2020
MATHEMATICS – GENERAL
Course: DSE-A2
(Graph Theory)
SEMESTER-5
INTERNAL
Full Marks: 10

The figures in the margin indicate full marks .
Symbols and notations used here carry their usual meaning.
Candidates are required to give their answers in their own words as far as practical.

Answer all the questions with proper justification: 5x2=10

1. A vertex v_i in a graph *G(V,E,f)* is called a pendant vertex if

a) Its degree is 1 b) Its degree is 0 c)Its degree is even d)None of the above

2. A Tree *T* with *n(≥1)* vertices has

a) *n-1* b)*n* c)n^2 d)*2n*

number of edges.

3. There are 20 edges in a graph. If each vertex is of degree 5 then the number of vertices in the graph is

a) *4* b) 8 c) 10 d) 5

4. A Rectangle is an example of

a) a bipartite graph b) *a regular graph of degree4*

c) *a tree* d) *a regular graph of degree2*

5. A subgraph H(W,F,f_H) of a graph *G(V,E,f)* is a spanning subgraph if

a) $|V| = |W|$ b)$|E| = |F|$ c) *H* contains an Eulerian Trail d*)H* is a Tree