2021
MATHEMATICS HONOURS
Paper: DSEA (Graph Theory)
Internal Assessment
Full Marks: 10

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.
Notations and symbols have their usual meaning.

Choose the correct alternative with proper justification. 5x2=10

1.In a graph G there are 6 vertices: 2 vertices of degree 4 and 4 vertices of degree 2. The number of edges present in the graph is

i) 8 ii)16 iii)6 iv)18

2. The number of regions or faces in a simple planar graph with 6 vertices and 11 edges is

i) 6 ii)5 iii)7 iv)8

3.A connected graph which does not contain any cycle is called

i) Regular Graph ii) Tree iii)Eulerian Graph iv)None of these

4.The number of edges in a complete Bipartite graph $K_{3,5}$ is

i) 8 ii)15 iii)16 iv) None of these

5. A tree with n vertices has

i) At least 2 leaves ii) At most 2 leaves iv) exactly 2n leaves iv) (n-1) leaves