

## MANDATORY DISCLOSURE BITT POLYTECHNIC

AICTE Permanent ID	• 1-1505920251
Date & Period of last approval	• 04-04-2018 (2018-2019), F.No. Eastern/1-3508851819/2018/EOA
Name of the Institution	• BITT POLYTECHNIC
Address of the Institution	• At – Getlatu, PO – Neori Vikas • PS - Sadar , Ranchi-835217 • District - Ranchi (Jharkhand)
City & PIN Code	• Ranchi - 835217
State	• Jharkhand
Longitude & Latitude	• 85° 41' E & 25° 41' N
Phone number with STD code	• 0651-2273067/69, Mobile No. - 9470193643
FAX number with STD code	• 0651-2273068
Office hours at the Institution	• 9:00 AM to 5:00 PM
Academic hours at the Institution	• 9:05 AM to 4:30 PM
Email	• rkbitt@gmail.com
Website	• www.bittpolytechnic.com
Nearest Railway Station (Dist. in Km)	• Ranchi (14 Km)
Nearest Airport (Dist. in Km)	• Ranchi (17 Km)
Type of Institution	• Private – Self Financed
Category (1) of the Institution	• Non-Minority
Category (2) of the Institution	• Co-Ed

Name of the Organization running the Institute.	• Birsa Institute of Technology (Trust) - BITT
Type of the Organization	• Trust
Address of the Institution	• Amrud Bagan, Ratu Road , Ranchi - 834005
Registered with	• Indian Trusts Act - 1882
Registration date	• 12 August 2004
Website of the Organization	• <a href="http://www.trust-bitt.org">www.trust-bitt.org</a>
Name of the affiliating University /Board	• Jharkhand University of Technology, Ranchi
Address of Board	• <b>Jharkhand University of Technology</b> , Sirkha Toli, Science & Technology Campus (In front of Military Campus), Namkum-Tupudana Road, Ranchi, Jharkhand-834010
Website	• <a href="http://www.sbtejharkhand.gov.in">www.sbtejharkhand.gov.in</a>
Latest affiliation period	• 2018-19

Name of Principal/Director	• Dr. Neeraj Priyadarshi
Exact Designation	• Principal
Phone number with STD code	• 0651 - 2273067,    Mobile No. - 9470193647
FAX number with STD code	• 0651 - 2273068
Email	• bittpolytechnic@yahoo.com
Education Qualification	• Ph.D. (Electrical Engineering), M.Tech. (Power Electronics & Drives), B.Tech. (EEE)
Wprk Experience	• Teaching - 6 Years • Research - 4 Years
Area of Specilization	• Power Electronics Application in Renewable Energy
Course Taught in Diploma/Post Diploma/UG/PG level	• Power Electronics, Control System
Research Guidance	• No. of Paper published in National/International Journals/Conferences - 80 • Master - 2 • Ph.D. - 1
Project Carred out	• 23 Projects (DST, Govt. of Rajesthan
Technology Transfer	• @ International conferance at Mody University, Rajesthan
Research Publication	• 40 Papers in Scopus/SCI Journals
No of Book Published with details	• 6 Book Chaptors

Board of Governors	<ul style="list-style-type: none"> <li>• Attached as Annexure – I</li> </ul>
Frequency of meeting	<ul style="list-style-type: none"> <li>• Once in a year</li> </ul>
Organizational Chart	<ul style="list-style-type: none"> <li>• Attached as Annexure – II</li> </ul>
Student feedback mechanism on Institutional Governance / faculty performance	<ul style="list-style-type: none"> <li>• Yes</li> </ul>
Grievance redressal mechanism for faculty, staff and students	<ul style="list-style-type: none"> <li>• Yes</li> </ul>
Establishment of Anti Ragging Committee	<ul style="list-style-type: none"> <li>• Yes , Uploaded on Institution website</li> </ul>
Establishment of Grievance Redressal Committee in the Institution	<ul style="list-style-type: none"> <li>• Yes, Uploaded on Institution website</li> </ul>
Establishment of Internal Complaint Committee - ICC	<ul style="list-style-type: none"> <li>• Yes, Uploaded on Institution website</li> </ul>
Establishment of Committee for SC/ST	<ul style="list-style-type: none"> <li>• Yes, Uploaded on website</li> </ul>
Internal Quality Assurance Cell	<ul style="list-style-type: none"> <li>• Yes</li> </ul>

