

Roll No. ....

Total No. of Questions : 07]

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**BCA (Sem. - 4<sup>th</sup>)**  
**COMPUTER NETWORKS**  
**SUBJECT CODE : BC - 401**  
**Paper ID : [B0215]**

[Note : Please fill subject code and paper ID on OMR]

**Time : 03 Hours**

**Maximum Marks : 60**

**Instruction to Candidates:**

- 1) Section - A is Compulsory.
- 2) Attempt any **Four** questions from Section - B.

**Section - A**

**Q1)**

**(10 × 2 = 20)**

- a) In which topology, if a computer's network cable is broken, whole network goes down.
- b) For large networks which topology is used?
- c) What does ISO stands for?
- d) What is ISO OSI model used in?
- e) Network cable lies on which layer?
- f) Which layer decides which physical pathway the data should take?
- g) What are the possible ways of data exchange?
- h) How Gateway is different from Routers?
- i) What is attenuation?
- j) What is the difference between bit rate and baud rate?

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- Q2)** What are the types of Transmission media used in computer networks? Compare their cost vs the throughput.
- Q3)** Explain the connection establishment and multiplexing in the transport layer protocol. Explain the three differences between CSMA/CD and token ring protocol.
- Q4)** What are the two popular approaches to packet switching? Explain any one of these approaches with the help of a diagram. Differentiate between Hubs, Switches and bridges.
- Q5)** The physical service is a non-confirmed service. If some data bits are lost during transmission over the interconnecting media, which layer detects their loss and takes recovery action? Explain this. Explain how does a store-and-forward system affect the delivery of data traffic?
- Q6)** What is the difference between synchronous communication and asynchronous communication? Also state the difference between serial and parallel data transmission.
- Q7)** A bit stream 10011101 is transmitted using the standard CRC method described in the text. The generator polynomial is  $x^3+1$ . Show the actual bit string transmitted. Suppose the third bit from left is inverted during transmission. How the error does get detected at receiver's end?

