6406532774830. ✖ Classifying customers into segments based on labeled customer data.

6406532774831. ✔ Identifying inherent groupings in customer data without predefined labels.

6406532774832. ✖ Reducing the number of features in the customer dataset.

Business Analytics

Section Id :	64065359212
Section Number :	5
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	6
Number of Questions to be attempted :	6
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 :	No
Section Maximum Duration :	0
Section Minimum Duration :	0
Section Time In :	Minutes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	640653122732
Question Shuffling Allowed :	No

Question Number : 63 Question Id : 640653825051 Question Type : MCQ

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 :

6406532774833. ✔ YES

6406532774834. ✖ NO

Sub-Section Number :	2
Sub-Section Id :	640653122733

Question Shuffling Allowed : No

Question Id : 640653825052 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix

Question Numbers : (64 to 65)

Question Label : Comprehension

Dr. Milo is exploring the attendance of employees (number of sick days taken) in an organisation. He needs to make a presentation to the company's top management. Table-1 specifies the total number of sick days taken by the employees of three different teams "Team-A", "Team-B" and "Team-C" over the past 12 months. Then answer the given sub questions

Note to students: For this comprehension, please do not worry about the colour combinations/ reproductions. In TCS ion, the colour representations may not appear accurately. Kindly use the "data labels" and "visualisation theory" to arrive at the appropriate answers.

Month	Team-A	Team-B	Team-C
1	12	22	26
2	11	15	28
3	6	17	24
4	5	11	22
5	5	27	7
6	9	11	27
7	11	30	6
8	6	28	19
9	16	13	20
10	9	17	9
11	8	22	8
12	12	16	25

