

Q87

$$\left| \int_0^1 \frac{\sin(\frac{1}{x})}{x^p} \right| \leq \left| \int_0^1 \frac{1}{x^p} \right|$$

$\sin(\frac{1}{x})$ is bounded

So option (c)

Q88

$$\lim_{n \rightarrow \infty} \frac{1}{n} = \boxed{0}$$

option (B)

Q89

$$\sum u_n \text{ is convergent} \Rightarrow \lim_{n \rightarrow \infty} u_n = 0$$

option (a)

Q90

option (a) $\{n\}$ is divergent

option (b) $\{(-1)^n\} = \{-1, 1, -1, \dots\}$

is oscillating finitely

option (c) $\{n^2\} \rightarrow$ divergent

option (B)