Notations :

1.Options shown in green color and with ✔ icon are correct.

2.Options shown in red color and with ✖ icon are incorrect.

Change Font Color :	No
Change Background Color :	No
Change Theme :	No
Help Button :	No
Show Reports :	No
Show Progress Bar :	No

Statistics1

Section Id :	640653140968
Section Number :	1
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
Section Maximum Duration :	0
Section Minimum Duration :	0
Section Time In :	Minutes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	640653396073
Question Shuffling Allowed :	No

Question Number : 1 Question Id : 6406532158268 Question Type : MCQ

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "FOUNDATION LEVEL : STATISTICS FOR DATA

SCIENCE I (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 :

6406537021008. ✔ Yes

6406537021009. ✖ No

Sub-Section Number : 2

Sub-Section Id : 640653396074

Question Shuffling Allowed : Yes

Question Number : 2 Question Id : 6406532158269 Question Type : MSQ

Correct Marks : 2 Max. Selectable Options : 0

Question Label : Multiple Select Question

A researcher selects 200 scholars from a research institute and records their registration numbers, the time spent on their research projects per week (in hours), their monthly stipend (in Rs.), alongside their preferred mode of conducting research (Laboratory-based, Computer-based, or Hybrid).

Based on this study, choose all the correct statements from the following:

Options :

6406537021010. ✔ "All scholars in the institute" represents the population, while "the 200 selected scholars" represents the sample.

6406537021011. ✔ The "preferred mode of research" is a qualitative variable, whereas the "time spent on research per week" is a quantitative variable.

6406537021012. ✖ The time spent on research per week is a categorical variable.

6406537021013. ✖ The Registration numbers are numerical variables.

6406537021014. ✔ Monthly stipend measured in rupees is a numerical variable.

Question Number : 3 Question Id : 6406532158270 Question Type : MSQ

Correct Marks : 2 Max. Selectable Options : 0

Question Label : Multiple Select Question

Which of the following statements is/are meaningful?

Options :

6406537021015. ✖ A person ranked 2nd performed twice as well as a person ranked 4th.

6406537021016. ✖ A temperature of $20^{\circ}\mathrm{C}$ is twice as hot as a temperature of $10^{\circ}\mathrm{C}$.

6406537021017. ✔ A package weighing 10 kg is twice as heavy as a package weighing 5 kg.

6406537021018. ✔ Blood groups do not have a natural ordering.

Question Number : 4 Question Id : 6406532158271 Question Type : MSQ
Correct Marks : 2 Max. Selectable Options : 0
Question Label : Multiple Select Question
Choose all the correct statements from the following:
Options :
6406537021019. ✔ Monthly electricity consumption of a household from January 2025 to December 2025 is a Time-series data.
6406537021020. ✖ Marks obtained by all students in a Statistics exam in Quiz 1 is a Time-series data.
6406537021021. ✔ Monthly salaries of 500 employees in a company recorded in June 2026 is a cross-sectional data.
6406537021022. ✖ Marks obtained by a particular student in Statistics tests conducted every month during the year is cross sectional data.

Sub-Section Number :	3
Sub-Section Id :	640653396075
Question Shuffling Allowed :	No

Question Id : 6406532158272 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix
Question Numbers : (5 to 6)
Question Label : Comprehension
a, b, c, and d are observations, and the sum of their frequencies is 200. The relative frequencies corresponding to a, b, and c are 20%, 25%, and 30%, respectively. Based on this information, answer the given subquestions:
Sub questions

Question Number : 5 Question Id : 6406532158273 Question Type : SA Keyboard Layout : Inscript
Correct Marks : 2
Question Label : Short Answer Question
What is the frequency corresponding to d?
Response Type : Numeric
Evaluation Required For SA : Yes
Show Word Count : Yes
Answers Type : Equal
Text Areas : PlainText
Possible Answers :
50

Question Number : 6 Question Id : 6406532158274 Question Type : SA Keyboard Layout : Inscript

Correct Marks : 3

Question Label : Short Answer Question

What will be the cumulative frequency of a, b, and d?

