Roll No. ....

Y – 3184 (A)
M.A./M.Sc. (Mathematics) (Fourth Semester) (SPECIAL)
EXAMINATION, August 2021
(SECOND CHANCE)
Paper – 405
ADVANCED GRAPH THEORY
Time : Three Hours

Maximum Marks : 85 (For Regular Students)   *Minimum Pass Marks : 29*

Maximum Marks : 100 (For Private Students)   *Minimum Pass Marks : 34*

Note—Attempt *all* questions.

1. Define Eulerian graph with a suitable example and explain the Konigsberg bride problem.   17/20

2. (a) Show that every circuit has an even number of edges in common with any cut set.   17/20

   (b) Show that the number of vertices in a binary tree is odd.

3. Prove that the complete graph of five vertices is non planar.   17/20

4. Explain chromatic partitioning of a graph.   17/20

5. Write short notes on the following—   17/20

   (i) Kruskal algorithm

   (ii) Prism algorithm

   (iii) Digkastra algorithm.