Name of the Department	• DEPT. OF MECHANICAL ENGG.
Course	• Mechanical Engineering
Level	• Diploma
Fee	• As per approval from Fee Fixation Committee, Govt. of Jharkhand
1 <sup>st</sup> Year of approval by the Council	• 2013
Year wise Sanctioned Intake	• 2015- 120 , 2016 - 120, 2017 - 120, 2018 - 120
Year wise Actual Admissions (Including TFW)	• 2015- 124 , 2016 - 124, 2017- 76, 2018- 82

Name of the Department	• DEPT. OF ELECTRICAL ENGG.
Course	• Electrical Engineering
Level	• Diploma
1 <sup>st</sup> Year of approval by the Council	• 2013
Year wise Sanctioned Intake	• 2015- 120 , 2016 - 120, 2017 - 120, 2018- 120
Year wise Actual Admissions (Including TFW)	• 2015- 126 , 2016 - 121, 2017 - 70, 2018 - 75
Fee	• As per approval from Fee Fixation Committee, Govt. of Jharkhand

Name of the Department	• DEPT. OF CIVIL ENGG.
Course	• Civil Engineering
Level	• Diploma
1 <sup>st</sup> Year of approval by the Council	• 2013
Year wise Sanctioned Intake	• 2015- 60 , 2016 - 60, 2017- 60 , 2018 - 60
Year wise Actual Admissions (Including TFW)	• 2015- 63 , 2016 - 62, 2017 - 61, 2018 - 50
Fee	• As per approval from Fee Fixation Committee, Govt. of Jharkhand

Name of the Department	• DEPT. OF COMPUTER SCIENCE & ENGG.
Course	• Computer Science & Engineering
Level	• Diploma
1 <sup>st</sup> Year of approval by the Council	• 2013
Year wise Sanctioned Intake	• 2015 – 60, 2016 – 60, 2017- 60 , 2018 - 60
Year wise Actual Admissions (Including TFW)	• 2015 – 60, 2016 – 55, 2017- 45 , 2018 - 53
Fee	• As per approval from Fee Fixation Committee, Govt. of Jharkhand

Name of the Department	• DEPT. OF ELECTRONICS & COMMUNICATIONS ENGG.
Course	• Electronics & Communications Engineering
Level	• Diploma
1 <sup>st</sup> Year of approval by the Council	• 2013
Year wise Sanctioned Intake	• 2015– 60, 2016 – 60, 2017- 60 , 2018 - 60
Year wise Actual Admissions (Including TFW)	• 2015 – 63, 2016 – 40, 2017- 27 , 2018 - 48
Fee	• As per approval from Fee Fixation Committee, Govt. of Jharkhand

Name and Duration of programme(s) having Twinning and Collaboration with Foreign University(s) an being run in the same campus along with status of their AICTE approval. - **NA**

