

# Provision of Campus Connectivity Through Wi-Fi in 40 Central Universities

ERNET India  
An Autonomous Scientific Society of  
Department of Electronics & Information Technology  
Ministry of Communication & Information Technology

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# Agenda

- Executive Summary
- Issues in the Last meeting
  - Temporary Campuses
  - High Cost of BHU
  - High Cost of JNU
- Campus Wise statistics(Covering area, buildings, Previous cost, areas removed, new cost)
- Campuses without the custom duty exemption
- Cost comparison of old costs/new cost(east/west/north/south/center)

# Executive Summary

- ❑ An Initiative of MHRD – Wi-Fi Campus connect of 40 Central Universities (CUs)
- ❑ To provide Internet / Intranet services through Wi-Fi mode to the student & staff of the CUs.
- ❑ Provision of Wi-Fi in the selected hot-spots in the university campus consisting of all academic blocks, hostels, Library and such other places frequented by students.
- ❑ ERNET consultancy charges @5%+service tax shall be charged extra

# Temporary Campuses

- ❑ Himachal & Patna's temporary campuses: Survey was done. However, the cost not included as the campuses are temporary.
- ❑ The cost for Jharkhand university is not included as the university has not responded.
- ❑ Cost of temporary campus (Sikkim, Kashmir, Jammu, Bhatinda) included as they will continue for more than 5 years in that area.

# Brief details on proposals submitted earlier

- ❑ Total Central Universities (CUs) = 40
- ❑ Physically Site Surveyed = 31 CUs
- ❑ Proposal Submitted for = 36 CUs
- ❑ Covered under DeitY project = 2 CUs (Allahabad & NEHU)
- ❑ No Response from = 2 CUs (Jharkhand & Haryana)

# Issues in the last meeting

- ❑ High costing of BHU campus
- ❑ JNU Campus – Justification for proposal as the campus is already Wi-Fi enabled campus as per news
- ❑ Campus design layout with proposed maps, server location, fiber route etc.
- ❑ Campus status - permanent / temporary

# Meetings for resolution of issues:

MHRD convened a meeting with all nodal officers to include the following:

## ❑ Mapping

- ❑ The proposed server location
- ❑ The pathway of the cabling proposed, (the total length of the cable)
- ❑ The building which are to be provided with Wi-Fi with nos. of WAPs

## ❑ Adequacy

- ❑ The total number of students & staff
- ❑ The total numbers of WAPs proposed
- ❑ The average number of connection per WAP

## ❑ Alternatives

- ❑ Any alternative mode of providing the Wi-Fi

## ❑ Permanency

- ❑ Facility being created is in permanent campus or temporary campus  
(Temporary campus = continue atleast for 5 years)

## ❑ Economy

- ❑ New setup or replacement of the old setup. Adequate justification for the replacement

# Brief on meetings with the Nodal Officer & MHRD

(from 02-11-2015 to 23-11-2015)

- ❑ Total Central Universities (CUs) invited = 38 CUs
- ❑ Total CUs attended the meeting = 32
- ❑ Total CUs not attended the meeting = 6 (Manipur, Patna, Jharkhand, Himachal, EFLU, Gujarat)
- ❑ Total input response received from = 35 CUs  
(3 CUs not included i.e. Himachal & Patna – temporary campus, Jharkhand – no response)
- ❑ Total proposal revised = 35



# Actions on BHU

- ❑ As per discussion with MHRD, the campus buildings segregated into two parts (main building & additional building)
- ❑ Main Building consist of Academic area, hostels, Library etc.
- ❑ Additional Building consist of IIT, Agriculture institute, Medical institute, IESD, IMS, Trauma center, Miscellaneous.
- ❑ The revised estimated cost based on above :

S.No	Description	Previous Proposal	Revised Proposal		Remarks
			Total Buildings (246 Nos.) ( A )	Main Building (93 Nos.) ( B )	
1	Active Equipment & components	4271.63	1884.79	2408.38	Details of segregated buildings not provided by BHU in the response letter. The segregated details based on verbal discussions are enclosed
2	Passive equipment & components	795.64	357.66	749.07	
3	Approx. Customs Duty on USD equipment provisionally @5%	201.24	87.89	114.52	
	<b>Total price</b>	5268.51	2330.35	3271.96	

# Cost of additional buildings of BHU

Additional Building consist of IIT, Agriculture institute, Medical institute, IESD, IMS, Trauma center, Miscellaneous

S.No	Description	Budgetary cost in Rs.Lac
1	IIT	1,307.36
2	Common Infra	903.01
3	IAS	228.05
4	IESD	14.61
5	IMS	363.26
6	Trauma	202.08
7	Misc.	253.59
	Total	3271.96

