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MCS-218

**MASTER OF COMPUTER
APPLICATIONS**

(MCA-NEW)

Term-End Examination

June, 2026

**MCS-218 : DATA COMMUNICATION AND
COMPUTER NETWORKS**

Time : 3 Hours

Maximum Marks : 100

Note : (i) *Question No. 1 is compulsory and carries 40 marks.*

(ii) *Attempt any **three** questions from the rest.*

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1. (a) Explain functionality of bridge in networks. 5

- (b) How does multiplanning complement the process of switching in data transmission ? 5
 - (c) How does encoding affect the quality of data transmission ? 5
 - (d) Write the characteristics of Broadband coaxial cable. 5
 - (e) Name and explain any *two* types of line encoding. 5
 - (f) Explain flooding in context of a routing algorithm. 5
 - (g) Describe topologies used in wireless sensor network. 5
 - (h) Discuss the challenges associated with implementing the retransmission strategies. 5
2. (a) Differentiate between Manchester and differential Manchester encoding. Give an application for both encoding techniques. 7

- (b) Explain TCP 3-way handshake process with the help of a diagram. 6
- (c) Explain count to infinity problem with the help of an example. 7
- 3. (a) Explain sliding window protocol with the help of an appropriate diagram. 6
- (b) Describe hidden station and exposed station problem. 6
- (c) Illustrate any *two* redundancy check methods commonly used in data transmission with examples. 8
- 4. (a) Illustrate the process of mapping local procedure calls onto appropriate RPC function calls. 7
- (b) Describe the structure of UDP and explain its functionality. 6
- (c) Describe different methods of framing in Data Link Layer with examples. 7

5. (a) Illustrate different steps of silly window syndrome. 7
- (b) Explain the concept of Link State routing and its significance. 5
- (c) Describe any *two* cyber attacks that took place and their impact. 8

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