Table 1: Summary of Iteration count, displacement and Residual values at each iteration

Table of Iterations		
Iteration count	**d_{step}^{i} (cm)**	**$\|\|R_{step}^{i}\|\|$(N)**
0	6.67×10^{-3}	20000
1	1.333×10^{-2}	6600
2	1.553×10^{-2}	4356
3	1.6985×10^{-2}	2874.96
4	1.7944×10^{-2}	1897.13
5	1.857637×10^{-2}	1252.1026
6	1.89937×10^{-2}	826.426
7	1.9269×10^{-2}	545.62

Solution 3:

Modified Newton Raphson Method:

Step#1:

Number of Iterations required for a converged displacement value=**1**

Displacement and Residual after each iteration:

Iteration	**Displacement (cm)**	**Residual (N)**
1	0.006667	0

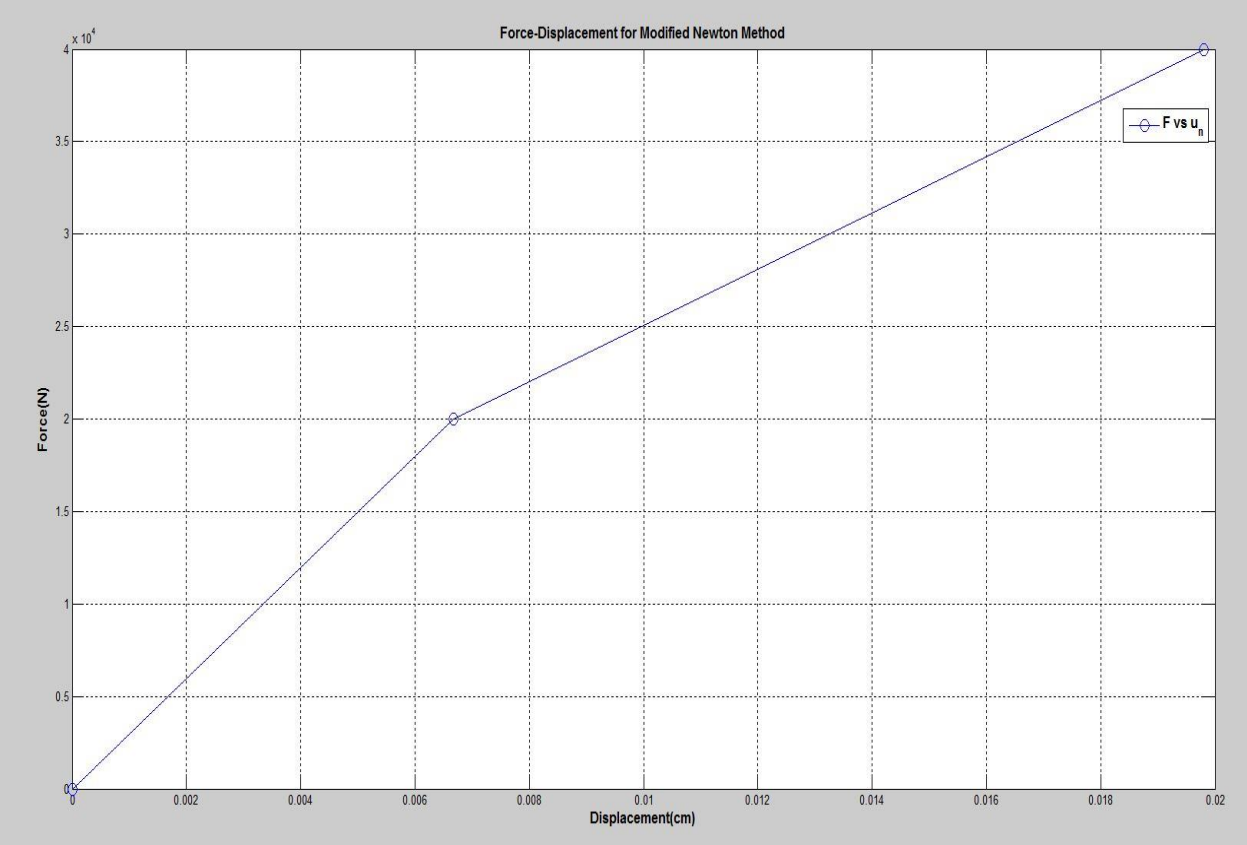
Step #2

Table of Displacement and Residual values at each iteration count.

Iteration #	**d^{i}(cm)**	**Residual (N)**
1	0.013333333	6600
2	0.015533333	4356
3	0.016985333	2874.96
4	0.017943653	1897.474
5	0.018576145	1252.333
6	0.018993589	826.5395
7	0.019269102	545.5161
8	0.019450941	360.0406
9	0.019570954	237.6268
10	0.019650163	156.8337
11	0.019702441	103.5102
12	0.019736944	68.31675
13	0.019759717	45.08906

14	0.019774746	29.75878
15	0.019784666	19.64079
16	0.019791213	12.96292
17	0.019795534	8.55553
18	0.019798386	5.64665
19	0.019800268	3.726789
20	0.01980151	2.459681
21	0.01980233	1.623389
22	0.019802871	1.071437
23	0.019803228	0.707148
24	0.019803464	0.466718
25	0.01980362	0.308034
26	0.019803722	0.203302
27	0.01980379	0.13418
28	0.019803835	0.088558
29	0.019803864	0.058449
30	0.019803884	0.038576
31	0.019803897	0.02546
32	0.019803905	0.016804
33	0.019803911	0.01109
34	0.019803914	0.00732
35	0.019803917	0.004831
36	0.019803918	0.003188
37	0.01980392	0.002104
38	0.01980392	0.001389
39	0.019803921	0.000917
40	0.019803921	0.000605
41	0.019803921	0.000399
42	0.019803921	0.000264
43	0.019803921	0.000174
44	0.019803921	0.000115
45	0.019803921	7.58E-05
46	0.019803922	5.00E-05
47	0.019803922	3.30E-05
48	0.019803922	2.18E-05
49	0.019803922	1.44E-05
50	0.019803922	9.49E-06
51	0.019803922	6.26E-06
52	0.019803922	4.13E-06
53	0.019803922	2.73E-06
54	0.019803922	1.80E-06

55	0.019803922	1.19E-06
56	0.019803922	7.84E-07
57	0.019803922	5.18E-07
58	0.019803922	3.42E-07
59	0.019803922	2.25E-07
60	0.019803922	1.49E-07
61	0.019803922	9.82E-08
62	0.019803922	6.48E-08
63	0.019803922	4.28E-08
64	0.019803922	2.82E-08
65	0.019803922	1.86E-08
66	0.019803922	1.23E-08
67	0.019803922	8.12E-09
68	0.019803922	5.36E-09



Newton-Raphson Method

Step#1:

Number of Iterations required for a converged displacement value=**1**

Displacement and Residual after each iteration:

Iteration	Displacement (cm)	Residual (N)
1	0.006667	0

Step #2

Table of Displacement and Residual values at each iteration count.

Iteration	Displacement (cm)	Residual (N)
1	0.013333	6600
2	0.019804	0