



Indian School Al Wadi Al Kabir

Mid Term Examination

ARTIFICIAL INTELLIGENCE (CODE: 417)

ANSWER KEY

1.	a. Meditate to calm down and feel positive.
2.	a. Data Acquisition
3.	d. Who
4.	d. All of the above
5.	b. Data
6.	a. Template
7.	a. Data features
8.	b. Training Data
9.	b. Government websites
10.	a. Evaluation
11.	c. Reading
12.	c. Both a) and b)
13.	d. This is Abdul's notebook.
14.	a. YES
15.	d. All of the above
16.	b. Accuracy >> Precision >> Recall >> F1 Score
17.	b. Maintaining eye contact
18.	b. Graphical Representation
19.	c. Videos
20.	a. False Negative
21.	c. Self – control
22.	a. The guiding principles to decide what is good and what is bad.
23.	c. He is reading a book.
24.	c. Line graph

SECTION B: SUBJECTIVE TYPE QUESTIONS

II. Answer any 7 out of the given 9 questions

(7 x 2 = 14 marks)

25. Name any four stress management techniques.

Ans:

Four stress management techniques are :

- Time management
- Physical exercise and fresh air.
- Healthy diet
- Holidays with family and friends.

26. What is a problem statement template and what is its significance?

Ans:

The problem statement template gives a clear idea about the basic framework required to achieve the goal. It is the 4Ws canvas which segregates; what is the problem, where does it arise, who is affected, why is it a problem? It takes us straight to the goal.

27. Explain 4 disadvantages of written communication?

Ans:

1. Time Consuming: • In order to craft an impeccable piece of document, one has to invest an ample amount of time which is indeed difficult in constrained timelines.
2. Non-flexible: • A written document cannot be altered once circulated. This makes written communication non-flexible as every written word is concrete and final
3. No Scope for Clarification: • If the document is not curated keeping the less informed person's mind-set in check, the details cannot be perceived by such people via the formulated written document.
4. Demands Writing Proficiency: • In order to deliver the message adequately across the other end, one should have competencies in the writing sector.
5. Probability of Wrong Interpretation: • If there are complex words or difficult sentences included in the writing document, one may interpret a wrong/no meaning out of it. Thus, in order to use written communication, one should make use of easy language.

28. Differentiate between Interests and Abilities.

Ans.

Interests	Abilities
Things that you like to do in your free time that make you happy.	An acquired or natural capacity
Things you are curious to do even if no one asked you to do it.	Enable you to perform a particular task with proficiency

29. What is deployment?

Ans:

Deployment as the final stage in the AI project cycle where the AI model or solution is implemented in a real-world scenario.

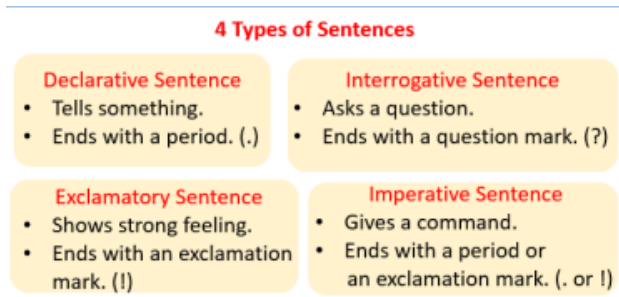
Key Steps in Deployment Process the key steps involved in the deployment process:

- Testing and validation of the AI model
- Integration of the model with existing systems
- Monitoring and maintenance of the deployed model.

30. Define a sentence. What are the Kinds of sentences (according to their purpose)?

Ans:

- Sentence: A set of words that is complete in itself, typically containing a subject and predicate, conveying a statement, question, exclamation, or command, and consisting of a main clause and sometimes one or more subordinate clauses.



31. Explain deep learning.

Ans:

Deep Learning, or DL for short, enables software to train itself to perform tasks with vast amounts of data.

a. In deep learning, the machine is trained with huge amounts of data which helps it into training itself around the data. Such machines are intelligent enough to develop algorithms for themselves.

Deep Learning is the most advanced form of Artificial Intelligence out of these three. Then comes Machine Learning which is intermediately intelligent and Artificial Intelligence covers all the concepts and algorithms which, in some way or the other mimic human intelligence.

32. Define evaluation.

Ans:

Evaluation 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. There can be different Evaluation techniques, depending of the type and purpose of the model.

33. Write the four steps for effective Time management.

Ans. Four Steps for Effective Time Management are :

- Organise : We should plan our day-to-day activities.
- Prioritise We should make our to-do-list
- Control : We should have a control over our activities and time.
- Track: We should identify and note where we have spent our time.

III. Answer any 3 questions out of given 4 questions

(3x 4 = 12 marks)

34. Explain the 4 principles in AI Ethics that affect the quality of AI solutions.

- Human Rights
- Bias
- Privacy
- Inclusion

- When building AI solutions, we need to ensure that they follow human rights.
- Here are a few things that you should take care of
 - Does your AI take away Freedom?
 - Does your AI discriminate against People?
 - Does your AI deprive people of jobs?
 - What are some other human rights which need to be protected when it comes to AI?

Bias

- Bias (partiality or preference for one over the other) often comes from the collected data. The bias in training data also appears in the results.
 - Here are a few things that you should take care of :
 - Does your data equally represent all the sections of the included populations?
 - Will your AI learn to discriminate against certain groups of people?
 - Does your AI exclude some people?
 - What are some other biases that might appear in an AI?

Privacy

- We need to have rules which keep our individual and private data safe.
- Here are a few things that you should take care of
 - Does your AI collect personal data from people?
 - What does it do with the data? ▪ Does your AI let people know about the data that it is collecting for its use?
 - Will your AI ensure a person's safety? Or will it compromise it?
 - What are some other ways in which AI can breach someone's privacy?

Inclusion

- AI MUST NOT discriminate against a particular group of population, causing them any kind of disadvantage.
 - Here are a few things you should take care of
 - Does your AI leave out any person or a group?
 - Is a rich person and a poor person benefitted equally from your AI?
 - How easy is it to use your AI?
 - Who does your AI help?
 - How can we make AI more inclusive?

35. Explain the terms:

- True Positive
- True Negative
- False Positive
- False Negative



36. Write the differences between AL, DL and ML.

Artificial Intelligence	Machine learning	Deep Learning
AI represents stimulated intelligence in machines.	ML is the practice of getting machines to make decisions without being programmed.	It is artificial neural network to solve the complex problems.
AI is a subset of data science.	ML is the subset of AI and data science.	DL is the subset of AI , ML and data science.
AI aims toward building machines that are capable to think like humans	ML aims to learn through data to solve problems.	DL aim to build neural network that automatically discover patterns for feature detection

37. Explain any 4 data sources in data acquisition stage.

1.Web Scrapping means collecting data from web using some technologies. We use it for monitoring prices, news and etc.

Example: Web Scrapping. using beautiful soup in python

2. Sensors are very Important but very simple to understand. Sensors are the part of IoT (Internet of things) Sensors collect the physical data and detect the changes.

3. Camera: captures the visual information and then that information which is called image is used as a source of data. Cameras are used to capture raw visual data.

4. Observations: When we observe something carefully we get some information For ex: Scientists Observe creatures to study them. Observations is a time consuming data source.

5. API: Application Programming interface. API is a messenger which takes requests and tells the system about requests and gives the response.

Ex: Twitter API, Google Search API

6 Surveys: The survey is a method of gathering specific information from a sample of people. Example, a census survey for analyzing the population.