

**Correct Marks : 2**

Question Label : Multiple Choice Question

What is the MAPE of the Thursday shifts?

**Options :**

6406533040055. ✓ 0.1

6406533040056. ✗ 0.15

6406533040057. ✗ 0.2

6406533040058. ✗ 0.25

## Business Analytics

Section Id :	64065364083
Section Number :	15
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	16
Number of Questions to be attempted :	16
Section Marks :	45
Display Number Panel :	Yes
Section Negative Marks :	0
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	No
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	640653133745
Question Shuffling Allowed :	No

Question Number : 353 Question Id : 640653902655 Question Type : MCQ Calculator : Yes

**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 :**

6406533040091. ✓ YES

6406533040092. ✗ NO

**Sub-Section Number :**

2

**Sub-Section Id :**

640653133746

**Question Shuffling Allowed :**

Yes

**Question Number : 354 Question Id : 640653902656 Question Type : MSQ Calculator : Yes**

**Correct Marks : 0.5 Max. Selectable Options : 0**

Question Label : Multiple Select Question

The computed p-value of a chi-square goodness-of-fit test is 0.067. Then, which of the following statements are **TRUE**

**Options :**

6406533040093. ✖ At a 5% level of significance, the null hypothesis is rejected

6406533040094. ✔ At a 5% level of significance, the null hypothesis is not-rejected

6406533040095. ✖ At a 10% level of significance, the null hypothesis is rejected

6406533040096. ✔ At a 10% level of significance, the null hypothesis is not-rejected

6406533040097. ✖ At a 5% level of significance, the alternative hypothesis is rejected

6406533040098. ✖ At a 5% level of significance, the alternative hypothesis is not-rejected

6406533040099. ✖ At a 10% level of significance, the alternative hypothesis is rejected

6406533040100. ✖ At a 10% level of significance, the alternative hypothesis is not-rejected

6406533040101. ✖ None of these

**Sub-Section Number :**

3

**Sub-Section Id :**

640653133747

**Question Shuffling Allowed :**

Yes

**Question Number : 355 Question Id : 640653902660 Question Type : MCQ Calculator : Yes**

**Correct Marks : 1**

Question Label : Multiple Choice Question

The objective function of the linear programming model using pair-wise judgments:

**Options :**

6406533040115. ✖ Maximize the distance from the ideal point

6406533040116. ✖ Minimize the distance from the ideal point

6406533040117. ✔ Minimize the pooriness of fit

6406533040118. ✖ Both Maximize the distance from the ideal point & Minimize the pooriness of fit

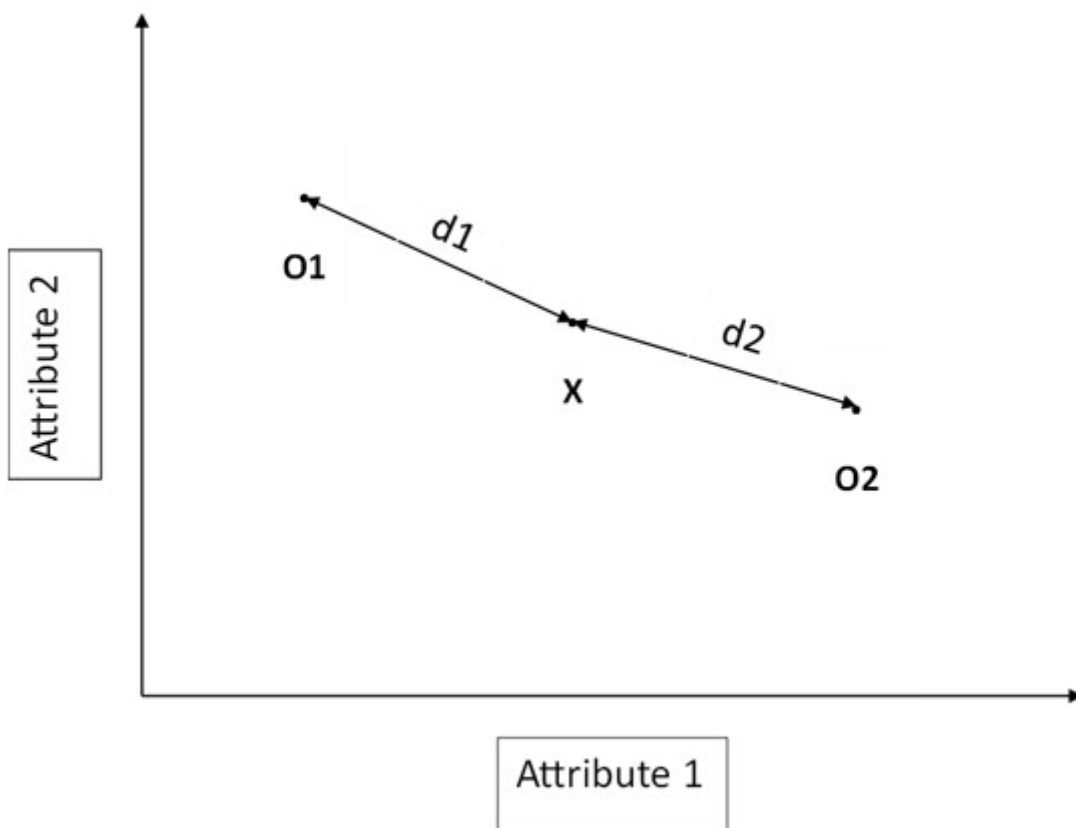
6406533040119. ✖ Both Minimize the distance from the ideal point & Minimize the pooriness of fit

