

Question Shuffling Allowed :

Yes

Is Section Default? :

null

Question Number : 227 Question Id : 640653770648 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Short Answer Question

What is the output of the following code?

```
from sklearn.neighbors import KNeighborsClassifier
X = [[2,3], [5,6], [8,9], [10, 11], [15,16], [20,21]]
y = [2, 1, 0, 1, 2, 1]

knn = KNeighborsClassifier (n_neighbors=3,
                           metric='euclidean',
                           weights='uniform')

knn.fit (X, y)
print (knn.predict([[8,9]]))
```

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Business Analytics

Section Id :

64065353270

Section Number :

14

Section type :

Online

Mandatory or Optional :

Mandatory

Number of Questions :

5

Number of Questions to be attempted :	5
Section Marks :	20
Display Number Panel :	Yes
Section Negative Marks :	0
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	640653112645
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 228 Question Id : 640653770651 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "DIPLOMA LEVEL : BUSINESS ANALYTICS (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 :

6406532577839. ✓ YES

6406532577840. ✗ NO

Sub-Section Number :	2
Sub-Section Id :	640653112646

Question Shuffling Allowed :	Yes
Is Section Default? :	null
Question Number : 229 Question Id : 640653770652 Question Type : SA Calculator : None	
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0	
Correct Marks : 2	
Question Label : Short Answer Question	
Say a demand response curve is modelled as a constant elasticity curve. If Q1 is 2400 units, Q2 is 1500 units, P1 is Rs. 100 and P2 is Rs. 200, then what is the elasticity of the curve? <i>(Note: Enter the answer rounded to two decimal places. For example, if the answer is "1.234", then enter it as "1.23")</i>	
Response Type : Numeric	
Evaluation Required For SA : Yes	
Show Word Count : Yes	
Answers Type : Range	
Text Areas : PlainText	
Possible Answers :	
0.66 to 0.70	
Sub-Section Number :	3
Sub-Section Id :	640653112647
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Id : 640653770653 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0	
Question Numbers : (230 to 233)	
Question Label : Comprehension	
A parts supplier must assign supply from 5 warehouses (W1, W2, W3, W4 and W5) to 3 customers (C1, C2 and C3), such that the total demand of 300 units for the three customers is satisfied. The warehouse capacities are 85, 55, 75, 65 and 40, for W1, W2, W3, W4 and W5 respectively. A	

warehouse can supply any number of customers. The cost to supply a customer from a given warehouse is provided in Table-1. Given this information, answer the subquestions.

Customer	Cost to supply a warehouse (Rs./ unit)				
	W1	W2	W3	W4	W5
C1	100	80	75	88	133
C2	50	85	120	112	94
C3	120	75	90	93	143

Table-1

Sub questions

Question Number : 230 Question Id : 640653770654 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Short Answer Question

How many decision variables are present in the standard primal formulation of the given problem?

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Set

Text Areas : PlainText

Possible Answers :

1

15

Question Number : 231 Question Id : 640653770655 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2

Question Label : Short Answer Question

How many constraints are present in the standard primal formulation of the given problem?

(Note: Exclude the count of non-negativity constraints when you input your answer)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Set

Text Areas : PlainText

Possible Answers :

3

7

Question Number : 232 **Question Id :** 640653770656 **Question Type :** MCQ **Is Question Mandatory :** No **Calculator :** None **Response Time :** N.A **Think Time :** N.A **Minimum Instruction Time :** 0

Correct Marks : 1

Question Label : Multiple Choice Question

To reduce risk, it is proposed to split the total demand evenly across all 5 warehouses. Then is it a feasible solution?

