The Flask route and template given in the main data, what will be rendered in the browser when the user visits

```
/protein?gender=FEMALE&weight=60
```

Options :

6406534364692. ✖

Recommended Daily Protein Intake

Gender:

Weight:

Recommended Intake: **grams**

6406534364693. ✔

Recommended Daily Protein Intake

Gender: FEMALE

Weight: 60

Recommended Intake: **45 grams**

6406534364694. ✖

Recommended Daily Protein Intake

Gender: FEMALE

Weight: 60kg

Recommended Intake: **45 grams**

6406534364695. ✖

Recommended Daily Protein Intake

Gender: male

Weight: 60kg

Recommended Intake: **48 grams**

MLF

Section Id :	64065392557
Section Number :	6
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	13

Number of Questions to be attempted :	13
Section Marks :	40
Display Number Panel :	Yes
Section Negative Marks :	0
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	No
Section Maximum Duration :	0
Section Minimum Duration :	0
Section Time In :	Minutes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	640653206542
Question Shuffling Allowed :	No

Question Number : 80 Question Id : 6406531297911 Question Type : MCQ

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "DIPLOMA LEVEL : MACHINE LEARNING FOUNDATIONS (COMPUTER BASED EXAM)"

ARE YOU SURE YOU HAVE TO WRITE EXAM FOR THIS SUBJECT?
CROSS CHECK YOUR HALL TICKET TO CONFIRM THE SUBJECTS TO BE WRITTEN.

(IF IT IS NOT THE CORRECT SUBJECT, PLS CHECK THE SECTION AT THE TOP FOR THE SUBJECTS REGISTERED BY YOU)

Options :

6406534364696. ✔ YES

6406534364697. ✖ NO

Sub-Section Number :	2
Sub-Section Id :	640653206543
Question Shuffling Allowed :	Yes

Question Number : 81 Question Id : 6406531297912 Question Type : MSQ
Correct Marks : 3 Max. Selectable Options : 0
Question Label : Multiple Select Question

Consider a matrix $A = \begin{bmatrix} 1 & 1 & 1 \\ 0 & 2 & 1 \\ 1 & 3 & 2 \end{bmatrix}$. Which of the following options is/are true?

Options :

6406534364698. ✔ Null space of A is span $\left\{ \begin{bmatrix} 1 \\ 1 \\ -2 \end{bmatrix} \right\}$

6406534364699. ✖ Dimension of the column space of A is 1

6406534364700. ✔ Left null space of A is span $\left\{ \begin{bmatrix} -1 \\ -1 \\ 2 \end{bmatrix} \right\}$

6406534364701. ✔ Row space of A is span $\left\{ \begin{bmatrix} 1 \\ 1 \\ 1 \end{bmatrix}, \begin{bmatrix} 0 \\ 1 \\ 0.5 \end{bmatrix} \right\}$

Question Number : 82 Question Id : 6406531297918 Question Type : MSQ
Correct Marks : 3 Max. Selectable Options : 0
Question Label : Multiple Select Question
Which of the following options is/are true regarding the projection matrix?
Options :
6406534364718. ✔ It is a symmetric matrix.
6406534364719. ✖ It is an orthogonal matrix.
6406534364720. ✔ It is orthogonally diagonalizable.
6406534364721. ✖ It is always a rank 1 matrix.

Question Number : 83 Question Id : 6406531297919 Question Type : MSQ
Correct Marks : 3 Max. Selectable Options : 0
Question Label : Multiple Select Question

Consider a matrix $A = \begin{bmatrix} 1 & 2 & 1 \\ 1 & 0 & 1 \\ 0 & 0 & 1 \end{bmatrix}$. Which of the following options is/are true?

Options :

6406534364722. ✔ 1 is an eigenvalue of A.

6406534364723. ✔ 2 is an eigenvalue of A.

6406534364724. ✔ $\begin{bmatrix} -3 \\ -1 \\ 2 \end{bmatrix}$ is an eigenvector of A.

6406534364725. ✖ $\begin{bmatrix} 1 \\ 1 \\ 0 \end{bmatrix}$ is an eigenvector of A.

