⑧ If $f_n(x) = A + \sum_{n=1}^{\infty} \left(a_n \cos \frac{n\pi x}{L} + b_n \sin \frac{n\pi x}{L} \right)$ converges uniformly to $f(x)$ in $(-L, L)$. Show that $a_n = \frac{1}{L} \int_{-L}^{L} f(x) \cos \frac{n\pi x}{L} dx$ for $n = 1, 2, 3, \ldots$

⑨ Show that the series for which $S_n(x) = \frac{nx}{1 + n^2 x^2}$, $0 \leq x \leq 1$ cannot be differentiated at $x = 0$

⑩ Drive the identity $2 \sin x \cos x = \sin 2x$ from the Maclaurin's series for $\sin x$, $\cos x$, $\sin 2x$.

Campus Code:_____

Course Code:_____

⑤ If $f_n(x) = A + \sum_{n=1}^{\infty}\left(a_n \cos\frac{n\pi x}{L} + b_n \sin\frac{n\pi x}{L}\right)$ converges uniformly to $f(x)$ in $(-L, L)$. Show that $a_n = \frac{1}{L}\int_{-L}^{L} f(x)\cos\frac{n\pi x}{L}\,dx$ for $n = 1, 2, 3, \ldots$

⑤ Show that the series for which $S_n(x) = \frac{nx}{1+n^2x^2}$, $0 \le x \le 1$ cannot be differentiated term by term at $x = 0$.

⑩ Drive the identity $2\sin x\cos x = \sin 2x$ from the Maclaurin's series for $\sin x$, $\cos x$, $\sin 2x$.

$$f(x) = f(0) + f'(0)x + \frac{f''(0)}{2!}x^2 + \frac{f'''(0)}{3!}x^3 + \cdots$$

$\sin x$ = cos x

$f'(x) = \cos x \Rightarrow 1$

$f''(x) = -\sin x \Rightarrow 0$

$f'''(x) = -\cos x \Rightarrow -1$

$\cos x$

$f'(x) = -\sin x$

$f''(x) = -\cos x$

$f'''(x) = \sin x$

$\cos 2x$

$f'(x) = -2\sin 2x$

$f''(x) = -4\cos 2x$

$f'''(x) = 8\sin 2x$

Note: Submit this sheet to Superintendent, before leaving the Examination Center.

MTH#631

Q NO 1: (5 marks)

Suppose that if $\{f_n\}$ converges uniformly to f on $S=[a,b]$. Assume that if f_n and f are integrable on $[a,b]$ then prove that $\lim_{n\to\infty}\int_a^b f_n(x)\,dx = \int_a^b f(x)\,dx$

Q NO 2: (5 mark)

Prove that if $\{a_n r^n\}$ is bounded and $|x_1 - x_0| < r$ then $\sum a_n (x_1 - x_0)^n < r$ converges

Q NO 3: - (10 mark)

Derive the identity $2\sin x \cos x = \sin 2x$ from Maclaurin series for $\sin x$, $\cos x$ and $\sin 2x$.

Show that (5)

$$\frac{1}{2}[\log(1+x)]^2 = \frac{x^2}{2} - \frac{x^3}{3}\left(1+\frac{1}{2}\right) + \frac{x^4}{4}\left(1+\frac{1}{2}+\frac{1}{3}\right) + \cdots, \quad -1 < x \leq 1$$

MTH 631

If X & Y are in $\mathbb{R}^n$ then prove that $|X \cdot Y| \leq |X||Y|$ with equality iff one of the vectors is a scalar multiple of the other (10)

What is the norm defined over a set of functions (5)
Further show that the sequence of functions $\{f_n(x)\}$ where $f_n(x) = \frac{x}{1+nx}$ converges pointwise on $[0, \infty]$ Find also the limit function f [illegible]

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Quiz
quiz.vu.edu.pk/QuizQuestion.aspx?ver=05dee932-1bed-4d49-ba39-52fe5f1b2b84
Google

MC170201745: Shakeel Ahmad

Time Left 83 sec(s)

MTH631:Quiz-1

Quiz Start Time: 02:37 PM, 31 May 2018

Question # 1 of 10 (Start time: 02:37:43 PM, 31 May 2018) Total Marks: 1

If $f(x) = \sin x$, then

Select the correct option

Reload Math Equations

- $f^{2m+1}(0) = 1, m \geq 0$
- $f^{2m}(0) = 1$
- $f''(x) = \sin x$
- $\|f^{(k)}\|_{(-\infty,\infty)} = 1,\ k \geq 0$