Options :

6406532577844. ✖ Yes

6406532577845. ✔ No

Question Number : 233 **Question Id :** 640653770657 **Question Type :** SA **Calculator :** None **Response Time :** N.A **Think Time :** N.A **Minimum Instruction Time :** 0

Correct Marks : 2

Question Label : Short Answer Question

If W1 supplies 75 units, W2 supplies 55 units, W3 supplies 75 units, W4 supplies 60 units and W5 supplies 35 units, then how many decision variables in the dual will have a **non-zero value**?
(Note: Enter your answer after you formulate the dual based on the standard form of the primal)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

4

Question Id : 640653770658 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Question Numbers : (234 to 239)

Question Label : Comprehension

Milo's Motors (MM) is a motorcycle brand that manufactures electric two wheelers. MM wants to understand the relationship between "Mileage", "Storage space" and "Charging Time in Minutes" on "Sales volume". The owner of the company, Dr. Milo, only has half-baked knowledge of regression. Hence, several regression models (Model-1, Model-2, Model-3, Model-4, Model-5, Model-6, Model-7, Model-8, Model-9 and Model-10) which are given below were built on appropriate available data by Dr. Milo. Given this information, answer the subquestions.

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1		334383.3		
Residual	17				
Total		10412551			

Model-1: Partial ANOVA output when regressing “Sales volume” and “Mileage”

	<i>Coefficients</i>	<i>Standard Error</i>
Intercept	47.20077094	4.584182553
Storage Space	0.781643656	0.114164154

Model-2: Partial output when regressing “Mileage” and “Storage Space”

	<i>Coefficients</i>	<i>Standard Error</i>
Intercept	65.81368372	7.033106906
Charging Time in minutes	-0.215893138	0.049858351

Model-3: Partial output when regressing “Storage Space” and “Charging Time in minutes”

	<i>Coefficients</i>	<i>Standard Error</i>
Intercept	308.0125132	53.87791105
Mileage	-2.304781359	0.69468086

Model-4: Partial output when regressing “Charging Time in minutes” and “Mileage”

	<i>Coefficients</i>	<i>Standard Error</i>
Intercept	98.87754599	7.250193359
Charging Time in minutes	-0.170523674	0.051397297

Model-5: Partial output when regressing “Mileage” and “Charging Time in minutes”

	<i>Coefficients</i>	<i>Standard Error</i>
Intercept	-34.38432441	10.63536513
Mileage	0.938871236	0.137128267

Model-6: Partial output when regressing “Storage Space” and “Mileage”

	<i>Coefficients</i>	<i>Standard Error</i>
Intercept	222.6523985	22.52775312
Storage Space	-2.429330848	0.56102955

Model-7: Partial output when regressing “Charging time in minutes” and “Storage Space”

	<i>Coefficients</i>	<i>Standard Error</i>
Intercept	5353.222047	455.4019129
Storage Space	-17.4798574	11.34129661

Model-8: Partial output when regressing “Sales” and “Storage Space”

	<i>Coefficients</i>	<i>Standard Error</i>
Intercept	2990.697485	250.4961952
Charging Time in Minutes	12.95643851	1.775790898

Model-9: Partial output when regressing “Sales” and “Charging Time in minutes”

ANOVA				
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>
Regression		10266630.47		
Residual			9728.032	
Total	18			
	<i>Coefficients</i>	<i>Standard Error</i>		
Intercept	-222.5640769	222.6565966		
Mileage	26.571306	3.242212111		
Storage space	8.90325534	3.342287418		
Charging time in minutes	19.40962696	0.659759192		

Model-10: Partial output when regression “Sales” with all the three explanatory variables

Sub questions

Question Number : 234 Question Id : 640653770659 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Short Answer Question

How many observations (rows) are present in the data set used to build Model-1?

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

19

Question Number : 235 Question Id : 640653770660 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Short Answer Question

What is the total indirect effect of "Mileage" on "Sales Volume"?

(Note: Enter the answer rounded to two decimal places. For example, if the answer is "1.234", then enter it as "1.23")

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

-37.0 to -36.0

Question Number : 236 Question Id : 640653770661 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Short Answer Question

What is the value of the "T-statistic" associated with the intercept in Model-3?

(Note: Enter the answer rounded to two decimal places. For example, if the answer is "1.234", then enter it as "1.23")

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

9.30 to 9.40

Question Number : 237 Question Id : 640653770662 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Short Answer Question

What is the adjusted R-Square value for Model-10?

(Note: Enter the answer rounded to two decimal places. For example, if the answer is "1.234", then enter it as "1.23")

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

0.97 to 0.99

Question Number : 238 Question Id : 640653770663 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Short Answer Question

What is F-statistic for Model-10?