Table-1

Sub questions

Question Number : 64 Question Id : 640653825053 Question Type : MCQ

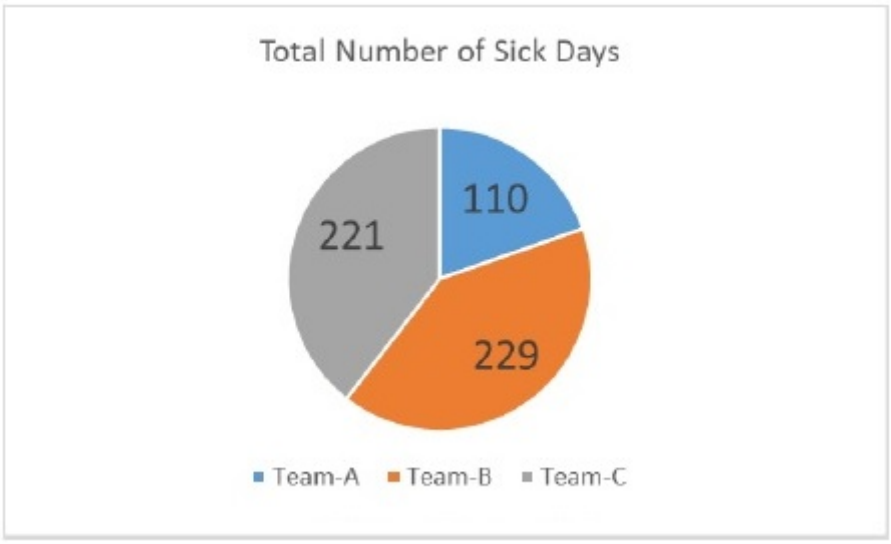
Correct Marks : 1

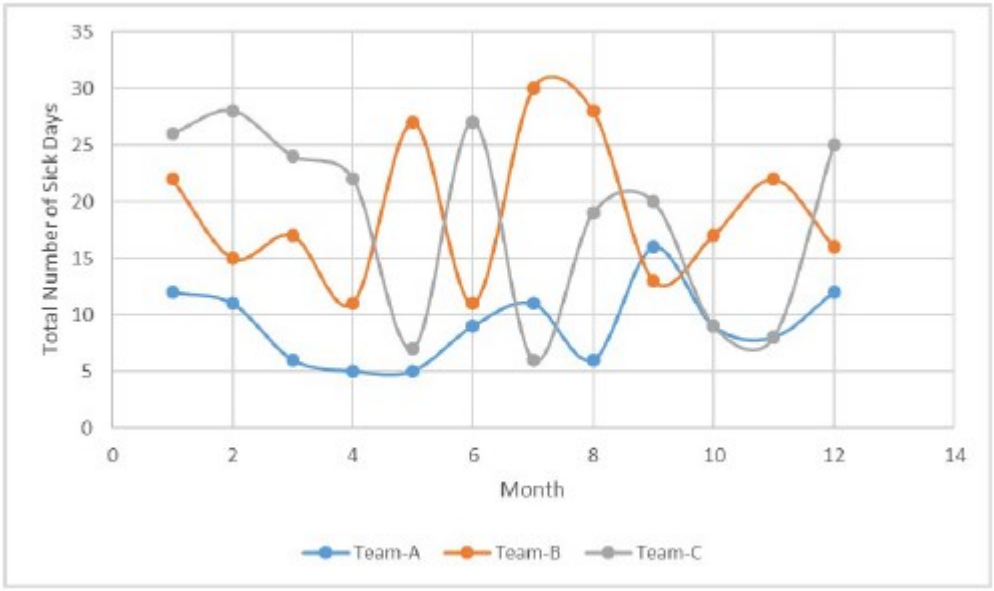
Question Label : Multiple Choice Question

If the aim is to indicate the team which has the highest number of sick days in the whole year, then which of the following visualizations would be best suited?

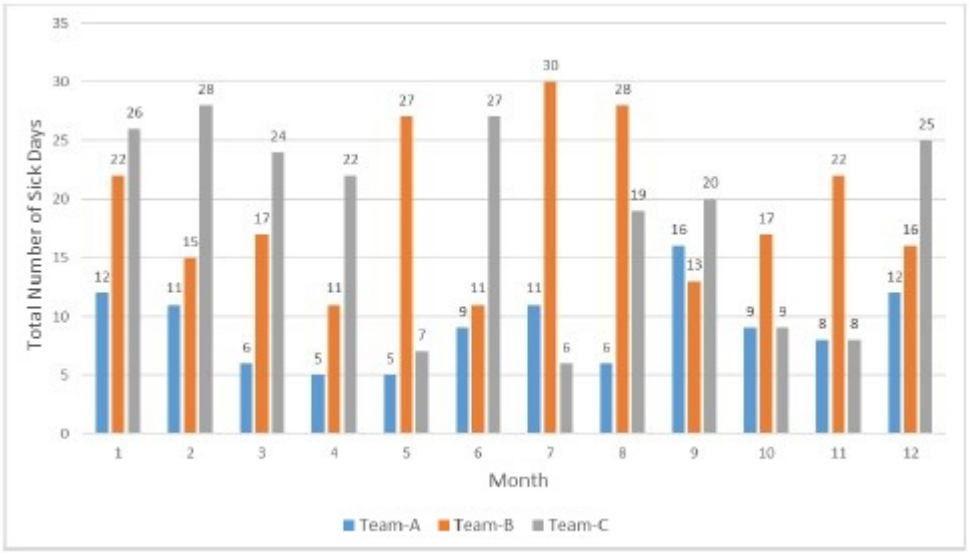
Options :