# Actions on JNU

- ❑ As per input from JNU, the Wi-Fi network exists in only academic area.
- ❑ The network required in the hostel and other campus areas.
- ❑ JNU informed that a grant of 9.8 Cr has been received from UGC
- ❑ As per discussion with MHRD & JNU, the campus buildings segregated into two parts (main building & additional building)
- ❑ Main Building consist of Academic area, hostels, Library etc.
- ❑ Additional Building consist of Guest House, Auditorium, Gymnasium, sports center, school, canteen, open area etc.
- ❑ Estimate based on above:
  - ❑ Previous proposal = Rs.2399.64 Lac
  - ❑ Revised proposal for main buildings = Rs.1940.60 Lac
  - ❑ Revised proposal for additional buildings = Rs.201.69 Lac

# Actions for remaining CUs after meetings

- ❑ Campus buildings/departments segregated into two parts:
  - ❑ Main Building consist of Academic area, hostels, Library etc
  - ❑ Additional Building consist of Guest House, Auditorium, Gymnasium, sports center, school, canteen, open area etc.
- ❑ Revised individual proposal with campus map, proposed server location, proposed fiber route, number of WAPs & average per WAP.
- ❑ Considered the usage of existing equipment/single mode fiber subject to its technical feasibility and availability.
- ❑ Summary sheet for individual CU with list of main & additional buildings, **previous estimate & revised estimates** along with other required details.
- ❑ Consolidated comprehensive sheet.
- ❑ Justification for the replacement.

# Design Philosophy for proposed solution

- ❑ Modular Network design with Tiered hierarchical architecture.
- ❑ Centralized NMS solution with adequate security has been proposed for every university campus.
- ❑ Proposed solution is Resilient, Secure, Highly available, Scalable, Flexible, with adequate Redundancy.
- ❑ Existing functional network infrastructure has been utilized for extending the proposed Wi-Fi solution subject to their technical feasibility.
- ❑ Upgradation/replacement has been provided for existing network in campus if it is not operational & supportable for solution proposed.

# Consolidated Estimates

S. No.	Description	Previous proposal for 36 CUs (in Cr.)	Revised proposal (in Cr.) for 35 CUs (in Cr.)	
			Main Building	Additional Building
1.	Total Estimated cost	313.00	262.00	54.00

**Patna, Jharkhand & Himachal not included in the revised proposal due to temporary campus and no response**

- The costs have been worked out based on the existing rate contract considering 1USD=Rs.67
- ERNET consultancy charges @5%+service tax shall be charged extra.
- All Govt. duties/VAT/taxes/levies as applibale shall be charged extra
- There might be variation of upto 10%
- Cost incurred on Site surveys is Rs. 15.5Lac may be reimbursed by MHRD

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# Consolidated Comprehensive Sheet