(Note: Enter the answer rounded to two decimal places. For example, if the answer is "1.234", then enter it as "1.23")

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

351 to 352

Question Number : 239 Question Id : 640653770664 Question Type : MSQ Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Max. Selectable Options : 0

Question Label : Multiple Select Question

For which of the following "*Tabulated F*" values, will the **Null Hypothesis NOT BE REJECTED** for Model-10?(Choose all that is applicable)

Options :

6406532577852. ✖ 240

6406532577853. ✖ 350

6406532577854. ✔ 480

6406532577855. ✔ 520

Question Id : 640653770665 Question Type : COMPREHENSION Sub Question Shuffling

Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix

Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (240 to 245)

Question Label : Comprehension

An AI engine to scrutinize applications for the BS program is being developed. The aim of the AI engine is to shortlist applicants who have the highest chance of completing the program. Hence, the AI engine classifies every applicant as either “Selected” or “Not Selected” based on the “Probability of Completion” which is computed using an applicant’s previous academic and professional records (X mark, XII mark, work experience, conduct and number of extracurricular certificates)

To test the model, past student data was captured. Using the past data, the AI model predicted the probability for completion. This is provided in Table-2. The table also provides the information of whether the student actually completed the course. Given this information, answer the subquestions.

Student ID	Probability for the student to complete the course	Did the student actually complete the course
NBA11234	0.80	NO
NBC11245	0.62	YES
NBN31256	0.70	YES
NBN76340	0.52	YES
MNV89201	0.47	YES
JKS012671	0.71	NO
YTX00112	0.64	YES
TTQ32741	0.39	NO

Table-2

Sub questions

Question Number : 240 Question Id : 640653770666 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Short Answer Question

At a threshold of 0.7, what is the accuracy of the AI engine?

(Note: Enter the answer in “%” rounded to two decimal places without the “%” symbol. For example, if the answer is “1.234%”, then enter it as “1.23”)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

37 to 39

Question Number : 241 **Question Id :** 640653770667 **Question Type :** SA **Calculator :** None

Response Time : N.A **Think Time :** N.A **Minimum Instruction Time :** 0

Correct Marks : 1

Question Label : Short Answer Question

At a threshold of 0.7, what is the precision for “Not Selected” category for the AI engine?

(Note: Enter the answer in “%” rounded to two decimal places without the “%” symbol. For example, if the answer is “1.234%”, then enter it as “1.23”)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

24 to 26

Question Number : 242 **Question Id :** 640653770668 **Question Type :** SA **Calculator :** None

Response Time : N.A **Think Time :** N.A **Minimum Instruction Time :** 0

Correct Marks : 1

Question Label : Short Answer Question

At a threshold of 0.7, what is the recall for “Selected” category for the AI engine?

(Note: Enter the answer in “%” rounded to two decimal places without the “%” symbol. For example, if the answer is “1.234%”, then enter it as “1.23”)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

39 to 41

Question Number : 243 **Question Id :** 640653770669 **Question Type :** SA **Calculator :** None

Response Time : N.A **Think Time :** N.A **Minimum Instruction Time :** 0

Correct Marks : 1

Question Label : Short Answer Question

At a threshold of 0.4, how many “False Positives” is the AI engine predicting?

(Note: Enter the answer rounded to two decimal places. For example, if the answer is “1.234”, then enter it as “1.23”)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

2

Question Number : 244 **Question Id :** 640653770670 **Question Type :** SA **Calculator :** None

Response Time : N.A **Think Time :** N.A **Minimum Instruction Time :** 0

Correct Marks : 1

Question Label : Short Answer Question

At a threshold of 0.4, how many “False Negatives” is the AI engine predicting?

(Note: Enter the answer rounded to two decimal places. For example, if the answer is “1.234”, then enter it as “1.23”)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

0

Question Number : 245 Question Id : 640653770671 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Short Answer Question

At a threshold of 0.4, how many “True Negatives” is the AI engine predicting?

(Note: Enter the answer rounded to two decimal places. For example, if the answer is “1.234”, then enter it as “1.23”)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

System Commands

Section Id :	64065353271
Section Number :	15
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	15
Number of Questions to be attempted :	15
Section Marks :	100
Display Number Panel :	Yes