6406532774835. ✔



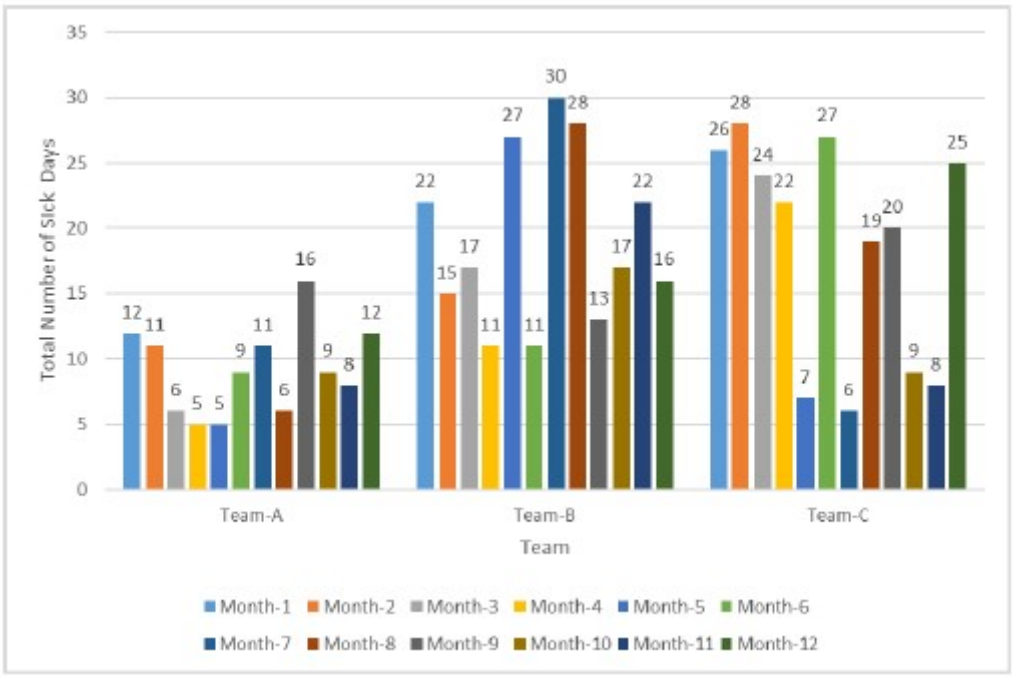


6406532774836. ✖



6406532774837. ✖

6406532774838. ✖



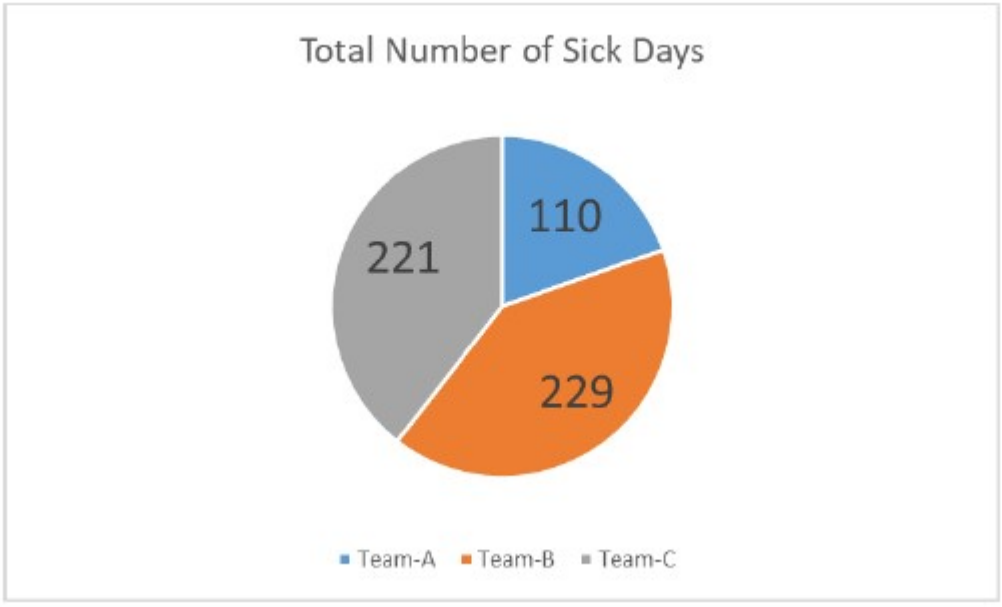
Question Number : 65 Question Id : 640653825054 Question Type : MCQ

Correct Marks : 1

Question Label : Multiple Choice Question

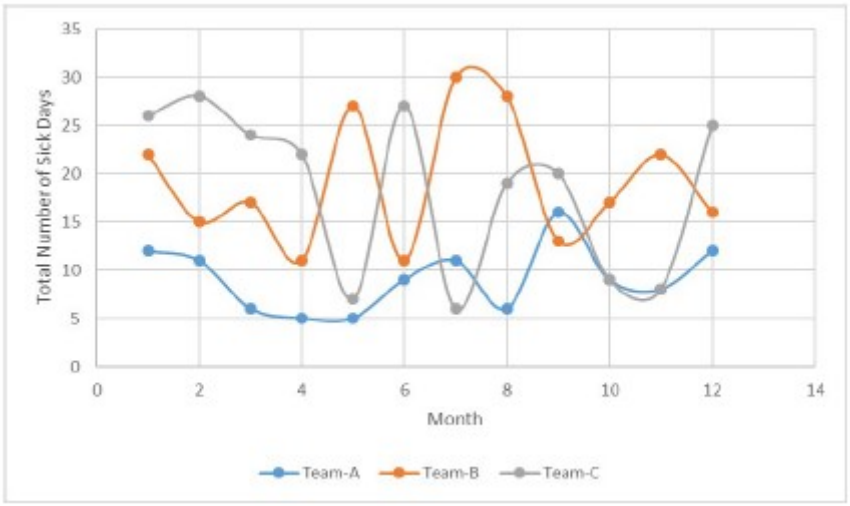
If the aim is to display team wise pattern in total sick days over the months in the year, then which of the following graphs will be best suited?

