ASSIGNMENT 2

Tele 13167 Introduction to Digital Communications and Networking.

Maximum Points: 60

Introduction:

This assignment focuses to evaluate the student understanding of Network Layer, Transport Layer and Application Layer.

The following rubric will be used to evaluate each question.

Rubric

	5	4	3	2	1-0
Knowledge of concept	Shows in depth understanding of material	Shows good understanding of material	Shows fair understanding of material	Shows little understanding of material	Shows no understanding of material
Response/ Accuracy	Responses to questions are written in complete sentences. Excellent use of relevant examples and graphics.	Responses to questions are written in complete sentences. Good use of relevant examples and graphics.	Responses to questions are not complete. Minimal use of relevant examples and graphics.	Responses to questions are written not complete. Little use of relevant examples and graphics.	Responses are not complete and there is no use if examples and graphics.
Appearance	Neat, organized and professional	Fairly neat, organized and professional	Organized but unprofessional	Not Organized and Unprofessional	No attention given to the presentation

Questions:

Note: Attempt any 4. Each question carries 15 points

Q1. Distinguish between the process of routing a packet from the source to the destination and the process of forwarding a packet at each router.

Q2. An ISP is granted the block 16.12.64.0/20. The ISP needs to allocate addresses for 8 organizations each with 256 addresses.

a. Find the number and range of addresses in the ISP block
b. Find the range of addresses for each organization and the range of unallocated addresses

Q3. A client residing on a host with IP address 122.45.12.7 sends a message to the corresponding server residing on a host with IP address 200.112.45.90. If the well-known port is 161 and the ephemeral port is 51000, what are the pair of socket addresses used in communication

Q4. Can you find an analogy in our daily life as to when we use two separate connections in communication similar to the control and data connections in FTP?

Q5. In the client-server paradigm, explain why a server should be run all the time, but a client can be run when it is needed.

Q6. Explain with the help of a diagram that how TCP/IP uses a DNS client and a DNS server to map a name in the address.