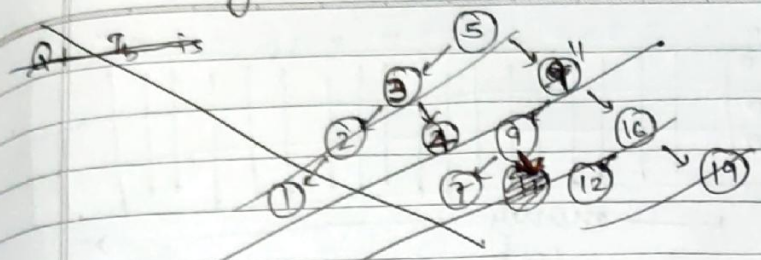
Algorithms 1 Class Test 1

Page No.
Date :

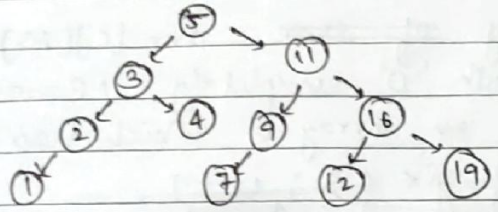
KAUSHAL BANTHIA
19CS10039

Q1 ~~T_b is~~



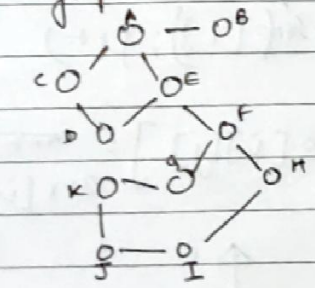
~~Post order of T_b is~~

Q1 T_b is



Post order of T_b is 1, 2, 4, 3, 7, 9, 12, 19, 16, 11, 5

Q2 We can solve this problem using DFS for undirected graphs.
Suppose a graph like this

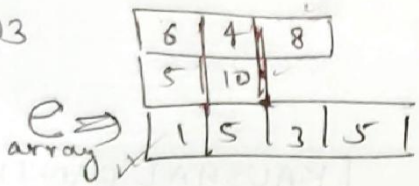


Graph ⟹ G

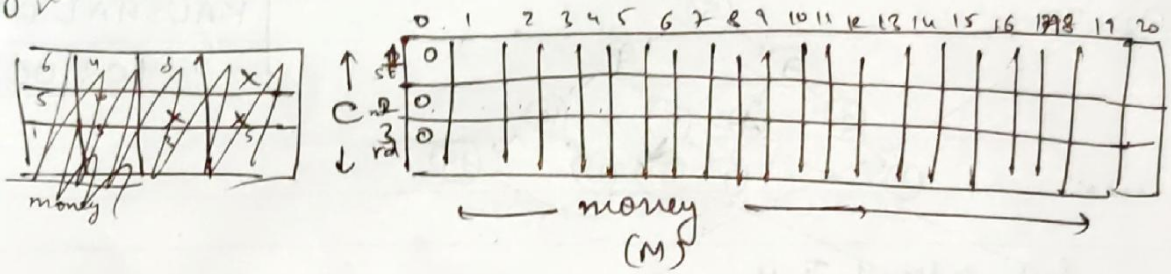
If we start from A and do DFS, then ⟹

```
int min = 0;
void ~~main~~ DFS( for Graph G )
{
  //Here we do the normal DFS
  // whenever we encounter any
  // back edge, we do min ++
  // this means
  if (node → next is visited)
  { min ++ ; }
}
void main ( )
{
  // Define Graph G using all edges
     and vertices.
  DFS (on Graph G);
  printf ("%d", min); }
```

Q3



Budget = 20. = M




```
void main ()
{ Define an array ~~of size~~ arr [C][M]
  Initialise it with '0' completely. // Base case.
  ~~Next~~, Define an array e which has prices
```

~~for (int i = 0; i < C ; i++)~~
~~{ for (int j = 0; j < M ; j++)~~
~~{ arr [i][j] = arr [ ][ ] - e[i]~~

```
for (int i=0 ; i<C ; i++)
{
  for (int j=0 ; j<length(e[i]) ; j++)
  {
    arr [i][ e[i][j] ] = ~~arr[i+1]~~
                         arr[i+1][M - e[i][j]]
                           + e[i][j]
```

↑
DP Formulation

}
}
}