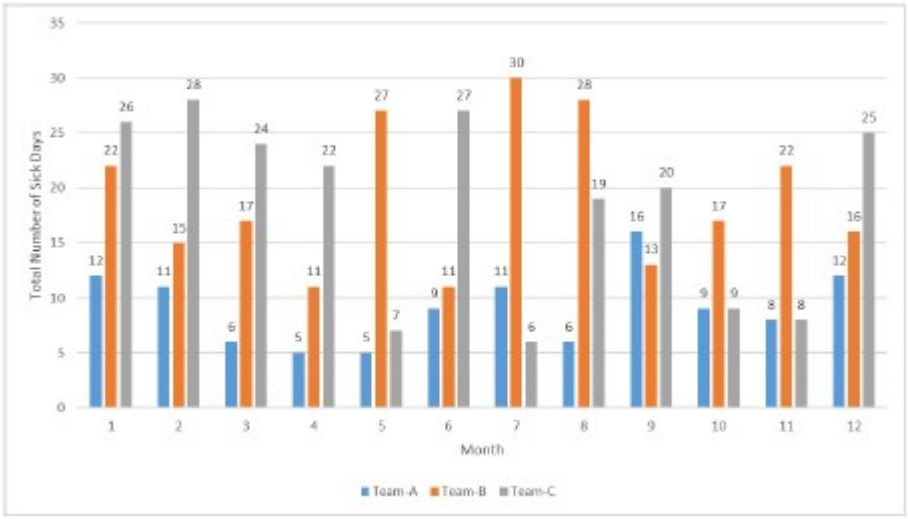
Options :



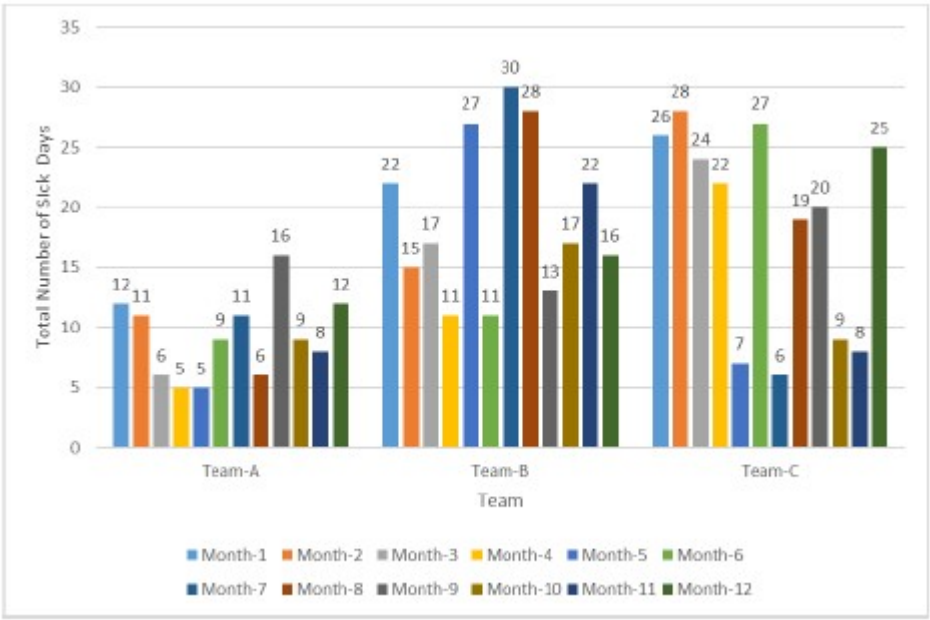
6406532774839. ✖

6406532774840. ✖





6406532774841. ✖



6406532774842. ✔

Sub-Section Number : 3

Sub-Section Id : 640653122734

Question Shuffling Allowed : No

Question Id : 640653825055 Question Type : COMPREHENSION Sub Question Shuffling

Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Question Numbers : (66 to 73)

Question Label : Comprehension

"Aqua Aqua (AA)" is a manufacturer of water purifiers. AA wants to understand the life of its RO filters. The life of a filter is measured in terms of "Litres of Water Purified (LWP)" before a warning light is raised for maintenance. A sample of 20 water purifiers were tested and the time (LWP) after which the warning light is raised for maintenance of the RO Filter was noted (data provided in Table-2). With this data, AA wants to understand the possible distribution for the life of the RO filter. To this end, it is proposed to bin the data in 4 groups "Low Life (LWP <=25)", "Medium Life (25<LWP<=40)", "High Life (40<LWP<=80)", "Excellent Life (LWP>80)".

