IN 2511 - Computer Networks

ASSIGNMENT 04   -   Apr 2024

Warnings and Instructions:

1. Don't share your assignment **reports with your classmates**. If your classmates copy your assignment reports, it will become unavoidable to **reduce the marks drastically** in case of finding out any kind of resemblance between assignment reports.
2. Do not **copy and paste directly** from any web contents. Your marks will be reduced in such cases.
3. Your assignment report should be a **single pdf document**. Name of the pdf file : Asmt4_<your_index_number>.pdf

Question 01 *(Marks 50)*

(a) The transport layer is responsible for process-to-process delivery—the delivery of a packet, part of a message, from one process to another.

   (i) What are the two (2) main protocols belonging to Transport Layer.

[4 Marks]

   (ii) Compare and contrast four (4) differences between the above-mentioned protocol.

[8 Marks]

(b) Briefly explain the terms Multiplexing and Demultiplexing in the context of Transport Layer with the aid of a suitable diagram.

[5 Marks]

(c) Briefly explain the duty of the Transport Layer.

[5 Marks]

(d) Briefly explain the following terms:
   (i)   Flow Control
   (ii)   Error Control
   (iii)   Congestion Control

[2 x 3 Marks]

(e) TCP is a reliable protocol while UDP is unreliable. Why UDP is preferred over TCP in some applications? What type of applications prefer to use UDP?

[5 Marks]

(f) Briefly explain the difference between connection-oriented protocols and connectionless protocols.

[5 Marks]

(g) Briefly explain how encapsulation and decapsulation take place among the transportation layer and its adjoining layers at two end systems when they communicate? Use a suitable diagram to explain.

[7 Marks]

(h) Briefly explain the addressing mechanism used in Transport Layer and its purpose

[5 Marks]

End