Comprehensive Sheet for Wi-Fi Connectivity in 38 Central Universities as on 03-12-2015										Budgetary						Budgetary Cost as Per Revised Proposal
S. No.	Name & Address of University	Area (in acres)	Existing LAN	No. of Buildings covered as per Previous Proposal	Date of Meeting at MHRD	Total Users (Student + Staff)	Campus Status (P=Permanent/T=Temporary)	No. of Main Buildings After MHRD's meeting	No. of Additional Buildings After MHRD's meeting	Total Budgetary Cost	Total Budgetary Cost (Main Buildings)	Total Budgetary Cost (Additional Buildings)	Total Budgetary Cost (Main + Additional Buildings)	Difference Previous - after meeting	Remark	
		A		B	C	D	E	F	G	M = H+J	X=N+P+R	Y=O+Q+S	Z=X+Y	AA=Z-M	AB	
1	**Jawaharlal Nehru University, New Delhi -110067 www.jnu.ac.in	412.53	3 years old	77	2-Nov-15	13000	P	65	12	2399.64	1940.6	201.69	2142.69	257.4	JNU has already received a fund of 9.8 cr from UGC which can be deducted from the proposed cost	
2	Jama Millia Islamia, New Delhi	215.85	12 years old	74	16-Nov-15	3220	P	65	9	874.1	847.91	26.19	874.1	0		
3	IGNOU, New Delhi, Maidan Garhi, New Delhi -110 068. FAX - 91 -011-2686 2598, www.ignou.ac.in	151	7-8 years old	46	16-Nov-15	5000	P	44	2	536.06	513.5	22.56	536.06	0		
4	BHU, Varanasi -221 005, FAX-91-0542-368174 ve_bhu@banaras.ernet.in	1300	7 years old	246	2-Nov-15	50000	P	93	153	5268.51	2330.35	3271.96	5602.3	333.79(-)	Existing N/w 15 years old and end of life and end of support	
5	AMU, Aligarh -202 002, FAX - 0571-2700528 www.amu.nic.in	1453.38	12.5 years old	112	17-Nov-15	31400	P	111	1	977.22	973.06	21.19	994.25	17.03(-)		
6	Visva Bharti Shantiniketan, West Bengal -731 235, FAX-91-03463-262672 www.vbharat.ac.in	1127.8	8 years old	111	17-Nov-15	8226	P	104	7	1459.49	1404.53	54.95	1459.48	0	All existing active networks obsolete and end of life. SM Fiber available in 66 locations	
7	Hyderabad University, Hyderabad-500 046, FAX-91-040-3010145, 3010120, www.uohyd.ernet.in	1785	3 years old	71	17-Nov-15	7000	P	54	19	1159.7	1042.31	132.53	1174.84	15.1(-)	Augmentation of existing N/w, Switches Obsolete, SM Fiber available in max. places	
8	Pondicherry Univ, Pondicherry-605 014, Exchange - 2654200/300 FAX -091-0413-2655 265, www.pondiuni.org	780	more than 5 years old	59	17-Nov-15	8000	P	51	8	890.23	847.47	42.76	890.23	0		
9	Assam University, Silchar, ASSAM - 788 011, FAX -03 842-32779, 70802, www.aus.ac.in	600	7 years old	66	17-Nov-15	7300	P	51	3	477.12	463.22	13.9	477.12	0		
10	Tezpur Univ. TEZPUR -784 028 ASSAM, FAX -03712-21539, 267006 www.tezu.ernet.in	261.47	5 years old	41	17-Nov-15	4025	P	36	5	939.58	900.49	39.09	939.58	0		
11	**Nagaland University, Kohima Nagaland FAX-03 70-2290246, www.Nagauniv.org	802	5 years old	74	17-Nov-15	2300	P	60	14	756.02	705.05	57.45	762.5	6.48(-)	Cost of Passive in Lumami has increased due to increase in OFC	



Comprehensive Status Report Status report as on 14.09.2015 for the proposal for 'Provision of campus connectivity through Wi-Fi in Central Universities

S. No.	Name & Address of University	Area (In acres)	Existing LAN	No. of Buildings covered as per Previous Proposal	Date of Meeting at MHRD	Total Users (Student + Staff)	Campus Status (P=Permanent/T=Temporary)	No. of Main Buildings After MHRD's meeting	No. of Additional Buildings After MHRD's meeting	Total Budgetary Cost	Total Budgetary Cost (Main Buildings)	Total Budgetary Cost (Additional Buildings)	Total Budgetary Cost (Main + Additional Buildings)	Difference Previous - after meeting	Remark
12	Mizoram University P. B. No. 190, Aizawal -796012, Mizoram	972	8 years old	58	18-Nov-15	4528	P	47	11	501.76	456.54	20.01	476.55	25.21	
13	Maulana Azad National Urdu University, Gachibowli, Hyderabad-500032	200	2 years old	17	18-Nov-15	5000	P	13	4	483.57	463.38	20.2	483.58	0	
14	Mahatma Gandhi Antarrashtriya Viswavidyalaya, P. B No 16 Panchteela, Wardha- 442 001, MP	212	5 years old	18	18-Nov-15	1530	P	17	1	491.65	397.88	3.38	401.26	90.4	No. of WAPs reduced as per input received during the MHRD meeting
15	**Rajiv Gandhi University, Itanagar-791112	306	4 years old	31	18-Nov-15	2080	P	29	7	399.96	271.94	41.9	313.84	86.12	Active BoM reduced as per the input received during MHRD meeting
16	Sikkim University, Gangtok, Sikkim	753	more than 3 years old	27	18-Nov-15	2700	T & cont	25	2	375.77	356.97	18.8	375.77	0	
17	Tripura University, Tripura Suryamaninagar-799130	79	1 years old	28	18-Nov-15	4000	P	22	6	500.68	445.74	54.95	500.68	0	
18	English and Foreign Languages University, O.U Campus, Hyderabad 500 007	33	7 years old	14	18-Nov-15	3000	P	12	2	383.16	377.5	5.61	383.11	0	no changes in revised proposal since the Nodal officer did not come for MHRD meeting
19	Indira Gandhi National Tribal University, Amarkantak	370	No existing network	32	19-Nov-15	4149	P	7	13	1118.57	707.4	309.86	1017.27	101.08	No Network
20	Hemawati Nandan Bahuguna Garhwal University, Srinagar-246174,Uttarakhand	268	3 years old	83	19-Nov-15	17000	P	73	6	2096.05	2032.53	123.23	2155.76	59.7(-)	4 distributed campuses without Intranet
21	Central University of Tamil Nadu, C/o Collectorate Annexe, Tiruvarur 610 001	516.76	3 years old	18	19-Nov-15	1750	P	16	4	654.6	643.32	57.8	701.12	46.52(-)	
22	Central University of Rajasthan,NH-8, Bandar Sindri,Dist-Ajmer-305801	518	3 years old	14	19-Nov-15	2500	P	14	2	443.67	443.67	49.24	492.91	49.24(-)	
23	Central University of Orissa, Qtr. No. Type-C, Block-4, New Govt. Colony, Gajpatinagar, Bhubneswar 751017	430.37	No existing network	5	19-Nov-15	950	P	5	1	425.03	425.03	46.32	471.35	46.32(-)	
24	Central University of Karnataka, Jnana Ganga, Gulbarga University Campus, Gulbarga-585 106	654	3-4 years old	28	19-Nov-15	1726	P	14	7	1226.85	693.89	91.37	785.26	441.59	The number of Building reduced by the nodal officer at MHRD Meeting response
25	**Central University of Kerala, Jimanis, SP-16/375 , Sreeekaryam, P.O. Trivandrum-695017,	310	3-4 years old	8	19-Nov-15	1000	P	4	10	169.96	137.93	219.24	357.17	187.21(-)	Cost has increased due to the increase of buildings based on the inputs provided by the Nodal officer during MHRD meeting

