CC 09 UNIT 1

Answer all the following questions

subhajit@nvc.ac.in Switch account

* Required

Email *

Your email

Name *

Your answer

Registration Number *

Your answer

Roll No. *

Your answer

1. The directional derivative of $f(x,y) = 2x^2 - xy + 5$ at $(1,1)$ in the direction of $\beta = (3,-4)$ is

   a) $\frac{13}{5}$ b) $\frac{18}{5}$ c) $\frac{23}{5}$ d) none of these

   ○ a

   ○ b

   ○ c

   ○ d

2. The value of $\lim\limits_{(x,y)\to(0,0)} \frac{xy}{x^2+y^2}$ is

   a) 0   b) 1   c) 2   d) does not exists

   ○ a

   ○ b

   ○ c

   ○ d

3. Which of the following statement is true?
   a) If double limit exists then repeated limit may or may not exists.
   b) If both repeated limits are unequal then the double limit may exists.
   c) Both a and b
   d) Neither a nor b

○ a

○ b

○ c

○ d

4. Let $f(x, y) = 2(x - y)^2 - x^4 - y^4$. Then
   a) $f(x, y)$ has a maximum at $(0,0)$
   b) $f(x, y)$ has a maximum at $(\sqrt{2}, -\sqrt{2})$
   c) $f(x, y)$ has a minimum at $(-\sqrt{2}, \sqrt{2})$
   d) All of the above

○ a

○ b

○ c

○ d

5. For the function $f(x) = \begin{cases} \frac{xy}{\sqrt{x^2+y^2}}, & (x,y) \neq (0,0) \\ 0, & (x,y) = (0,0) \end{cases}$ which of the following is false?

a) Continuous at $(0,0)$
b) Differentiable at $(0,0)$
c) f_x exists at $(0,0)$
d) f_y exists at $(0,0)$

○ a

○ b

○ c

○ d

Submit   Clear form

Never submit passwords through Google Forms.

Google Forms