Click to Save Answer & Move to Next Question

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Quiz
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Google

MC170201745: Shakeel Ahmad

Time Left 50 sec(s)

MTH631:Quiz-1

Quiz Start Time: 02:37 PM, 31 May 2018

Question # 2 of 10 (Start time: 02:37:57 PM, 31 May 2018) **Total Marks: 1**

In the definition of uniform convergence the natural number N always depends on

Select the correct option

Reload Math Equations

- (●) ε (epsilon)
- ( ) η
- ( ) β
- ( ) None of these

Click to Save Answer & Move to Next Question

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MC170201745: Shakeel Ahmad

Time Left 52 sec(s)

MTH631:Quiz-1

Quiz Start Time: 02:37 PM, 31 May 2018

Question # 3 of 10 (Start time: 02:38:41 PM, 31 May 2018) Total Marks: 1

The infinite series expansion of $\cos x$ for $-\infty < x < \infty$ is given by

Select the correct option

Reload Math Equations

- $\sum_{n=0}^{\infty}(-1)^n \frac{x^{2n}}{2n!}.$
- $\sum_{n=0}^{\infty}(-1)^n \frac{x^{n}}{n!}.$
- $\sum_{n=0}^{\infty}(-1)^n \frac{x^{2n}}{(n+1)!}.$
- None of these

Click to Save Answer & Move to Next Question

MC170201745: Shakeel Ahmad

Time Left 81 sec(s)

MTH631:Quiz-1

Quiz Start Time: 02:37 PM, 31 May 2018

Question # 4 of 10 (Start time: 02:39:24 PM, 31 May 2018) **Total Marks: 1**

Fourier series expansion of a function is a representation of the function as a linear combination of

Select the correct option

- ○ sines and tangents.
- ○ cosines and tangents.
- ○ tangents and cotangents.
- ● sines and cosines.

Click to Save Answer & Move to Next Question

MC170201745: Shakeel Ahmad

Time Left 64 sec(s)

MTH631:Quiz-1

Quiz Start Time: 02:37 PM, 31 May 2018

Question # 5 of 10 (Start time: 02:39:36 PM, 31 May 2018) **Total Marks: 1**

The power series expansion of $f(x) = \sin x$ about $x_0 = 0$ is

Select the correct option

Reload Math Equations

- $\sum_{n=0}^{\infty} \frac{x^{2n}}{(2n)!}, \quad -\infty < x < \infty,$.
- $\sin x = \sum_{n=0}^{\infty} (-1)^n \frac{x^{2n}}{(2n)!}, \quad -\infty < x < \infty.$
- $\sum_{n=0}^{\infty} (-1)^n \frac{x^{2n+1}}{(2n+1)!}, \quad -\infty < x < \infty,$
- $\sum_{n=0}^{\infty} \frac{x^{2n+1}}{(2n+1)!}, \quad -\infty < x < \infty.$

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MC170201745: Shakeel Ahmad

Time Left 69 sec(s)

MTH631:Quiz-1

Quiz Start Time: 02:37 PM, 31 May 2018

Question # 6 of 10 (Start time: 02:40:06 PM, 31 May 2018) **Total Marks: 1**

Which of these functions is not uniformly continuous on (0, 1)?

Select the correct option

Reload Math Equations

- x^2
- $1/x^2$
- $\sin x$
- $\frac{\sin x}{x}$

Click to Save Answer & Move to Next Question

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MC170201745: Shakeel Ahmad

Time Left 29 sec(s)

MTH631:Quiz-1

Quiz Start Time: 02:37 PM, 31 May 2018

Question # 6 of 10 (Start time: 02:40:06 PM, 31 May 2018) **Total Marks: 1**

Which of these functions is not uniformly continuous on (0, 1)?

Select the correct option

Reload Math Equations

- ● x^2
- ○ $1/x^2$
- ○ $\sin x$
- ○ $\frac{\sin x}{x}$

right

Click to Save Answer & Move to Next Question

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5/31/2018

MC170201745: Shakeel Ahmad

Time Left 31 sec(s)

MTH631:Quiz-1

Quiz Start Time: 02:37 PM, 31 May 2018

Question # 7 of 10 (Start time: 02:41:11 PM, 31 May 2018) **Total Marks: 1**

The limit of a uniformly convergent series of integrable functions is always

Select the correct option

Reload Math Equations

- (●) not integrable
- ( ) differentiable
- ( ) integrable

right

- ( ) None of these

Click to Save Answer & Move to Next Question

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Google

MC170201745: Shakeel Ahmad

Time Left 37 sec(s)

