Question 1: Differentiate between
(a) Repeaters, Hubs, Bridges, Switches, Routers
(b) Circuit switching and packet switching and message switching

Question 2:
(a) What are the various applications of computer networks? Give examples.
(b) What are the various components of data communication? Explain.

Question 3:
(a) What are the various guided media used for transmissions. Compare then with reference to speed, cost, error rate etc.
(b) What is the difference between passive star and active repeater in fiber optics?

Question 4:
(a) With the help of diagram explain following three kinds of Ethernet cabling.
   (i) 10Base5. (ii) 10Base2. (iii) 10Base-T.
(b) Discuss the performance of Ethernet under conditions of heavy and constant load. Explain various variants of Ethernet such as switched Ethernet, Fast Ethernet and FDDI.

Question 5:
(a) What are the various design issues at data link layer?
(b) What is framing? Why it is required? What are the four methods to mark the start and end of each frame

Question 6:
(a) What are the various network topologies? Draw them clearly and compare them.
(b) Draw and explain the frame format of IEEE 802.3.
Question 7
(a) Draw a neat diagram of OSI reference model.
(b) Explain functioning of each layer of OSI reference model in brief.

Question 8
(a) What is firewall? What is the purpose of firewall? How do we implement firewall? What are the various types of firewall?
(b) Why do we need VPN even if there are other options provided such as "setting up own network" or "opting for lease lines". Explain with reasons.