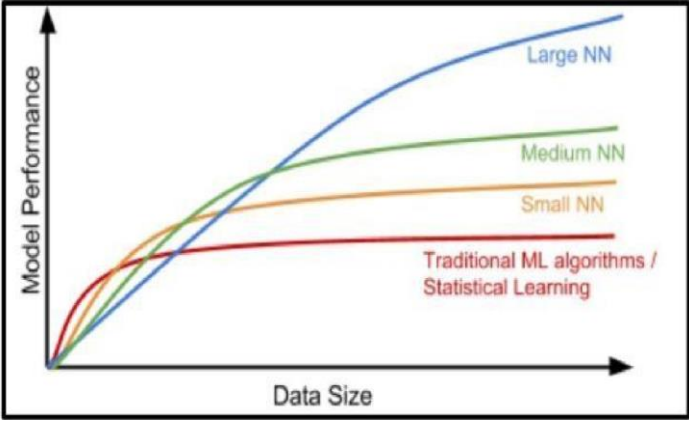
i.	An air conditioner can be turned on and off remotely with the help of internet but still needs a human touch. This is an example of ____ a. Artificial Intelligence b. Internet of Things c. Machine Learning d. AI Biased	1
ii.	Which of the following uses dots to represent the relationship between two different numeric variables represented on the x and y axis? a. Histogram b. Bullet Graphs c. Scatter plot d. Tree Diagram	1
iii.	Which of the following is an application of data science? a. Genetics and Genomics b. Text summarization c. Face lock in smartphones d. Email filters	1
iv.	Which of the following tasks involves identifying and locating objects within an image? a. Image compression b. Feature extraction c. Object detection d. Image enhancement	1
v.	What is a chatbot called which uses simple FAQs without any intelligence? a. Smart Chatbot b. Script Chatbot c. AI Chatbot d. ML Chatbot	1
vi.	Which of the following parameters will be consider by recall, while evaluating a model`s performance? i. False negative ii. True negative iii. False positive iv. True Positive Choose the correct option: a. only (i) b. (ii) and (iii) c. (iii) and (iv) d. (i) and (iv)	1
Q. 4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Alok learnt about AI terminologies but was not able to recollect the term that is a subtype of machine learning imitates how the human brain functions. It is modeled after the neurons found in the human brain and uses neural networks to tackle challenging real-world issues. a. Deep learning b. Machine learning	1
	c. Computer Vision d. Natural Language Processing	

ii.	Statement 1: The comparison between the results of Prediction and reality is called the Confusion matrix. Statement 2: There are only three cases/observations takes place in confusion matrix. 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	1
iii.	Sarthak made a face mask detector system for which he had collected the dataset and used all the dataset to train the model. Then, he used the same data to evaluate the model which resulted in the correct answer all the time but was not able to perform with unknown dataset. Name the concept. a. Object detection b. Sentiment analysis c. Overfitting d. Data visualization	1
iv.	A grayscale image represents intensity values ranging from 0 to _____. a. 256 b. 25.6 c. 254 d. 25.5	1
v.	Companies can use _____ in a lot of ways such as to find out the emotions of their target audience, to understand product reviews, to gauge their brand. a. Sentiment Analysis b. structure Analysis c. Deep Learning d. Emails	1
vi.	Which of the following statements is not true about overfitting models? a. This model learns the pattern and noise in the data to such extent that it harms the performance of the model on the new dataset b. Training result is very good and the test result is poor c. It interprets noise as patterns in the data d. The training accuracy and test accuracy both are low	

Q. 5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Rohan, a student of class XII developed a chatbot that clarifies the doubts of Geography students. He trained the software with lots of data sets catering to all difficulty levels. If any student would type or ask questions related to Geography, the software would give an instant reply. Identify the domain of AI in the given scenario. a. Computer Vision b. Data Science c. Natural Language Processing d. None of these	1
ii.	The percentage of true positive cases versus all the cases where the prediction is true is defined as: a. Precision b. Accuracy c. F1 Score d. None of these	1

iii.	What does the pixel value represent in a grayscale image? a. The color b. The intensity c. The contrast d. The brightness	1
iv.	Which of the following statement is incorrect? a. Email Filtering is an application of NLP b. Price comparison websites are applications of Data Science c. Virtual Assistants are not applications of NLP d. Self-driving cars are applications of Computer Vision.	1
v.	TF-IDF in NLP is defined as: a. Term Frequency and Definite Frequency b. Term Frequency and Indefinite Frequency c. Term Frequency and Inverse Document Frequency d. Term Frequency and Integrated Document Frequency	1
vi.	Seema is learning the conditions that make up the confusion matrix. She came across a scenario in which the machine that was supposed to predict a bird was always predicting not a bird. What is this condition called? a. False Positive b. True Positive c. False Negative d. True Negative	1

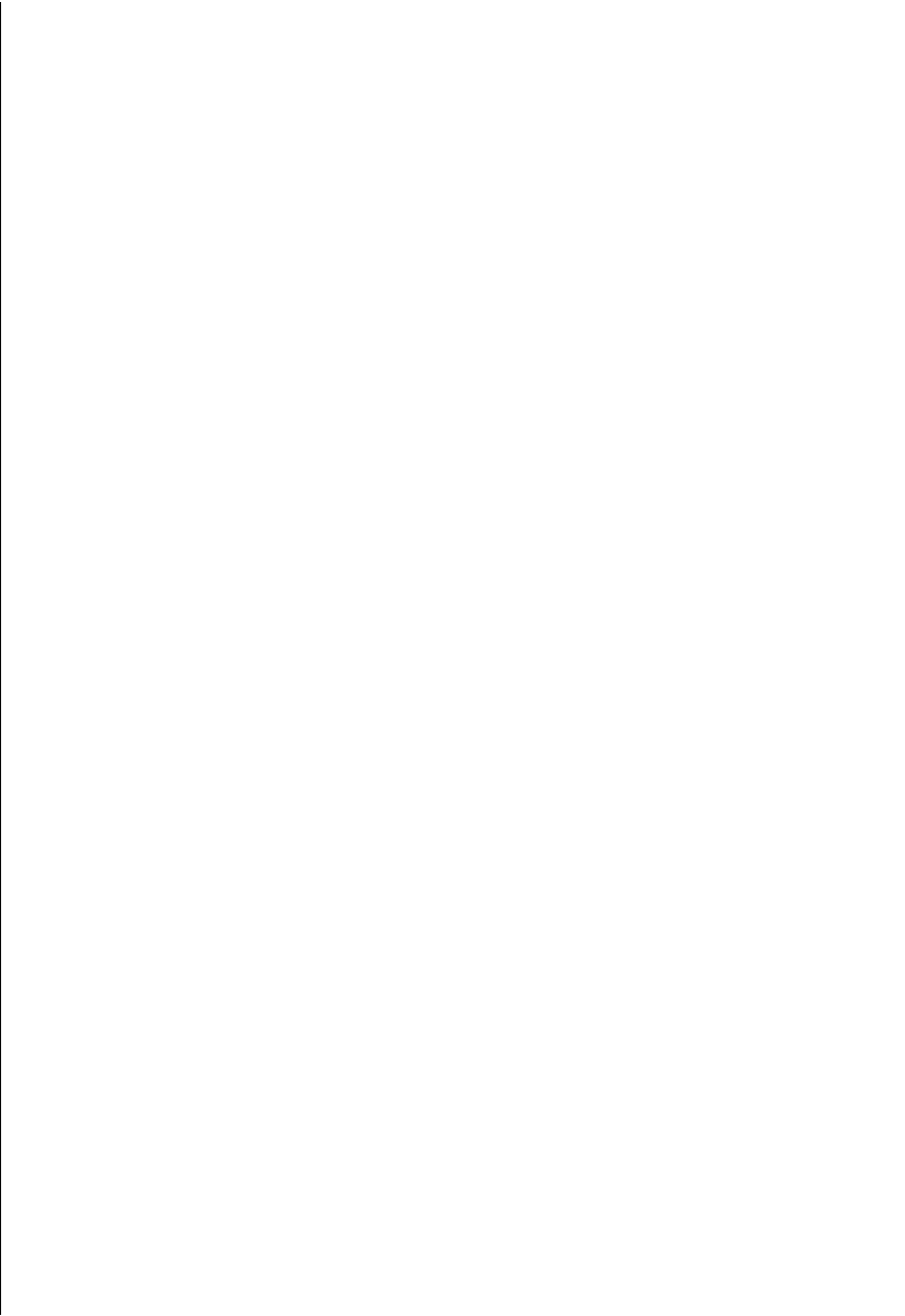
Q. 1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4marks)	
i.	Shubham practises hard to get the best dancer award in the competition. What type of motivation is shown by Shubham? (a) Internal (b) External (c) Intermediate (d) None of the above	1
ii.	When you left click a file with a mouse it may get - (a) Selected b) Deselected c) Any of the above d) None of the above	1
iii.	Assertion(A): To communicate well in the class room is a natural ability. Reason(R): Effective teaching in the classroom demands knowledge of communication process. (a) Both A and R are correct and R is the correct explanation of A (b) Both A and R are correct but R is NOT the correct explanation of A (c) A is correct but R is not correct (d) A is not correct but R is correct	1
iv.	Society plays a role in boosting entrepreneurship by- (a) Providing raw material (b) Creating needs and demands (c) Both of the above (d) None of the above	1
v.	People coming from different areas have different perceptions, ideologies, and values. They often have less in common with someone from another part of the world. Those differences can affect their communication. This is an example of ____ (a) Interpersonal barrier b) Physical barrier (c) Cultural barrier d) Linguistic barrier	1
vi.	“Ensure equitable and inclusive quality education and promote lifelong learning opportunities for all”. Which SDG can you relate this statement to? (a) Life on land b) Clean water and sanitation (c) Quality education d) Reduced inequalities	1

Q. 2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Assertion (A)– One can be a mathematician while the other can be a great singer. Reason(R) – Humans possess different types of intelligences but at different levels. (a) Both A and R are correct and R is the correct explanation of A (b) Both A and R are correct but R is not the correct explanation of A (c) A is correct but R is not correct (d) A is not correct but R is correct.	1
ii.	“We should not share our personal data without proper knowledge, randomly with anyone”. Which terminology suits best for this action? (a) AI Ethics b) Data Privacy c) AI Bias d) AI Access1	1
iii.	Statment1: There are five layers in a neural network. Statement2: The first layer of the neural network is responsible for taking input. (a) Both Statement1 and Statement2 are correct (b) Both Statement1 and Statement2 are incorrect (c) Statement1 is incorrect but Statement2 is correct (d) Statement2 is correct but Statement1 is incorrect	1
iv.	Observe the given graph and fill in the blank: _____the neural network, better is the performance. 	1
v.	_____ is a simple file format that stores data in tabular format. (a) Jpg b) doc c) csv d) None of these	1
vi.	The words which are not so important and do not add any meaning to the document are called_____. (a) Stop word b) Rare word c) Frequent word d) Removable word	1
Q. 3	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Read the examples given below- i. Opening of door using sensor ii. Biometric attendance iv Washing clothes in fully automatic machine iii. Using Chat GPT to write an email Choose the options that are not AI (a) i and ii b) i, ii and iv c) iii and iv d) i, iii and iv	1
ii.	Which of the following is not an authentic source for data acquisition? (a) Sensors b) Surveys c) Web Scraping d) System Hacking	1
iii.	Which search engine(s) make use of data science algorithms to deliver search results? (a) Google b) Yahoo c) Bing d) All of the above	1
iv.	What is the main purpose of computer vision? (a) To replicate human vision b) To understand visual information (c) To create 3D virtual environment d) To improve text- to - speech	1

v.	_____ learn with more data. (a) Script bot b) Smart bot c) Both d) None	1
vi.	F1 Score is the measure of the balance between (a) Accuracy and Precision b) Precision and Recall (c) Recall and Accuracy d) Recall and Reality	1
Q. 4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Sonali learnt about AI terminologies but was not able to recollect the term that is used to refer to machines that perform tasks with vast amounts of data using neural networks. Help her with the correct term. (a) NLP b) Computer Vision c) Deep learning d) Data Science	1
ii.	Statement1: Accuracy is the percentage of correct predictions out of all the predictions. Statement2: The real scenario is known as Prediction. (a) Both Statement1 and Statement2 are correct (b) Both Statement1 and Statement2 are incorrect (c) Statement1 is correct but Statement2 is incorrect (d) Statement2 is incorrect but Statement1 is correct	1
iii.	In which scenario would a high F1 Score be considered ideal? (a) High Precision and low Recall b) Low Precision and high Recall (c) High Precision and high Recall d) Low Precision and low Recall	1
iv.	Which of the following tasks identifies the object present in the image and where it is present in the image? (a) Classification b) Classification and localization (c) Object detection d) Instance segmentation	1
v.	_____ understands better the point of view in context to what is the expression behind the expressed opinion. (a) Virtual Assistants b) Sentiment Analysis (c) Text classification d) Automatic Summarization	1
vi.	Dinesh made an attendance system for the class based on face detection. System for which he had collected the data of all the students and used that data to train the model. Then, he used the same data to evaluate the model which resulted in the correct answer with all the students but not able to perform with unknown students. Name the concept.	1
Q. 5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	“Chatbot are used to solve the problems”. Identify the domain of AI used in it. (a) `Computer Vision b) Natural Language Processing (c) Data Science d) None of these	1
ii.	Which evaluation parameter can be defined as fraction of positive cases that are correctly identified.	1
iii.	What is semantic segmentation? (a) Categorizing each pixel in the image in to a specific class (b) Detecting the edges of the objects (c) Recognizing and tracking objects in videos (d) Labelling the image	1
iv.	One of the applications of NLP is relevant when used to provide overview of a news item or blog post, while avoiding redundancy from various sources and maximizing the diversity of content obtained. Identify the application from the following: (a) Sentiment Analysis b) Virtual assistant (c) Automatic summarization d) Text classification	1

