

CBSE | DEPARTMENT OF SKILL EDUCATION

ARTIFICIAL INTELLIGENCE (SUBJECT CODE - 417)

MID TERM EXAMINATION

Blue-print for Sample Question Paper for Class X (Session 2022-2023)

Max. Time: 2 Hours

Max. Marks: 50

PART A - EMPLOYABILITY SKILLS (10 MARKS):

UNIT NO.	NAME OF THE UNIT	OBJECTIVE TYPE QUESTIONS	SHORT ANSWER TYPE QUESTIONS	TOTAL QUESTIONS
		1 MARK EACH	2 MARKS EACH	
2	ICT Skills - II	4	3	7
TOTAL QUESTIONS		4	3	7
NO. OF QUESTIONS TO BE ANSWERED		4	3	7
TOTAL MARKS		1 x 4 = 4	2 x 3 = 6	10 MARKS

PART B - SUBJECT SPECIFIC SKILLS (40 MARKS):

UNIT NO.	NAME OF THE UNIT	OBJECTIVE TYPE QUESTIONS	SHORT ANSWER TYPE QUESTIONS	DESCRIPTIVE/ LONG ANS. TYPE QUESTIONS	TOTAL QUESTIONS
		1 MARK EACH	2 MARKS EACH	4 MARKS EACH	
1	Introduction to AI	8	2	2	12
2	AI Project Cycle	8	2	2	12
TOTAL QUESTIONS		16	4	4	24
NO. OF QUESTIONS TO BE ANSWERED		16	4	4	24
TOTAL MARKS		1 x 16 = 16	2 x 4 = 8	4 x 4 = 16	40 MARKS

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Sample Question Paper for Class X (Session 2023-2024)

Max. Time: 2 Hours

Max. Marks: 50

General Instructions:

1. Please read the instructions carefully.
2. This Question Paper consists of **17 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 (3 + 14 =) 17 questions, a candidate has to answer (3 + 11 =) 14 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 03 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 14 questions.
 - ii. A candidate has to do 11 questions.
 - iii. Do as per the instructions given.
 - iv. Marks allotted are mentioned against each question/part.

SECTION A: OBJECTIVE TYPE QUESTIONS

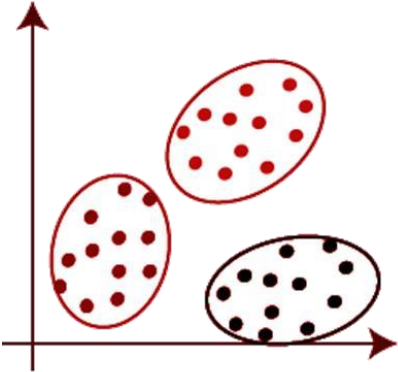
Q. 1	Answer the given questions on Employability Skills (1 x 4 = 4 marks)	
i.	What is the term used when you quickly click the left mouse button twice? (a) Hover (b) Drag and drop (c) Double clicking (d) Moving	1

ii.	Ravi 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
iii.	Here are the steps that take place when starting a computer. Rearrange the steps in the correct order. i) Desktop appears after login ii) Login screen appears iii) Power on Self-Test (POST) starts iv) Operating system starts v) Welcome screen appears a) i) -> ii) -> iii) -> iv) -> v) b) ii) -> iv) -> iii) -> v) -> i) c) iii) -> iv) -> v) -> ii) -> i) d) iii) -> v) -> iv) -> ii) -> i)	1
iv.	Which one of the following is an example of Operating System? a) Microsoft Word b) Microsoft Windows c) Microsoft Excel d) Microsoft Access	1

Q. 2	Answer any 8 out of the given 9 questions (1 x 8 = 8 marks)	
i.	_____ and _____ are AI based applications that help us in navigation.	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.	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 Sciences (c) Natural Language Processing (d) Natural Language Understanding	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.	We can't make "good" decisions without information. (True/False)	1
vii.	Platforms like Netflix, Amazon, Spotify, YouTube etc. show us recommendations on the basis of what we like. (True/False)	1
viii.	What do you understand by Interpersonal Intelligence?	1
ix.	One of the major sources of data for many major companies is the device which all of us have in our hands all the time_____ (Smartphone/ Mobile Phones)	1

Q. 3	Answer any 8 out of the given 9 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.	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
iii.	Which of the following is not an authentic source for data acquisition? a. Sensors b. Surveys c. Web Scraping d. System Hacking	1
iv.	Which type of graphical representation suits best for continuous type of data like monthly exam scores of a student?	1
v.	Smita 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

vi.	<p>For better efficiency of an AI project Training data should be _____</p> <p>i) Relevant ii) Scattered iii) Structured iv) Authentic</p> <p>Choose the correct option:</p> <p>(a) Both i and ii (b) Both i and iv (c) Only i (d) Only iv</p>	1
vii.	<p>Assertion(A) : Neural networks are the backbone of deep learning algorithms</p> <p>Reason(R): Neural networks use vast amounts of data</p> <p>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</p>	
viii.	<p>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.</p> <p>(a) 17 (b) 15 (c) 13 (d) 19</p>	1
ix.	 <p>Identify the algorithm based on the given graph</p> <p>(a) Dimensionality reduction (b) Classification (c) Clustering (d) Regression</p>	1

SECTION B: SUBJECTIVE TYPE QUESTIONS

Answer the given 3 questions on Employability Skills (2 x 3 = 6 marks) Answer each question in 20 – 30 words.

Q. 4	Enlist any two methods to protect our data on the computer.	2
Q 5.	Explain any two types of threats to computer.	2
Q 6.	Enlist any four ways to keep your devices safe and clean.	2

Answer any 4 out of the given 6 questions in 20 – 30 words each (2 x 4 = 8 marks)

Q. 7	How do you understand whether a machine/application is AI based or not? Explain with the help of an example.	2
Q. 8	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. 9	Suhana 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. 10	What are the different types of sources of data from where we can collect reliable and authentic datasets? Explain in brief.	2
Q.11	Mention four examples of artificially intelligent applications in our smartphones.	2
Q.12	What is Computer Vision? Give an example of it.	2

Answer any 4 out of the given 5 questions in 50– 80 words each (4 x 3 = 12 marks)

Q. 13	Ashwat 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 Ashwat in learning about different types of intelligences by naming and explaining any four types of intelligences?	4
Q. 14	Samarth 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 Samarth define Artificial Intelligence, list the three domains of AI and the data that is used in these domains.	4
Q. 15	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. 16	Draw the 4Ws problem canvas and explain each one of them briefly.	4
Q 17.	A firefighter has to get to a burning building as quickly as he can. There are three paths that he can take. He can take his fire engine over a large hill (5 miles) at 8 miles per hour. He can take his fire engine through a windy road (7 miles) at 9 miles per hour. Or he can drive his fire engine along a dirt road which is 8 miles at 12 miles per hour. Which way should he choose? (speed=distance/time)	4