Examination	: Second Sessional	Seat No.	:
Date	: 15/02/2014	Day	: Saturday
Time	: 11:00 to 12:15	Max. Marks	: 36

INSTRUCTIONS:
1. Figures to the right indicate maximum marks for that question.
2. The symbols used carry their usual meanings.
3. Assume suitable data, if required & mention them clearly.
4. Draw neat sketches wherever necessary.

Q.1 Do as directed.   **[12]**
   (a) Represent the tree given in Fig 1 using Arrays and Degree two tree representations. **[03]**
   (b) Construct the tree for the given traversal sequence.   **[03]**
      Inorder : D,B,H,I,E,A,C,F,G   Preorder: A,B,D,E,H,I,C,F,G.
   (c) Explain with appropriate example: Reference count in terms of GLL.   **[02]**
   (d) Compare with appropriate examples: Full and Complete Binary tree.   **[02]**
   (e) Obtain DFS and BFS spanning trees for graph given in Fig 2.   **[02]**

Q.2 Attempt following questions.   **[12]**
   (a) Find the shortest path between all pairs of vertices u and v for graph given in Fig 3. **[06]**
   (b) Represent given polynomial using GLL.   **[06]**

<div align="center">OR</div>

   (b) i)Enlist Properties of Binary Search tree.   **[06]**
      ii) Explain with appropriate examples: Insertion and deletion in BST for different
      cases.

Q.3 Attempt following questions   **[12]**
   (a) Write an Algorithm to perform level order traversal of a tree with the help of Queue **[06]**
      data structure.
   (b) Write an Algorithm to insert an element in Maximum Heap.   **[06]**
<div align="center">**OR**</div>
Q.3 Attempt following questions   **[12]**
   (a) Write an Algorithm to delete an element from Maximum Heap.   **[06]**
   (b) Write an Algorithm to insert "s" as right child of "r" in threaded binary tree. **[06]**