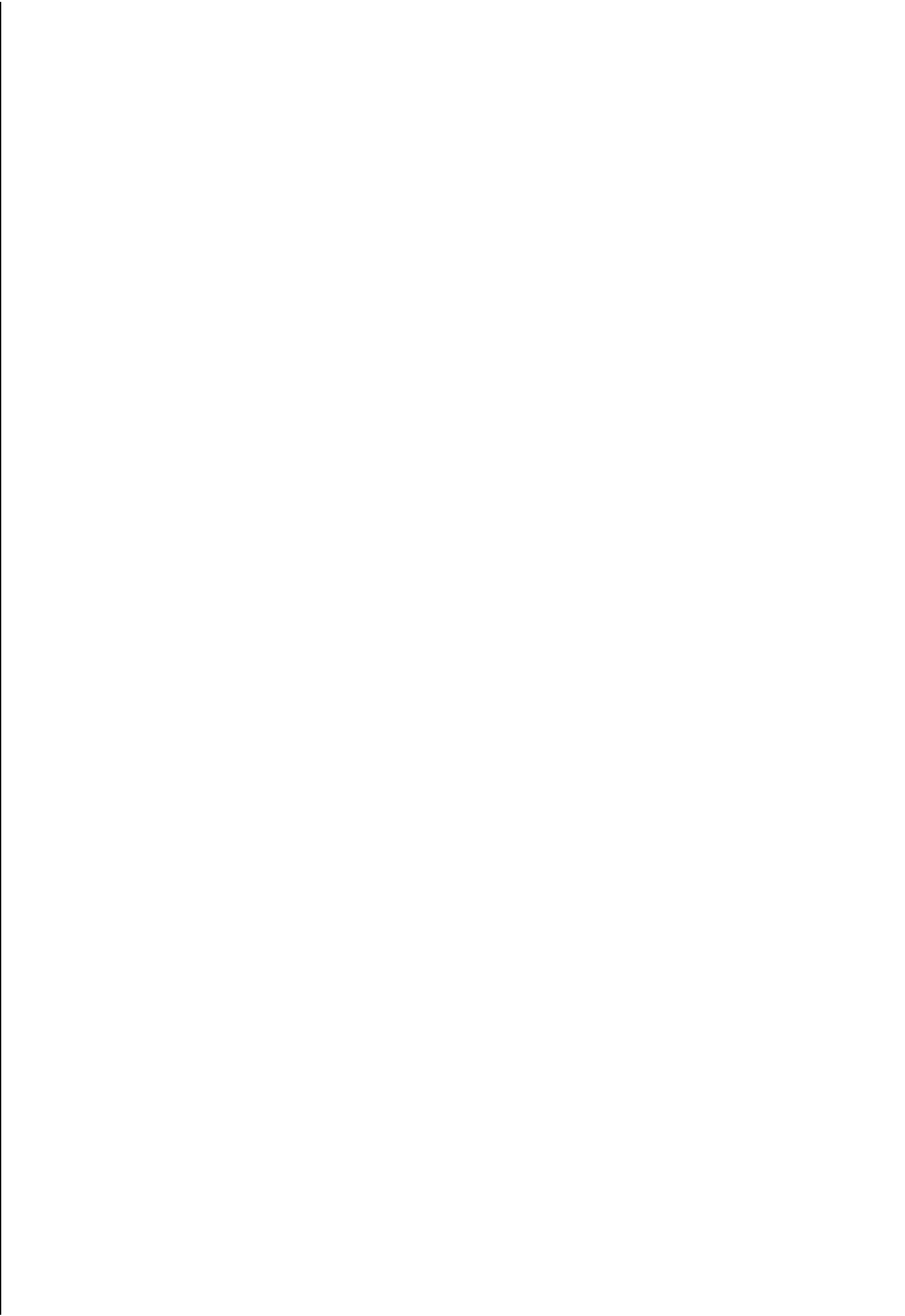
v.	Which of the following is not a virtual assistant? (a) Alexa b) Cortana c) Silvi d) Siri	1
vi.	The result of comparison of Prediction and Reality can be recorded in what we call the _____ (a) Overfitting b) confusion matrix c) problem scoping d) data acquisition	1

Q. 1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)	
i.	Which of these are examples of positive feedback? (a) Excellent, your work has improve (b) I noticed, your dedication towards the project (c) You are always doing it the wrong way (d) All of the above	1
ii.	What is the term used when you quickly click the left mouse button twice? (a) Hover (b) Drag and drop (c) Double clicking (d) Moving	1
iii.	Srishti is a young woman who makes earrings. She buys jute from a farmer and makes earrings from that. She sees that most women in her village do not work. So, she hires two women to help her. As her orders increase, she hires three more women to work for her. How was she helping her village grow? (a) By selling earrings to women without a job (b) By purchasing earrings from the local market (c) By buying jute from the local farmer and by providing jobs to local women (d) By attracting the women in her village with her creative earrings	1
iv.	_____ is a series of postures and breathing exercises practiced to achieve control of body and mind. (a) Meditaion (b) Nature walk (c) Yoga (d) Drill	1
v.	The _____ conveys the message to the sender in the form of feedback for the completion of communication cycle. (a) Sender (b) Receiver (c) Channel (d) Protocol	1
vi.	Which of the following are common Sustainable Practices? a. Reusing of Waste Water b. Conserving Rain Water c. Segregating waste at source d. All of the above	1



iv	Deep Face technology, which creates a person real in virtual world is based on KVS ZIET MYSORE 80 _____. a. Computer Vision c. Natural Language Processing b. Computer Aided Design d. Data Science	
v.	Identify the type of chatbot with the information given below: These bots work on preprogrammed instructions inside the application/machine and are generally easy to develop. They are deployed in the customer care section of various companies. Their job is to answer some basic queries that they are coded for and connect them to human executives once they are unable to handle the conversation.	1
v.	A corpus contains 12 documents. How many document vectors will be there for that corpus? a. 12 b. 1 c. 24 d. 1/12	1

Q. 4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i	_____ is the sub-field of AI that is focused on enabling computers to understand and process human languages. a) Deep Learning b) Machine Learning c) NLP d) Data Sciences	
ii.	_____ helps in assigning a predefined category to a document, organize it in such a way that helps customers to find information they want. For example spam filtering in email, auto tagging on social media, categorization of news articles etc.	1
iii.	The makes the data understandable for humans as we can discover trends and patterns out of it. a) Random Data b) Graphical Representation c) Unstructured Data d) None of the above	1
iv	What does a pixel represent in an image? A) A segment of a video B) The smallest unit of an image C) The color depth of an image D) The brightness of an image	
v	Google Assistant, Alexa, Cortana, Siri are examples of a) Script Bot b) Smart Bot c) Sling Bot d) None of these	
vi.	What is the full form of TF-IDF?	1



Q. 5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Which of the following statement is incorrect? a. Email Filtering is an application of NLP b. Price comparison websites are applications of Data Science c. Virtual Assistants are not applications of NLP d. Self-driving cars are applications of Computer Vision.	1
ii.	Which two evaluation methods are used to calculate F1 Score? (a) Precision and Accuracy (b) Precision and Recall (c) Accuracy and Recall (d) Precision, F1 score	1
iii.	What does the pixel value represent in a grayscale image? A) The color B) The intensity C) The contrast D) The size	1
iv.	Machine/computer understands the language of numbers (binary numbers 0's and 1's). Everything that is sent to the machine has to be converted to numbers. a) True b) False c) not d) None of these	1
v.	"Converting text to a common case" is a step in Text Normalization. (True/False)	1
vi.	Raunak was learning the conditions that make up the confusion matrix. He came across a scenario in which the machine that was supposed to predict an animal was always predicting not an animal. What is this condition called? (a) False Positive (b) True Positive (c) False Negative (d) True Negative	1

Q1 Answer any 4 out of the given 6 questions on Employability Skills (1x4=4 marks)

- Which method of communication is effective for informing a group of workers about a change in duty hours, if Ananya is the manager of a store?
a) E-mail b) Notices/Posters
c) Face to Face d) Business Meetings
- Ram performs at the annual day function and learns a new skill, such as dancing or singing. What type of motivation does this exemplify?
a) Internal b) External
c) Intermediate d) None of the above
- The SDGs have been framed with the objective to address vital issues facing businesses, governments and society, such as _____.
a) Gender Equality b) Energy & Climate change
c) Biodiversity d) All of the above
- Sometimes we get mails from companies who are advertising a product or trying to attract you to their website. Such mails are called _____.
a) Trash b) Inbox
c) Spam d) None of the above
- Assertion 1: Regular self-assessment can help identify areas for improvement. Assertion 2: Procrastination helps in achieving goals effectively.
A) Both are true
B) Both are false

- C) 1st is true, 2nd is false
- D) 1st is false, 2nd is true

- vi) Assertion(A): For a trading organization, the operating cycle will be shorter.
Reasoning(R): There is no manufacturing in a trading organization.
- a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)
 - b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A)
 - c) Assertion (A) is true but Reason (R) is false
 - d) Assertion (A) is false but Reason (R) is true

Q2

Answer any 5 out of the given 6 questions (1x5=5 marks)

- i) teach the difference between right or wrong and has a guideline for moral conduct.
- ii) ____ involves collecting data from various authentic sources such as reliable websites, observations, and surveys.
 - a) Data Acquisition
 - b) Data Evaluation
 - c) Data Testing
 - d) Data Modelling
- iii) Name any 2 methods of collecting data.
 - a) Surveys and Interviews
 - b) Rumors and Myths
 - c) AI models and applications
 - d) Imagination and thoughts
- iv) Which algorithms result in two things, a vocabulary of words and frequency of the words in the corpus?
 - a) Sentence segmentation
 - b) Tokenisation
 - c) Bag of words
 - d) Text normalisation
- v) You inform your friend that you want to buy new shoes and you are trying to search on the internet, after some time the online retailers start sending you reminders to buy shoes. What type of technology is used?
 - a) Artificial Intelligence
 - b) Auto Search technology
 - c) Google Automation
 - d) None of the above

Evaluation method is:

- a) Defined as the fraction of positive cases that are correctly identified.
- b) Defined as the percentage of true positive cases versus all the cases where the prediction is true.
- c) Defined as the percentage of correct prediction out of all the observations.
- d) Comparison between the prediction and the reality.