MTH631:Quiz-1

Quiz Start Time: 02:37 PM, 31 May 2018

Question # 8 of 10 (Start time: 02:42:14 PM, 31 May 2018) **Total Marks: 1**

Let f be defined by a power series with finite radius of convergence R. Then $\lim_{x\to(x_0+R)-} f(x) = \sum_{n=0}^{\infty} a_n R^n$ only if

Select the correct option

Reload Math Equations

- $\sum_{n=0}^{\infty} b_n R^n$ is uniformly convergent.
- (●) $\sum_{n=0}^{\infty} a_n R^n$ converges
- $\sum_{n=0}^{\infty}(-1)^n a_n R^n$ converges.
- None of these.

Click to Save Answer & Move to Next Question

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MC170201745: Shakeel Ahmad

Time Left 76 sec(s)

MTH631:Quiz-1

Quiz Start Time: 02:37 PM, 31 May 2018

Question # 9 of 10 (Start time: 02:43:23 PM, 31 May 2018) **Total Marks: 1**

The values of x in a specific interval for which a given power series converges is called

Select the correct option

Reload Math Equations

- ○ Interval of continuity
- ● ineterval of convergence
- ○ radius of convergence
- ○ None of these

Click to Save Answer & Move to Next Question

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Quiz
quiz.vu.edu.pk/QuizQuestion.aspx?ver=4e43a463-29ef-4bd4-ae66-e80986ac4833
Google

MC170201745: Shakeel Ahmad

Time Left 81 sec(s)

MTH631:Quiz-1

Quiz Start Time: 02:37 PM, 31 May 2018

Question # 10 of 10 (Start time: 02:43:40 PM, 31 May 2018) **Total Marks: 1**

If we have

$$f(x)=\sum_{n=0}^{\infty} a_n(x-x_0)^n, \quad |x-x_0|<R,$$

Select the correct option

Reload Math Equations

- $a_n=\frac{f^{(n)}(0)}{n!}.$
- $a_n=\frac{f^{(2n)}(x_0)}{n!}.$
- $a_n=\frac{f(nx_0)}{n!}.$
- (●) $a_n=\frac{f^{(n)}(x_0)}{n!}.$

Click to Save Answer & Move to Next Question

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MC170203385: Maffia Bibi

Time Left 84 sec(s)

MTH631:Quiz-1

Quiz Start Time: 03:04 PM, 31 May 2018

Question # 1 of 10 (Start time: 03:04:50 PM, 31 May 2018) Total Marks: 1

The limit of a uniformly convergent series of integrable functions is always

Select the correct option

Reload Math Equations

- not integrable
- differentiable
- integrable
- None of these

Click to Save Answer & Move to Next Question

MC170203385: Maffia Bibi

Time Left 85 sec(s)

MTH631:Quiz-1

Quiz Start Time: 03:04 PM, 31 May 2018

Question # 2 of 10 (Start time: 03:05:01 PM, 31 May 2018) Total Marks: 1

If $f(x) = \sin x$, then

Select the correct option

Reload Math Equations

- $f^{2m+1}(0) = 1, m \geq 0$
- $f^{2m}(0) = 1$
- $f''(x) = \sin x$
- $\|f^{(k)}\|_{(-\infty,\infty)} = 1,\ k \geq 0$

Click to Save Answer & Move to Next Question

MC170203385: Maffia Bibi

Time Left 81 sec(s)

MTH631:Quiz-1

Quiz Start Time: 03:04 PM, 31 May 2018

Question # 3 of 10 (Start time: 03:05:10 PM, 31 May 2018) **Total Marks: 1**

Let f be defined by a power series with finite radius of convergence R. Then $\lim_{x\to(x_0+R)-} f(x) = \sum_{n=0}^{\infty} a_n R^n$ only if

Select the correct option

Reload Math Equations

- ○ $\sum_{n=0}^{\infty} b_n R^n$ is uniformly convergent.
- ● $\sum_{n=0}^{\infty} a_n R^n$ converges
- ○ $\sum_{n=0}^{\infty} (-1)^n a_n R^n$ converges.
- ○ None of these.