Question Number : 84 Question Id : 6406531297920 Question Type : MSQ
Correct Marks : 3 Max. Selectable Options : 0
Question Label : Multiple Select Question

Consider a subspace $S = \{(x, y, z) \mid x + 2y + 2z = 0\}$ of the vector space $\mathbb{R}^3$.

Which of the following options is/are true?

Options :

6406534364726. ✖ $\begin{bmatrix} 0 \\ 1 \\ 1 \end{bmatrix}$ is a vector of S.

6406534364727. ✔ $\left\{ \begin{bmatrix} 1 \\ 2 \\ -2.5 \end{bmatrix}, \begin{bmatrix} 0 \\ 1 \\ -1 \end{bmatrix} \right\}$ is an orthogonal basis of S.

6406534364728. ✖ The dimension of S is 1.

6406534364729. ✔ $\left\{ \begin{bmatrix} 1 \\ 2 \\ -2.5 \end{bmatrix}, \begin{bmatrix} 0 \\ 1 \\ -1 \end{bmatrix} \right\}$ is a basis of S.

Question Number : 85 Question Id : 6406531297924 Question Type : MSQ
Correct Marks : 3 Max. Selectable Options : 0
Question Label : Multiple Select Question

The function

$$f(x) = \begin{cases} px^2 + qx + 2, & \text{if } x < 1 \\ rx + s, & \text{if } x \geq 1 \end{cases}$$

is differentiable at $x = 1$. If p, q, r, and s are constants, which of the following is/are must be true?

Options :

6406534364739. ✔ $r = 2p + q$ and $s = 2 - p$

6406534364740. ✖ $p + q = r + s$

6406534364741. ✖ $q = r$ and $s = 2$

6406534364742. ✔ $p + q + 2 = r + s$ and $2p + q = r$

Question Number : 86 Question Id : 6406531297925 Question Type : MSQ
Correct Marks : 3 Max. Selectable Options : 0
Question Label : Multiple Select Question

The table below shows the original values and predicted values obtained by some machine learning algorithm for multiclass classification problems. Compute the squared error loss and 0-1 loss. Which of the following options regarding the loss Function is/are correct?

Original values	−1	0	1	2	3	1	0	3
Predicted values	1	1	1	2	1	0	0	3

Options :

6406534364743. ✔ Square error loss ≤ 0-1 loss

6406534364744. ✖ Square error loss ≥ 0-1 loss

6406534364745. ✖ The 0-1 loss is 0.25

6406534364746. ✔ The square error loss is 1.25

Question Number : 87 Question Id : 6406531297926 Question Type : MSQ
Correct Marks : 3 Max. Selectable Options : 0
Question Label : Multiple Select Question

Consider a matrix $A = \begin{bmatrix} 0 & 1 & 0 \\ 1 & 0 & 0 \\ 0 & 0 & 1 \end{bmatrix}$ and $A = PDP^{-1}$.

Which of the following options is/are true?

Options :

6406534364747. ✔ A is an orthogonally diagonalizable matrix.

6406534364748. ✔ $P = \begin{bmatrix} 1 & 0 & -1 \\ 1 & 0 & 1 \\ 0 & 1 & 0 \end{bmatrix}$

6406534364749. ✖ $P = \begin{bmatrix} 1 & 0 & -1 \\ -1 & 0 & 1 \\ 0 & -1 & 0 \end{bmatrix}$

6406534364750. ✖ $P^{-1} = \frac{1}{2}\begin{bmatrix} 1 & 0 & -1 \\ -1 & 0 & 1 \\ 0 & -1 & 0 \end{bmatrix}$

Sub-Section Number : 3
Sub-Section Id : 640653206544
Question Shuffling Allowed : Yes

Question Number : 88 Question Id : 6406531297913 Question Type : MSQ
Correct Marks : 4 Max. Selectable Options : 0
Question Label : Multiple Select Question

Let $\hat{y}$ be the regression line (the best fit line) for the dataset given below using the least squares method. Which of the following options is/are true?

x	0	2	3
y	-2	5	4

Options :

6406534364702. ✖ $\hat{y} = \frac{1}{14}(13x - 19)$

6406534364703. ✖ $\hat{y} = \frac{1}{14}(31x - 91)$

6406534364704. ✔ If $x = 11$, then predicted value of y is 23.

6406534364705. ✔ If $x = 7$, then predicted value of y is $\frac{99}{7}$.

