**Problem 1**

The traversal steps will be:

1. G -> E -> B -> A



1. Back track to B
2. B -> C -> F



1. Back track to F->C -> B -> E
2. E -> D



All nodes are visited now, the sequence of nodes visited is:

G -> E -> B -> A -> B -> C -> F -> C -> B -> E -> D

The edge classification is show below



**Problem 2**

1. Explore node one edge away from I



1. Explore node two edge away from I



1. Explore nodes 3 edges away from I



1. Explore nodes 4 edges away from I



**Problem 3**

**Part 1**

1. Initial graph, all nodes have D value as ∞, except for S



1. S comes into C, edges (S,a), (S,b) and (S,c) get relaxed



1. a,b comes into C, edges (b,d), (b,a) and (b,c) are relaxed



1. c comes into C, the edge (c,e) is relaxed, after this e and d also come to C



**Part 2**

The shortest path from S to every node :

1. b : S -> b
2. c : S -> b -> c
3. d : S -> b -> d
4. a : S -> b -> a
5. e : S -> b -> c -> e