The following Φ values are given to you, where Φ(z) indicates the area under the curve (between "0" to "LWP") for a normal distribution with a mean of 60 and standard deviation of 24.

Φ(-1.45) = 0.07; Φ(-0.83) = 0.20; Φ(+0.83) = 0.79; Φ(+1.45) = 0.93

Sample-ID	RO Filter Life (in LWP)	Sample-ID	RO Filter Life (in LWP)
S-1	73	S-11	70
S-2	49	S-12	47
S-3	12	S-13	78
S-4	72	S-14	15
S-5	97	S-15	54
S-6	95	S-16	61
S-7	79	S-17	91
S-8	42	S-18	61
S-9	70	S-19	26
S-10	53	S-20	64

Table-2

Given this information, answer the subquestions

Sub questions

Question Number : 66 Question Id : 640653825056 Question Type : SA

Correct Marks : 1

Question Label : Short Answer Question

If the life of the RO Filter is expected to follow a uniform distribution, then what is the expected frequency in any given bin? *(Note: If your answer is in decimal, enter it rounded to two decimal places. For example, if your answer is "10.256", enter it as "10.26")*

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

21 to 23

Question Number : 67 Question Id : 640653825057 Question Type : SA

Correct Marks : 2

Question Label : Short Answer Question

If the life of the RO filter is expected to follow a uniform distribution, then what is the value of the computed test statistic? *(Note: If your answer is in decimal, enter it rounded to two decimal places. For example, if your answer is "10.256", enter it as "10.26")*

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

22

Question Number : 68 Question Id : 640653825058 Question Type : SA

Correct Marks : 0.5

Question Label : Short Answer Question

If the life of the RO filter is expected to follow a uniform distribution, then what is the degrees of freedom for the corresponding statistical test to verify the same? *(Note: If your answer is in decimal, enter it rounded to two decimal places. For example, if your answer is "10.256", enter it as "10.26")*

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 69 Question Id : 640653825059 Question Type : SA

Correct Marks : 1.5

Question Label : Short Answer Question

If the life of the RO filter is expected to follow a normal distribution with a mean of 60 and standard deviation of 24, then what is the expected frequency in the "Medium Life" bin? *(Note-1: The bins* **DO NOT SPILT** *the sample space into equal areas) (Note-2: If your answer is in decimal, enter it rounded to two decimal places. For example, if your answer is "10.256", enter it as "10.26")*

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

2.40 to 2.80

Question Number : 70 Question Id : 640653825060 Question Type : SA

Correct Marks : 1.5

Question Label : Short Answer Question

If the life of the RO filter is expected to follow a normal distribution with a mean of 60 and standard deviation of 24, then what is the expected frequency in the “Excellent Life” bin? *(Note-1: The bins* **DO NOT SPILT** *the sample space into equal areas) (Note-2: If your answer is in decimal, enter it rounded to two decimal places. For example, if your answer is “10.256”, enter it as “10.26”)*

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

4.10 to 4.30

Question Number : 71 Question Id : 640653825061 Question Type : SA

Correct Marks : 2.5

Question Label : Short Answer Question

If the life of the RO filter is expected to follow a normal distribution with a mean of 60 and standard deviation of 24, then what is the value of the computed test statistic? *(Note-1: The bins* **DO NOT SPILT** *the sample space into equal areas) (Note-2: If your answer is in decimal, enter it rounded to two decimal places. For example, if your answer is “10.256”, enter it as “10.26”)*

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

1.5 to 2.5

Question Number : 72 Question Id : 640653825062 Question Type : SA

Correct Marks : 0.5

Question Label : Short Answer Question

If the life of the RO filter is expected to follow a normal distribution with a mean of 60 and standard deviation of 24, then what is the degrees of freedom for the corresponding statistical test to verify the same? *(Note-1: The bins* **DO NOT SPILT** *the sample space into equal areas) (Note-2: If your answer is in decimal, enter it rounded to two decimal places. For example, if your answer is “10.256”, enter it as “10.26”)*