**Question Number : 356 Question Id : 640653902664 Question Type : MCQ Calculator : Yes**

**Correct Marks : 1**

Question Label : Multiple Choice Question

In the below diagram, the customer wants to decide between the products O1 & O2, and x denotes the coordinates of the ideal product. Which of the following are true?



Options :

6406533040132. ✓ Customers will prefer O1 when  $d_2 > d_1$

6406533040133. ✗ Customers will prefer O2 when  $d_1 < d_2$

6406533040134. ✗ Both Customers will prefer O1 when  $d_2 > d_1$  & Customers will prefer O2 when  $d_1 < d_2$

6406533040135. ✗ None of these

Sub-Section Number :

4

Sub-Section Id :

640653133748

Question Shuffling Allowed :

Yes

Question Number : 357 Question Id : 640653902659 Question Type : MCQ Calculator : Yes

Correct Marks : 1.5

Question Label : Multiple Choice Question

Assume 5 factories are producing the same output of 1000 units. But, the resources used i.e. labour and raw materials are different. Which of the following factories are efficient?

Factory	Labour	Raw Material
Factory A	100	171
Factory B	105	175
Factory C	108	162
Factory D	104	165
Factory E	109	170

Options :

6406533040110. ✗ A, B, D

6406533040111. ✖ B, C, D

6406533040112. ✔ A, C, D

6406533040113. ✖ A, E, D

6406533040114. ✖ B, D, E

**Question Number : 358 Question Id : 640653902662 Question Type : MCQ Calculator : Yes**

**Correct Marks : 1.5**

Question Label : Multiple Choice Question

In a conjoint problem with 4 products and 2 attributes, how many pair-wise preferences are possible?

**Options :**

6406533040124. ✖ 8

6406533040125. ✔ 6

6406533040126. ✖ 16

6406533040127. ✖ 12

**Question Number : 359 Question Id : 640653902663 Question Type : MCQ Calculator : Yes**

**Correct Marks : 1.5**

Question Label : Multiple Choice Question

If the attribute values in the conjoint analysis is a continuous variable and the data is collected in a pairwise order, then what approach can be used:

**Options :**

6406533040128. ✔ Optimization approach

6406533040129. ✖ Regression approach

6406533040130. ✖ Statistical approach

6406533040131. ✖ Optimization approach or Statistical approach

**Sub-Section Number :** 5

**Sub-Section Id :** 640653133749

**Question Shuffling Allowed :** Yes

**Question Number : 360 Question Id : 640653902658 Question Type : MSQ Calculator : Yes**

**Correct Marks : 1.5 Max. Selectable Options : 0**

Question Label : Multiple Select Question

There are 6 business units and you are using the DEA to compare them. You solve the LP for business unit 5. You find from the constraint expression that business unit 5 has obtained an efficiency of 0.7 and business unit 6 has obtained an efficiency of 1 with the optimal weights of business unit 5. Which of the following statements is correct?