Click to Save Answer & Move to Next Question

MC170203385: Maffia Bibi

Time Left 79 sec(s)

MTH631:Quiz-1

Quiz Start Time: 03:04 PM, 31 May 2018

Question # 4 of 10 (Start time: 03:05:24 PM, 31 May 2018) Total Marks: 1

The infinite series expansion of $\cos x$ for $-\infty < x < \infty$ is given by

Select the correct option

Reload Math Equations

- $\sum_{n=0}^{\infty}(-1)^n \frac{x^{2n}}{2n!}.$
- $\sum_{n=0}^{\infty}(-1)^n \frac{x^{n}}{n!}.$
- $\sum_{n=0}^{\infty}(-1)^n \frac{x^{2n}}{(n+1)!}.$
- None of these

Click to Save Answer & Move to Next Question

MC170203385: Maffia Bibi

Time Left 82 sec(s)

MTH631:Quiz-1

Quiz Start Time: 03:04 PM, 31 May 2018

Question # 6 of 10 (Start time: 03:06:15 PM, 31 May 2018) Total Marks: 1

If a series converges absolutely uniformly on S, then

Select the correct option

- (●) it converges uniformly on S
- ( ) it diverges
- ( ) it is differentiable on S
- ( ) None of these

Click to Save Answer & Move to Next Question

MC170203385: Maffia Bibi

Time Left 65 sec(s)

MTH631:Quiz-1

Quiz Start Time: 03:04 PM, 31 May 2018

Question # 7 of 10 (Start time: 03:06:27 PM, 31 May 2018) **Total Marks: 1**

The radius of convergence of the power series $\sum_{n=1}^{\infty} a_n(x-x_0)^n$ is

Select the correct option

Reload Math Equations

- $R = \lim_{n\to\infty}\left|\frac{a_{n+1}}{a_n}\right|$
- $\frac{1}{R} = \lim_{n\to\infty}\left|\frac{a_{n+1}}{a_n}\right|$
- $\frac{1}{R} = \lim_{n\to\infty}\left|\frac{a_n}{a_{n+1}}\right|$
- None of these

Click to Save Answer & Move to Next Question

MC170203385: Maffia Bibi

Time Left 83 sec(s)

MTH631:Quiz-1

Quiz Start Time: 03:04 PM, 31 May 2018

Question # 8 of 10 (Start time: 03:06:56 PM, 31 May 2018) Total Marks: 1

Fourier series expansion of a function is a representation of the function as a linear combination of

Select the correct option

- sines and tangents.
- cosines and tangents.
- tangents and cotangents.
- sines and cosines.

Click to Save Answer & Move to Next Question

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MC170203385: Maffia Bibi

Time Left 83 sec(s)

MTH631:Quiz-1

Quiz Start Time: 03:04 PM, 31 May 2018

Question # 9 of 10 (Start time: 03:07:07 PM, 31 May 2018) **Total Marks: 1**

The values of x in a specific interval for which a given power series converges is called

Select the correct option

Reload Math Equations

- ○ Interval of continuity
- ● ineterval of convergence
- ○ radius of convergence
- ○ None of these

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MC170203385: Maffia Bibi

Time Left 83 sec(s)

MTH631:Quiz-1

Quiz Start Time: 03:04 PM, 31 May 2018

Question # 10 of 10 (Start time: 03:07:17 PM, 31 May 2018) **Total Marks: 1**

If we have

$$f(x)=\sum_{n=0}^{\infty} a_n(x-x_0)^n, \quad |x-x_0|<R,$$

Select the correct option

Reload Math Equations

- $a_n=\frac{f^{(n)}(0)}{n!}.$
- $a_n=\frac{f^{(2n)}(x_0)}{n!}.$
- $a_n=\frac{f(nx_0)}{n!}.$
- (●) $a_n=\frac{f^{(n)}(x_0)}{n!}.$

Click to Save Answer & Move to Next Question

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MC170201823: Abid Farooq

Time Left 42 sec(s)

MTH631:Quiz-1

Quiz Start Time: 03:19 PM, 31 May 2018

Question # 1 of 10 (Start time: 03:19:30 PM, 31 May 2018) **Total Marks: 1**

The term by term differentiation of the series

$$\sum_{n=0}^{\infty}(-1)^n\frac{x^{2n}}{(2n)!}, \quad -\infty < x < \infty$$

Select the correct option

Reload Math Equations

- $\sum_{n=0}^{\infty}\frac{x^{2n}}{(2n)!}, \quad -\infty < x < \infty.$
- $\sum_{n=0}^{\infty}(-1)^n\frac{x^{2n}}{(2n)!}, \quad -\infty < x < \infty.$
- $\sum_{n=0}^{\infty}(-1)^n\frac{x^{2n+1}}{(2n+1)!}, \quad -\infty < x < \infty$ right
- $\sum_{n=20}^{\infty}(-1)^n\frac{x^{2n+1}}{(2n+1)!}, \quad -\infty < x < \infty.$

