Practical 8

A GSM is a cellular network (shown in fig) with its entire geographical range divided into hexadecimal cells. Each cell has a communication tower which connects with mobile phones within cell. Assume this GSM network operates in only four (1-4) different frequency ranges. Allot frequencies to each cell such that no adjacent cells have same frequency range.

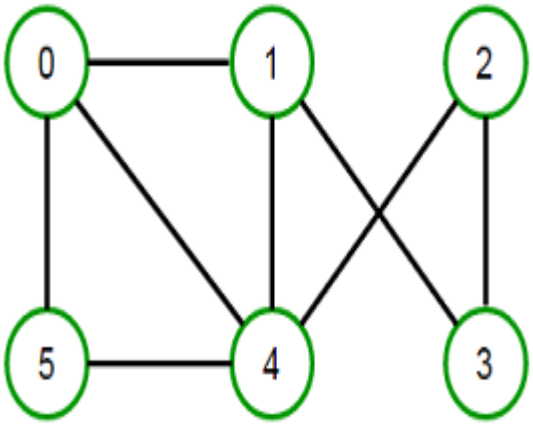
M=5,

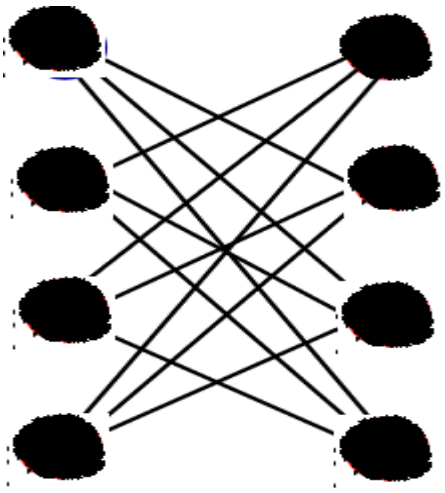
No of vertices	M	All possible solutions	Time (ms)
6	5	0--R, 1--G, 2--R, 3--B,4--B,5--G	
		0--G, 1--G, 2--R, 3--B,4--B,5--G	
10	6		
6	5		

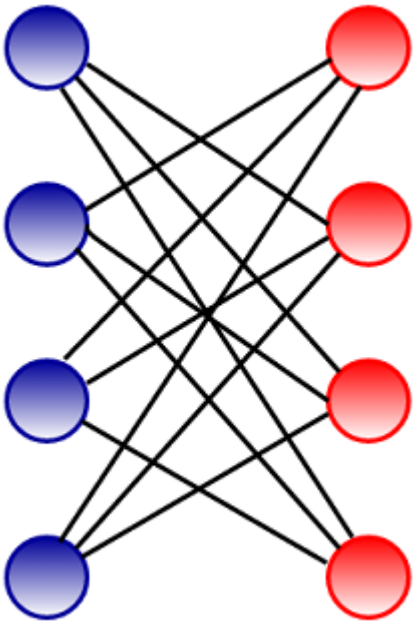
Applications of Graph Coloring:

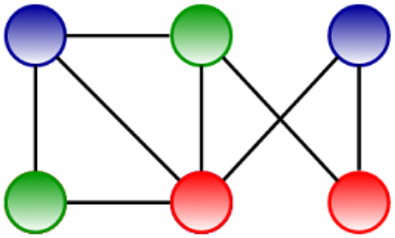
Exam Time Table: S1: {p1,p2}

Map Coloring: Geographical maps of countries or states where no two adjacent cities cannot be assigned same color

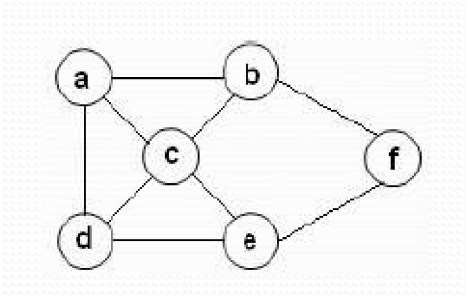








Question Problem:



	A	B	C	D	E	f
A	0	1	1	1	0	0

B	1	0	1	0	0	1
C	1	1	0	1	1	0
D	1	0	1	0	1	0
e	0	0	1	1	0	1
F	0	1	0	0	1	0