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INTERNAL EXAMINATION 2020-2021
SEM-IV-SEC-2 F.M.=10
GRAPH THEORY

Answer any two questions

2X5=10

1. Define Simple Graph, Complete Graph, Bipartite Graph, Complete Bipartite Graph with examples
2. State and Prove the Handshaking Theorem in Graph Theory. Show that the degree of a vertex of a simple graph G on n vertices cannot exceed $(n-1)$.
3. Show that the maximum number of edges in any simple graph with n vertices is $\frac{n(n-1)}{2}$.

Is there a simple graph corresponding to the following degree sequences?

- (i) (1,1,2,3)
- (ii) (2,2,4,6)