6406532776553. ✔ 0

6406532776554. ✖ 1

6406532776555. ✖ 2

6406532776556. ✖ 3

Question Number : 145 Question Id : 640653825734 Question Type : MCQ

Correct Marks : 1

Question Label : Multiple Choice Question

State whether the underlined is an adjunct or a complement:

Mary helped her mother <u>with the dishes</u>.

Options :

6406532776557. ✔ Adjunct

6406532776558. ✖ Complement

Question Number : 146 Question Id : 640653825735 Question Type : MCQ

Correct Marks : 1

Question Label : Multiple Choice Question

'*Joe plays the guitar beautifully* '.Here the adjunct is _____.

Options :

6406532776559. ✖ The guitar

6406532776560. ✔ Beautifully

6406532776561. ✖ Plays

6406532776562. ✖ No adjunct

Question Number : 147 Question Id : 640653825736 Question Type : MCQ

Correct Marks : 1

Question Label : Multiple Choice Question

Read the following sentence and identify the adverb phrase in it.

'*The other clerk, whose name I have now forgotten, nodded and apologized while chewing on a pink lobe of kola nut.*'

Options :

6406532776563. ✖ Whose name I have now forgotten

6406532776564. ✔ While chewing on a pink lobe of kola nut

6406532776565. ✖ Nodded and apologized

6406532776566. ✖ The other clerk

Sem2 Maths2

Section Id :	64065359244
Section Number :	7
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	10
Number of Questions to be attempted :	10
Section Marks :	25
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 :	640653122942
Question Shuffling Allowed :	No

Question Number : 148 Question Id : 640653825737 Question Type : MCQ

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "FOUNDATION LEVEL : SEMESTER II: MATHEMATICS FOR DATA SCIENCE II (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 :

6406532776567. ✔ YES

6406532776568. ✖ NO

Sub-Section Number :	2
Sub-Section Id :	640653122943
Question Shuffling Allowed :	Yes

Question Number : 149 Question Id : 640653825738 Question Type : MCQ

Correct Marks : 3

Question Label : Multiple Choice Question

Consider the following subsets of $\mathbb{R}^4$.

$$W = \text{span}\{(2,-1,0,4),(-1,1,0,3),(1,2,0,3),(2,2,0,10)\}$$
$$B_1 = \{(1,0,0,0),(0,1,0,0),(0,0,0,1)\}$$
$$B_2 = \{(2,-1,0,4),(-1,1,0,3),(1,2,0,3)\}$$

Select the correct option.

Options :

6406532776569. ✔ Both B_1 and B_2 are bases for W.

6406532776570. ✖ B_1 is a basis for W, but B_2 is not.

6406532776571. ✖ B_2 is a basis for W, but B_1 is not.

6406532776572. ✖ Neither B_1 nor B_2 is a basis for W.

Sub-Section Number : 3
Sub-Section Id : 640653122944
Question Shuffling Allowed : Yes

Question Number : 150 Question Id : 640653825739 Question Type : MSQ
Correct Marks : 3 Max. Selectable Options : 0
Question Label : Multiple Select Question

Consider the system of linear equations $Ax = b$ where $A \in M_{n\times n}(\mathbb{R})$. Which of the following conditions guarantees that the system is consistent for any $b \in \mathbb{R}^n$? Select all true statements.

Options :

6406532776573. ✔ *A* is a diagonal matrix with non-zero diagonal entries.

6406532776574. ✖ At least one column of *A* is a linear combination of two other columns of *A*.

6406532776575. ✔ *b* is one of the columns of *A*.

6406532776576. ✔ The reduced row echelon form of *A* has no zero rows.

6406532776577. ✖ *A* has at least *n* − 1 linearly independent rows.

Question Number : 151 Question Id : 640653825740 Question Type : MSQ
Correct Marks : 3 Max. Selectable Options : 0
Question Label : Multiple Select Question

Let $Ax = b$ be a system of linear equations, where $A = \begin{bmatrix} 1 & 0 & 0 & -1 \\ 0 & 0 & 1 & 5 \\ 0 & 0 & 0 & 1 \end{bmatrix}$, $x = \begin{bmatrix} x_1 & x_2 & x_3 & x_4 \end{bmatrix}^T$ and $b \in \mathbb{R}^3$. Which of the following statements are true?

Options :

6406532776578. ✔ A is in row echelon form.

6406532776579. ✔ x_2 is an independent variable.

6406532776580. ✖ After reducing the system to reduced row echelon form, the value of x_3 is dependent on the value of x_4 in the solution vector.

6406532776581. ✔ When $b = \begin{bmatrix} 1 \\ -2 \\ 3 \end{bmatrix}$, the system has infinitely many solutions.

6406532776582. ✖ The system has 2 dependent and 2 independent variables.

Question Number : 152 Question Id : 640653825741 Question Type : MSQ
Correct Marks : 3 Max. Selectable Options : 0
Question Label : Multiple Select Question

$B = \{v_1, v_2, v_3\}$ is a linearly independent subset of $\mathbb{R}^3$. Select all linearly independent subsets of $\mathbb{R}^3$ from the following.