Comprehensive Status Report Status report as on 14.09.2015 for the proposal for 'Provision of campus connectivity through Wi-Fi in Central Universities'

S. No.	Name & Address of University	Area (In acres)	Existing LAN	No. of Buildings covered as per Previous Proposal	Date of Meeting at: MHRD	Total Users (Student + Staff)	Campus Status (P=Permanent/ T=Temporary)	No. of Main Buildings After MHRD's meeting	No. of Additional Buildings After MHRD's meeting	Total Budgetary Cost	Total Budgetary Cost (Main Buildings)	Total Budgetary Cost (Additional Buildings)	Total Budgetary Cost (Main + Additional Buildings)	Difference Previous - after meeting	Remark
26	Dr. Harsingh Gour Vishwavidyalaya, Sagar (M.P.)	1312	No existing network	52	20-Nov-15	8000	P	48	5	812.62	789.4	31.69	821.09	8.47(-)	
27	Guru Ghasidas Vishwavidyalaya, Bilaspur	664	3 years old	32	20-Nov-15	6500	P	30	2	650.61	617.28	33.34	650.61	0	
28	Central University of Punjab, D-13, Civil Station, Bhatinda-151001.	140	3-4 year old	18	20-Nov-15	5000	P, T & cont.	13	8	533.1	495.13	58.58	553.71	20.61(-)	
29	Central University of South Bihar, Camp Office, BIT Campus, Patna	450	3-4 years old	8	20-Nov-2015, Not Attended		T			275.93					
30	Central University of Gujarat 95/A Sector-2A, Gandhinagar-382007	260	6 years	16	20-Nov-2015, Not Attended	3000	P	13	3	181.38	171.29	10.09	181.38	0	no changes in revised proposal since the Nodal officer did not come for MHRD meeting
31	Central University of Jammu 8/8, Trikuta Nagar, Jammu Tawi	610	3-4 years old	20	20-Nov-15	1800	P-2, T-3 & Cont.	20	2	446.1	444.96	70.61	515.57	69.47(-)	2 additional buildings (OBC boys and girls hostel) have been added by the nodal officer during the MHRD meeting
32	Central University of Kashmir, Bagh-Hyder, Hyderpora Srinagar-190004	2.3	1-2 years old	11	20-Nov-15	1300	T-6 & cont.	10	1	140.34	138.69	1.65	140.34	0	in addition to that the nodal officer has also requested to provision of RF and MPLS cost since laying OFC is a big challenge
33	** Manipur University	116.15 Hectr		31	23-Nov-15	5000	P	29	2	436.15	421.6	7.78	429.38	6.77	
34	Baba Saheb Bhim Rao Ambedkar university	250		20	23-Nov-15	5500	P	18	6	649.47	630.8	98.46	729.26	79.79(-)	Cost has increased due to addition of 4 new buildings.
35	Central University of Himachal Pradesh	150		6	23-Nov-2015, Not Attended		T			163.58					Temporary Campus Hence not considered
36	Delhi University, Delhi	69		108	16-Nov-15	25000	P	99	9	1974.73	1873.38	101.34	1974.73	0	
37	* **Central University of Haryana	500			23-Nov-15	11432	P	18	5		770.73	27.82	798.55		
38	Central University of Jharkhand				23-Nov-2015, Not Attended										Not responded ever
	<b>Total for Campus Connectivity through WI-FI</b>									<b>31272.96</b>	<b>26175.47</b>	<b>5387.54</b>	<b>31563.40</b>	<b>290.44(-)</b>	

