1. In the Wumpus world is shown in fig 4b2. The initial situation after the percept [none, none, none, none, none] is given in fig 4b1.

1,4	2,4	3,4	4,4
1,3 W!	2,3 S,G,B	3,3	4,3
1,2 0k	2,2	3,2	4,2
1,1 $0k^A$	2,1 0K B	3,1	4,1

Fig 4b1

A	Agent
B	Breeze
G	Glitter,g,gold
OK	Safe square
P	Pit
S	Stench
V	Visited
W	Wumpus

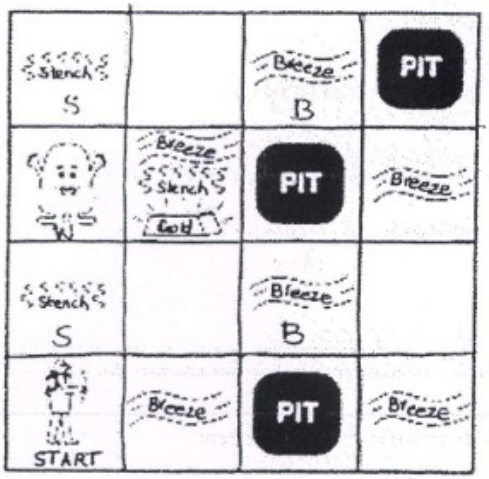


Fig 4b2

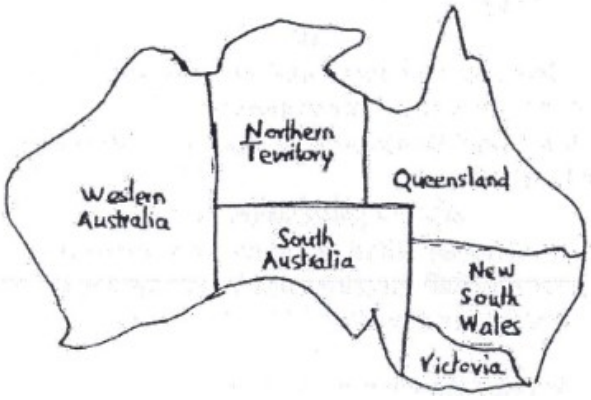
6 2;3

Give the stages for the following:

a. After one move with percept [None, Breeze , None , None , None, None]
b. After the Third move with percept [Stench , None , None , None, None]
c. After the fifth move with percept [Stench , Breeze , Glitter , None, None]

2. Write, describe and analyze in detail the MINIMAX algorithm with an example. 7 2;4

3. Describe in detail, the Constraint Satisfaction Problem(CSP). Explain how to solve map coloring for the following map of Australia, in figure 5b, formulating it as CSP.



6 2;4

4.

In the Wumpus-World, the initial situation, after the percept [None, None, None, None, None] is given below.
Give the stages for the following
a)After the move, with percept [None, Breeze, None, None, None]
b)After the third move with percept [Stench, None, None, None, None]
c)After the fifth move, with percept [Stench, Breeze, Glitter, None, None]

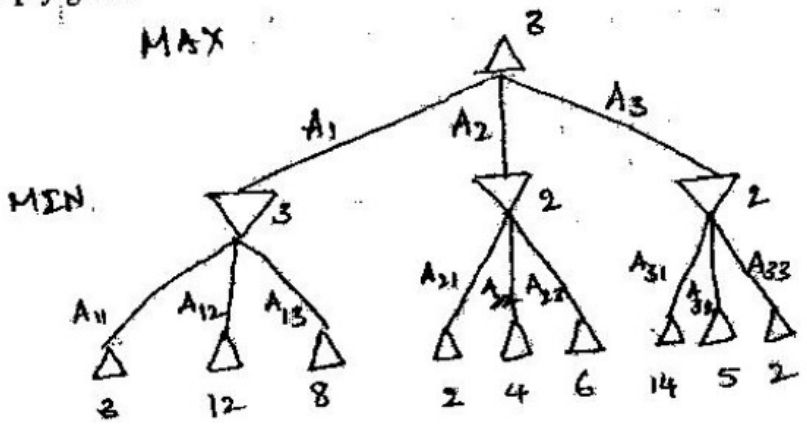
A =Agent,B=Breeze,G=Glitter,Gold,OK=SafeSquare,P=Pit,S=Stench, W=Wumpus,V=Visited

06 Marks

1,4	2,4	3,4	4,4
1,3	2,3	3,3	4,3
1,2 OK	2,2	3,2	4,2
1,1 OK A	2,1 OK	3,1	4,1

5.

Show the stages in the calculation of the optimal decision for the game tree shown below using Alpha-Beta pruning.
Example: 2-ply game



06 Marks

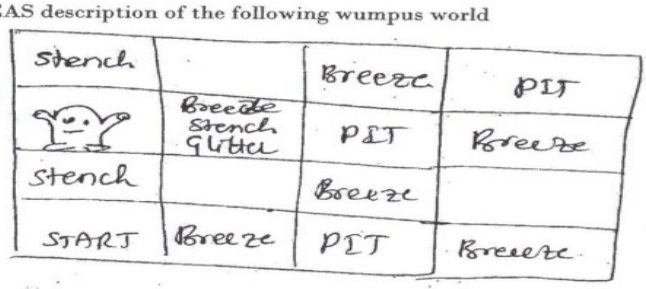
6.

What is local consistency? Describe in detail the following with respect to local consistency.
A)Node consistency
B)Arc consistency
C)Path Consistency
D)K-Consistency

6 Marks

7.

Give the PEAS description of the following wumpus world



06 Marks

8. Write and explain the MIN-CONFLICTS algorithm for constraint satisfaction problem with an example.

9. Solve the following Cryptarithmatic problem using CSP.

(a.)

```
  BASE
+BALL
------
 GAMES
------
```

(b.)

```
  YOUR
+YOU
------
 HEART
------
```

10.Show the stages of calculation of optimal decision for the game tree shown below using MIN-MAX algorithm