

Prabhat Kumar College, Contai

Department of Mathematics

2nd Year Mathematics (Hons) Annual Pattern

Paper: 5

Time: 1 hours

Answer any one :-

1. In any Metric space, prove that every closed sphere is a closed set.
2. If A_{ij} is a symmetric tensor, then show that $A_{ij,k}$ is a symmetric in i and j .
3. Show that $\sum_{n=0}^{\infty} x^2(1 - x^2)^{-n}$ converges uniformly on $[a, \infty]$ ($a \geq 0$) but not on $(0, \infty)$.