1(i) 10 cycles.

A-B-C-A; B-C-D-B; D-C-E-D; D-F-E-D;
A-B-D-C-A; B-C-E-D-B; C-D-F-E-C;
A-B-D-E-C-A; B-C-E-F-D-B
A-B-D-F-E-C-A

(ii) A-B-D; A-C-D;
A-C-B-D; A-C-E-D
A-C-E-F-D; A-B-C-E-F-D

(iii) degree(C)=4, degree(E)=3

(iv) Connected. Not complete.

(v) Unweighted. Undirected.

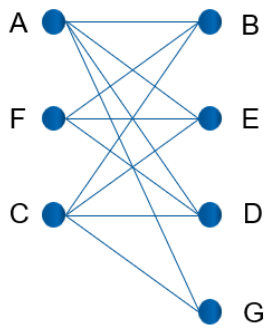
(vi)

	A	B	C	D	E	F
A	0	1	1	0	0	0
B	1	0	1	1	0	0
C	1	1	0	1	1	0
D	0	1	1	0	1	1
E	0	0	1	1	0	1
F	0	0	0	1	1	0

(vii) Not a binary tree, because degree(B)=3.

2. Both Graphs i and ii are not bipartite.
Note that the triangular cycle can help quickly identifying the one that is not bipartite (e.g., Graph i). However, even without such a triangular cycle, the graph might not be bipartite (e.g., Graph ii).

3.



4. Total number of edges: 28. Degree of each vertex: 7.

5&6. Refer to Seminar 9 slides.