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

140

Sub-Section Number :	4
Sub-Section Id :	640653396076
Question Shuffling Allowed :	No

Question Id : 6406532158275 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix

Question Numbers : (7 to 8)

Question Label : Comprehension

Figure 1 represents the placement percentage of students in different sectors from an

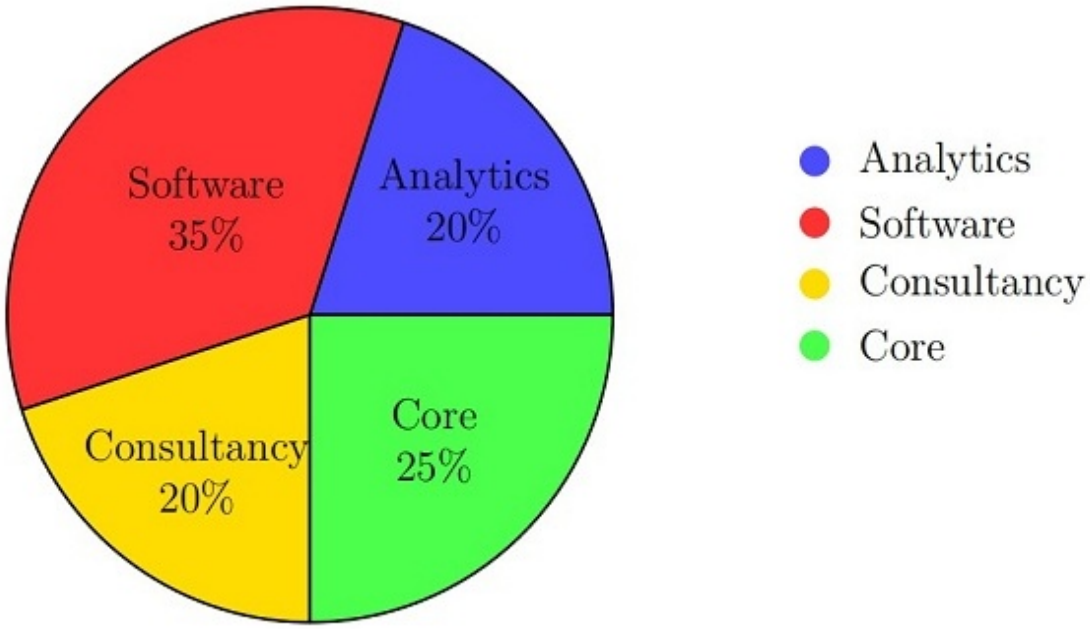


Figure 1: Percentage of students placed in different sectors

engineering college.

Based on the given data, answer the given subquestions:

Sub questions

Question Number : 7 Question Id : 6406532158276 Question Type : MCQ

Correct Marks : 1

Question Label : Multiple Choice Question

What is the mode of the placement sectors?

Options :

6406537021025. ✖ Analytics

6406537021026. ✔ Software

6406537021027. ✖ Consultancy

6406537021028. ✖ Core

Question Number : 8 Question Id : 6406532158277 Question Type : MCQ

Correct Marks : 3

Question Label : Multiple Choice Question

If 1000 students were placed according to the percentages shown in the pie chart, which of the following statements is true?

Options :

6406537021029. ✖ The difference between the number of students placed in Core and the sum of those in Consultancy and Analytics is 100.

6406537021030. ✖ The mode of the placement sectors is shared by Analytics and Software.

6406537021031. ✔ The sector with the second-highest placement has 50 more students placed than the lowest sector.

6406537021032. ✖ The sector with the least placement has half as many students as the highest placed sector.

Question Id : 6406532158282 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Question Numbers : (9 to 10)

Question Label : Comprehension

600 students are classified according to their level of attendance and academic performance. The results are given in Table 1.

Attendance Level	Academic Performance		
	High	Medium	Low
Regular	180	120	60
Irregular	50	90	100

Table 1: Attendance Level and Academic Performance

Based on the above data, answer the given subquestions.

