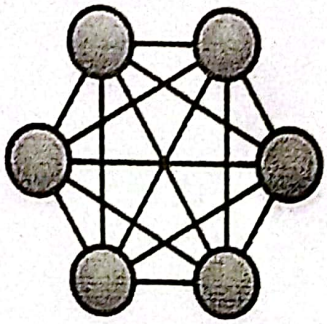
Quiz # 2

25

Max time allowed: 15 minutes, Max points: 40, Section 6C

Name	[redacted]
Roll No.	[redacted]

(Question 1) What is the name of the following topology? [5 points]



This is a mesh topology.

(Question 2) Define bisectional bandwidth of a topology? [5 points]

It is the bandwidth that a topology can have transmitted across a cut of the network that divides into two halves. This is used in mesh topologies.

(Question 3) What is the bisectional bandwidth of the above topology having *n nodes*? (You MUST use the definition you mentioned above to calculate the answer.) [10 points]

Bandwidth = $\frac{n}{2} \times \frac{n}{2}$

$= \frac{n^2}{4}$

(Question 4) Prove the expression you found in Question 3. [20 points] (10)

Every node will have connections which are equal to the connections to other nodes.

So the connections for bandwidth is n^2

Since it is a mesh and is bidirectional, it will be divided by 2 and multiplied by each other to get $= \frac{n^2}{4}$

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