Click to Save Answer & Move to Next Question

MC170201823: Abid Farooq

Time Left 82 sec(s)

MTH631:Quiz-1

Quiz Start Time: 03:19 PM, 31 May 2018

Question # 2 of 10 (Start time: 03:20:33 PM, 31 May 2018) Total Marks: 1

The infinite series expansion of $\cos x$ for $-\infty < x < \infty$ is given by

Select the correct option

Reload Math Equations

- $\sum_{n=0}^{\infty}(-1)^n \frac{x^{2n}}{2n!}.$
- $\sum_{n=0}^{\infty}(-1)^n \frac{x^{n}}{n!}.$
- $\sum_{n=0}^{\infty}(-1)^n \frac{x^{2n}}{(n+1)!}.$
- None of these

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MC170201823: Abid Farooq

Time Left 83 sec(s)

MTH631:Quiz-1

Quiz Start Time: 03:19 PM, 31 May 2018

Question # 3 of 10 (Start time: 03:20:46 PM, 31 May 2018) **Total Marks: 1**

If we have

$$f(x)=\sum_{n=0}^{\infty} a_n(x-x_0)^n, \quad |x-x_0|<R,$$

Select the correct option

Reload Math Equations

- $a_n=\frac{f^{(n)}(0)}{n!}.$
- $a_n=\frac{f^{(2n)}(x_0)}{n!}.$
- $a_n=\frac{f(nx_0)}{n!}.$
- (●) $a_n=\frac{f^{(n)}(x_0)}{n!}.$

Click to Save Answer & Move to Next Question

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MC170201823: Abid Farooq

Time Left 82 sec(s)

MTH631:Quiz-1

Quiz Start Time: 03:19 PM, 31 May 2018

Question # 4 of 10 (Start time: 03:20:57 PM, 31 May 2018) **Total Marks: 1**

Fourier series expansion of a function is a representation of the function as a linear combination of

Select the correct option

- ○ sines and tangents.
- ○ cosines and tangents.
- ○ tangents and cotangents.
- ● sines and cosines.

Click to Save Answer & Move to Next Question

If $f(x) = \sin x$, then

Select the correct option

○	$f^{2m+1}(0) = 1, m \geq 0$
○	$f^{2m}(0) = 1$
○	$f''(x) = \sin x$
●	$\|f^{(k)}\|_{(-\infty,\infty)} = 1,\ k \geq 0$

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MC170201823: Abid Farooq

Time Left 83 sec(s)

MTH631:Quiz-1

Quiz Start Time: 03:19 PM, 31 May 2018

Question # 5 of 10 (Start time: 03:21:08 PM, 31 May 2018) Total Marks: 1

If $f(x) = \sin x$, then

Select the correct option

Reload Math Equations

- $f^{2m+1}(0) = 1, m \geq 0$
- $f^{2m}(0) = 1$
- $f''(x) = \sin x$
- $\|f^{(k)}\|_{(-\infty,\infty)} = 1,\ k \geq 0$

Click to Save Answer & Move to Next Question

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MC170201823: Abid Farooq

Time Left 84 sec(s)

MTH631:Quiz-1

Quiz Start Time: 03:19 PM, 31 May 2018

Question # 6 of 10 (Start time: 03:21:18 PM, 31 May 2018) **Total Marks: 1**

In the definition of uniform convergence the natural number N always depends on

Select the correct option

Reload Math Equations

- (●) ε (epsilon)
- ( ) η
- ( ) β
- ( ) None of these

Click to Save Answer & Move to Next Question

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MC170201823: Abid Farooq

Time Left 58 sec(s)

MTH631:Quiz-1

Quiz Start Time: 03:19 PM, 31 May 2018

Question # 7 of 10 (Start time: 03:21:28 PM, 31 May 2018) **Total Marks: 1**

Let f be defined by a power series with finite radius of convergence R. Then $\lim_{x\to(x_0+R)+} f(x) = \sum_{n=0}^{\infty} a_n R^n$ only if

Select the correct option

Reload Math Equations

- ○ $\sum_{n=0}^{\infty} b_n R^n$ is convergent.
- ● $\sum_{n=0}^{\infty}(-1)^n a_n R^n$ converges
- ○ $\sum_{n=0}^{\infty} a_n R^n$ converges.
- ○ None of the above

Click to Save Answer & Move to Next Question

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MC170201823: Abid Farooq

Time Left 82 sec(s)

MTH631:Quiz-1

Quiz Start Time: 03:19 PM, 31 May 2018

Question # 8 of 10 (Start time: 03:22:21 PM, 31 May 2018) **Total Marks: 1**

Which of these functions is not uniformly continuous on (0, 1)?

