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| Roll No: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| Course: CS-3001 – Computer Networks | | | | Date: 09 September 2025 |
| Session: F’25 | Quiz–1–DS-C | Time: 15 minutes | | Day: Tuesday |

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| Task #1: MCQs [CLO1] | [5 Marks] |

1. **Which of the following is NOT a function of the transport layer in the TCP/IP model?**

a. Routing of packets  
b. Addressing of devices  
c. Path determination  
d. Flow control

1. **The main purpose of the Domain Name System (DNS) is to**

a. Assign IP addresses to new devices  
b. Translate domain names into IP addresses  
c. Provide encryption for secure communication  
d. Monitor network traffic at the transport layer

1. **Which protocol is responsible for reliable, connection-oriented data transfer between applications?**

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| * 1. UDP | * 1. IP |
| * 1. TCP | * 1. ICMP |

1. **Which type of delay in a computer network increases significantly when the traffic load becomes heavy?**

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| * 1. Processing delay | * 1. Queuing delay |
| * 1. Transmission delay | * 1. Propagation delay |

1. **The time required to push all the packet’s bits into the link is known as**

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| * 1. Processing delay | * 1. Queuing delay | |
| * 1. Transmission delay | * 1. Propagation delay | |
| Task #2: CLO1 | | [5 Marks] | |
| Suppose a packet of length L is transmitted from a source host to a destination host through three packet switches using store-and-forward switching. The transmission rates are:R1​ (source to switch 1),R2​ (switch 1 to switch 2),R3​ (switch 2 to switch 3), R4​ (switch 3 to destination).Ignoring queuing, propagation, and processing delays, what is the total end-to-end delay for transmitting the packet? | | | |

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| Task #3: CLO1 | [5 Marks] |

Suppose **Host A** wants to send a file to **Host B**. The path from Host A to Host B has **three links** with rates *R*1 =600 kbps, *R*2 = 1.5 Mbps, and *R*3 = 900 kbps.

The file size is **5 million bytes**.

1. Assuming no other traffic in the network, what is the end-to-end throughput for this transfer? [1 mark]

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1. How long will it take to transfer the file to Host B? [2 marks]

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1. Repeat (a) and (b), but now with R1​ reduced to 200 kbps. [2 marks]

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