**Options :**

6406533040106. ✖ Business unit 5 will be efficient

6406533040107. ✔ Business unit 6 will be efficient

6406533040108. ✓ Business unit 5 will be inefficient

6406533040109. ✗ Business unit 6 will be inefficient

**Sub-Section Number :** 6  
**Sub-Section Id :** 640653133750  
**Question Shuffling Allowed :** Yes

**Question Number : 361 Question Id : 640653902657 Question Type : MSQ Calculator : Yes**  
**Correct Marks : 2 Max. Selectable Options : 0**

Question Label : Multiple Select Question

Which of the following are true:

**Options :**

6406533040102. ✓ Productive efficiency frontiers are all combinations of outputs such that the production of one unit cannot be increased without sacrificing without sacrificing the other.

6406533040103. ✓ Organizations that do not find themselves on the Economic frontier are called inefficient economic units or organizations.

6406533040104. ✓ Productive efficiency focuses on maximizing the given output under given constraints without focusing on optimally allocating the products.

6406533040105. ✗ DEA focuses on the technology to improve the productive efficiency.

**Question Number : 362 Question Id : 640653902661 Question Type : MSQ Calculator : Yes**  
**Correct Marks : 2 Max. Selectable Options : 0**

Question Label : Multiple Select Question

What is the format of data needed for performing the conjoint analysis using the Statistical or Linear Regression Approach?

**Options :**

6406533040120. ✓ Consumer Choice Data is Ratings

6406533040121. ✗ Consumer Choice Data is Pairwise Comparison

6406533040122. ✗ Value of the attributes are continuous

6406533040123. ✓ Value of the product attributes are categorical

**Sub-Section Number :** 7  
**Sub-Section Id :** 640653133751  
**Question Shuffling Allowed :** No

**Question Id : 640653902676 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None**

**Question Numbers : (363 to 365)**

Question Label : Comprehension

The weekly sales in 4 retail stores selling 3 styles of jeans are given in Table-1. The aim is to see if the sales of jeans (jeans styles) is independent across the different stores. Then answer the given subquestions.

Jeans Style	Number of jeans of a particular style sold in a week at store			
	1	2	3	4
A	72	70	112	43
B	80	76	114	54
C	50	45	89	30

Table-1

### Sub questions

**Question Number : 363 Question Id : 640653902677 Question Type : SA Calculator : None**

**Correct Marks : 1**

Question Label : Short Answer Question

What is the expected number of jeans of Style-B that would be sold in Store-3? *(Note: Input your answer rounded **to two decimal places**. For example, if your answer is "1.235" then enter the answer as "1.24")*

**Response Type : Numeric**

**Evaluation Required For SA : Yes**

**Show Word Count : Yes**

**Answers Type : Range**

**Text Areas : PlainText**

**Possible Answers :**

121 to 123

**Question Number : 364 Question Id : 640653902678 Question Type : SA Calculator : None**

**Correct Marks : 1**

Question Label : Short Answer Question

How many degrees of freedom does are present in the hypothesis test conducted for this problem? *(Note: Input your answer rounded **to two decimal places**. For example, if your answer is "1.235" then enter the answer as "1.24")*

**Response Type : Numeric**

**Evaluation Required For SA : Yes**

**Show Word Count : Yes**

**Answers Type : Equal**

**Text Areas : PlainText**

**Possible Answers :**

6

**Question Number : 365 Question Id : 640653902679 Question Type : MCQ Calculator : Yes**

**Correct Marks : 1**

Question Label : Multiple Choice Question

If the tabulated value for the test statistic is 5.78 and the computed value of the test statistic is 2.7, then which of the following statements are TRUE

**Options :**

6406533040147. ✖ Reject the Null and conclude that the sales of jeans (jeans styles) across different stores is independent
6406533040148. ✖ Reject the Null and conclude that the sales of jeans (jeans styles) across different stores is NOT independent
6406533040149. ✖ Do not reject the Null and conclude that the sales of jeans (jeans styles) across different stores is NOT independent
6406533040150. ✖ Cannot say as the alternative hypothesis is not specified
6406533040151. ✔ None of these

**Question Id : 640653902680 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None**

**Question Numbers : (366 to 368)**

Question Label : Comprehension

DMS lighting produces 3 types of bulbs (Type-A, Type-B and Type-C). The probability that a Type-A bulb will give more than 100 hours ( $\geq 100$  hours) of life is 0.7, with the corresponding probabilities of Type-B and Type-C bulbs being 0.4 and 0.3 respectively. In any production, 20% of the bulbs are of Type-A, 30% are of Type-B and 50% are of Type-C. Then answer the given subquestions