- Q3 Answer any 5 out of the given 6 questions (1x5=5 marks)
- i) Email Filters is an application of:
- a) Computer Vision
 - b) Data Science
 - c) Natural Language Processing
 - d) Neural Network
- ii) Under _____ stage of AI Project Cycle, we look at various parameters which affect the problem we wish to solve so that the picture becomes clearer.
- a) Modelling
 - b) Evaluation
 - c) Problem Scoping
 - d) Data Exploration
- iii) Aditi, a student of class XII developed a chatbot that clarifies the doubts of Economics students. She trained the software with lots of data sets catering to all difficulty levels. If any student would type or ask questions related to Economics, the software would give an instant reply. Identify the domain of AI in the given scenario.
- a) Computer Vision
 - b) Data Science
 - c) Natural Language Processing
 - d) None of these
- iv) _____ is the sub-field of AI that is focused on enabling computers to understand and process human languages.
- a) Deep Learning
 - b) Machine Learning
 - c) NLP
 - d) Data Sciences

- v) Which of the following statement is correct for training data:
- i) Data should be relevant
 - ii) Data should be authentic
 - iii) Data should be downloaded only
 - iv) Data can be anything
- a) i, and ii
 - b) i, ii and iii
 - c) ii, iii and iv
 - d) All of them
- vi) When the prediction is no and the reality is yes then this condition is called as_____

Q4

Answer any 5 out of the given 6 questions

(1x5=5 marks)

- i) Mr. Ajit is capable of making calculations and using logic in their project. This skill relates to _____.
a) Linguistic Intelligence b) Mathematical Intelligence
c) Spatial Visual Intelligence d) Existential Intelligence
- ii) The concept of computer vision was first introduced in
a) 1970s b) 1980s
c) 1990s d) 2010s
- iii) Classification and localization are used for
a) Single Objects b) Only two objects
c) Three objects d) Multiple objects iv) Which of the following is an application of data science?
a) Text summarization b) Target Advertisements
c) Face lock in smartphones d) Email filters
- v) What do you mean by syntax of a language?
a) Meaning of a sentence b) Grammatical structure of a sentence
c) Semantics of a sentence d) Synonym of a sentence
- vi) If model will simply remember the whole training set, and will therefore always predict the correct label for any point in the training set. This is known as _____.
a) Overfitting b) Overriding
c) Over remembering d) None of the above

Q5

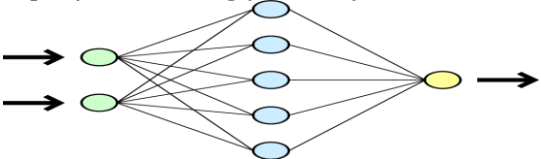
Answer any 5 out of the given 6 questions

(1x5=5 marks)

- i) Evaluation is the process of understanding the reliability of any AI model, based on outputs by feeding the test dataset into the model and Therefore comparing it with actual answers. it must be followed by:
a) Problem Scoping b) Data Acquisition
c) Data Exploration d) Modelling
- ii) ____ is not a Learning-based Approach where the AI model gets trained on the data fed to it and then is able to design a model which is adaptive to the change in data.
a) Supervised Learning b) Unsupervised Learning
c) Reinforcement Learning d) Enforcement Learning
- iii) For ____ the whole corpus is divided into sentences. Each Sentence is taken as a different data so now the whole corpus gets reduced to sentences.
a) Text Regulation b) Sentence Segmentation
c) Tokenisation d) Stemming iv) Which of the following are correct statements about pixels?
(i) A picture element
(ii) It makes every digital photograph or image
(iii) Smallest unit of information
(iv) Round or square arranged in a 2D grid
a) (i) & (ii) b) (ii), (ii) & (iii)
c) (ii), (iii) & (iv) d) (i), (ii) , (iii) & (iv)

Q.1	Answer any 4 out of the given 6 questions on Employability Skills(1 x 4 = 4 marks)	
i.	Rajni's First Pre-Board Exam is approaching. So She decided to do hardwork and prepared 08 hour preparation schedule to get good marks. Which self-management skill is clearly visible in the given statement?	1
ii.	Sahil, after finishing his exam is showing goodbye expression by waving his hands. Which type of non-verbal communication is used by Sahil? a) Expression b) Body language c) Gesture d) All the above	1
iii.	What keys do you use to replace something? a) Ctrl + C b) Ctrl + V c) Ctrl + X d) Ctrl + H	
iv.	Assertion (A): An Entrepreneur is innovative and hardworking.. Reason(R) : They do this to become richer. a) Both A and R are correct and R is the correct explanation of A b) Both A and R are correct but R is NOT the correct explanation of A c) A is correct but R is not correct d) A is not correct but R is correct	1
v.	Our strengths and weakness, helps us to be identify our: a) Self-motivated b) Self-regulated c) Self-aware d) Emotionally intelligent	1
vi.	Which of the following is Sustainable Development Goal 2? a) No Poverty b) Life below water c) Zero Hunger d) Clean Water & Sanitation	1

Q.2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	An AI Application generally shows images for a Driver as a Male person and a Cook as a Female person. Which effect does it shows? a) Data privacy b) AI bias c) AI ethics d) AI access	1
ii.	_____ is the ability to communicate with others by understanding other people's feelings. a) Existential Intelligence b) Naturalist Intelligence c) Kineasthetic Intelligence d) Interpersonal Intelligence	1
iii.	Statement 1:Neural Network consist of interconnected nodes or neurons that process and learn from data. Statement 2:It enables tasks such as pattern recognition and decision making. a) Both Statement1 and Statement2 are correct b) Both Statement1 and Statement2 are incorrect c) Statement1 is correct but Statement2 is incorrect d) Statement2 is correct but Statement1 is incorrect	1

iv.	In neural network, no processing occurs in _____ layer. (Input/Output/Processing(Hidden)) 	1
v.	What does CSV stand for? a) Comma separated values b) Computer spreadsheet values c) Centralized storage volumes d) Compressed structured variables	1
vi.	The term used for the whole textual data from all the documents altogether is known as _____ a) Complete Data b) Slab c) Corpus d) Cluster	1
Q.3	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Sports, dancing, acting, role-playing, and exercise are all examples of activities that use the body to learn and integrate movement. Which type of Intelligence does we know about from the above statement. a) Spatial Intelligence b) Kinesthetic Intelligence c) Naturalist Intelligence d) Linguistic Intelligence	1
ii.	4W Canvas Problem is related to which stage of Project Cycle?? a) Data Exploration b) Modelling c) Evaluation d) Problem Scoping	1
iii.	An application of AI which uncovers certain words or phrases that signal a spam message is the example of _____. a) Computer Vision b) Data Science c) Natural Language Processing d) All the above	1
iv.	In an Image, if there are more pixels, then resolution will be _____ and the more detailed the image it will be. a) Higher b) Lower c) No effect on Image d) reduced	1
v.	A _____ is a computer program that's designed to simulate human conversation through voice commands or text chats or both. a) Machine Learning b) Chatbot c) Questionnaire d) All the above	1
vi.	Accuracy is defined as the a) Percentage of correct predictions out of all the observations. b) Percentage of true positive cases versus all the cases where the prediction is true. c) Fraction of positive cases that are correctly Identified. d) Fraction of negative cases that are not identified.	1

Q.4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Shalini come to know that “machines to learn by themselves using the provided data and make accurate Predictions/ Decisions”. But she can’t able to recollect the term. Help her in finding the correct term.	1
ii.	Statement1: A Confusion Matrix is a table that is often used to describe the performance of a classification model on a set of test data for which the true values are known. Statement2: It is a 2X2 matrix denoting the right and wrong predictions might help us analyse the rate of success. a) Both Statement1 and Statement2 are correct b) Both Statement1 and Statement2 are incorrect c) Statement1 is correct but Statement2 is incorrect d) Statement1 is incorrect but Statement2 is correct	1
iii.	Riyansh want to make an Artificially Intelligent Project which can predict the performance of any student based on his previous marks. He has to feed the data of his previous marks. This is the data with which the machine can be trained. The previous marks data here is known as _____ while the next marks prediction data set is known as the _____ a) Testing Data, Training Data b) Training Data, Testing Data c) Training Data, Next Data d) First Data, Testing Data	1
iv.	In 8-bit integer range values, 0 is to be taken as _____ (Gray/White/Black) color.	
v.	_____ is the process in which the affixes of words are removed and the words are converted to their base form. a. Stemming b. Stopwords c. Case-sensitivity d. All of the above	1
vi.	Imagine a model telling you that there exists treasure at a point and you keep on digging there but it turns out that it is a false alarm. Name the condition in which the model has been deployed. (FP,TP,FN,TN)	1

Q.5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	You would feed the data into the machine. This is the data with which the machine can be trained. Now, once it is ready, it will predict his next data efficiently. This next data is known as _____. a) Training set b) Testing set c) Validation set d) Equal volume of testing and training set.	1
ii.	_____ is the process of understanding the reliability of any AI model, based on outputs by feeding test dataset into the model and comparing with actual answers. a. Evaluation b. Problem Scoping c. Data acquisition d. Data Exploration	1

iii.	TFIDF stands for _____. a. Team Frequency and Inverse Document Frequency b. Term Frequency and Inverse Document Frequency c. Top Frequency and Inverse Document Frequency d. Table Frequency and Inverse Document Frequency	1
iv.	Shivani was learning the confusion matrix conditions . She came across a situation in which the machine that was supposed to predict a cat and was always predicting a cat. So, the predicted value matches the actual value. What is this condition called? a) False Positive b) True Positive c) False Negative d) True Negative	1
v.	_____ can be defined as the measure of balance between precision and recall. a. Recall b. Accuracy c. Precision d. F1 Score	1
vi	The result of comparison between the prediction and reality can be recorded in what we call the _____. a) Overfitting b) Problem Scoping c) Confusion Matrix d) Data acquisition	1

Q. 1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)	
i.	<i>“M D Gulati started with a small shop with his focus, dedication and clear ideas, MDH became one of the most popular brands in India besides having a good reputation all over the world”.</i> Which self-management skill is clearly visible in the given statement?	1
ii.	When you bring the mouse over a file in File Explorer, it will show the details of that file. This is known as (a) Drag and drop (b) Double click (c) Hover (d) Single click	1

iii.	Assertion(A): A doctor works for a renowned hospital. Reason(R): The statement given above is an example of wage employment. (a) Both A and R are correct and R is the correct explanation of A (b) Both A and R are correct but R is NOT the correct explanation of A (c) A is correct but R is not correct (d) A is not correct but R is correct	1
iv.	_ the work is all about identifying and noting how we spent our time, and analysing how to spend our time effectively. (a) Organising (b) Prioritising (c) Controlling (d) Tracking	1
v.	Remya traveled to Sweden from India to pursue her higher education. But she doesn't know how to speak Swedish (language of Sweden). Because of this, she was unable to find a part time job. This is an example of (a) Interpersonal barrier (b) Physical barrier (c) Organisational barrier	1

	(d) Linguistic barrier	
vi.	“Efforts are made to increase the solar power generation so that our electricity needs are met and at the same time we do not pollute the environment or use up natural resources”. Which SDG can you relate this statement to? (a) Life on land (b) Clean water and sanitation (c) Affordable and clean energy (d) Reduced inequalities	1

SECTION-B

Q. 2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
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I	Assertion (A): One person may excel as a singer while another excels as an athlete. Reason (R): Humans have different types of intelligences that vary in levels among individuals. (a) Both A and R are correct, and R is the correct explanation of A (b) Both A and R are correct, but R is not the correct explanation of A (c) A is correct, but R is incorrect (d) A is incorrect, but R is correct	1
ii	A company was fined for collecting personal data from users without their consent and using it for targeted advertising. Which term best describes the issue in this scenario? (a) Data Security (b) AI Ethics (c) Data Privacy (d) AI Transparency	1
iii	Statement 1: Machine learning models improve their performance based on the data they are trained on. Statement 2: The training dataset is used to evaluate the model's performance. (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	1
iv	_____ is a common file format used to store tabular data in rows and columns. (a) txt (b) pdf (c) csv (d) gif	1
V	A corpus contains 5 documents, and the word 'technology' appears twice in document 3. How would you categorize the word 'technology'? (a) Stop word (b) Rare word (c) Frequent word (d) Removable word	1

vi	In a corpus of 6 documents, the word 'innovation' appears only once in document 2. How would you classify the word 'innovation'? (a) Stop word (b) Rare word (c) Frequent word (d) Removable word	1
Q 3	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i	Read the examples given below: i. Using a voice assistant to set reminders ii. GPS navigation in mobile devices iii. Automated coffee machine that brews coffee at a scheduled time iv. Basic calculator performing arithmetic operations Choose the options that are not AI: (a) i and ii (b) iii and iv (c) ii and iii (d) i, iii and iv	1
ii	_____ describes the characteristics or properties of the data we aim to analyze.	1
iii	Which of the following is an application of machine learning? (a) Speech recognition (b) Word processing	1

	(c) Image viewing (d) Basic text editing	
iv	_____ is the technique used to assign a label to an entire image based on its content. (a) Object detection (b) Image segmentation (c) Classification (d) Instance segmentation	1

V	Identify the given AI system type: It analyzes data patterns and makes predictions based on historical data. It continually improves its accuracy through feedback and adapts to new information over time. (a) Rule-based system (b) Expert system (c) Machine learning model (d) Neural network	1
Vi	The ROC-AUC score evaluates the trade-off between: (a) Precision and Recall (b) True Positive Rate and False Positive Rate (c) Accuracy and Precision (d) Sensitivity and Specificity	1
Q 4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
I	Rahul studied various programming concepts but struggled to remember the term that describes a programming paradigm based on the concept of "objects" that can contain data and code. Can you help him with the correct term?	1
li	Statement 1: In supervised learning, the model is trained using labeled data. Statement 2: Unsupervised learning requires labeled data for training the model. (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	1
lii	Aisha developed a model to forecast sales based on various factors such as seasonality, marketing spend, and customer demographics. She ensured her model had high accuracy and a good F1 score. Which of the statements below is	1
	incorrect? (a) The data collected on seasonality, marketing spend, and customer demographics is known as Training Data. (b) The data used to evaluate the model's performance is called Validation Data. (c) Training data is usually larger than validation data. (d) Data collection for model training and validation occurs during the Data Preparation phase.	

