

①

 $\sum \frac{1}{n^p}$ is convergent if $p > 1$
known as p-test
option (b) is correct

②

 $f(x) = |x|$ is continuous and not differentiable at $x = 0$
So option (a) is correct

③

 If $f(x, y)$ is diff. function. then both f_x & f_y exists.

option (b) is correct

④

 first term of $f(a+h, b+k)$ is $f(a, b)$
option (D)

⑤

Since

$$f_{xx} f_{yy} - f_{xy}^2 \text{ at } (1, 2) = 72 > 0$$

$$\text{also } f_{xx}(1, 2) = 6 > 0$$

 $\Rightarrow f(x, y)$ has minimum at $(1, 2)$
option (A)