PART-1

1) FTP packets generated and received between nodes.
690, 690

2) HTTP packets generated and received between nodes.
46, 46
644, 644

3) Throughput, delay and jitter of both the applications.

Throughput (Mbps)	Delay(microsec)	Jitter(microsec)
0.174259	751092.227478	26816.230595
0.005622	67300.000870	88566.355556
0.149325	135081.983602	25915.557201

4) Link-wise frames generated and received.

Device Id	Packet sent	Packet forwarded	Packet received
1	1626	0	1562
2	831	0	874
3	3201	3189	14
4	3217	3189	26
5	3211	3185	26
6	3196	3184	13
7	733	0	743

5) Percentage of overhead at the link-layer.
= Overhead / byte transmitted * 100
= 825018 / 10735478
= 7.684 %

Link ID	Overhead transmitted	Bytes transmitted	Percentage of overhead
1	212386	2197106	9.66
2	131720	2197106	5.99
3	136080	2117880	6.42
4	131320	2111660	6.21
5	112964	1071404	10.54
6	100548	1119528	8.98

6) Plot for change in average throughput of link 6 due to change in the file sizes in the FTP application (step size 100000 bytes and maximum 800000 bytes).

Part1
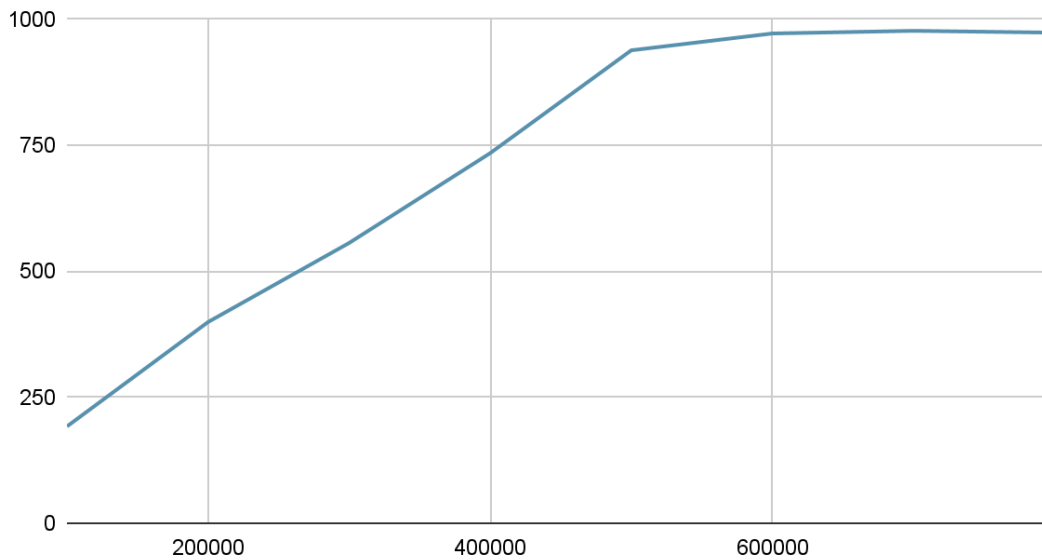
File Size	Throughput(kbps)
100000	192.115
200000	399.239
300000	556.171
400000	734.447
500000	938.504
600000	971.901
700000	977.161
800000	973.556

PART-2

1) FTP packets generated and received between nodes.

548, 548

2) HTTP packets generated and received between nodes.

4, 4

84, 84

3) Throughput, delay and jitter of both the applications.

Throughput (Mbps)	Delay(microsec)	Jitter(microsec)
0.137043	1155845.406	23703.3815
0.000599	20825.72	4844.586667
0.023502	157930.7427	20182.7161

4) Link-wise frames generated and received.

Device Id	Packet sent	Packet forwarded	Packet received
1	572	0	643
2	84	0	4
3	560	0	564
4	1227	1214	13
5	1240	1213	27
6	1239	1212	27
7	1225	1212	14

5) Percentage of overhead at the link-layer.

1	8.02%
2	5.42%

3	5.36%
4	5.19%
5	4.12%
6	8.56%

6) Plot for change in average throughput of link 6 due to change in the file sizes in the FTP application (step size 100000 bytes and maximum 800000 bytes).

Part2
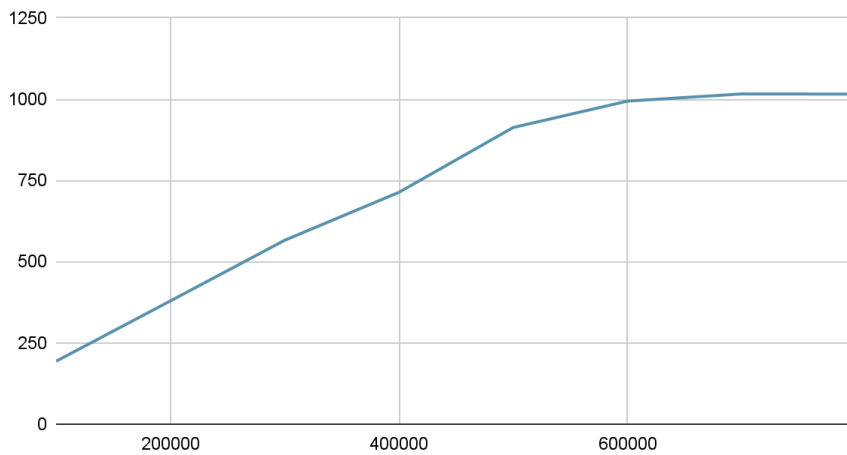
File Size	Throughput(kbps)
100000	193.615
200000	379.171
300000	565.821
400000	713.402
500000	912.901
600000	994.07
700000	1016.152
800000	1015.63