Options :

6406532776583. ✔ $\{v_1 + v_2, v_1 - v_2\}$

6406532776584. ✖ $\{v_1, v_2, v_3, v_4\}$, where v_4 is some vector in $\mathbb{R}^3$

6406532776585. ✔ $\{v_1 + v_2, v_1 - v_2, v_1 + v_2 + v_3\}$

6406532776586. ✖ $\{v_1, v_1 + v_2, v_1 - v_2\}$

Question Number : 153 Question Id : 640653825742 Question Type : MSQ
Correct Marks : 3 Max. Selectable Options : 0
Question Label : Multiple Select Question

A is a square matrix of order 3. Select all subspaces of $\mathbb{R}^3$ from the options given below.

Options :

6406532776587. ✔ $S = \left\{ v \ : \ Av = \begin{bmatrix} 0 \\ 0 \\ 0 \end{bmatrix} \text{ and } v \in \mathbb{R}^3 \right\}$

6406532776588. ✖ $S = \left\{ v \ : \ Av = \begin{bmatrix} 1 \\ 2 \\ 3 \end{bmatrix} \text{ and } v \in \mathbb{R}^3 \right\}$

6406532776589. ✖ $S = \{(x, y) \ : \ x, y \in \mathbb{R}\}$

6406532776590. ✔ $S = \{(x, y, 0) \ : \ x, y \in \mathbb{R}\}$

Sub-Section Number :	4
Sub-Section Id :	640653122945
Question Shuffling Allowed :	Yes

Question Number : 154 Question Id : 640653825743 Question Type : SA
Correct Marks : 2
Question Label : Short Answer Question

$A = (a_{ij}) \in M_{5\times5}(\mathbb{R})$ is a matrix such that $a_{ij} + a_{ji} = 0$ for all $1 \leq i, j, \leq 5$. Find the determinant of A. _____

Response Type : Numeric
Evaluation Required For SA : Yes
Show Word Count : Yes
Answers Type : Equal
Text Areas : PlainText
Possible Answers :
0

Question Number : 155 Question Id : 640653825744 Question Type : SA
Correct Marks : 2
Question Label : Short Answer Question

If determinant of A is -2, find the determinant of A^TA. _____

Response Type : Numeric
Evaluation Required For SA : Yes
Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

4

Sub-Section Number :	5
Sub-Section Id :	640653122946
Question Shuffling Allowed :	No

Question Id : 640653825745 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix

Question Numbers : (156 to 157)

Question Label : Comprehension

Let $A = \begin{bmatrix} 2 & -1 \\ 4 & 3 \end{bmatrix}$ and $\alpha, \beta \in \mathbb{R}$ such that $A^2 - \alpha A + \beta I = 0$. Note that I is the identity matrix and 0 is the zero matrix in this equation.

Based on the above data answer the given subquestions.

Sub questions

Question Number : 156 Question Id : 640653825746 Question Type : SA

Correct Marks : 1.5

Question Label : Short Answer Question

Find the value of α. _____

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

5

Question Number : 157 Question Id : 640653825747 Question Type : SA

Correct Marks : 1.5

Question Label : Short Answer Question

Find the value of β. _____

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Id : 640653825748 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Question Numbers : (158 to 160)

Question Label : Comprehension

Find the dimensions of the following vector spaces. The usual rules of vector addition and scalar multiplication apply for the vector spaces in each of the options.

Based on the above data answer the given subquestions.

Sub questions

Question Number : 158 Question Id : 640653825749 Question Type : SA

Correct Marks : 1

Question Label : Short Answer Question

$U = \{(a, b, c, d, e) : a+b+c+d+e = 0 \text{ and } a, b, c, d, e \in \mathbb{R}\}$ _____

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

4

Question Number : 159 Question Id : 640653825750 Question Type : SA

Correct Marks : 1

Question Label : Short Answer Question

$V = \left\{ \begin{bmatrix} a & b & 0 \\ c & 0 & a+b \end{bmatrix} : a, b, c \in \mathbb{R} \right\}$ _____

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

3

Question Number : 160 Question Id : 640653825751 Question Type : SA

Correct Marks : 1

Question Label : Short Answer Question

$W = \text{span}\{(1,1,1),(1,0,-1),(2,1,0)\}$ _____

Response Type : Numeric
Evaluation Required For SA : Yes
Show Word Count : Yes
Answers Type : Equal
Text Areas : PlainText
Possible Answers :
2

Sem2 Statistics2

Section Id :	64065359245
Section Number :	8
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	12
Number of Questions to be attempted :	12
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 :	640653122947
Question Shuffling Allowed :	No

Question Number : 161 Question Id : 640653825752 Question Type : MCQ
Correct Marks : 0
Question Label : Multiple Choice Question
THIS IS QUESTION PAPER FOR THE SUBJECT "FOUNDATION LEVEL : SEMESTER II: STATISTICS FOR DATA SCIENCE II (COMPUTER BASED EXAM)"

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