Sub questions

Question Number : 9 Question Id : 6406532158283 Question Type : SA Keyboard Layout : Inscript

Correct Marks : 2

Question Label : Short Answer Question

What proportion of total students are irregular? (Enter the answer correct to 1 decimal places)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

0.4

Question Number : 10 Question Id : 6406532158284 Question Type : SA Keyboard Layout : Inscript

Correct Marks : 2

Question Label : Short Answer Question

What proportion of irregular students are having low academic performance? (Enter the answer correct to 2 decimal places)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

0.39 to 0.45

Sub-Section Number :	5
Sub-Section Id :	640653396077
Question Shuffling Allowed :	Yes

Question Number : 11 Question Id : 6406532158278 Question Type : MSQ

Correct Marks : 4 Max. Selectable Options : 0

Question Label : Multiple Select Question

In a deck, there are cards numbered 1 to 44 such that the number of cards of a particular number in the deck is same as the number on the card. Which of the following statement(s) is/are true about the mean and mode of the numbers on this deck of card?

Hint:

$$\sum_{k=1}^{n} k = \frac{n(n+1)}{2} \quad \text{and} \quad \sum_{k=1}^{n} k^2 = \frac{n(n+1)(2n+1)}{6}.$$

Options :

6406537021033. ✖ Mode is not defined for this data.

6406537021034. ✖ Mean is 22.5.

6406537021035. ✔ Mode is 44.

6406537021036. ✖ Mode is 43.

6406537021037. ✖ Mean is 44.

6406537021038. ✔ Mean is 29.67.

Question Number : 12 Question Id : 6406532158279 Question Type : MSQ
Correct Marks : 4 Max. Selectable Options : 0
Question Label : Multiple Select Question

A total of 600 students wrote a competitive exam. Rahul's score is denoted by x, which happens to be exactly at the 70^{th} percentile. Suppose the examiner realizes that there was a grading error on Rahul's paper, and his score x needs to increase slightly but remains below 71^{st} percentile values; Choose all the correct statements from the following:

Options :

6406537021039. ✔ In the original results, approximately 420 students scored less than or equal to x.

6406537021040. ✔ Changing the value of x will definitely alter the mean score of the 600 students.

6406537021041. ✔ Changing the value of x will not alter the median score of the 600 students.

6406537021042. ✖ Changing the value of x will definitely change the total range of scores.

6406537021043. ✖ Changing the value of x will definitely change the Inter quartile Range (IQR) of the data set.

Sub-Section Number :	6
Sub-Section Id :	640653396078
Question Shuffling Allowed :	Yes

Question Number : 13 Question Id : 6406532158280 Question Type : SA Keyboard Layout : Inscript

Correct Marks : 4

Question Label : Short Answer Question

The mean of the 30 values in a given dataset is 100. When these values are rearranged in a certain order, the mean of the first 10 values and the last 21 values are 60 and 120 respectively. Find the tenth value after the rearrangement.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

120

Sub-Section Number :	7
Sub-Section Id :	640653396079
Question Shuffling Allowed :	Yes

Question Number : 14 Question Id : 6406532158281 Question Type : SA Keyboard Layout : Inscript

Correct Marks : 2

Question Label : Short Answer Question

Figure 2 shows a scatter plot of calorie intake (x) and weight gain in a week (y) for a person.

