MTH341
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1. What is the nth- term of the Maclaurin's infinte series expansion of Cos x?

\(\frac{x^{2}}{n}\)

\(\frac{x^{n}}{n!}\)

\(\frac{n!}{2}\)

--->> \((-1)^{n} \frac{x^{2n}}{2n!}\)

2. The expression \(\frac {(b - a)^{n}} {(n)!} f^{(n)}(c)\) is called _____ form of Reminder.

Schlomilch and Roche

Taylor and Lagrange's

Cauchy

--->> Lagrange's

3. The expression \(\frac {(b - a)^{p} (b - c)^{n - p}} {p.(n - 1)!} f^{(n)}(c)\) is called _____ forms of Reminder.

--->> Schlomilch and Roche

Taylor and Lagrange's

Cauchy

Lagrange's

4. Let \(f : [0, h] \rightarrow R\) be a function such that _____ exists for every positive integer n and for each \(x \in [0, h]\).

\(f^{(0)}(x)\)

--->> \(f^{(n)}(x)\)

\(f^{(n-1)}(x)\)

\(f^{(2)}(x)\)

5. If two functions f and g are (i) continuous in [a, b], (ii) derivable in]a, b[and (iii)

1

variable

--->> constant

\(\infty\)

6. The LagrangeÃ¢â‚¬â„¢s mean value theorem states that the _____ rate of change of a function over an interval is also the actual rate of change of the function at some point of the interval.

--->> average

constant

interval

chord

7. LagrangeÃ¢â‚¬â„¢s mean value theorem is particular case of _____ if we choose the function g as g(x) = x \(\forall x \in [a, b]\).

Daboux mean value theorem

--->> CauchyÃ¢â‚¬â„¢s mean value theorem

Dirichlet theorem

Intermediate mean value theorem

8. The expression \(\frac {(b - a) (b - c)^{n - 1}} {(n - 1)!} f^{(n)}(c)\) is called _____ forms of Reminder.

Schlomilch and Roche

Taylor and Lagrange's

--->> Cauchy

Lagrange's

9. Obtain \(f^{n}(x)\) of f(x) = log(1 + x) for x > -1.

\(\frac{x^{2}}{n}\)

\(\frac{x^{n-1}}{n!}\)

\((-1)^{n} \frac{x^{2n}}{2n!}\)

10. What is the nth- term of the Maclaurin's infinte series expansion of \(e^x \forall x \in R\)?

\(\frac{x^{2}}{n}\)

--->> \(\frac{x^{n}}{n!}\)

\(\frac{n!}{2}\)

\(x^{n}\)