**Sub questions**

**Question Number : 366 Question Id : 640653902681 Question Type : SA Calculator : None Correct Marks : 1**

Question Label : Short Answer Question

What is the probability that a bulb from the production lot will give a life of more than 100 hours? (Note: Input your answer rounded **to two decimal places**. For example, if your answer is "1.235" then enter the answer as "1.24")

**Response Type : Numeric**

**Evaluation Required For SA : Yes**

**Show Word Count : Yes**

**Answers Type : Range**

**Text Areas : PlainText**

**Possible Answers :**

0.40 to 0.42

**Question Number : 367 Question Id : 640653902682 Question Type : SA Calculator : None Correct Marks : 1**

Question Label : Short Answer Question

If a randomly selected bulb from the production lot has a life of more than 100 hours, then what is the probability that it was of Type-B? (Note: Input your answer rounded **to two decimal places**. For example, if your answer is "1.235" then enter the answer as "1.24")

**Response Type : Numeric**

**Evaluation Required For SA : Yes**

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

0.28 to 0.30

Question Number : 368 Question Id : 640653902683 Question Type : SA Calculator : None

Correct Marks : 1

Question Label : Short Answer Question

DMS is giving a replacement warranty for bulbs that last for less than 100 hours of life. The replacement will cost Rs. 2 for every Type-A bulb, Rs. 1.75 for every Type-B bulb and Rs. 3 for every Type-C bulb. Then, if 10,000 bulbs are produced and sold in a year, what would be the total warranty related cost that DMS will expect to incur? (Note: Input your answer rounded **to two decimal places**. For example, if your answer is "1.235" then enter the answer as "1.24")

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

14849 to 14851

Sub-Section Number :

8

Sub-Section Id :

640653133752

Question Shuffling Allowed :

No

Question Id : 640653902665 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None

Question Numbers : (369 to 370)

Question Label : Comprehension

There are 5 business units where we measure the efficiency based on two outputs and one input. You are solving the optimization problem for business unit 4 and you find that the efficiency is 0.8. You find that the dual variables corresponding to the constraints of business units 3 and 5 are non-zero and the dual variables corresponding to the constraints of other units are zero. The dual variables corresponding to the constraints of business units 3 and 5 are 0.5 and 0.3 respectively. You are given the following table where sales and loyal customers are the two outputs. Answer the given subquestions.

	Sales	Loyal Customers
BU 3	12000	100
BU 5	10000	120

Sub questions



**Question Number : 369 Question Id : 640653902666 Question Type : SA Calculator : None**

**Correct Marks : 2**

Question Label : Short Answer Question

How much is the sales in HCU 4?

Hint: Round-off up to 2 decimal places

**Response Type : Numeric**

**Evaluation Required For SA : Yes**

**Show Word Count : Yes**

**Answers Type : Equal**

**Text Areas : PlainText**

**Possible Answers :**

11250

**Question Number : 370 Question Id : 640653902667 Question Type : SA Calculator : None**

**Correct Marks : 2**

Question Label : Short Answer Question

How many loyal customers must be there in HCU 4?

Hint: Round-off up to 2 decimal places

**Response Type : Numeric**

**Evaluation Required For SA : Yes**

**Show Word Count : Yes**

**Answers Type : Range**

**Text Areas : PlainText**

**Possible Answers :**

107 to 108

**Question Id : 640653902684 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None**

**Question Numbers : (371 to 376)**

Question Label : Comprehension

Dr. Milo wants to advertise his new brand of tuition centres called "Torture Students". Currently promotion plans are underway for this year's admission. Advertising alternatives include TV, Radio and Social Media. The estimated audiences per advertisement (who will enrol after viewing the advertisement) and costs per advertisement for the different alternatives are shown in Table-2. To ensure a balanced use of advertisement media (1) radio advertisements must not exceed 70% of the total number of advertisements authorised (2) amount authorised for TV advertisements should account for at least 30% of the total spending (3) Amount of spending on social media advertisements cannot exceed more than 25% of the other two spending. The promotional budget is limited to Rs. 1,82,000, and Dr. Milo wants to use all the available money to maximize the number of enrolments. Then answer the given subquestions.

