COL202: Discrete Mathematical Structures. I semester, 2017-18.
Quiz 11
2 November 2017
Maximum Marks: 4

Name	Ent. No.

Important: Keep your answer within the box. Anything written outside the box will be treated as rough work. Do your rough work on the free space on the flip side of this sheet.

Q. $G = (V, E)$ is a simple, undirected graph with no self-loops. G is called *bipartite* if there exists a $U \subset V$ such that for all $e = (u, v) \in E$, $u \in U$ and $v \in V \setminus U$. Prove that G is bipartite if and only if it has no odd cycles. (Hint: work with a spanning tree of G).