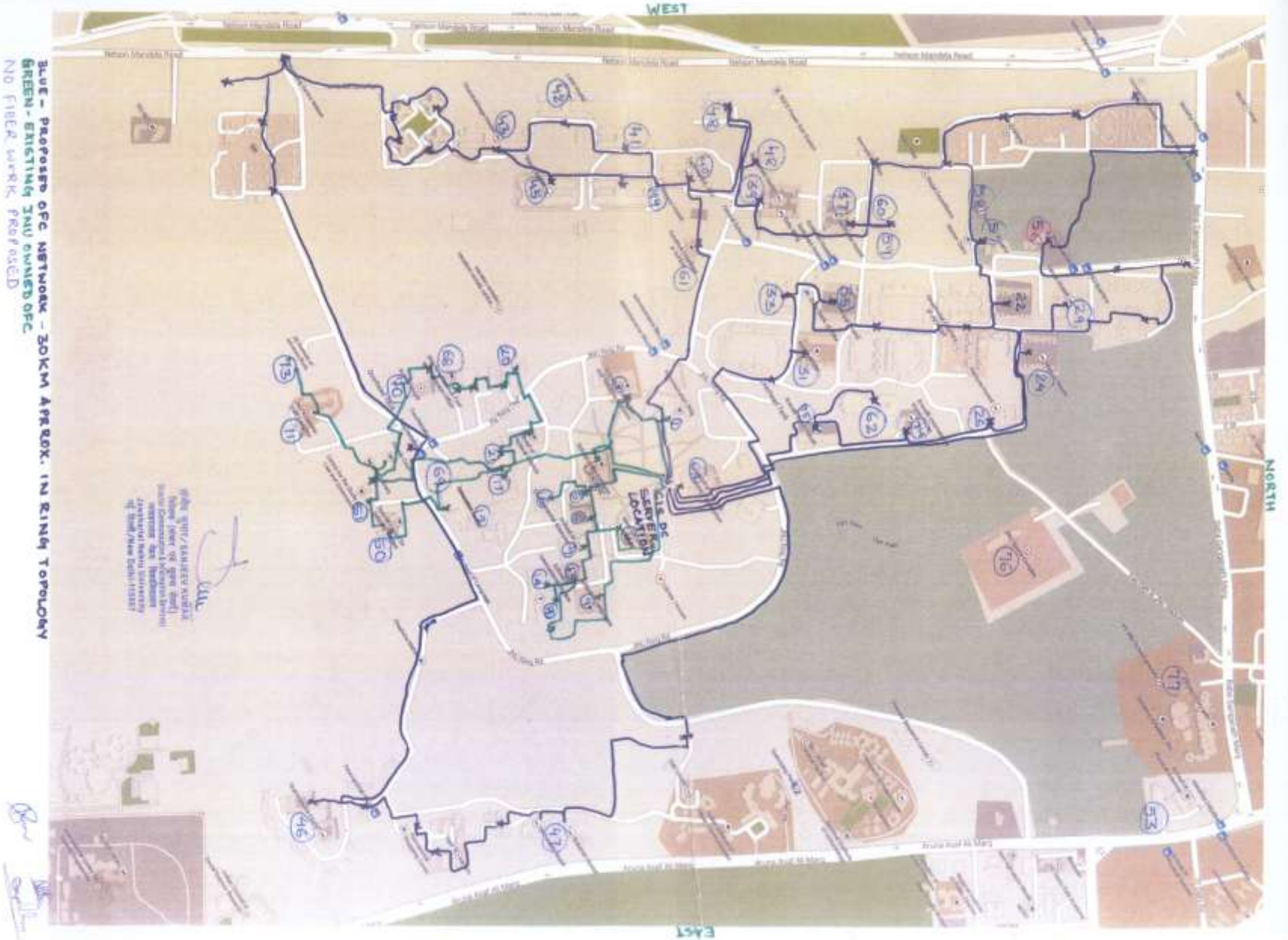
# Map for proposed fiber layout at BHU



# Map for proposed fiber layout at JNU



# JNU Campus Map



**Thank you...**