**Question 1**

The current page ranking algorithms have the following problems:

1. **Not query dependent:** The proposed page rank computation does not depend on the query by the user. The algorithm we develop here is one way of making the web search query specific.
2. **Not incremental:** Algorithms for page rank have to be run from scratch if the given web graph changes. Considering the dynamic nature of web, it is important to address this. Some of the proposed solutions to address this use first order Markov Models.
3. **Handling nodes with no outgoing edges**
4. **Handling disconnected components:** We cannot assume the web graph to be connected. The current algorithms fail when applied on web graphs having more than one component.

Solution to problems 3 & 4 include using a random surfing approach with a given damping factor (along with traditional method).

**Question 2**

We observe that the nodes with lesser distance to the query have higher page rank which is the desired result.