

CHENNAI MATHEMATICAL INSTITUTE
Postgraduate Programme in Mathematics
MSc/PhD Entrance Examination
1st August 2021

Instructions:

• Enter your *Admit Card Number* here:

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- **Time: 3 hours.**
- Part A (Questions 1–10): Each question is worth 4 marks. Each question may have multiple correct answers. **Enter your answers to these questions into the computer as instructed.** Every question is worth 4 marks. A solution will receive credit if and only if all the correct answers are chosen, and no incorrect answer is chosen. There will be a cut-off for Part A, which will not be more than 20 marks. Your solutions to the questions in Part B will be marked only if your score in Part A places you over the cut-off. (In particular, if your score in Part A is at least 20 then your solutions to the questions in Part B will be marked.) However, the scores in both the sections will be taken into account while making the final decision.
- Part B (Questions 11–20*): Each question is worth 10 marks. You should **answer 6 questions** from these. In order to qualify for the PhD Mathematics interview, you must obtain at least 15 marks from among the starred questions 17*–20*. **Indicate the six questions to be marked in the boxes below this paragraph. Write your solutions to Part B in the page assigned to each question.**

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This answer booklet is only for writing your solutions to the Part B questions and rough work. Answers to the Part A questions must be entered into the computer as instructed.

For office use only

Part B

No.	Marks	Remarks
11		
12		
13		
14		
15		
16		

Part B (ctd.)

No.	Marks	Remarks
17*		
18*		
19*		
20*		

Further remarks:

Part A	
Part B	
Total	

Please indicate on the front-page the questions in Part B to be marked.

Solution to Question (11)

Please indicate on the front-page the questions in Part B to be marked.

Solution to Question (12)

Please indicate on the front-page the questions in Part B to be marked.

Solution to Question (13)

Please indicate on the front-page the questions in Part B to be marked.

Solution to Question (14)

Please indicate on the front-page the questions in Part B to be marked.

Solution to Question (15)

Please indicate on the front-page the questions in Part B to be marked.

Solution to Question (16)

Please indicate on the front-page the questions in Part B to be marked.

Solution to Question (17*)

Please indicate on the front-page the questions in Part B to be marked.

Solution to Question (18*)

Please indicate on the front-page the questions in Part B to be marked.

Solution to Question (19*)

Please indicate on the front-page the questions in Part B to be marked.

Solution to Question (20*)

Rough work only. Do not write your final answer here.

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