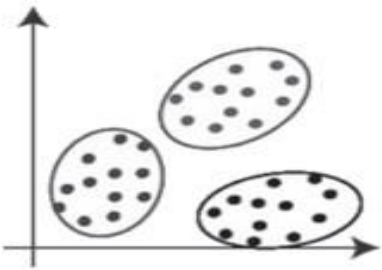
iv	How many dimensions are typically used to represent a grayscale image?	1
V	Which feature of NLP helps in understanding the emotions of the people mentioned with the feedback? (a) Virtual Assistants (b) Sentiment Analysis (c) Text classification (d) Automatic Summarization	1
Vi	Maya developed a spam email classifier using a dataset that contained labeled emails for training. However, when she tested the model using the same dataset, it achieved perfect accuracy but failed to classify new, unseen emails correctly. What is this concept called?	1
Q.5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
I	Aditi, a student of class XII developed a chatbot that clarifies the doubts of Economics students. She trained the software with lots of data sets catering to all difficulty levels. If any student would type or ask questions related to Economics, the software would give an instant reply. Identify the domain of AI in the given scenario. (a) Computer Vision (b) Data Science (c) Natural Language Processing (d) None of these	1
ii	Which evaluation metric calculates the proportion of correctly classified instances over the total number of instances?	1
iii	___ refers to a model's ability to correctly identify positive instances. (a) Recall (b) Precision (c) Accuracy (d) F1-score	1
iv	What does the term "algorithm" refer to in the context of artificial intelligence? (a) A set of data (b) A process or set of rules for solving a problem	1

	(c) A programming language (d) A type of hardware	
V	Which technique represents text data as a collection of unique words and their frequency in a document? (a) Tokenization (b) Sentence Segmentation (c) Bag of Words (d) Text Normalization make a question similar to this in AI according to class 10 ncert AI syllabus	1

Vi	In which of the following scenarios would a high false negative cost be more concerning? (a) Spam detection (b) Fraud detection (c) Movie recommendation (d) Sentiment analysis	1
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Q.1	Answer any 4 out of the given 6 questions on Employability Skills(4 x1=4 marks)	
i.	Arnika is a very hard-working person. She always stays motivated to complete the task at hand. She has the ability to solve problems and align tasks with goals. What qualities of Arnika are depicted here? (a) Forgetfulness (b) Impatience (c) Self-management (d) Self-governance	1
ii.	An operating system is a software that serves as an interface between: (a) User and computer (b) Server and computer (c) Computer and network (d) Computer without CPU	1
iii.	Assertion (A): A doctor works for a renowned hospital. Reason(R): The statement given above is an example of wage employment. (a) Both A and R are correct and R is the correct explanation of A (b) Both A and R are correct but R is NOT the correct explanation of A (c) A is correct but R is not correct (d) A is not correct but R is correct	1

iv.	A student named Prachi is a district-level gymnast and devotes 4-5 hours in practicing. Since her final examinations are going to start soon, she has started feeling distressed. What would be the most suitable method of managing stress for Prachi? (a)Engaging with leisure activities (b)Relaxing and taking 10-12hours of sleep (c)Organizing, prioritizing and managing tasks (d)Keep on practicing gymnastics	1
v.	Remya traveled to Sweden from India to pursue her higher education. But she doesn't know how to speak Swedish (language of Sweden). Because of this, she was unable to find a part time job. This is an example of _____ (a) Interpersonal barrier (b)Physical barrier (c)Organisational barrier (d)Linguistic barrier	1
vi.	Which of these is not a quality associated with an entrepreneur? (a) Perseverance (b) Open-mindedness (c) Overconfidence (d) Independence	1
Q.2	Answer any 5 out of the given 6questions (5x1= 5 marks)	

i.	Assertion (A)– One can be a good artist while the other can be a great athlete. Reason(R)–Humans possess different types of intelligences but at different levels. (a) Both A and R are correct and R is the correct explanation of A (b) Both A and R are correct but R is not the correct explanation of A (c) A is correct but R is not correct (d) A is not correct but R is correct.	1
ii.	If you search Google for salons, the first few searches are mostly for female salons. This is based on the assumption that if a person is searching for a salon, in all probability that person would be female. What is this situation depicting? (a) Data Privacy (b) Data Access (c) AI Bias (d)AI Ethics	1
iii.	Statement 1: There are four layers in a neural network. Statement 2: The first layer of the neural network is known as the output layer. (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	1
iv.	Identify the algorithm based on the given graph.  (a) Dimensionality reduction (b) Classification (c) Clustering (d) Regression	1
v.	CSV file extension stands for_____ (a) Cell-separated verb (b)Civil-services van (c)Customer-service value (d)Comma-separated value	1
vi.	A corpus contains 12 documents. How many document vectors will bethere for that corpus? (a) 12 (b)1 (c)24 (d)1/12	1
Q.3	Answer any 5 out of the given 6 questions (1x5= 5 marks)	

i.	Read the examples given below- i. Using Chat GPT to write an email ii. Face unlock technology of mobile phones using camera iii. Turning off lights with IoT device iv. Hand sanitizer dispenser having sensor Choose the options that are not AI (a) i and ii (b) iii and i (c) iii and iv (d) i, iii and iv	1
ii.	Data Visualization is an essential part of Data Science used to communicate findings effectively. (True/False)	1
iii.	Which of the following is an application of data science? (a) Text summarization (b) Target Advertisements (c) Face lock in smart phones (d) Email filters	1
iv.	Aspect ratio in computer vision refers to proportional relationship between the _____ and _____ of an object or image. (a) Width, Height (b) Width, Pixels (c) Height, Intensity (d) Length, Breadth	1
v.	Identify a type of chat bot (by reading the information provided) that can be deployed in the customer care section of various companies: When the machine is triggered by a person, it follows the script and responds appropriately. Its task is to answer certain fundamental questions that it has been programmed to answer and to link it to human executives if it is unable to handle the conversation.	1
vi.	Identify the component which do not help in self driving cars (a) Cameras (b) LiDAR (c) RADAR (d) LASER	1

Q.4	Answer any 5 out of the given 6 questions (5x1= 5 marks)	
i.	When AI is merged with the Internet of Things, it can lead to _____ of data that allows remote access to internet-connected devices and appliances to communicate. (a) Storage (b) Cloud Computing (c) Automation (d) Processing	1

ii.	—People who can access AI-enabled products benefit the most while those who cannot are left behind. As a result, a gap is formed between these two groups of individuals, which is widening with the rapid growth of technology. What is the concern here? (a) AI Bias (b) Open-Source Data (c) Data Availability (d) AI Access	1
iii.	Evaluation is the process of understanding the reliability of any AI model based on predictions and comparing it with reality. Which of the following data sets are used to build and evaluate the model? (a) Training and test data sets (b) Test data sets and training data sets (c) Test data sets and noise (d) Raw data sets and training data sets	1
iv.	_____ is the process of finding instances of real-world objects such as faces, bicycles, and buildings in images or videos. a) Object Detection b) Classification c) Classification + Localization d) Instance Segmentation	1
v.	Search engines not only predict what popular searches may apply to your query as you start typing, but it looks at the whole picture and recognizes what you're trying to say rather than the exact search words. This is an example of— (a) Computer Vision (b) Data Science (c) Natural Language Processing (d) Natural Language Understanding	1
vi.	Identify which of the above technologies involve AI. i) Using Chat GPT to automate customer service inquiries. ii) Using facial recognition for employee access control. iii) Automating the adjustment of office lighting using sensors. iv) Implementing an IoT-enabled smart refrigerator in the office kitchen. (a) Only i (b) both i and ii (c) i, ii, iii (d) i, ii, iii, iv	1

Q.5	Answer any 5 out of the given 6 questions (1x5= 5 marks)	
i.	When a user installs an app in the smart phone, it asks for access to gallery, contacts, etc. After accepting this, it gives the user agreement which most users accept without realizing the implications. What is the concern here? (a) Data Privacy (b) Unemployment (c) AI bias (d) No concern	1
ii.	Identify the wrong —wll in the 4W canvas (a) Who (b) Why (c) Which (d) What	1
iii.	Which format is typically used to store a color image in digital form? (a) Grayscale (b) Binary (c) RGB (d) Indexed	1
iv.	What do you mean by syntax of a language? (a) Meaning of a sentence (b) Grammatical structure of a sentence (c) Semantics of a sentence (d) Synonym of a sentence	1

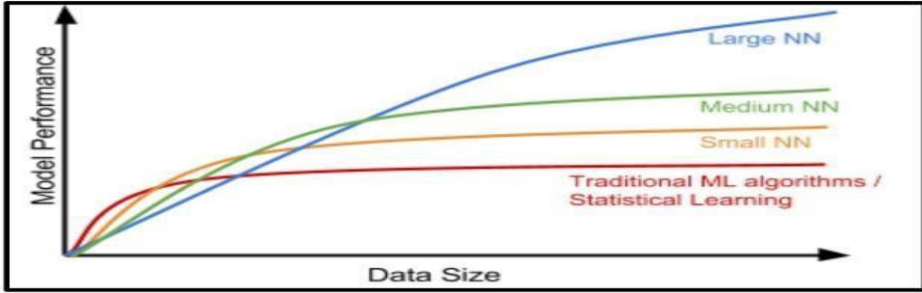
v.	_____ algorithm is used to extract features of text in the corpus. (a) Bag of words (b) Corpus of words (c) Bag of corpus (d) Term frequency	1
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PAGE 4 OF 6

Q. 1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)	
i.	Ashok everyday ensures to learn 5 new words of English and to walk for 2 KMs. He does this all by himself. No one asked him to do this, he is _____ (a) Self-motivated (b) Externally motivated (c) Both self and externally motivated (c) He is not motivated	1
ii.	What is extension of notepad file. (a) .txt (b) .bmp (c) .jpg (d) .psd	1
iii.	Assertion(A): A software developer works for a multinational company. Reason(R): The statement given above is an example of self-employment. (a) Both A and R are correct and R is the correct explanation of A (b) Both A and R are correct but R is NOT the correct explanation of A (c) A is correct but R is not correct (d) A is not correct but R is correct	1

iv.	The process involves setting specific tasks in order of importance to manage time efficiently. (a) Organizing (b) Prioritizing (c) Controlling (d) Tracking	1
v.	Amit moved from India to France for a job opportunity but struggled to communicate with his colleagues as he didn't speak French. This is an example of (a) Interpersonal barrier (b) Physical barrier (c) Organizational barrier (d) Linguistic barrier	1
vi.	"Initiatives are being taken to reduce plastic waste and promote recycling to protect marine life and maintain clean oceans." Which SDG can you relate this statement to? (a) Life below water (b) Decent work and economic growth (c) Industry, innovation, and infrastructure (d) Zero hunger	1

