

Paper V

Theory of Real Function

short type

- ① State Rolle's theorem
- ② Define continuity of function $f(x)$ on a closed interval $[a, b]$
- ③ Show that $\sin x$ is continuous for every real value of x
- ④ State and prove Cauchy's mean value theorem
- ⑤ If a function is derivable at a point, prove that it is continuous at that point
- ⑥ State and prove Darboux theorem.