<i>Component</i>	<i>TV</i>	<i>Radio</i>	<i>Social Media</i>
Estimated audiences per advertisement (who will enrol after viewing the advertisement) (Numbers/ Advertisement)	4,000	1,800	10,000
Costs per advertisement (Rs./ Advertisement)	Rs. 2500	Rs. 400	Rs. 750

Table-2

### Sub questions

**Question Number : 371 Question Id : 640653902685 Question Type : SA Calculator : None Correct Marks : 0.5**

Question Label : Short Answer Question

How many decision variables (count) are present in the standard form of the primal problem?  
(Note: Specify the count of variables. **Not the count of notations**)

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Equal

**Text Areas :** PlainText

**Possible Answers :**

3

**Question Number : 372 Question Id : 640653902686 Question Type : SA Calculator : None Correct Marks : 0.5**

Question Label : Short Answer Question

How many constraints (excluding the non-negativity constraints) are present in the standard form of the primal? (Note: Specify the count of constraints. **Not the count of constrains in notation format**)

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Equal

**Text Areas :** PlainText

**Possible Answers :**

5

**Question Number : 373 Question Id : 640653902687 Question Type : SA Calculator : None Correct Marks : 0.5**

Question Label : Short Answer Question

If the standard form of the primal is converted to a dual, then how many constraints (excluding the non-negativity constraints) are present in the dual? (Note: Specify the count of constraints. **Not the count of constrains in notation format**)

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Equal

**Text Areas :** PlainText

**Possible Answers :**

3

**Question Number : 374 Question Id : 640653902688 Question Type : MCQ Calculator : Yes**

**Correct Marks : 0.5**

Question Label : Multiple Choice Question

If Dr. Milo has decided to invest Rs. 1,05,000 in TV and Rs. 31,500 in Social Media and Rs. 45,200 in Radio. Then has he acted like a true operations expert and found a Feasible solution?

**Options :**

6406533040158. ✖ Yes, he is a great operations expert as the above is a feasible solution

6406533040159. ✔ No, he is not an expert but a fraud as the above is NOT a feasible solution

**Question Number : 375 Question Id : 640653902689 Question Type : SA Calculator : None**

**Correct Marks : 1**

Question Label : Short Answer Question

For the sake of argument, assume that Dr. Milo is an operations expert (irrespective of your answer to the previous question). Then, for the solution (Rs. 1,05,000 in TV and Rs. 31,500 in Social Media and Rs. 45,200 in Radio are made) how many (count) decision variables in the dual (which is formulated based on the standard form of the primal) will have a **non-zero** value?

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Equal

**Text Areas :** PlainText

**Possible Answers :**

0

**Question Number : 376 Question Id : 640653902690 Question Type : SA Calculator : None**

**Correct Marks : 1**

Question Label : Short Answer Question

For the sake of argument, assume that Dr. Milo is an operations expert (irrespective of your answer to the previous question). Then, for the solution (where an investment of Rs. 1,05,000 in TV and Rs. 31,500 in Social Media and Rs. 45,200 in Radio are made) what is the **objective function value** for 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 :

-791400

Sub-Section Number : 9

Sub-Section Id : 640653133753

Question Shuffling Allowed : No

Question Id : 640653902668 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None

Question Numbers : (377 to 383)

Question Label : Comprehension

A travel company wants to understand its model performance of a classification problem where the task is to classify if its customer will be granted with a tourist visa or not (assume granted = Class 1 and Not Granted as Class 0). Using the table given below, answer the given subquestions

S.No	y_act	y_pred
1	Not Granted	Granted
2	Not Granted	Not Granted
3	Granted	Not Granted
4	Granted	Granted
5	Granted	Granted
6	Not Granted	Granted
7	Granted	Granted
8	Granted	Not Granted
9	Not Granted	Granted
10	Not Granted	Not Granted
11	Not Granted	Not Granted
12	Granted	Granted
13	Granted	Granted
14	Not Granted	Not Granted

Sub questions

Question Number : 377 Question Id : 640653902669 Question Type : SA Calculator : None Correct Marks : 1

Question Label : Short Answer Question

What is the accuracy of the model?

Hint: Round your answer to two decimal places and answer them in terms of percentage. Example: If your answers is 0.735, write it as 73.50.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

**Answers Type :** Range

**Text Areas :** PlainText

**Possible Answers :**

63.8 to 64.6

**Question Number : 378 Question Id : 640653902670 Question Type : SA Calculator : None**

**Correct Marks : 1**

Question Label : Short Answer Question

What is the precision of class 1?