Sub-Section Number : 4
Sub-Section Id : 640653206545
Question Shuffling Allowed : No

Question Id : 6406531297914 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix

Question Numbers : (89 to 91)

Question Label : Comprehension

Consider a matrix $A = \begin{bmatrix} 1 & i & -i \\ i & 1 & 0 \\ -i & 0 & 1 \end{bmatrix}$. Based on this information, answer the given subquestions.

Sub questions

Question Number : 89 Question Id : 6406531297915 Question Type : MSQ

Correct Marks : 2 Max. Selectable Options : 0

Question Label : Multiple Select Question

Which of the following options is/are true?

Options :

6406534364706. ✖ A^* = A, where A^* is conjugate transpose of matrix A.

6406534364707. ✔ A is a symmetric matrix.

6406534364708. ✖ A is a unitary matrix.

6406534364709. ✔ Columns of A are not orthogonal.

Question Number : 90 Question Id : 6406531297916 Question Type : MSQ

Correct Marks : 3 Max. Selectable Options : 0

Question Label : Multiple Select Question

Which of the following options is/are true ?

Options :

6406534364710. ✔ 1 is an eigenvalue of A.

6406534364711. ✔ $1 + i\sqrt{2}$ is an eigenvalue of A.

6406534364712. ✖ The rank of the matrix A is 2.

6406534364713. ✖ Nullity of the matrix A is 1.

Question Number : 91 Question Id : 6406531297917 Question Type : MSQ

Correct Marks : 3 Max. Selectable Options : 0

Question Label : Multiple Select Question

Which of the following options is/are true ?

Options :

6406534364714. ✔ Matrix A is diagonalizable.

6406534364715. ✔ Eigenvectors of A are orthogonal.

6406534364716. ✔ If A is diagonalizable and diagonal form of $A = P^{-1}DP$, then P is an orthogonal matrix.

6406534364717. ✖ Entries of the eigenvector v corresponding to the eigenvalue $1 - i\sqrt{2}$ of A are complex numbers.

Sub-Section Number : 5
Sub-Section Id : 640653206546
Question Shuffling Allowed : Yes

Question Number : 92 Question Id : 6406531297921 Question Type : MSQ
Correct Marks : 2 Max. Selectable Options : 0
Question Label : Multiple Select Question
Which of the following is/are true?
Options :

6406534364730. ✔ If $a_n = -1 + \frac{n}{n+1}$ then $a_n \to 0$ as $n \to \infty$.

6406534364731. ✖ If $a_n = \sin(n)$ then $a_n \to 0$ as $n \to \infty$.

6406534364732. ✔ If $a_n = n!$ then $a_n \to \infty$ as $n \to \infty$.

6406534364733. ✔ $a_n = \sin(n)$ is not a convergent sequence.

Sub-Section Number : 6
Sub-Section Id : 640653206547
Question Shuffling Allowed : Yes

Question Number : 93 Question Id : 6406531297922 Question Type : SA

Correct Marks : 3

Question Label : Short Answer Question

Let $f(x, y) = \ln(x^2 + y^2)$. Use the linear approximation at the point $(1, 2)$ to estimate $f(1.02, 2.01)$. Write the answer correctly to 4 decimal places.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

1.6251 to 1.6258

Sub-Section Number :	7
Sub-Section Id :	640653206548
Question Shuffling Allowed :	Yes

Question Number : 94 Question Id : 6406531297923 Question Type : MCQ

Correct Marks : 2

Question Label : Multiple Choice Question

A hospital collects patient data including symptoms, vital signs, and lab test results. They want to find patterns to improve treatment plans. What type of task is clustering most suitable for?

Options :

6406534364735. ✖ Predicting the recovery time for a new patient.

6406534364736. ✖ Diagnosing diseases based on labeled medical records.

6406534364737. ✔ Grouping patients with similar symptoms and test results without prior labels.

6406534364738. ✖ Determining the most important variable for predicting disease.

Java

Section Id :	64065392558
Section Number :	7
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	16
Number of Questions to be attempted :	16
Section Marks :	100
Display Number Panel :	Yes
Section Negative Marks :	0
Group All Questions :	No
Enable Mark as Answered Mark for Review and	No