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DPM CLASSES

6th to 10th (Math's & Science), 11th & 12th (Physics, Chemistry, Math's)

TEST - PAPER (CBSE/NCERT)

CONTINUITY AND DIFFERENTIABILITY

SESSION -2024-25

CLASS - 12th

JOIN TODAY FOR ADVANCE CONCEPTS

ONLY IN ₹3000 PER MONTH

MRP: ₹ 100/- ONLY

ALSO, BASIC CONCEPTS CLASSES IN SUMMER

VACATION Apr, May & Jun (Every Year)

Add: Block -B, Near Glory Villa, 60 feet Road (Nearest land mark Scindia Statue), Shatabdipuram, Gwalior

Time : 1 hr Continuity and Differentiability mm!

Q. 1. $$f(x) = \begin{cases} (x)\cos\frac{1}{x}, & \text{if } x \neq 0 \\ 0 & \text{if } x = 0 \end{cases} \quad \text{at } x = 0$$

Q. 2. $$f(x) \begin{cases} \frac{e^{1/x}}{1+e^{1/x}}, & \text{if } x \neq 0 \\ 0, & \text{if } x = 0 \end{cases} \quad \text{at } x = 0$$

Q. 3. $$f(x) = \begin{cases} \frac{x^2}{2}, & \text{if } x \leq x \leq 1 \\ 2x^2 - 3x + \frac{3}{2}, & \text{if } x < x \leq 2 \end{cases} \quad \text{at } x = 1$$

Q. 4. $$f(x) = \begin{cases} \frac{1-\cos kx}{x\sin x}, & \text{if } x \neq 0 \\ \frac{1}{2}, & \text{if } x = 0 \end{cases} \quad \text{at } x = 0$$

Q. 5. $$f(x) = \begin{cases} 1+x, & \text{if } x \leq 2 \\ 5-x, & \text{if } x > 2 \end{cases} \quad \text{at } x = 2$$

Q.6. Find all points of discontinuity of the function

$$f(t) = \frac{1}{t^2+t-2}, \text{ where } t = \frac{1}{x-1}$$

Q.7. $2\cos^2 x$

Q.8. $(x+1)^2 (x+2)^3 (x+3)^4$

Q.9. $\tan^{-1}\sqrt{\frac{1-\cos x}{1+\cos x}}, \quad -\pi/4 < x < \pi/4$

Q.10. $\tan^{-1}\left(\frac{3a^2x - x^3}{a^3 - 3ax^2}\right), \quad \frac{-1}{\sqrt{3}} < \frac{x}{a} < \frac{1}{\sqrt{3}}$

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