14PAMCT3A07

M.Sc. Degree Examinations - Even Semester 2021
II Year III Semester
Complex Analysis

Max Marks: 25

Answer any Five questions (5 * 5 = 25)

1. State and prove fundamental theorem of algebra.
2. State and prove Rouche's theorem.
3. If Re $z_n > -1$, then prove that the series $\sum \log(1 + z_n)$ converges if and only if the series $\sum z_n$ converges absolutely.
4. If $u : G \to R$ is a continuous function which has the MVP, then show that u is harmonic.
5. If G is a bounded Dirichlet Region then for each a in G there is a Green's function on G with singularity at a.
6. Let f be an entire function of finite order λ where λ is not an integer; then prove that f has infinitely many zeros.
7. State and prove Little Picard theorem.