CHENNAI MATHEMATICAL INSTITUTE

Undergraduate Programme in Mathematics and Computer Science/Physics Common Entrance Examination $24^{\rm th}$ May 2025

Enter your Admit Card Number:

IMPORTANT INSTRUCTIONS

- Points: 40 for part A and 80 for part B. Carefully read the specific instructions given for each part in the question paper.
- Enter your answers to part A into the computer as instructed. Part A will be used for screening. Part B will be graded only if you score a certain minimum in part A. For the final decision scores in both parts will be used.
- This booklet is only for part B answers and rough work. It has 28 numbered pages. For each part B problem, write your solution on the two pages designated for that problem in pages 2 to 13. For extra space and rough work, use pages 14 to 28 at the end.
- Time allowed: 3.5 hours. You are advised to spend at least 2 hours on part B.

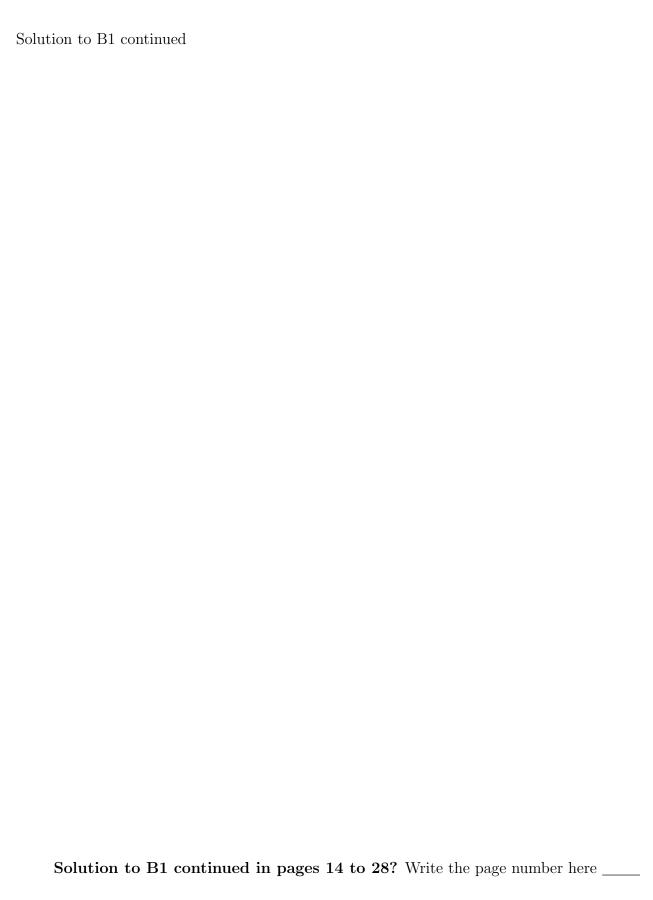
For office use only

	Points	Remarks
Part A		
Part B		
Total		

	Points	Remarks
B1		
B2		
В3		
B4		
B5		
В6		
Total		

Answers to part B of 2025 Entrance Examination for BSc Programmes at CMI

- Clearly explain your entire reasoning. No credit will be given without correct reasoning. Partial solutions may get partial credit.
- In problems with multiple parts, you may solve a later part of a problem by assuming some previous part(s), even if you could not do the earlier part(s).
- **B1.** Write your solution to B1 below.



 $\mathbf{B2.}$ Write your solution to B2 below.



B3. Write your solution to B3 below.



 ${f B4.}$ Write your solution to B4 below.



 ${f B5.}$ Write your solution to B5 below.



B6. Write your solution to B6 below.

Solution to B6 continued.	
Solution to B6 continued in pages 14 to 28? Write the page number here	

For any part B solution continued in these blank pages, label it clearly AND fill in the page number of the continuation at the end of the designated space for that solution.