Q. 2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Assertion (A): Some people excel in mathematical reasoning, while others are highly skilled in visual arts. Reason (R): Individuals have varying cognitive strengths and abilities based on different intelligence types. (a) Both A and R are correct and R is the correct explanation of A (b) Both A and R are correct but R is not the correct explanation of A (c) A is correct but R is not correct (d) A is not correct but R is correct	1
ii.	A company halted the use of a certain software because it was found to be collecting user information without consent. Which terminology suits best for this action? (a) AI Ethics (b) Data Privacy (c) AI Bias (d) AI Transparency	1

iii.	Statement1: Machine learning models require training data to improve their accuracy. Statement2: The final layer in a neural network is known as the input layer. (a) Both Statement1 and Statement2 are correct (b) Both Statement1 and Statement2 are incorrect (c) Statement1 is correct but Statement2 is incorrect (d) Statement2 is correct but Statement1 is incorrect	1
iv.	Observe the given graph and fill in the blank:  _____ the neural network, better is the performance.	1
v.	If an AI model evaluation shows high accuracy but low recall, what might be the problem a. The model is missing many relevant positive predictions b. The model is computationally inefficient c. The model is underperforming on negative classes d. The model is overfitting on the test data	1
vi.	A corpus contains 4 documents in which the word 'color' was appearing 20 times in document1. Identify the term in which we can categorize the word 'color'. (a) Stop word (b) Rare word (c) Frequent word (d) Removable word	1
Q. 3	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Read the examples given below: i. An audio streaming platform recommends new artist based on listening history ii. A vending Machine dispenses the beverage that corresponds to specific button iii. An educational Platform analyses past performance data to respond students need iv. A Self Driving car adapts to current road conditions for safer navigation Choose the options that are AI: (a) i and ii (b) ii and iv (c) iii and iv (d) i, iii, and iv	1
ii.	_____ refer to the characteristics or properties that we aim to gather for analysis in a dataset. (a) Labels (b) Features (c) Classes (d) Attributes	1
iii.	Which of the following is an application of data science? (a) Fraud detection in banking (b) Automatic spell checking (c) Voice recognition in smart devices (d) All of the above	1
iv.	_____ is the technique used to assign a label to each pixel in an image to delineate different objects. (a) Instance segmentation (b) Object recognition (c) Classification (d) Semantic segmentation	1

v.	What is feature extraction in Computer Vision? a) Reducing image noise b) Identifying and describing relevant characteristics from an image c) Increasing image contrast d) Storing image data	1
vi.	F1 Score is a metric that evaluates the balance between (a) True Positives and False Positives (b) Precision and Specificity (c) Precision and Recall (d) Accuracy and Sensitivity	1
Q. 4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Rohan studied various AI concepts but struggled to remember the term that describes algorithms designed to improve their performance as they are exposed to more data over time. Help him with the correct term.	1
ii.	Statement1: The data used to train an AI model is referred to as input. Statement2: The result generated by the AI model is known as training. (a) Both Statement1 and Statement2 are correct (b) Both Statement1 and Statement2 are incorrect (c) Statement1 is correct but Statement2 is incorrect (d) Statement2 is correct but Statement1 is incorrect	1
iii.	Meera developed a model to forecast the sales of a retail store. She collected historical sales data, seasonal trends, and customer demographics. Her model shows high accuracy and reliability. Which of the statements given below is incorrect? (a) The historical sales data used for training is known as Training Data. (b) Data used to evaluate the model's performance is referred to as Validation Data. (c) Training data and testing data are collected during the Data Collection phase. (d) Training data is typically larger than testing data.	1
iv.	How many channels does a grayscale image have?	1
v.	Which feature of NLP allows for identifying the main topics discussed in a collection of documents? (a) Text Generation (b) Topic Modeling (c) Named Entity Recognition (d) Language Translation	1
vi.	Riya developed a spam email classifier using a dataset containing emails for training. She trained the model using the same dataset and achieved perfect accuracy during testing, but it failed to classify new, unseen emails correctly. Name the concept.	1

Q. 5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Rahul, a class XII student, created a virtual assistant that helps users manage their daily tasks. He programmed the assistant to understand user commands and respond accordingly. Identify the domain of AI in the given scenario. (a) Computer Vision (b) Robotics (c) Natural Language Processing (d) Machine Learning	1
ii.	Which evaluation metric considers both the true positives and true negatives to provide a measure of overall accuracy? (a) Precision (b) Recall (c) F1 Score (d) Accuracy	1
iii.	_____ refers to the smallest unit of data in a digital image that can be displayed and edited. (a) Vector (b) Bitmap (c) Pixel (d) Sprite	1
iv.	What do you mean by semantics of a language? (a) Grammatical structure of a sentence (b) Meaning and interpretation of a sentence (c) Rules for constructing sentences (d) Phonetics of a language	1
v.	Which technique is used to convert text into a structured format by breaking it down into individual elements and counting their occurrences? (a) Text classification (b) Tokenization (c) Term frequency-inverse document frequency (TF-IDF) (d) Named Entity Recognition	1
vi.	Which one of the following scenarios results in a high false negative cost? (a) Detecting fraudulent transactions (b) Medical diagnosis for serious illnesses (c) Weather prediction for hurricanes (d) Sentiment analysis of customer reviews	1

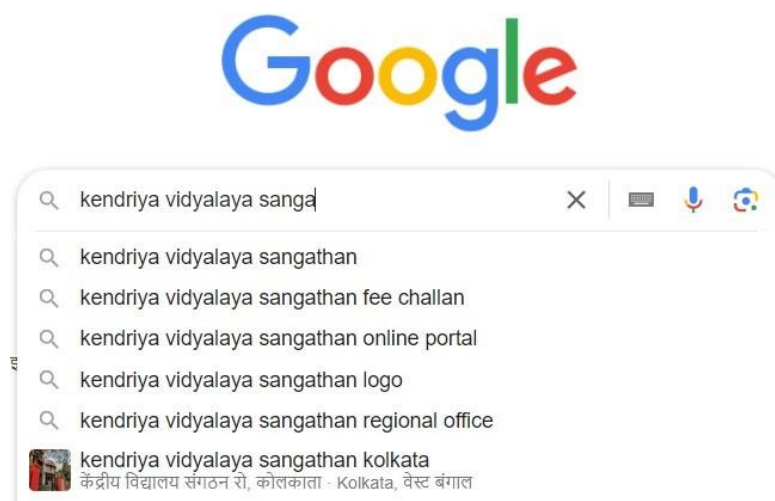
Q. 1 Answer any 4 out of the given 6 questions on Employability Skills (1 x4 = 4)

- i. Pranjali gets up at 5 am and goes to her badminton classes. Then she comes home and finishes her homework before going to school. She does this all by herself. No one tells her to do it. This is an example of _____
- a) Self-motivation
b) External motivation
c) Both self and external motivation
d) Not any specific type of motivation
- ii. _____ act as an interface between the user and the computer. 1
- a) Operating System
b) MS Excel
c) Impress
d) Digital Documentation
- iii. Which of the following are misconception about Entrepreneur? 1
- a) Entrepreneurs are born, not made.
b) A person having a big business is an entrepreneur.
c) A person needs a lot of money to start a business.

- d) All of the above iv. SMART method can be used to set goals to make you successful in your career and personal life. What does 'M' in SMART stand for? a) Motivator
b) Measurable
c) Maintainable
d) Mentor
- v. Which of these is NOT a common communication barrier? 1 a) Linguistic barrier
b) Interpersonal barrier
c) Financial barrier
d) Organizational barrier
- vi. Choose the option which defines sustainable development. 1
a) Taking care of future generations.
b) Taking care of only ourselves.
c) Taking care of ourselves and the future generations.
d) None of the above
- Q. 2 Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)
- i. Which of the following statement is incorrect? 1
a. Email Filtering is an application of NLP
b. Price comparison websites are applications of Data Science
c. Virtual Assistants are not applications of NLP
d. Self-driving cars are applications of Computer Vision.
- ii. Results based on discriminatory assumptions made while developing an algorithm by the developer is called as _____. a) AI Ethics
b) AI Bias
c) Test Data
d) Training Data
- iii. The dataset is divided in two parts _____. 1
a) Machine dataset & Model dataset
b) Training dataset & Test dataset
c) Global dataset & local dataset
d) None of the above
- iv. Which of the following refers to “Where” among 4Ws canvas? 1 a) stakeholders
b) nature of the problem
c) context/situation/location
d) solution or benefits to the stakeholders
- v. Which industry uses data science to analyze customer profiling and past expenditures? 1
a) Genetics & Genomics
b) Fraud and Risk Detection
c) Internet Search
d) Airline Route Planning
- vi. Aaron is facing issue in his internet connectivity at home. He called a customer care service, A virtual assistant took his complaint and replied with an acknowledgement number. What is the AI technology used by Internet service provider? a) Data Science
b) Machine Learning
c) Computer Vision
d) Natural Language Processing

- Q. 3 Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)
- _____ is the ability to recognize and create sounds, rhythm and sound _____ pattern.
 - Mathematical Logical Reasoning
 - Musical Intelligence
 - Spatial Visual Intelligence
 - Linguistic Intelligence
 - The method of collecting correct and dependable data to work with is known as _____.
 - Problem Scoping
 - Data Acquisition
 - Data Exploration
 - Modelling
 - What is the purpose of website recommendations? 1
 - To improve user experience
 - To promote products
 - To suggest similar products
 - All of the above
 - What is the primary goal of Computer Vision? 1
 - To enhance image quality
 - To interpret and make decisions based on visual data
 - To store images efficiently
 - To increase resolution of images
 - What is a chatbot called which uses simple FAQs without any intelligence? 1
 - Smart Chatbot
 - Script Chatbot
 - AI Chatbot
 - ML Chatbot
 - The process of understanding the reliability of any AI model based on 1 output by feeding the test dataset is
 - Data feed
 - Data Reliability
 - Model Evaluation
 - None of these

- Q. 4 Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)
- Based on the image below, choose the correct domain or domains of AI 1 required for the google search engine:



- Data Science

- b) NLP
 - c) Computer Vision
 - d) All of the above
 - ii. The percentage of true positive cases versus all the cases where the prediction is true is defined as
 - a) Precision
 - b) Accuracy
 - c) F1 Score
 - d) None of these
 - iii. What does CSV stand for?
 - a) Comma separated values
 - b) Computer spreadsheet values
 - c) Centralized storage volumes
 - d) Compressed structured variables
 - iv. What does segmentation in Computer Vision refer to?
 - a) Enhancing image details
 - b) Dividing an image into parts or regions
 - c) Reducing image size
 - d) Increasing image resolution
 - v. _____ are the words which occur very frequently in the corpus but do not add any value to it.
 - a) Special Characters
 - b) Stopwords
 - c) Roman Numbers
 - d) Useless Words
 - vi. The measure of balance between precision and recall.
 - a. Accuracy
 - b. F1 Score
 - c. Precision
 - d. None of these
- Q. 5 Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)
- i. What is important to make a Good AI Machine?
 - a) Algorithm
 - b) Data
 - c) Test cases
 - d) All the above.
 - ii. The F1 score ranges from _____ to _____
 - a) -1,0
 - b) 0,1
 - c) -1,1
 - d) None of the above
 - iii. Assertion (A): Computer vision is a field of artificial intelligence that enables computers to interpret and make decisions based on visual data from the world.
Reasoning (R): Computer vision uses algorithms to process and analyse images and videos, enabling tasks like object detection and facial recognition.
 - a) Both A and R are true, and R is the correct explanation for A.
 - b) Both A and R are true, but R is not the correct explanation for A.
 - c) A is true, but R is false.
 - d) A is false, but R is true.
 - iv. What do we call the process of dividing a string into component words?
 - a) Regression
 - b) Tokenization
 - c) Classification
 - d) Clustering

- v. TF-IDF in NLP is defined as: 1
- Term Frequency and Definite Frequency
 - Term Frequency and Indefinite Frequency
 - Term Frequency and Inverse Document Frequency
 - Term Frequency and Integrated Document Frequency
- vi. Statement 1: F1 score is evaluated based on precision or recall. 1 Statement 2: When the F1 score is 0, the model accuracy is 100% a) Both statement1 and statement 2 are correct.
- Both statement1 and statement 2 are incorrect.
 - Statement 1 is correct but statement 2 is incorrect.
 - Statement 1 is incorrect but statement 2 is correct.

