Pop Quiz #4

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3/5 points (ungraded)

In the following, write your BRACU ID# and section number first. After you submit the quiz, it will show that the ID# and Section numbers are wrong. Please ignore this messages. You score will based on the MCQs only.

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Your BracU ID #

19101239 ✖

Your Theory class section #:

- [ ] 1
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- [ ] 3
- [ ] 4
- [ ] 5
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✖

Below are the MCQs:

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Q#1: In the Cauchy's interpolation formula, what would be value of

$$\left| \frac{f^{(n+1)}(\xi)}{(n+1)!} \right|$$

if $f(x) = \tan(x)$, $x \in [-\pi/4, \pi/4]$ and $n = 3$

- ◯ 0
- ◯ 1
- ◉ $\frac{1}{24}$
- ◯ It can not be determined. Need to now the nodes.

✔

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Q#2: Which of teh following is the Runge phenomenon?

- ○ It is a phenomenon when nodes are chosen with unequal spacing.
- ◉ It is the divergin phenomena at the end points, even though at the middleit converges.
- ○ As $n \to \infty p_n(x) \to f(x)$always.
- ○ It is special phenomenon that is associate dwith quadratic function only.

✔

Q#3: Why are Chebyshev nodes an optimal choice in Interpolation?

- ◉ Because it takes more nodes on the edges and less nodes in the middle.
- ○ Because it takes nodes randomly.
- ○ Because node selection is problem specific in this technique, ensuring minimum error in each interpolation problem.
- ○ Because it takes equally spaced nodes.

✔

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