*Hint: Round your answer to two decimal places and answer them in terms of percentage. Example: If your answers is 0.735, write it as 73.50.*

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Range

**Text Areas :** PlainText

**Possible Answers :**

62.3 to 62.8

**Question Number : 379 Question Id : 640653902671 Question Type : SA Calculator : None**

**Correct Marks : 1**

Question Label : Short Answer Question

What is the recall of class 1?

*Hint: Round your answer to two decimal places and answer them in terms of percentage. Example: If your answers is 0.735, write it as 73.50.*

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Range

**Text Areas :** PlainText

**Possible Answers :**

71.0 to 71.6

**Question Number : 380 Question Id : 640653902672 Question Type : SA Calculator : None**

**Correct Marks : 1**

Question Label : Short Answer Question

What is the precision of class 0?

*Hint: Round your answer to two decimal places and answer them in terms of percentage. Example: If your answers is 0.735, write it as 73.50.*

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Range

**Text Areas :** PlainText

**Possible Answers :**

66.4 to 66.85

**Question Number :** 381 **Question Id :** 640653902673 **Question Type :** SA **Calculator :** None

**Correct Marks :** 1

Question Label : Short Answer Question

What is the recall of class 0?

*Hint: Round your answer to two decimal places and answer them in terms of percentage. Example: If your answers is 0.735, write it as 73.50.*

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Range

**Text Areas :** PlainText

**Possible Answers :**

56.9 to 57.5

**Question Number :** 382 **Question Id :** 640653902674 **Question Type :** SA **Calculator :** None

**Correct Marks :** 1

Question Label : Short Answer Question

What is the Sensitivity for the model?

*Hint: Round your answer to two decimal places and answer them in terms of percentage. Example: If your answers is 0.735, write it as 73.50.*

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Range

**Text Areas :** PlainText

**Possible Answers :**

71.0 to 71.6

**Question Number :** 383 **Question Id :** 640653902675 **Question Type :** SA **Calculator :** None

**Correct Marks :** 1

Question Label : Short Answer Question

What is the Specificity for the model?

Hint: Round your answer to two decimal places and answer them in terms of percentage.Example: If your answers is 0.735, write it as 73.50.

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Range

**Text Areas :** PlainText

**Possible Answers :**

56.9 to 57.6

**Sub-Section Number :** 10

**Sub-Section Id :** 640653133754

**Question Shuffling Allowed :** No

**Question Id : 640653902691 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None**

**Question Numbers : (384 to 391)**

Question Label : Comprehension

A company has developed a new fodder for pigs. To model the “increase in weight of a piglet (in pounds) in one week”, an experiment is performed in which eight piglets were exclusively feed the fodder. Table-3 below provides the data on “Initial weight (pounds)”, “Age of the piglet (weeks)”, “Actual Weight gained after one week (pounds)” and “Predicted Weight gained after one week (pounds)” . The column "Predicted Weight gained after one week (pounds)" is obtained using Model-1

Piglet Number	Initial Weight (pounds)	Initial Age (weeks)	Actual Weight Gained (pounds)	Predicted Weight Gained (pounds)
1	39	8	7	6.1
2	52	6	6	5.8
3	49	7	8	6.3
4	46	12	10	10.0
5	61	9	9	9.1
6	35	6	5	4.1
7	25	7	3	3.9
8	55	4	4	4.5

Table-3

The different models developed are presented in the below Figures (which specify the partial regression outputs).

Given this information, answer the given subquestions

SUMMARY OUTPUT				
<i>Regression Statistics</i>				
Multiple R	X1			
R Square	X2			
Adjusted R Square	X3			
Standard Error				
Observations	8			
ANOVA				
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>
Regression		X4		
Residual				
Total		X5		
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	
Intercept	-4.2	1.89		
Initial Weight (pounds)	0.1	0.03		
Initial Age (weeks)	0.8	0.16		

Model-1: Partial output when regression “Weight Gained (pounds)”, “Initial Weight (pounds)” and “Initial Age (weeks)”

ANOVA		
	<i>df</i>	<i>SS</i>
Regression		450.76
Residual		506.75
Total	7	
	<i>Coefficients</i>	
Intercept	44.65	
Initial Age (weeks)	0.09	

Model-2: Partial output when regressing “Initial Weight (pounds)” and “Initial Age (weeks)”