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

3

Question Number : 73 Question Id : 640653825063 Question Type : MSQ

Correct Marks : 1 Max. Selectable Options : 0

Question Label : Multiple Select Question

Assume that a common value of 8.79 is identified for the tabulated test statistic (for both uniform and normal distribution tests), then *(choose all that is applicable)*

Options :

6406532774850. ✖ **REJECT** the null hypothesis and conclude that the life of the RO filter is not UNIFORMLY distributed

6406532774851. ✔ At the specified significance level, **REJECT** the null hypothesis and conclude that the life of the RO filter is not UNIFORMLY distributed

6406532774852. ✖ **REJECT** the null hypothesis and conclude that the life of the RO filter is not NORMALY distributed

6406532774853. ✖ At the specified significance level, **REJECT** the null hypothesis and conclude that the life of the RO filter is not NORMALY distributed

6406532774854. ✖ **DO NOT REJECT** the null hypothesis and conclude that the life of the RO filter is UNIFORMLY distributed

6406532774855. ✖ At the specified significance level, **DO NOT REJECT** the null hypothesis and conclude that the life of the RO filter is UNIFORMLY distributed

6406532774856. ✖ **DO NOT REJECT** the null hypothesis and conclude that the life of the RO filter is NORMALY distributed

6406532774857. ✔ At the specified significance level, **DO NOT REJECT** the null hypothesis and conclude that the life of the RO filter is NORMALLY distributed

Sub-Section Number :	4
Sub-Section Id :	640653122735
Question Shuffling Allowed :	No

Question Id : 640653825064 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix

Question Numbers : (74 to 75)

Question Label : Comprehension

The linear demand response for product-A is modelled as a simple linear regression represented as D(P) = 2800 – 40*P, where D(P) is the demand at price-P. Then, answer the given sub questions

Sub questions

Question Number : 74 Question Id : 640653825065 Question Type : SA

Correct Marks : 1

Question Label : Short Answer Question

What is the elasticity of the demand response curve when the price is Rs.50? *(Note: If your answer is in decimal, enter it rounded to two decimal places. For example, if your answer is "10.256", enter it as "10.26")*

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

2.50

Question Number : 75 Question Id : 640653825066 Question Type : SA

Correct Marks : 1

Question Label : Short Answer Question

What is the satiating price for the demand response curve? *(Note: If your answer is in decimal, enter it rounded to two decimal places. For example, if your answer is "10.256", enter it as "10.26")*

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

70.00

Sub-Section Number :	5
Sub-Section Id :	640653122736
Question Shuffling Allowed :	No

Question Id : 640653825067 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix

Question Numbers : (76 to 78)

Question Label : Comprehension

"Bro" has always had a passion for data and the science behind it. Hence, to gain a formal education, Bro has explored and identified three different certificate programme provides: "The IITM BSc Program", "IITM NPTEL Analytics Certification" and "A Random Dude Certification". Before, opting for one, Bro has decided to identify the success of the program providers in terms of job opportunities after completion. The success is measured in three levels, "Level-1: Placement with High Package", "Level-2: Placement with Low Package" and "Level-3: No placement". From past data, it is seen that of all students who completed the "The IITM BSc Program" 30% of past students are in Level-1 and 45% are in Level-2. Similarly, of all students who completed the "IITM NPTEL Analytics Certification", 45% are in Level-1 and 30% are in Level-2. Finally, of all students who completed the "A Random Dude Certification", 25% are in the Level-1 and the rest are in Level-3.

Based on past admission trends, it is seen that 40% of the student population are in the “The IITM BSc Program”, 30% are in the “IITM NPTEL Analytics Certification” and the remaining have opted for “A Random Dude Certification”.

Assuming the necessary mutual exclusiveness criteria, answer the given sub questions.

Sub questions

Question Number : 76 Question Id : 640653825068 Question Type : MCQ

Correct Marks : 0.25

Question Label : Multiple Choice Question

If Bro wants to be a Level-1 student, then which certification program should he choose?

