

CLASS TEST 01(SET 01)**Time: 30 mins****Marks: 10**

Question 01: Find the limit of the functions: $2.5+2+2.5$

(i) $\lim_{x \rightarrow \infty} \frac{2x-7}{3x+5}$

(ii) $\lim_{x \rightarrow 0} (1+x)^{1/x}$

(iii) $\lim_{x \rightarrow \infty} (\sqrt{x^2 + 3x} - x)$

Question 02: Find the continuity of the functions at $x = 1$:

$$f(x) = \begin{cases} 2x+1, & x \leq 1 \\ 3-x, & x > 1 \end{cases}$$

[CO1]

2.5

[CO1]

2.5

$$\frac{(1+x)}{x + \frac{x^2}{2}}$$

Marks:10

CLASS TEST 01(SET 02)

Time:30 mins

Question 01: Find the limit of the functions: $2.5+2+2.5$

[CO1]

(i) $\lim_{x \rightarrow -\infty} \frac{4x^2 - x}{2x^3 - 5}$. ~~(ii)~~ $\lim_{x \rightarrow 0} (e^x + x)^{1/x}$ (iii) $\lim_{x \rightarrow \infty} (\sqrt{x^2 + x} - x)$

Question 02: Find the continuity of the functions at $x = 1$:

$$f(x) = \begin{cases} -x, & x \leq 0 \\ x, & 0 < x < 1 \\ 2 - x, & x \geq 1 \end{cases}$$

3

[CO1]

Marks:10

CLASS TEST 01(SET 03)

Time:30 mins

Question 01: Find the limit of the functions: 2.5+2+2.5

(i) $\lim_{x \rightarrow \infty} \frac{3x+5}{6x-8}$ (ii) $\lim_{x \rightarrow 0} x \ln x$ (iii) $\lim_{x \rightarrow 1} \frac{x^3 - x^2 - 5x + 3}{x^3 - 3x + 2}$

Question 02: Find the continuity of the functions at $x = 3/2$:

$$f(x) = \begin{cases} 3 + 2x, & x \geq 3/2 \\ 3 - 2x, & 0 \leq x < 3/2 \end{cases}$$

3

[CO1]

[CO1]

Marks:10

CLASS TEST 01(SET 04)

Time:30 m

[CO1]

Question 01: Find the limit of the functions:

2.5+2+2.5

(i) $\lim_{x \rightarrow \infty} \frac{\sqrt{x^2+2}}{3x-6}$. (ii) $\lim_{x \rightarrow 0} \left(\frac{1}{x} - \frac{1}{\sin x} \right)$ (iii) $\lim_{t \rightarrow 2} \frac{t^3+3t^2-12t+4}{t^3-4t}$

Question 02: Find the continuity of the functions at $x = 2$:

$$f(x) = \begin{cases} 2+x, & 1 < x < 2 \\ 2x+x^2, & x \geq 2 \end{cases}$$

3

[CO1]

Marks:10

CLASS TEST 01(SET 05)

Time:30 mins

Question 01: Find the limit of the functions:

2.5+2+2.5

[CO1]

$$(ii) \lim_{x \rightarrow \infty} \sqrt[3]{\frac{3x+5}{6x-8}} \quad (ii) \lim_{x \rightarrow 0} \left(\frac{1}{x} - \frac{1}{e^x - 1} \right) \quad (iii) \lim_{x \rightarrow 0} \frac{x - \cos x}{x^3}$$

Question 02: Find the continuity of the functions at $x = 1$:

3

[CO1]

$$f(x) = \begin{cases} 2x, & x \leq 1 \\ 5x - 3x, & x > 1 \end{cases}$$