

**BACHELOR OF COMPUTER APPLICATIONS
(BCA) (Pre-Revised)**

Term-End Examination

00033

December, 2018

CS-68 : COMPUTER NETWORKS

Time : 2 hours

Maximum Marks : 60

Note : Question number 1 is compulsory. Attempt any three questions from the rest.

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1. (a) Show the Manchester encoding and Differential Manchester encoding for a bit stream : 1 0 1 0 0 1 1 0 1 0 0 1 1 1. 5
 - (b) Explain the limitations of circuit switching. How are these limitations resolved by packet switching ? 5
 - (c) How are 'damaged frame' and 'lost frame' situations handled by stop-and-wait protocol and by sliding window protocol ? Explain. 5
 - (d) Discuss the process of connection establishment and multiplexing in the transport layer of OSI model. 5
 - (e) Explain the working of Selectively Repeat ARQ with the help of a diagram. 5
 - (f) Explain the classes of service defined for ATM. Give an example for each service class. 5

2. (a) Compare twisted pair and optical fiber in terms of cost, bandwidth and attenuation. 5
- (b) What is count-to-infinity problem in distance vector routing ? Explain with the help of an example. 5
3. (a) Differentiate between CSMA/CD and token passing methods. Also, explain how a collision can be avoided in CSMA/CD network. 6
- (b) Explain the concept of Permanent Virtual Circuit (PVC) and Switched Virtual Circuit (SVC) used in ATM networks. 4
4. (a) Explain the functions of OSI layers that operate below the transport layer. 6
- (b) What is ISDN ? Explain the advantages and disadvantages of ISDN. 4
5. Write short notes on the following : $4 \times 2 \frac{1}{2} = 10$
- (a) Remote Procedural Call (RPC)
- (b) File Transfer Protocol
- (c) Routing Information Protocol (RIP)
- (d) IEEE 802-5
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