Options :

6406532774860. ✖ The IITM BSc Program

6406532774861. ✔ IITM NPTEL Analytics Certification

6406532774862. ✖ A Random Dude Certification

6406532774863. ✖ Cannot answer, as I do not know how to solve the problem

Question Number : 77 Question Id : 640653825069 Question Type : SA

Correct Marks : 0.5

Question Label : Short Answer Question

If a total of 1000 students are taken (across all three programmes) then how many will be in “Level-2”? *(Note: If your answer is in decimal, enter it rounded to two decimal places. For example, if your answer is “10.256”, enter it as “10.26”)*

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

770

Question Number : 78 Question Id : 640653825070 Question Type : MCQ

Correct Marks : 0.25

Question Label : Multiple Choice Question

Bro finds Dr. Milo (a poor student and a very strict BA course instructor) who is not placed, then which program would you suspect Dr.Milo has completed?

Options :

6406532774865. ✖ The IITM BSc Program

6406532774866. ✖ IITM NPTEL Analytics Certification

6406532774867. ✔ A Random Dude Certification

6406532774868. ✖ Cannot answer, as Dr. Milo is too dumb to even qualify for any of these

Sub-Section Number : 6

Sub-Section Id : 640653122737

Question Shuffling Allowed : No

Question Id : 640653825071 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix

Question Numbers : (79 to 82)

Question Label : Comprehension

Competitive eating a very popular sport in Western Countries. Competitive eating, or speed eating, is a sport in which participants compete against each other to eat large quantities of food, usually in a short time period. There is a general myth that people who have larger waist sizes eat faster and hence have a better chance of winning such competitions. Hence, to check if this is a dependence between waist size and eating speed the data (as specified in Table-3) was collected from interested and willing participants. In this data, the time to complete a A2B Family Dosa (which is equivalent to ~4 Dosas) was considered. The time was grouped into three categories as (i) Fast (less than 2 mins), (ii) Medium (greater than 2 mins but less than 4 minutes) and (iii) Slow (a time greater than 4 minutes). The participants who took part in the study where categorised into five categories based on their waist size as (i) S, (ii) M, (iii) L, (iv) XL, (v) XXL. The entry in a cell indicates the number of participants who completed the dosa in the specified time bucket and have the indicated waist size. Given this information,answer the subquestions.

Waist Size	*Eating Speed*		
	Fast	**Medium**	**Slow**
S	20	27	23
M	13	22	19
L	13	19	12
XL	20	27	22
XXL	18	24	21

Table-3

Sub questions

Question Number : 79 Question Id : 640653825072 Question Type : SA

Correct Marks : 1

Question Label : Short Answer Question

How many participants with a waist size of “L” are expected to complete the Family Dosa with “Medium” speed? *(Note: If your answer is in decimal, enter it rounded to two decimal places. For example, if your answer is “10.256”, enter it as “10.26”)*

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

17 to 18

Question Number : 80 Question Id : 640653825073 Question Type : SA

Correct Marks : 2

Question Label : Short Answer Question

What is the value of the computed test statistic used to perform the desired hypothesis test? *(Note: If your answer is in decimal, enter it rounded to two decimal places. For example, if your answer is "10.256", enter it as "10.26")*

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

0.5 to 1.5

Question Number : 81 Question Id : 640653825074 Question Type : SA

Correct Marks : 0.5

Question Label : Short Answer Question

How many degrees of freedom is present for the test statistic, used to perform the desired hypothesis test

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

8

Question Number : 82 Question Id : 640653825075 Question Type : MSQ

Correct Marks : 1 Max. Selectable Options : 0

Question Label : Multiple Select Question

If the p-value for the hypothesis test is 0.17, then which of the following statements are **TRUE** *(choose all that is applicable)*?

Options :

6406532774872. ✖ At a 5% level of significance, conclude that there is DEPENDENCE between the waist size and eating speed

6406532774873. ✔ At a 5% level of significance, conclude that there is INDEPENDENCE between the waist size and eating speed

6406532774874. ✔ At a 25% level of significance, conclude that there is DEPENDENCE between the waist size and eating speed

6406532774875. ✖ At a 25% level of significance, conclude that there is INDEPENDENCE between the waist size and eating speed

6406532774876. ✖ None of these are TRUE

Java

Section Id :	64065359213
Section Number :	6
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 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 :	640653122738
Question Shuffling Allowed :	No

Question Number : 83 Question Id : 640653825076 Question Type : MCQ

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "DIPLOMA LEVEL : PROGRAMMING CONCEPTS USING JAVA (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 :

6406532774877. ✔ YES

6406532774878. ✖ NO

Sub-Section Number :	2
Sub-Section Id :	640653122739
Question Shuffling Allowed :	Yes