

M.Sc. - II (Computer Science) (NEP Pattern) Semester-IV  
**04MSCCS07 - Elective-III Paper-V : Advanced Computer Networks**

P. Pages : 2

Time : Three Hours



**GUG/S/25/16336**

Max. Marks : 80

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- Notes :
1. All questions are compulsory and carry equal marks.
  2. Draw neat and labelled diagram wherever necessary.
  3. Avoid vague answer and write the answer relevant to questions only.

**Either:**

1. a) Write in detail about multiplexing. 8
- b) What is Distance vector algorithm? Write and explain. 8

**OR**

- c) Explain in detail client/server network. 8
- d) Write a detail note on Half Duplex mode. 8

**Either:**

2. a) Define virtualization. Write the need of virtualization. 8
- b) Write a note on:  
i) Virtualization of CPU. 8  
ii) Hosted Hypervisor.

**OR**

- c) Explain in detail client and Desktop virtualization. 8
- d) Write a note on:  
i) Storage virtualization. 8  
ii) Network virtualization.

**Either:**

3. a) What are the various aspects of network security? Explain. 8
- b) Explain in detail about OSI security Architecture. 8

**OR**

- c) Write a note on:  
i) Security Mechanism. 8  
ii) Passive devices.
- d) Write in details about Transport Layer security. 8

**Either:**

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|-----------|----|---|----------|
| <b>4.</b> | a) | What are the various characteristics and challenges of wireless sensor network. | <b>8</b> |
|           | b) | Explain in detail contention-Based MAC protocols.                               | <b>8</b> |

**OR**

- |           |    |  |          |
|-----------|----|--|----------|
|           | c) | What is Flooding and Gossiping? Explain in detail. | <b>8</b> |
|           | d) | Write a detail note on Hybrid MAC Protocols.       | <b>8</b> |
| <b>5.</b> |    | Attempt all the questions.                         |          |
|           | a) | Write the features of computer network.            | <b>4</b> |
|           | b) | Explain in short Transport virtualization.         | <b>4</b> |
|           | c) | What is secure Electronic Transaction?             | <b>4</b> |
|           | d) | Write a short note on Node level simulators.       | <b>4</b> |

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