

# PI APPROXIMATION DAY MATHQUIZ

## First Round *on* 04/07/2024

Total marks: 35 (5 in Part A and 30 in Part B)

### Instructions:

#### Part A

- (i) This part contains knowledge type problems related to mathematics.
- (ii) There are 3 problems. Problem A1 carries 1 mark. Problems A2 and A3 carry 2 marks each. Total marks in Part A is 5.
- (iii) The answers of Part A problems are of one word or a short answer of 5-6 words, if reason is asked.
- (iv) Phonetically correct spellings are accepted if the answer is a person's name. However, in case of a tie, correct spellings will be preferred.
- (v) There is only one starred problem in Part A which is A2. Starred problems will be used to break ties.

#### Part B

- (i) This part contains problems from Algebra, Geometry, Number Theory and Combinatorics.
- (ii) There are 10 problems. Problems B1 to B4 carry 2 marks each. Problems B5 to B8 carry 3 marks each. Problems B9 and B10 carry 5 marks each. Total marks in Part B is 30.
- (iii) The answers of Part B problems are integers from 00-99.
- (iv) If the answer is a one-digit integer, you are advised to put a 0 before it. For example, if the answer is 7, you are advised to write 07 and if the answer is 0, you are advised to write 00.
- (v) A problem  $Bn$  is starred if  $n$  is an even number, i.e., problems B2, B4, B6, B8 and B10 are starred. Starred problems will be used to break ties.

The test starts at 8:00 pm and ends at 9:00 pm sharp. Submit the answers on or before 8:58 to avoid any internet issues at the final moment, because there is no option of automatic submission. You are advised to use 7-8 minutes for Part A problems and the remaining time for Part B problems. Do not panic and enjoy the problems!

**All the best!**