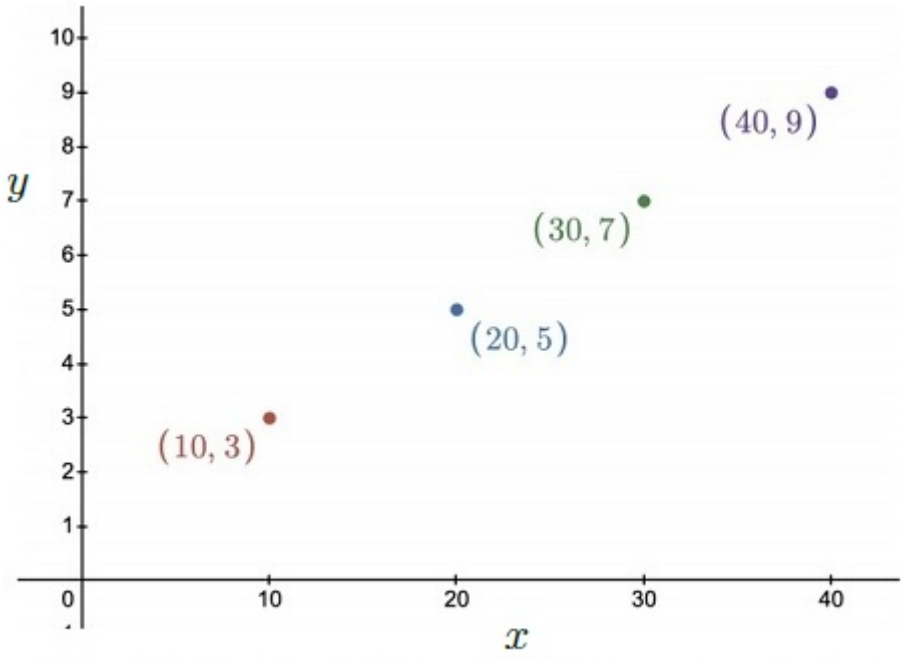


Figure 2: Scatterplot of calorie intake and weight gain

Based on the relationship shown in Figure 2, what is the value of y when $x = 100$?

Response Type : Numeric
Evaluation Required For SA : Yes
Show Word Count : Yes
Answers Type : Equal
Text Areas : PlainText
Possible Answers :
21

Question Number : 15 Question Id : 6406532158286 Question Type : SA Keyboard Layout : Inscript
Correct Marks : 2
Question Label : Short Answer Question
A survey was conducted among a group of students to determine their preferred subjects. The raw frequencies of their responses are displayed in the bar chart in Figure 3.

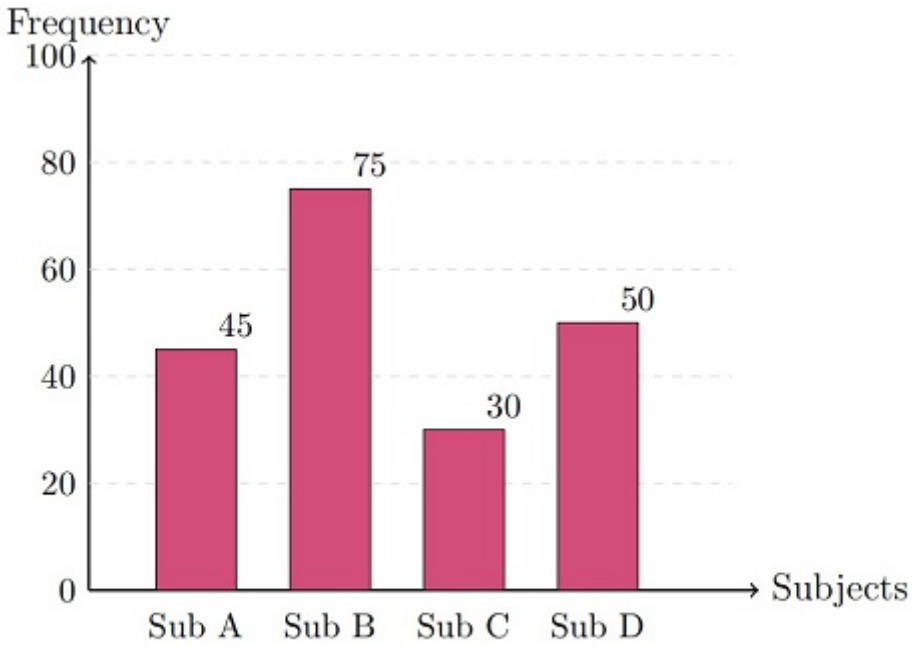


Figure 3: Preferred Subjects

Based on the bar chart, what is the **relative frequency** of students who prefer Subject B? Enter the answer correct to 2 decimal places.
Response Type : Numeric
Evaluation Required For SA : Yes
Show Word Count : Yes
Answers Type : Range
Text Areas : PlainText
Possible Answers :
0.35 to 0.41

Sub-Section Number : 8
Sub-Section Id : 640653396080

Question Shuffling Allowed : Yes

Question Number : 16 Question Id : 6406532158285 Question Type : SA Keyboard Layout : Inscript

Correct Marks : 5

Question Label : Short Answer Question

Table 2 shows the number of hours spent studying (X) and the corresponding test scores (Y) for 5 students.

Study Hours (X)	Test Score (Y)
1	3
2	4
3	6
4	5
5	7

Table 2: Study Hours and Corresponding Test Scores of Students

Calculate the Pearson correlation coefficient between X and Y. Enter the answer correct to 2 decimal places.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

0.87 to 0.93