SECOND INTERNAL ASSESSMENT 2019

MATHEMATICS –G-CC-T-03

FM-10 TIME:30 Minute

Answer any 2 questions:

1. Define countable set. Is the set of all real numbers countable ? Justify your answer.
2. State and prove Archimedean property of $\mathbb{R}$.
3. Check whether the sequences $\left\{\frac{1}{n}\right\}$ and $\{n^2\}$ are Cauchy sequence or not.
4. Using M-test show that the series $\sum_{n=1}^{\infty} \frac{\cos nx}{n^2}$ converges uniformly on $]-\infty, \infty[$.
5. Determine the radius of convergent of the power series $\sum_{n=1}^{\infty} \frac{n^n}{n!} x^n$.