

RAN-2503000504063002
B.Sc. (Sem. - IV) Examination September - 2025
Mathematics - SEC
Quantitative Aptitude and Data Interpretation : (MH-SEC-402)
Time: 2 Hours]
[Total Marks: 25
સૂચના : / Instructions

- (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the above details on your answer book
- (2) All questions are compulsory.
- (3) Follow **usual** notations.
- (4) Figures to the right indicate marks of the question.
- (5) Use of Scientific non-programmable calculator is allowed.
- (6) Total marks **25**.

Seat No.:

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Student's Signature

Q. 1. Answer any FIVE as directed.
(05)

- (1) Define co-primes with illustration.
- (2) A train travels 82.6 km/hr. How many meters will it travel in 15 minutes?
- (3) Simplify $\frac{(893 + 568)^2 - (893 - 568)^2}{(893 \times 568)}$
- (4) Define Geometric Mean.
- (5) A cistern can be filled by pipes A and B in 4 hours and 6 hours respectively. When full, the cistern can be emptied by pipe C in 8 hours. If all the pipes were turned on at the same time, in how much time will the cistern be filled?
- (6) Evaluate $\frac{2^{n+4} - 2(2^n)}{2(2^{n+3})}$

Q. 2. Attempt any TWO of the following.
(10)

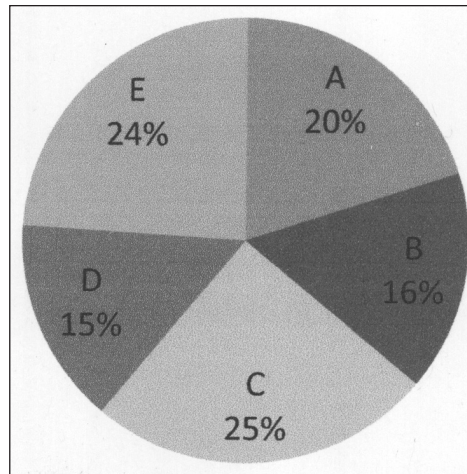
- (1) If sum of two numbers is 42 and their product is 437, then find the absolute difference between the numbers.
- (2) Simplify $\frac{1}{\sqrt{100} - \sqrt{99}} - \frac{1}{\sqrt{99} - \sqrt{98}} + \frac{1}{\sqrt{98} - \sqrt{97}} - \frac{1}{\sqrt{97} - \sqrt{96}} + \dots + \frac{1}{\sqrt{2} - \sqrt{1}}$
- (3) A container contains mixture of milk and water in ratio 5 : 3 respectively. If 8 liters of milk is added in it then ratio of milk and water becomes 11 : 5. Find the difference between initial quantity of milk and that of water.

Q. 3. Attempt any TWO of the following.
(10)

- (1) Find Mean and Mode for the following Data:

Class	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65
f_i	3	5	12	18	14	6	2

- (2) Rahul takes twice as much time as Manik and thrice as much time as Sachin to complete a job. If working together, they can complete the job in 4 days, find the time taken by each of them separately to complete the work.
- (3) The pie chart depicts the percentage of first class tickets that were booked for five trains A, B, C, D and E on Monday. The total number of first class tickets booked for these five trains together was 500.



- (i) The number of tickets booked for all five trains together on Tuesday increased by 24% as compared to the previous day. What was the number of tickets booked for all five trains together on Tuesday?
- (ii) The number of tickets booked by male customers for train A is 24 less than that booked for train C. If the total number of tickets booked by female customers for trains A and C together was 57, what was the number of tickets booked by male customers for train C?
- (iii) Out of total number of tickets booked for train D, 40% was booked by female customers. What is the number of tickets booked for train D by male customers?