SECTION A: OBJECTIVE TYPE QUESTIONS

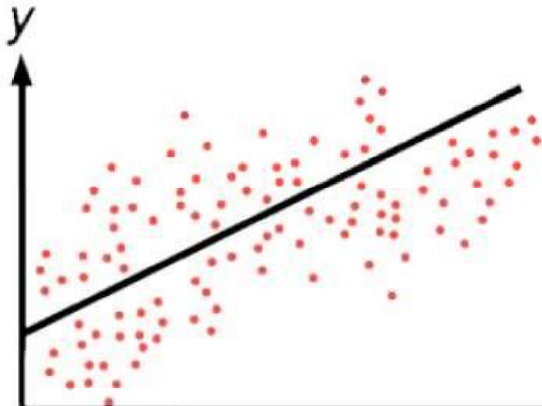
Q. 1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)	
i.	_____ is the final component in the process (a) Response (b) Request (c) Feedback (d) Notice	1
ii.	Sameer gets up at 6 am and goes to his hobby classes. Then he comes home and finishes her homework before going to school. He does this all by himself. No one tells him to do it. This is an example of (a) Self-motivation (b) External motivation (c) Both self and external motivation (d) Not any specific type of motivation	1
iii.	Assertion (A): An entrepreneur takes risks. Reason (R): An entrepreneur is self-confident. (a) Both A and R are correct and R is the correct explanation of A (b) Both A and R are correct but R is NOT the correct explanation of A (c) A is correct but R is not correct (d) A is not correct but R is correct	1

iv.	_____ act as an interface between the user and the computer. (a) Operating System (b) MS Excel (c) Impress (d) Digital Documentation	1
v.	_____ refers to recruitment, employment, selection, training, development and compensation of the employees with an organization. (a) Entrepreneurs (b) Management (c) Human Resource Management (d) Employer	1

vi.	Choose the option which is not a sustainable development goal according to United Nations. (a) Clean Water and Sanitation (b) Gender Equality (c) Population (d) Reduced Inequalities	1
Q. 2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Choose the five stages of AI project cycle in correct order: (a) Evaluation -> Problem Scoping -> Data Exploration -> Data Acquisition -> Modelling (b) Problem Scoping -> Data Exploration -> Data Acquisition -> Evaluation -> Modelling (c) Data Acquisition -> Problem Scoping -> Data Exploration -> Modelling -> Evaluation (d) Problem Scoping -> Data Acquisition -> Data Exploration -> Modelling -> Evaluation	1
ii.	Online Company had been working on a secret AI recruiting tool. The machine-learning specialists uncovered a big problem: their new recruiting engine did not like women. The system taught itself that male candidates were preferable. It penalized resumes that included the word "women". This led to the failure of the tool. This is an example of- (a) Data Privacy (b) AI access (c) AI Bias (d) Data Exploration	1
iii	Spam filter is an application of _____. (a) Natural Language Processing (b) Computer Vision (c) Data Science (d) Segmentation	1
iv.	Shalu is working on a project that involves over a lakh of records. Which of the following should she use to make the best project? (a) Traditional programming (b) Manual processing (c) IoT (d) Neural networks	1

v.	Divyam was learning neural networks. He understood that there were three layers in a neural network. Help her identify the layer that does processing in the neural network. (a) Output layer (b) Hidden layer (c) Input layer (d) Data layer	1
vi.	State True / False Machine Learning is a subset of Deep Learning.	1
Q. 3	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	

i.	White Smoke is an example of _____ domain of AI (a) Data Science (b) Computer Vision (c) NLP (d) None of these	1
ii.	Assertion: Rule based AI model is a static model. Reasoning: Rule based model can evolve over changing data set. (a) Both A and R are true and R is the correct explanation for A (b) Both A and R are true and R is not the correct explanation for A (c) A is True but R is False (d) A is false but R is True	1
iii.	Which search engine(s) make use of data science algorithms? (a) Google only (b) Yahoo, Bing, Ask, AOL, and Google (c) Yahoo and Bing only (d) AOL, Ask, and Google only	1
iv.	A_system is a computer vision based technology that identifies or verifies or matches a digital image (live or stored) of a human face against a database of stored face images. (a) Face filter (b) Identification (c) Facial recognition (d) None of these	1
v.	How does AI contribute to the field of Data Science? (a) It makes data collection easier and faster. (b) It provides predictions and suggestions based on collected data. (c) It eliminates the need for human involvement in analyzing data. (d) It enhances technological knowledge for data collection.	1
vi.	_____ can be defined as the measure of balance between precision and recall. (a) Recall (b) Accuracy (c) Precision (d) F1 Score	1
Q. 4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	

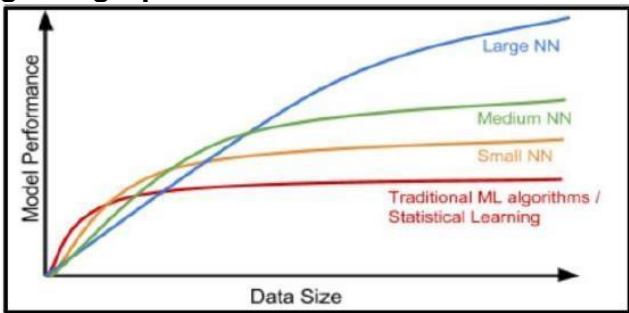
i.	Identify the data modelling technique. 	1
	(a) Regression (b) Classification (c) Clustering (d) Dimensionality reduction	
ii.	Kamal was learning the conditions that make up the confusion matrix. He came across a scenario in which the machine that was supposed to predict a furniture was always predicting not a furniture. What is this condition called? (a) False Positive (b) True Positive (c) False Negative (d) True Negative	1
iii.	Assertion (A): Image classification is the process of categorizing and labelling groups of pixels or vectors within an image based on specific rules. Reasoning (R): Image classification is a crucial step in medical imaging, allowing for the diagnosis of diseases from X-rays or MRI scans. (a) Both A and R are true, and R is the correct explanation for A. (b) Both A and R are true, but R is not the correct explanation for A. (c) A is true, but R is false. (d) A is false, but R is true.	1
iv.	_____ is the name of the popular programming language used in data science?	1
v.	Preeti has an Alexa device which is able to answer her questions based on the available data. This is an example of NLP, So which of the following is the type of data used by NLP applications? (a) Images (b) Numerical data (c) Graphical data (d) Text and Speech	1
vi.	The F1 score ranges from _____ to _____	1
Q. 5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	What does a pixel represent in an image? (a) A segment of a video (b) The smallest unit of an image (c) The colour depth of an image (d) The brightness of an image	1

ii.	What do we call the process of dividing a string into component words? (a) Regression (b) Word Tokenization (c) Classification (d) Clustering	1
iii.	“Converting text to a common case” is a step in Text Normalization. (True/False)	1
iv.	When the prediction is False and reality is True, that condition is called_____ (a) TN (b) TF (c) FP (d) FN	1
v.	TFIDF stands for_____ (a) Team Frequency and Inverse Document Frequency (b) Term Frequency and Inverse Document Frequency (c) Top Frequency and Inverse Document Frequency (d) Table Frequency and Inverse Document Frequency	1
vi.	The percentage of true positive cases versus all the cases where the prediction is true is defined as (a) Precision (b) Accuracy (c) F1 Score (d) None of these	1

Q. 1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)	
i.	“Suresh participated in a 100m race and won a prize. This motivated him to go for practice every morning”. Which type of motivation is clearly visible in the given statement?	1
ii.	HOME key on keyboard is classified under (a) Punctuation Keys (b) Navigation Keys (c) Command Keys (d) Control Keys	1

iii.	Assertion (A): A doctor who works for a hospital is a self-employed person Reason(R): A self-employed person running a business to satisfy a need by trying new ideas is an entrepreneur. (a) Both A and R are correct and R is the correct explanation of A (b) Both A and R are correct but R is NOT the correct explanation of A (c) A is correct but R is not correct (d) A is not correct but R is correct	1
iv.	Which of the following is not a step to manage emotional intelligence? (a) Generate emotions (b) Understand your emotions (c) Rationalize (d) Practice	1
v.	 The above given visual communication refers to (a) Under CCTV surveillance (b) Radiation/biohazard warning (c) No mobile phone (d) No entry	1
vi.	“Sumit is using organic and natural fertilizers, such as cow dung in growing crops”. This is an example of (a) Chemical Farming (b) Organic Farming (c) Sustainable Process (d) Both (b) and (c)	1

Q. 2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
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i.	Assertion (A) – An Automatic Washing Machine is an example of AI. Reason(R) – When a machine displays attributes like reasoning, learning and solving problems based on the situation or environment around it, the machine is said to be based on Artificial Intelligence. (a) Both A and R are correct and R is the correct explanation of A (b) Both A and R are correct but R is not the correct explanation of A (c) A is correct but R is not correct (d) A is not correct but R is correct.	1
ii.	“Siri is an example of _____. ” Fill in the blanks with appropriate option. (a) Social Media (b) Space Exploration (c) Chatbot (d) All of them	1
iii.	Statment1: Neural Network systems are modelled on the human brain and nervous system. Statement2: Hidden layers of neural network perform all the processing. (a) Both Statement1 and Statement2 are correct (b) Both Statement1 and Statement2 are incorrect (c) Statement1 is correct but Statement2 is incorrect (d) Statement2 is correct but Statement1 is incorrect	1
iv.	Observe the given graph and fill in the blank:  _____ stop improving after a certain saturation point.	1
v.	_____ is a language which is helpful in handling structured data. (a) DBMS (b) SQL (c) Spreadsheet (d) CSV	1

vi.	Ahana is given a long text passage. She extracts all the unique words from this passage and also the number of times they occur in it. This feature of Natural Language Processing is known as (a) Stop words (b) Tokenization (c) Stemming (d) Bag of words	1
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Q. 3	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Read the examples given below- i. Automatic Toy Car ii. Face lock in smartphones iii. Air Conditioner iv. Email filters Choose the options that are AI (a) i and ii (b) iii and i (c) ii and iv (d) i, iii and iv	1
ii.	_____ convert real world phenomenon like temperature/force to voltage or current signals that can be used as inputs.	1
iii.	Naman is new to the field of Data Science and wants to perform data acquisition. Which of the following sources he could use? (a) Surveys (b) Web Scrapping (c) Cameras (d) All of them	1
iv.	Atul is using QR code scanner to make payment on a shop. He is basically making use of the technique of (a) Computer Vision (b) Stemming (c) Lemmatization (d) Resolution	1

v.	Identify the given NLP application It helps us to convert one language text (say English) into another (say Hindi). (a) Text summarization (b) Sentiment Analysis (c) Machine Translation (d) Parts of speech tagging	1
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vi.	F1 score is harmonic mean of (a) Precision and False Positive Rate (b) Precision and Recall (c) Recall and Accuracy (d) Precision and Accuracy	1
Q. 4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Anita has recently started learning about AI. She has forgotten the name of the domain of AI, which is multidisciplinary field that combines mathematics, statistics and computer science. Help her with the name of domain.	1
ii.	Statment1: If we want high precision, we need to reduce False Positives (FP). Statement2: If we want high recall, we need to reduce False Negatives (FN). (a) Both Statement1 and Statement2 are correct (b) Both Statement1 and Statement2 are incorrect (c) Statement1 is correct but Statement2 is incorrect (d) Statement2 is correct but Statement1 is incorrect	1
iii.	Raman has to design a deep learning-based model, which will translate English sentences into Hindi. He collects 10000 instances of English-Hindi pairs to design his model. Out of 10000 instances, he uses 9000 instances to build the model and remaining 1000 instances to check performance of his model. Which of the following statements is incorrect? (a) Size of training data is 9000. (b) Size of test data is 1000. (c) Size of training data is larger than test data. (d) Size of training data is 10000.	1
iv.	The closeness of a captured image to the original image is decided by the number of _____.	1
v.	Which model will always have an optimum accuracy? (a) Underfitted (b) Overfitted (c) Good fit (d) Both (a) and (b)	1

vi.	A machine was given a banana and asked whether it is banana. The machine correctly predicted it as “Yes”. This is a case of (a) True Positive (b) False Positive (c) True Negative (d) False Negative	1
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Q. 5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Ahana has developed a model, which classifies social media comments into positive and negative. Identify the most appropriate domain of AI in the given scenario (a) Computer Vision (b) Data Science (c) Natural Language Processing (d) None of these	1
ii.	Write Accuracy in terms of True Positive (TP), True Negative (TN), False Positive (FP) and False Negative (FN).	1
iii.	The full form of ppi in terms of resolution is (a) Pixels Per Inch (b) Pixels Per Image (c) Picture Per Inch (d) Picture Per Image	1
iv.	The process which always reduces a larger word into a meaningful smaller word is known as (a) Stemming (b) Lemmatization (c) Both (a) and (b) (d) Stop word	1
v.	Which process divides a large corpus into sentences. (a) Stemming (b) Tokenization (c) Text normalization (d) Sentence Segmentation	1

vi.	The best method to measure as to how successful a model is (a) F1 Score (b) Reality (c) Prediction (d) Precision	1
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Q1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)	
(i)	Which of these is a positive (good) facial expression? A) Frowning while concentrating B) Maintaining eye contact C) Smiling continuously D) Rolling up your eyes	1

