

## Section A

Answer **all** questions.

1. (a) Outline what is meant by the term computer network. [2]  
(b) Describe **one** problem resulting from low bandwidth in a computer network. [2]
2. Direct observation is a technique used by a system analyst to determine user requirements for updating a computer system.  
(a) Identify **one** advantage of direct observation. [1]  
(b) Identify **one** disadvantage of direct observation. [1]
3. Construct a logic diagram for the following expression.  

NOT A OR (A AND B)

 [3]
4. An international company is in the process of moving its Head Office from Europe to Asia.  
(a) Identify **two** possible compatibility issues as a part of data migration. [2]  
(b) Outline how a virtual private network (VPN) will allow employees who are in Europe to communicate with the Head Office in Asia. [2]  
(c) Outline **one** social issue associated with this process. [2]
5. Describe how data is transmitted by packet switching. [4]
6. Explain the importance of the method `isEmpty()` when constructing an algorithm which performs operations on a stack data structure. [3]
7. Distinguish between the use of time slicing and priorities in the scheduling of processes by an operating system. [3]