

COURSE CODE(CREDITS): L-18B1WCI742 (2)

MAX. MARKS: 15

COURSE NAME: Artificial Intelligence

COURSE INSTRUCTORS: Dr. Gopendra Vikram Singh

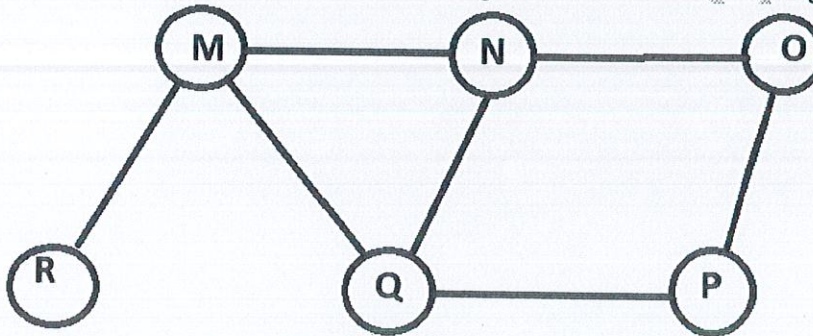
MAX. TIME: 1 Hour

Note: (a) All questions are compulsory.

(b) Marks are indicated against each question in square brackets.

(c) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

- Q1.** The Breadth-First Search algorithm has been implemented with the help of a queue. What is a possible order of visiting the nodes of the following graph is: **[Marks: 3]**



- Q2.** Explain this pseudo code with an example: **[Marks: 3]**

```

void fun(Queue *Q)
{
    Stack S;
    while (!isEmpty(Q))
    {
        push(&S, dequeue(Q));
    }
    while (!isEmpty(&S))
    {
        enqueue(Q, pop(&S));
    }
}
    
```

- Q3.** Given an initial state of a 8-puzzle problem and final state to be reached- Solve this problem. **[Marks: 4]**

2	8	3
1	6	4
7		5
Initial State		

1	2	3
8		4
7	6	5
Final State		

Q4. Solve this by using A* algorithm with starting node is B and the goal node is H [Marks: 5]