(ii)	Stress is identified as a condition in which a person is..... A) Tensed B) Worried C) Both of these D) None of these	1
(iii)	What does the ‘S’ in SMART goals stand for? A) Smart B) Strategy C) Stupid D) Specific	1
(iv)	Choose the strong password out of the following: A) 12345 B) Aprfd@2024 C) hello123 D) password	1
(v)	Amul (White revolution in India) is an example of which of these business enterprises (a) Sole proprietorship (b) Partnership (c) Cooperative society (d) Joint stock company	1

(vi)	“Efforts are made to increase the solar power generation so that our electricity needs are met and at the same time we do not pollute the environment or use up natural resources”. Which SDG can you relate this statement to? (a) Life on land (b) Clean water and sanitation (c) Affordable and clean energy (d) Reduced inequalities	1
Q2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
(i)	_____ are made with the intent of accomplishing tasks which either too tedious for humans or which are time-consuming. (A) Machines (B) Gadgets (C) Equipment (D) Tools	1
(ii)	_____ refers to the ability to perceive or infer information, and to retain it as knowledge to be applied toward adaptive behaviors within an environment or context. (A) Behavior (B) Nature (C) Habits (D) Intelligence	1
(iii)	Ms. Rani is intelligent in performing calculations and logical reasoning. This ability refers to (A) Linguistic Intelligence (B) Spatial Visual Intelligence (C) Mathematical Intelligence (D) Existential Intelligence	1
(iv)	Speech recognition, Image recognition, and the ability to take action are examples of (A) to perceive, understand, and act (B) reasoning and planning (C) learning and adaption (D) none of these	1

(v)	_____ includes our past experience, intuition, knowledge, and self-awareness (A) habits (B) behaviour (C) information (D) nature	1
(vi)	When a machine possesses the ability to mimic human traits like making decisions, predicting the future, learning, and improving on its own said to have (A) Informative Intelligence (B) Knowledge Intelligence (C) Artificial Intelligence (D) Emotional Intelligence	1
3.	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
(i)	-----help show proportions and percentages between categories, by dividing a circle into proportional segments. (A) Pie Charts (B) Bar Graph (C) Line Chart	1

	(D) Scatter Chart	
(ii)	Which of the following is not a component of project cycle? (A) Problem Scoping (B) Data Acquisition (C) Evaluation (D) Clustering	1
(iii)	-----is a process of understanding the reliability of any AI model, based on outputs by feeding the test dataset into the model and comparing it with actual answers. (A) Evaluation (B) Regression (C) Supervised Learning (D) Unsupervised Learning	1
(iv)	Data science is the process of diverse set of data through? A. Organizing data B. Processing data C. Analysing data D. All of the above	1

(v)	Which of the following step is performed by the data scientist after acquiring the data? A. Data Replication B. Data Integration C. Data Cleansing D. All of the Mentioned	1
(vi)	Which of the following is good way of performing experiments in data science? A. Measure variability B. Generalize to the problem C. Have Replication D. All of the above	1
4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
(i)	RGB Images are coloured images made up of three primary colours (A) Red, Green and Blue. (B) Red, Green and Brown. (C) Red, Green and Black. (D) None of these	1

(ii)	A pixel value generally is a byte image ie stored as an 8 bit integer with range starting from 0-255. (A) 0 is for Black Colour and 255 is for white colour (B) 0 is for White Colour and 255 is for white Blacl (C) 0 is for Blue Colour and 255 is for red colour (D) 0 is for red Colour and 255 is for blue colour	1
(iii)	-----application finds its use in smartphones, social media, School attendance systems etc (A) Facial Recognition (B) Medical Imaging (C) Face Filters (D) Google’s Search by Image	1

(iv)	What is a chatbot called which uses simple FAQs without any intelligence? (A) Smart Chatbot (B) Script Chatbot (C) AI Chatbot (D) ML Chatbot	1
(v)	What is the process of extracting emotions within a text data using NLP called? (A) Sentiment Analysis (B) Emotional Data Science (C) Emotional Processing (D) Emotional Classification	1
(vi)	What is NLTK tool in Python? (A) Natural Linguistics Tool (B) Natural Language Toolkit (C) Neutral Language Kit (D) Neutral Language Toolkit	1
5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
(i)	What do we call the process of dividing a string into component words ? (A) Regression (B) Word Tokenization (C) Classification (D) Clustering	1
(ii)	What is the stem of the word “Making” ? (A) Mak (B) Make (C) Making (D) Maker	1
(iii)	While evaluating a model`s performance, recall parameter considers_____ i. False positive ii. True Positive iii. False negative iv. True negative Choose the correct option: A. only (i) B. (ii) and (iii) C. (iii) and (iv) D. (i) and (iv)	1

(iv)	Amit was learning the conditions that make up the confusion matrix. He came across a scenario in which the machine that was supposed to predict an animal was always predicting not an animal. What is this condition called? (A) False Positive (B) True Positive (C) False Negative (D) True Negative	1
(v)	Which of the following talks about how true the predictions are by any model? (A.) Accuracy (B.) Reliability (C.) Recall (D.)F1 Score	1
(vi)	_____ is the process of understanding the reliability of any AI model based on output by feeding the test dataset. (A) Data Reliability (B) Data feed (C) Model Evaluation (D) (E) (F) None of these	1

Q.1	Answer any 4 out of the given 6 questions on Employability Skills (1x4=4 marks)	
i.	Ramya travelled to Sweden from India to pursue her higher education. But she doesn't know how to speak Swedish (language of Sweden). Because of this, she was unable to find a part time job. This is an example of _____ . (a) Interpersonal barrier (b) Physical barrier (c) Organizational barrier (d) Linguistic barrier	1
ii.	Shortcut Key for cut Option. (a) Ctrl + C (b) Ctrl + X (c) Ctrl + K (d) Ctrl + P	1
iii.	Which of the following activities helps in reducing stress? (a) Yoga (b) Walking (c) Meditation (d) All of these	1
iv.	Ritu leaves the company she worked for and starts catering food for marriage programmes. She is an _____. (a) Entrepreneur (b) Employee (c) Cook (d) Unemployed	1
v.	Sonika gets up at 6 am and goes for her hobby classes. Then she comes back home and finishes her homework before going to school. She does all work by herself. No one tells her to do so. This is called _____. (a) Self-Awareness (b) Self-Motivation (c) Self-Regulation (d) Discipline	1
vi.	There are _____ SDGs (a) 13 (b) 17 (c) 12 (d) 15	1
Q.2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	What does the pixel value represent in a grayscale image? (a) The color	1

	(b) The intensity (c) The contrast (d) The brightness	
ii.	How you can identify the problem scoping in the project. (a) Understand why the project was started (b) Define the project’s primary objectives (c) Outline the project’s work statement. (d) All of the above	1
iii.	Which technique is used to build predictive models? (a) Visual Learning (b) Auditory Learning (c) Machine Learning (d) Reading & writing	1
iv.	What is important to make a Good AI Machine? (a) Algorithm (b) Data (c) Test cases (d) All the above	1
v.	The process of understanding the reliability of any AI model based on output by feeding the test dataset is (a) Data feed (b) Data Reliability (c) Model Evaluation (d) None of these	1
vi.	The higher the value, the more important the word in the document – this is true of which model? (a) Bag of Words (b)TF-IDF (c) YOLO (d) SSD	1
Q.3	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	What is the name of the popular programming language used in data science? Python Java C++ C	1
ii.	AI Machines are composed of (a) Software (b) Hardware (c) Machine/Device (d) Software. Hardware & Machine	1
iii.	_____ element helps us to understand and categorize who is directly and indirectly affected by the problem.	1

	(a) Who (b) What (c) Where (d) Why	
iv.	Which of the following talks about how true the predictions are by any model? (a) Accuracy (b) Reliability (c) Recall (d) F1 Score	1
v.	“Converting text to a common case” is a step in Text Normalisation. (True/False)	1
vi.	Which format is typically used to store a color image in digital form? Grayscale Binary RGB Indexed	1
Q.4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Recall method is not depend on True negative. (True/False)	1
ii.	What does a pixel represent in an image? (a) A segment of a video (b) The smallest unit of an image (c) The color depth of an image (d) The brightness of an image	1
iii.	An organization is using a AI enabled Security surveillance system. Surya works as a Security guard in the Organization. Due to usage of AI enabled security system he has a feeling that he may not be needed in the near future. What is this situation? (a) Data Privacy (b) AI Bias (c) AI Access (d) AI is creating Unemployment	1
iv.	What is data in AI? (a) Facts (b) Instruction (c) Information (d) All of the above	1
v.	What do we call the process of dividing a string into component words? Regression Word Tokenization Classification Clustering	1
vi.	Full form of KNN model. (a) K-negative neighbors (b) K-nearest neighbors	1

	(c) K-national neighbors	K-negotiation neighbors	
Q.5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)		
i.	In Weather forecasting system, to predict the temperature, rainfall and etc. The type of technology used is _____. (a) Computer Vision (b) Interpersonal Intelligence (c) Natural Language Processing (d) Artificial Intelligence		1
ii.	When the prediction is True and reality is False, that condition is termed as (a) TN (b) TF (c) FP (d) FN		1
iii.	.What is/are the reason(s) for AI Bias in data? (a) Improper assumptions (b) Uneven data collection (c) No testing on Data (d) All the above		1
iv.	TF-IDF in NLP is defined as: (a) Term Frequency and Definite Frequency (b) Term Frequency and Indefinite Frequency (c) Term Frequency and Inverse Document Frequency (d) Term Frequency and Integrated Document Frequency		1
v.	Statement 1: F1 score is evaluated based on precision or recall. Statement 2: When the F1 score is 0, the model accuracy is 100% (a) Both statement1 and statement 2 are correct. (b) Both statement1 and statement 2 are incorrect. (c) Statement 1 is correct but statement 2 is incorrect. (d) Statement 1 is incorrect but statement 2 is correct.		1
vi.	After Lemmatization, the words which we are get after removing the affixes is called (a) Lemmat (b) Lemma (c) Lemmatiz (d) Lemmatiza		1

Q.1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)	
i.	Mr, Mohan wants to convey a message to his colleagues.But his tone of voice and language is different,as his colleagues are from North India and He is from South India. This type of barrier is known as a) Physical c) Cultural	b) Interpersonal d) Organizational
		1

ii.	Shiv has selected a folder in D: drive. He clicked on the folder and hold mouse button down then moved it to new location then he released the mouse button. Here Shiv has performed which of the following mouse action? a) Hover c) Drag and Drop b) Double click d) Selection	1
iii.	Assertion(A): Prajakta has her own beauty saloon in her local areas. She hired two women in her saloon. Reason(R): She is helping society to grow. (a) Both A and R are correct and R is the correct explanation of A (b) Both A and R are correct but R is NOT the correct explanation of A (c) A is correct but R is not correct (d) A is not correct but R is correct	1
iv.	Dhruvin is preparing for exam. He avoids time wasters like chatting on phone, surfing gossip sites etc. and focus on more important things. This is one of the steps of effective time management, identify the same: a) Organizing c) Controlling b) Prioritising d) Tracking	1
v.	Ravi works hard to get the best student award at the end of the year, What type of motivation is this a) Internal c) both (a) and (b) b) External d) None of these	1

vi.	_____ is the development that satisfies the needs of the present without compromising the capacity of future generations, guaranteeing the balance between economic growth, care for the environment and social well-being. a) Social Development c) Financial Development b) Sustainable Development d) Cultural Development	1
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Q.2 Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)

i.	Assertion (A): Life without machine is unimaginable today. Reason(R): Machines are made with an intent of irritating humans. (a) Both A and R are correct and R is the correct explanation of A (b) Both A and R are correct but R is NOT the correct explanation of A (c) A is correct but R is not correct (d) A is not correct but R is correct	1
ii.	Kriza is planning for a trip in Kerala in winter break. She searched hotels for the same. After that 1 she is getting notification about the same and advertisements in websites, apps and many more. Which of the following term is perfectly matched with this example? a) AI Access c) AI Ethics b) Data Privacy d) AI Manners	1
iii.	A _____ is essentially a system of organizing machine learning algorithms to perform certain tasks. a) Natural Networks c) Neural Networks b) Neutral Networks d) Neuron Networks	1
iv.	In neural network _____ layers, the processing occurs. Hidden c) Output d) Top 1 a) Input b)	1
v.	Which programming language is commonly used for implementing AI algorithms and model a) CSV c) Spreadsheet b) Python d) SQL	1
vi.	Which of the following text normalization step considers every word, number or special character separately? a) Sentence Segmentation b) Tokenization	1

