

APEEJAY SCHOOL PANCHSHEEL PARK

ARTIFICIAL INTELLIGENCE (SUBJECT CODE - 417)

Max. Time: 2 Hours

Max. Marks: 50

General Instructions:

1. Please read the instructions carefully.
2. This Question Paper consists of **34 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 (10 + 17+7 =) 34 questions, a candidate has to answer (10 + 15+5 =) 30 questions in Section A.**
5. **Out of the given (6+5)=11 questions, a candidate has to answer (4+3)=7 questions in Section B.**
6. **The allotted (maximum) time of 2 hours.**
7. All questions of a particular section must be attempted in the correct order.

SECTION A: OBJECTIVE TYPE QUESTIONS

Q.1	Answer all questions on Employability Skills (1 x 10 = 10 marks)	
i.	Which of following is not a self-management skill? (a) Problem solving (b) Bargaining (c) Understanding self (d) Confidence building	1
ii.	Which of the following does not represent a positive self-talk? . (a) My challenges will help me grow (b) If I fall, I will get up again (c) I have very less resources than required (d) I get better with every passing day	1
iii.	The quality of being responsible for what you do is known as _____ . (a) Team work (b) Dependability (c) Accountability (d) Leadership	1
iv.	The full form of Email is _____ : (a) Electronic mail (b) Electric mail (c) Engineered mail (d) Effective mail	1
v.	Full form of CPU : (a) Central procedure unit (b) Control processing unit (c) Control procedure unit (d) Central processing unit	1
vi.	The operating system is a: (a) Software (b) Hardware (c) Device (d) Cable connection	1

vii.	GUI stands for: (a) Graphical User Interface (b) Greater User Interface (c) Graphical Utility Icon (d) Graphical Utility Interface	1
vii.	ROM stands for: (a) Reader Only Memory (b) Read Only Memory (c) Rare Only Memory (d) Rear Only Memory	1
viii.	A person who starts a commercial activity based on his unique idea that tries to solve a problem around it, is a/ an _____. (a) Shopkeeper (b) Businessman (c) Entrepreneur (d) Employee	1
ix.	The enterprises that produce their own products based on a specific design are _____ companies. (a) Manufacturing (b) Trading (c) Service (d) Hybrid	1
x.	These enterprises require big capital investment: (a) Small scale enterprise (b) Medium scale enterprise (c) Large scale enterprise (d) Innovation driven enterprise	1
Q. 2	Answer any 15 out of the given 17 question from A.I s (1 x 15 = 15 marks)	
i.	NLP stands for : (a) Neutral Learning Projection (b) Neuro-Linguistic Programming (c) Natural Language Processing (d) Neural Logic Presentation	1
ii.	The Rock, Paper, Scissors game is based on _____ domain of AI. (a) NLP (b) Data Science (c) Computer Vision (d) Machine Learning	1
iii.	Which of following is not a feature of a smart home? (a) Web Camera at doorbell (b) Automatic locks at door (c) Fire alarm (d) Automatic Challan	1
iv.	How many SDGs are included in 2030 agenda of UN? (a) 30 (b) 17 (c) 27 (d) 15	1
v.	AI along with IoT is termed as _____ . (a) A & T (b) AI & IoT (c) AIoT (d) IoTA	1
vi.	What is/ are the reasons behind AI bias in data? (a) Flawed and unbalanced data collection (b) Wrong assumptions (c) No proper bias testing and mitigation (d) All of above (e) None of above	1
vii.	Results based on incomplete or prejudiced data, produced by AI tools, are signified as _____ . (a) AI fairness (b) Deepfake (c) Robotics (d) AI bias	1

viii.	In the _____ stage the developed model is actually evaluated for accuracy and performance using new data so as to determine if the developed model is deployable or not. (a) Problem scoping (b) Data acquisition (c) Data exploration (d) Modelling (e) Evaluation	1
ix.	In the _____ stage, broadly the aim and scope of the project undertaken are decided. (a) Problem scoping (b) Data acquisition (c) Data exploration (d) Modelling (e) Evaluation	1
x.	What is training data?	1
xi.	4Ws problem canvas comprises of: 1. 2. 3. 4.	1
xii.	The numerical data is also known as _____ data.	1
xiii.	Name it: It is study of the opinions, responses etc. of a group of stakeholders.	1
xiv.	A tool that performs web scraping is called: _____ .	1
xv.	Each layer of an ANN can contain only fixed number of nodes (True/ False).	1
xvi.	Deep learning is an advanced and complex form of neural network. (True/ False)	1
xvii.	Define Soma in neural network.	1
PYTHON		
Answer any 5 out of the given 7 questions (1 x 5 = 5 marks)		
i.	Two modes of working in python are: 1. 2.	1
ii.	The shortcut key to run a python program from script mode is _____.	1
iii.	Rewrite the missing command in the given code for entering a number as numeric value. Num=input("enter a number")	1
iv.	Give the output: for I in range(1,2): print("all the best")	1
v.	What do you mean by variables?	1
vi.	What do you mean by expression?	1
vii.	Explain list in python in brief?	1

SECTION B: SUBJECTIVE TYPE QUESTIONS

Answer any 4 out of the given 6 questions on Employability Skills (4 x 2 = 8 marks)

Answer each question in 20 – 30 words.

Q. 3	Give two advantages and two disadvantages of A. I.	2
Q. 4	Explain: a. AI bias b. Deepfake	2
Q. 5	a. Explain difference between Model driven AI and Data driven AI. b. What do you mean by decision tree? Give an example.	2
Q. 6	a. State the difference between Supervised learning and Unsupervised learning.	2
Q. 7	a. Explain with example: i. print() ii. input()	2
Q.8	What is the difference between for and while loops in python?	2

Answer any 3 out of the given 5 questions in 20 – 30 words each (3 x 4 = 12 marks)

Q. 9	a. What is choropleth and heat map? Where are these used? b. What is data visualization? Give two points to emphasis its need.	2+2 =4
Q. 10	Explain stages of AI project cycle in details.	4
Q. 11	What do you mean by SDG goals? Name and explain any three SDG goals.	1+3 =4
Q. 12	a. What is the significance of using 4Ws canvas? b. Create a 4W Project Canvas for the following. As more and more new technologies get into play, risks will get more concentrated into a common network. Cybersecurity becomes extremely complicated in such scenarios and goes beyond the control of firewalls. It will not be able to detect unusual activity and patterns including the movement of data. Think how AI algorithms can scrape through vast amounts of logs to identify susceptible user behaviour.	1+3 =4
Q. 13	a. Write a program in python to calculate area of circle and print it. (formula: πr^2) b. Write a program in python to enter names and age of two people. Find and display name and age of younger person.	2+2 =4