

O.P.JINDAL SCHOOL , SAVITRI NAGAR

PRE – BOARD – 1. (2025-26)

(SET - B)

CLASS - X

QUESTION PAPER SET-1

ARTIFICIAL INTELLIGENCE (SUBJECT CODE - 417)

Time Allowed : 2 Hours

Maximum Marks : 50

General Instructions:

1. Please read the instructions carefully.
2. This Question Paper consists of 21 questions in two sections: **Section A & Section B.**
3. **Section A** has Objective type questions whereas **Section B** contains Subjective type questions.
4. Out of the given (5 + 16 =) 21 questions, a candidate has to answer (5 + 10 =) 15 questions in the allotted (maximum) time of 2 hours.
5. All questions of a particular section must be attempted in the correct order.
6. **SECTION A - OBJECTIVE TYPE QUESTIONS (24 MARKS):**
 - i. This section has 05 questions.
 - ii. Marks allotted are mentioned against each question/part.
 - iii. There is no negative marking.
 - iv. Do as per the instructions given.
7. **SECTION B – SUBJECTIVE TYPE QUESTIONS (26 MARKS):**
 - i. This section has 16 questions.
 - ii. A candidate has to do 10 questions.
 - iii. Do as per the instructions given.
 - iv. Marks allotted are mentioned against each question/part.

SECTION A: OBJECTIVE TYPE QUESTIONS

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)		
i	_____ and _____ are AI based applications that help us in navigation. (a) Google Map and Ola/Uber (b) Siri and Alexa (c) Cortana and Rose (d) Script Bot and Smart Bot	1
ii	"This type of intelligence measure's one's awareness of the natural world around them and their sensitivities to any changes that occur. It allows us to identify the variation among two different species and understand how they are related". Identify the type of intelligence described in the above sentence.	1
iii	Identify the incorrect statement(s) from the following: (i) Deep learning is a subset of Machine Learning (ii) Machine Learning is a subset of Deep Learning (iii) Artificial Intelligence is a subset of Deep Learning (iv) Deep Learning is the advanced form of AI and ML (a) only (i) (b) (ii) and (iii) (c) (i) and (ii) (d) Only (iii)	1
iv	During Data Acquisition, feeding previous data into the machine is called: (a) Training Data (b) Predicting Data (c) Testing Data (d) Evaluating Data	1
v	When a user installs an app in the smartphone, 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

vi	_____ means a picture element which is the smallest unit of information that makes up a picture. a) Vision b) Pics c) Pixel d) Piskel	1
Q.3 Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)		
i	_____ helps us to summarise all the key points into one single Template so that in future, whenever there is a need to look back at the basis of the problem, we can take a look at this and understand the key elements of it.	1
ii	ARNAV was learning neural networks. He understood that there were three layers in a neural network. Help him identify the layer that does processing in the neural network. (a) Output layer (b) Hidden layer (c) Input layer (d) Data layer	1
iii	Bhaktirupa 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
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	Identify the type of chatbot [Script-bot or Smart-bot] with the information given below: 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 (b) True Positive (c) False Negative (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
SECTION B: SUBJECTIVE TYPE QUESTIONS		
Answer any 3 out of the given 5 questions on Employability Skills (2 x 3 = 6 marks)		
Answer each question in 20 – 30 words.		
Q.6	In SMART goals, what does 'A' stand for? Explain.	2
Q.7	Ekta is always punctual at school. She has a regular schedule that she follows every day. She plans for study and play time in advance. Enlist the four steps Ekta must have followed for effective time management.	2
Q.8	How does a computer virus infect a computer? List two ways.	2
Q.9	What do entrepreneurs do when they run their business in society? Mention any two points.	2

Q.10	NIHAR has a small convenience store in his locality. There are many other convenience stores in the area. Yet, NIHAR's store survives the competition and does well. Which stage of an entrepreneur's career process can you relate this to? Explain.	2
Answer any 4 out of the given 6 questions in 20 – 30 words each (2 x 4 = 8 marks)		
Q.11	How do you understand whether a machine/application is AI based or not? Explain with the help of an example.	2
Q.12	If you do an image search for vacations on a popular search engine, the first few searches mostly return the picture of beaches. What is the concern here? Explain.	2
Q.13	JYOTIRMAYEE works for a company wherein she was assigned the task of developing a project using AI project cycle. She knew that the first stage was scoping the problem. Help her list the remaining stages that she must go through to develop the project.	2
Q.14	What will be the results of conversion of the term, 'happily' in the process of stemming and lemmatization? Which process takes longer time for execution?	2
Q.15	What do we get from the "bag of words" algorithm?	2
Q.16	People of a village are totally dependent on the farmers for their daily food items. Farmers grow new seeds by checking the weather conditions every year. An AI model is being deployed in the village which predicts the chances of heavy rain to alert farmers which helps them in doing the farming at the right time. Which evaluation parameter out of precision, recall and F1 Score is best to evaluate the performance of this AI model? Explain.	2
Answer any 3 out of the given 5 questions in 50– 80 words each (4 x 3 = 12 marks)		
Q.17	Anshuman is amazed to learn about his sister Ananya who is multi-talented and has excelled in academics, music, dancing, sports and painting. He was quite curious when Ananya told him that he too possessed all these intelligences like every human being does, but only at different levels. He wondered which intelligence she was talking about. Can you help Anshuman in learning about different types of intelligences by naming and explaining any four types of intelligences?	4
Q.18	Shreehari attended a seminar on Artificial Intelligence and has now been asked to write a report on his learnings from the seminar. Being a non-technical person, he understood that the AI enabled machine uses data of different formats in many of the daily based applications but failed to sync it with the right terminologies and express the details. Help Shreehari define Artificial Intelligence, list the three domains of AI and the data that is used in these domains.	4
Q.19	Neural networks are said to be modelled the way how neurons in the human brain behave. A similar system is mimicked by the AI machine to perform certain tasks. Explain how neural networks work in an AI model and mention any three features of Neural Networks.	4
Q.20	Nisita, a student of class X was exploring the Natural Language Processing domain. She got stuck while performing the text normalisation. Help her to normalise the text on the segmented sentences given below: Document 1: Akash and Ajay are best friends. Document 2: Akash likes to play football but Ajay prefers to play online games.	4
Q.21	What is a chatbot? Name the technology behind a chatbot and list any 2 chatbots.	4