- c) Stemming d) Lemmatization

Q.3 Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)

- i. Statement A - In today's time, every technology around us is AI. Statement B - An AI machine too gets trained first on the training data and then optimises itself according to its own experiences. 1
a) A is correct b) B is correct
c) Both are correct d) Both are incorrect
- ii. Mukesh wants to use AI to make hiring decisions. Which ethical consideration should he be most concerned about? 1
a) Data privacy b) Algorithm fairness and bias
c) Energy efficiency d) Hardware compatibility
- iii. Which of the following domain of AI is working around alphanumeric information, numbers and statistics? 1
a) Data Science b) NLP
c) CV d) Neural Network
- iv. As humans have eyes, so they can see anything and analyse it. Select an appropriate option which adds functionality like that in machines? 1
a) Natural Language Processing b) Computer Vision
c) Data Science d) Evaluation
- v. All the virtual assistants like Alexa, Google Assistants, Siri etc. can taken as _____ 1
a) Smart Bot b) Script Bot
c) Robot d) Programming Bot

vi.	The recorded result of comparison between prediction and reality is known as _____ a) Precision b) F1 Score c) Confusion Matrix d) Accuracy	1
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4.	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Which of the following states intention of machine learning? a) Ability to machine to recognize human's face, move objects and understand, command given by humans then perform the tasks b) Enable machines to learn by themselves using the data provided and make accurate predictions/Decisions c) Machine is trained with huge amounts of data which helps to train data d) Enable machines to write algorithm	1
ii.	Which of the following is the second stage of AI Project cycle? a) Problem Scoping b) Data Acquisition c) Evaluation d) Data Exploration	1
iii.	Extracting data can be offense. a) Yes b) No c) May be d) None	1
iv.	Every photograph is in digital form is made up of _____ a) Lines b) Dots c) Pixels d) Graphs	1
v.	Spam filtering is an example of a) Text Classification b) Automatic Summarization c) Sentiment Analysis d) Bag of words	1
vi.	How is the word "changing" lematized? a) change b) changin c) chan d) changing	1

5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
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i.	i. In Computer vision, input to machine can be a) Numeric & Alphanumeric b) Photographs, Videos c) Spoken words only d) Text	1
ii.	The condition which predicts all predictions as No and reality is also No. this condition is known as _____ a) True Negative b) False Negative c) Negative True d) All Negative	1
iii.	Which of the following domain of AI is used by the airlines companies for strategic areas of improvements: a) Data Science b) Computer Vision c) Natural Language Processing d) Neural Network	1
iv.	Which of the following is the first step of bag of words algorithm? a) Create Dictionary b) Text Normalization c) Create Document vectors d) Stemming	1
v.	The number of negative examples that model correctly classifies as negative. Which case is this in Error matrix? (a) TP (b) TN (c) FP (d) FN	1
vi.	Which one of the following scenario results in a high false negative cost? (a) Viral Outbreak (b) Spam Filter (c) flood(d) Mining	1

1.

c.	Self-Driving Car
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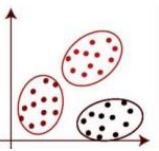
	d. Smart TV	
III	In Weather forecasting system, to predict the temperature, rainfall and etc. The type of technology used is _____. a. Computer Vision b. Interpersonal Intelligence c. Natural Language Processing d. Artificial Intelligence	1
IV	An important technology used for facial recognition in phones is _____ of AI. a. Data Science b. Machine Learning c. Computer Vision d. Natural Language Processing	1
V	The full form of NLP is a. Natural Learner Processing b. Natural Leader Processing c. Natural Listener Processing d. Natural Language Processing	1
VI	The AI Project Cycle is a _____ that a company must follow in order to derive value from an AI project and to solve the problem. a. Step-by-step process b. Random process c. Reverse process d. None of the above	1
Q.3	Answer any 5 question out of 6	
I	_____ element helps us to understand and categorize who is directly and indirectly affected by the problem. a. Who b. What c. Where d. Why	1
II	What is data in AI? a. Facts b. Instruction c. Information d. All of the above	1
III	Data science is the process of diverse set of data through? a. Organizing data b. Processing data c. Analysing data d. All of the above	1
IV	Clustering is an example of a. Supervised learning model b. Rule based model c. Unsupervised learning model d. Reinforced learning model	1
V	A graph displays information as a series of data points connected by straight line segments. a. Bar b. Scatter c. Histogram d. Line	1
VI	The _____ domain of Artificial Intelligence, enables machines to see through images or visual data, process and analyse them on the basis of algorithms and methods in order to analyse actual phenomena with images.	1

Q.4	Answer any 5 question out of 6	
I	Statement I : Object Detection is the process of finding instances of real world objects in images Statement II : Object Detection falls under Computer Vision Tasks for single objects. a. Both Statement I and Statement II are True b. Statement I is True and Statement II is False c. Statement I is False and Statement II is True d. Both Statement I and Statement II are False	1
II	RGB value _____ represents black colour.	1
III	Which of these is not an NLP library? a. NLTK b. NLP Kit c. Open NLP d. NLP Suite	1
IV	What is the process of extracting emotions within a text data using NLP called? a. Sentiment Analysis b. Emotional Data Science c. Emotional Processing d. Emotional Classification	1
V	_____are the words which occur very frequently in the corpus but do not add any value to it. a. Special Characters b. Stopwords c. Roman Numbers d. Useless Words	1
VI	What do we call the process of dividing a string into component words ? a Regression b. Word Tokenization c. Classification d. Clustering	1
Q.5	Answer any 5 question out of 6	
I	What is the stem of the word “Making” ? a. Mak b. Make c. Making d. Maker	1
II	The process of understanding the reliability of any AI model based on output by feeding the test dataset is a. Data feed b. Data Reliability c. Model Evaluation d. None of these	1
III	The result of comparison between the prediction and reality is recorded in a. F1 Score b. Confusion matrix c. Evaluation Model d. All of these	1
IV	Two conditions when prediction matches with the reality are True Positive and _____.	1
V	What is the value of F1 score if the model is 100 % accuracy? a. 100 b. 1 c. 0 d. 50	1

VI	When the prediction is True and reality is False, that condition is termed as a. TN c. FP	b. TF d. FN	1
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1.

Q1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)	
i.	Pranjali gets up at 5 am and goes to her badminton classes. Then she comes home and finishes her homework before going to school. She does this all by herself. No one tells her to do it. This is an example of (a) Self-motivation (b) External motivation (c) Both self and external motivation (d) Not any specific type of motivation	1
ii.	Which of the following is a valid file extension for Notepad file? (a) .jpg (b) .doc (c) .text (d) .txt	1
iii.	Ravi's customer comes to his store and starts shouting at him. He does not get angry. He listens to what his customer is saying. He is _____. (a) Hardworking (b) Confident (c) Patient (d) Trying new ideas	1
iv.	Statement 1: A realistic goal is one that has no timeline or plans for execution. Statement 2: Breaking down big goals into smaller parts will make the goal achievable. (a) Both Statement I and Statement II are correct (b) Both Statement I and Statement II are incorrect (c) Statement I is correct but Statement II is incorrect (d) Statement I is incorrect but Statement II is correct	1
v.	Rohit, when leaving from his friend's house is bidding goodbye by waving his hands. Which type of non-verbal communication is used by Rohit? (a) Expression (b) Body language (c) Gesture (d) All the above	1
vi.	The aim of Sustainable development is (a) to inculcate the value of self-resistance amongst the people (b) to save natural resources for everyone (c) to utilize judiciously and ensure its availability for future generations (d) All of these	1
Q2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Chatbots and smart bots are related to _____ domain of AI. (a) Data Science (b) Machine Learning (c) Computer Vision (d) Natural Language Processing	1

ii.	Results based on discriminatory assumptions made while developing algorithm by the developer is called as _____.	1
	(a) AI Ethics (b) AI Bias (c) Test Data (d) Training Data	
iii.	Divya was learning neural networks. She understood that there were three layers in a neural network. Help her identify the layer that does processing in the neural network. (a) Output layer (b) Hidden layer (c) Input layer (d) Data layer	1
iv.	Statement A: Neural networks are made up of layers of neurons. Statement B: Human brain consists of millions of neurons. (a) Only Statement A is correct (b) Only Statement B is correct (c) Both the statements are correct (d) None of the statements is correct	1
v.	In which of the following, a person is constantly followed/chased by another person or group of several peoples? (a) Phishing (b) Bulling (c) Stalking (d) Identity theft	1
vi.	In text normalization, text from multiple documents and the term used for the whole textual data from all the documents altogether is known as _____. (a) Corpus (b) Tokens (c) Lemma (d) Stem	1
Q3	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Which of the following is Not AI? i. Air Conditioner ii. Automatic Washing Machine iii. Self-Driving Car iv. Smart TV (a) i, ii & iii (b) i & ii (c) i, ii & iv (d) iii & iv	1
ii.	The AI Project Cycle is a _____ that a company must follow in order to derive value from an AI project and to solve the problem. (a) Step-by-step process (b) Random process (c) Reverse process (d) None of the above	1
iii.	Data science is the process of diverse set of data through? (a) Organizing data (a) Processing data (c) Analysing data (d) All of the above	1
iv.	Each evaluation metric represents the ratio of true negatives to all actual negative instances and is commonly used in binary classification. (a) Accuracy (b) Precision (c) Recall (d) Specify	1
v.	What is a chatbot called which uses simple FAQs without any intelligence? (a) Smart Chatbot (b) Script Chatbot (c) AI Chatbot (d) ML Chatbot	1
vi.	The percentage of correct predictions out of all observations. (a) Prediction (b) Accuracy (c) F1 Score (d) None of these	1
Q4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Identify the algorithm based on the given graph  (a) Dimensionality reduction (b) Classification (c) Clustering (d) Regression	1

ii.	Statement 1: F1 score is evaluated based on precision or recall. Statement 2: When the F1 score is 0, the model accuracy is 100% (a) Both statement1 and statement 2 are correct. (b) Both statement1 and statement 2 are incorrect.s (c) Statement 1 is correct but statement 2 is incorrect. (d) Statement 1 is incorrect but statement 2 is correct.	1
iii.	Spam filtering in email is an example of _____ (a) Text summarisation (b) Text Classification (c) Sentiment Analysis (d) None of the above	1
iv.	_____ element helps us to understand and categorize who is directly and indirectly affected by the problem.	1

	(a) Who (b) What (c) Where (d) Why	
v.	“Converting text to a common case” is a step in Text Normalisation. (True/False)	1
vi.	What is the process of extracting emotions within a text data using NLP called? (a) Sentiment Analysis (b) Emotional Data Science (c) Emotional Processing (d) Emotional Classification	1
Q5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	How many tokens are there in the following sentence: “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
ii.	Recall method is not depend on True negative. (True/False)	1
iii.	What does the pixel value represent in a grayscale image? (a) The color (b) The intensity (c) The contrast (d) The brightness	1
iv.	Aditi, a student of class XII developed a chatbot that clarifies the doubts of Economics students. She trained the software with lots of data sets catering to all difficulty levels. If any student would type or ask questions related to Economics, the software would give an instant reply. Identify the domain of AI in the given scenario. (a) Computer Vision (b) Data Science (c) Natural Language Processing (d) None of these	1
v.	What is important to make a Good AI Machine? (a) Algorithm (b) Data (c) Test cases (d) All of the above	1
vi.	How you can identify the problem scoping in the project. (a) Understand why the project was started (b) Define the project’s primary objectives (c) Outline the project’s work statement. (d) All of the above	1