ANOVA		
	<i>df</i>	<i>SS</i>
Regression		22.5
Residual		17.37
Total	7	
	<i>Coefficients</i>	
Intercept	7.22	
Initial Weight (pounds)	0.004	

Model-3: Partial output when regressing “Initial Weight (pounds)” and “Initial Age (weeks)”



ANOVA		
	<i>df</i>	<i>SS</i>
Regression		33.44
Residual		
Total	7	39.875
	<i>Coefficients</i>	
Intercept	5.52	
Initial Weight (pounds)	1.04	
Weight Gained (pounds)	-0.11	

Model-4: Partial output when regression “Weight Gained (pounds)”, “Initial Weight (pounds)” and “Initial Age (weeks)”

ANOVA		
	<i>df</i>	<i>SS</i>
Regression		649.5
Residual		308
Total	7	957.5
	<i>Coefficients</i>	
Intercept	41.48	
Initial Age (weeks)	-5.19	
Weight Gained (pounds)	6.5	

Model-5: Partial output when regression “Weight Gained (pounds)”, “Initial Weight (pounds)” and “Initial Age (weeks)”

### Sub questions

**Question Number : 384 Question Id : 640653902692 Question Type : SA Calculator : None**

**Correct Marks : 1.5**

Question Label : Short Answer Question

What is the value of “X1” in Model-1? (Note: Input your answer rounded to two decimal places. For example, if your answer is “1.235” then enter the answer as “1.24”)

**Response Type : Numeric**

**Evaluation Required For SA : Yes**

**Show Word Count : Yes**

**Answers Type : Range**

**Text Areas : PlainText**

**Possible Answers :**

0.92 to 0.95

**Question Number : 385 Question Id : 640653902693 Question Type : SA Calculator : None**

**Correct Marks : 1.5**

Question Label : Short Answer Question

What is the value of "X2" in Model-1? (Note: Input your answer rounded to two decimal places. For example, if your answer is "1.235" then enter the answer as "1.24")

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Range

**Text Areas :** PlainText

**Possible Answers :**

0.85 to 0.88

**Question Number : 386 Question Id : 640653902694 Question Type : SA Calculator : None**

**Correct Marks : 1.5**

Question Label : Short Answer Question

What is the value of "X3" in Model-1? (Note: Input your answer rounded to two decimal places. For example, if your answer is "1.235" then enter the answer as "1.24")

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Range

**Text Areas :** PlainText

**Possible Answers :**

0.80 to 0.83

**Question Number : 387 Question Id : 640653902695 Question Type : SA Calculator : None**

**Correct Marks : 2**

Question Label : Short Answer Question

What is the value of "X4" in Model-1? (Note: Input your answer rounded to two decimal places. For example, if your answer is "1.235" then enter the answer as "1.24")

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Range

**Text Areas :** PlainText

**Possible Answers :**

36 to 37

**Question Number : 388 Question Id : 640653902696 Question Type : SA Calculator : None**

**Correct Marks : 2**

Question Label : Short Answer Question

What is the value of "X5" in Model-1? (Note: Input your answer rounded to two decimal places. For example, if your answer is "1.235" then enter the answer as "1.24")

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Range

**Text Areas :** PlainText

**Possible Answers :**

41 to 43

**Question Number : 389 Question Id : 640653902697 Question Type : SA Calculator : None**

**Correct Marks : 1**

Question Label : Short Answer Question

What is the value of the F-statistic for Model-1? (Note: Input your answer rounded **to two decimal places**. For example, if your answer is "1.235" then enter the answer as "1.24")

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Range

**Text Areas :** PlainText

**Possible Answers :**

16.0 to 16.50

**Question Number : 390 Question Id : 640653902698 Question Type : SA Calculator : None**

**Correct Marks : 1**

Question Label : Short Answer Question

What is the VIF associated with "Initial Age (weeks)"? (Note: Input your answer rounded **to two decimal places**. For example, if your answer is "1.235" then enter the answer as "1.24")

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Range

**Text Areas :** PlainText

**Possible Answers :**

2.10 to 2.40

**Question Number : 391 Question Id : 640653902699 Question Type : SA Calculator : None**

**Correct Marks : 1**

Question Label : Short Answer Question

What is the VIF associated with "Initial Weight (pounds)"? (Note: Input your answer rounded **to two decimal places**. For example, if your answer is "1.235" then enter the answer as "1.24")

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Range

**Text Areas :** PlainText

**Possible Answers :**

1.70 to 1.99