Select the correct option

Reload Math Equations

- ○ x^2
- ● $1/x^2$
- ○ $\sin x$
- ○ $\frac{\sin x}{x}$

Click to Save Answer & Move to Next Question

In the definition of uniform convergence the natural number N always depends on

Select the correct option

●	ε (epsilon)
○	η
○	β
○	None of these

The infinite series expansion of $\cos x$ for $-\infty < x < \infty$ is given by

Select the correct option

●	$\sum_{n=0}^{\infty}(-1)^n \frac{x^{2n}}{2n!}.$
○	$\sum_{n=0}^{\infty}(-1)^n \frac{x^{n}}{n!}.$
○	$\sum_{n=0}^{\infty}(-1)^n \frac{x^{2n}}{(n+1)!}.$
○	None of these

Fourier series expansion of a function is a representation of the function as a linear combination of

Select the correct option

○	sines and tangents.
○	cosines and tangents.
○	tangents and cotangents.
●	sines and cosines.

The power series expansion of $f(x) = \sin x$ about $x_0 = 0$ is

Select the correct option

- $\sum_{n=0}^{\infty} \frac{x^{2n}}{(2n)!}, \quad -\infty < x < \infty,.$
- $\sin x = \sum_{n=0}^{\infty} (-1)^n \frac{x^{2n}}{(2n)!}, \quad -\infty < x < \infty.$
- $\sum_{n=0}^{\infty} (-1)^n \frac{x^{2n+1}}{(2n+1)!}, \quad -\infty < x < \infty,$
- $\sum_{n=0}^{\infty} \frac{x^{2n+1}}{(2n+1)!}, \quad -\infty < x < \infty.$

Which of these functions is not uniformly continuous on (0, 1)?

Select the correct option

○	x^2
○	$1/x^2$
○	$\sin x$
○	$\frac{\sin x}{x}$

Which of these functions is not uniformly continuous on (0, 1)?

Select the correct option

●	x^2
○	$1/x^2$
○	$\sin x$
○	$\frac{\sin x}{x}$

The limit of a uniformly convergent series of integrable functions is always

Select the correct option

●	not integrable
○	differentiable
○	integrable
○	None of these

Let f be defined by a power series with finite radius of convergence R. Then $\lim_{x\to(x_0+R)-} f(x) = \sum_{n=0}^{\infty} a_n R^n$ only if

Select the correct option

○	$\sum_{n=0}^{\infty} b_n R^n$ is uniformly convergent.
●	$\sum_{n=0}^{\infty} a_n R^n$ converges
○	$\sum_{n=0}^{\infty} (-1)^n a_n R^n$ converges.
○	None of these.

The values of x in a specific interval for which a given power series converges is called

Select the correct option

○	Interval of continuity
●	ineterval of convergence
○	radius of convergence
○	None of these

If we have

$$f(x)=\sum_{n=0}^{\infty} a_n(x-x_0)^n, \quad |x-x_0|<R,$$

Select the correct option

○	$a_n=\dfrac{f^{(n)}(0)}{n!}.$
○	$a_n=\dfrac{f^{(2n)}(x_0)}{n!}.$
○	$a_n=\dfrac{f(nx_0)}{n!}.$
●	$a_n=\dfrac{f^{(n)}(x_0)}{n!}.$

MC170201823: Abid Farooq

Time Left 76 sec(s)

MTH631:Quiz-1

Quiz Start Time: 03:19 PM, 31 May 2018

Question # 9 of 10 (Start time: 03:22:34 PM, 31 May 2018) **Total Marks: 1**

Let f be defined by a power series with finite radius of convergence R. Then $\lim_{x\to(x_0+R)-} f(x) = \sum_{n=0}^{\infty} a_n R^n$ only if

Select the correct option

Reload Math Equations

- ○ $\sum_{n=0}^{\infty} b_n R^n$ is uniformly convergent.
- ● $\sum_{n=0}^{\infty} a_n R^n$ converges
- ○ $\sum_{n=0}^{\infty} (-1)^n a_n R^n$ converges.
- ○ None of these.

Click to Save Answer & Move to Next Question