## Faculty List

S.No.	Name	Designation	Date of Joining	Last Qualification
1	Dr. Neeraj Priyadarshi	Principal	8-Jul-18	Ph.D.
Mechanical				
2	Krishna Kumar Mahli	Lecturer	19-May-16	M.TECH
3	Piyush Kumar	Lecturer	31-Jul-17	B.TECH.
4	Prem Nath Verma	Lecturer	07-Jul-14	M.TECH
5	Tarun Kumar Chowdhary	Lecturer	03-Oct-17	M.TECH
6	Kinshuk Prawal	Lecturer	04-May-18	M.E.
7	Umesh Mahto	Lecturer	01-June-18	B. TECH
8	Sachin Kumar Rawani	Lecturer	03-Aug-18	B. TECH
9	Lakhendra Narain Verma	Lecturer	20-Jan-14	B. TECH
10	Arin Kumar Sinha	Lecturer	20-Jan-14	B. TECH
Electrical				
11	Vijay Kumar Mahto	Lecturer	25-May-16	B. TECH
12	Amarjeet Kumar Sharma	Lecturer	02-July-18	M.TECH
13	Jitendra Kumar Choudhary	Lecturer	18-May-17	B.E
14	Sonalika Singh	Lecturer	22-Feb-19	B. TECH
15	Nidhi Kumari	Lecturer	21-Feb-19	B. TECH
16	Purushottam Kumar	Lecturer	21-Feb-19	B.E.
17	Pooja Kumari	Lecturer	22-June-18	B. TECH
Civil				
18	AbhishekK Kumar Singh	Lecturer	12-Jul-17	B.TECH
19	Priyabrata Bhattacharyya	Lecturer	01-Jun-17	B.TECH.
20	Anuranjeet Ranjan	Lecturer	25-July-18	M.TECH
21	Rajneesh Ranjan	Lecturer	6-March-19	B. TECH
22	Faizanullah Wali	Lecturer	9-March-19	B. TECH
23	Surendra Singh	Lecturer	20-Jan-15	B. TECH
Electronics & Communication				
24	Anant Kumar Kushwaha	Lecturer	20-Nov-15	M.TECH
25	Prem Nath Suman	Lecturer	13-Aug-14	M.TECH
26	Braj Kishor Jha	Lecturer	08-SEP-17	B.TECH.
27	Neha Srivastava	Lecturer	19-Jun-17	B.TECH.
28	Gyan Prakash Ranjan	Lecturer	26-Feb-19	B.TECH
29	Chinmoyee Jha	Lecturer	7-March-19	BE
Computer Science				
30	Roshni Kumari	Lecturer	01-Jun-16	B.TECH.
31	Saurabh Kumar	Lecturer	01-Mar-16	PGDBM
32	Pinky Tirky	Lecturer	25-Apr-16	B.TECH
33	Pramod Kumar	Lecturer	01-Jul-17	M.TECH

34	Shashi Prabha	Lecturer	19-Nov-15	B.TECH
35	Shiv Sankar Yadav	Lecturer	24-Nov-15	M.TECH
36	Ritu Rani	Lecturer	07-June-18	M.TECH
37	Gaytri Kumari	Lecturer	06-June-18	B.E.

Applied Science

38	Dipendu Paramanik	Lecturer	13-Sep-17	MSC.
39	Keshari Kumar	Lecturer	01-Jul-17	MBA
40	Amit Kumar Singh	Lecturer	16-Jun-16	PGDM
41	Subhash Kumar	Lecturer	01-Jul-17	PGDBM
42	Praveen Pathak	Lecturer	01-June-18	PGDM
43	Mehpara Gauher	Lecturer	25-April-18	M.sc
44	Gurpreet Kaur	Lecturer	05-June-18	M.Sc
45	Ifat Ara	Lecturer	01-Nov-18	M.Sc
46	Nagesh Jha	Lecturer	10-Aug-18	MBA
47	Anuj Kumar	Lecturer	21-Feb-19	M.sc
48	Rahul Srivastava	Lecturer	21-Feb-19	M.sc
49	Sanjay Prasad	Lecturer	12-Feb-19	MBA
50	Rashmi Sinha	Lecturer	15-Sep-17	MBA
51	Binay Kumar Singh	Lecturer	10-June-13	M.Sc.

Admission Quota	<ul style="list-style-type: none"> <li>• 100 % - JCECE Board, Govt. of Jharkhand.</li> </ul>
Entrance Test / Admission Criteria	<ul style="list-style-type: none"> <li>• Examination conducted by JCECE Board. If Seats remain vacant, then Direct Admission as per criteria fixed by the Dept. of Higher, Technical Education &amp; Skill Development, Govt. of Jharkhand and Jharkhand University of Technology, Ranchi.</li> </ul>
Fees in Rupees	<ul style="list-style-type: none"> <li>• As per directives of Fee Fixation Committee, Govt. of Jharkhand</li> </ul>
Number of Fee Waivers offered	<ul style="list-style-type: none"> <li>• 5% of total intake (Only through JCECE Board)</li> </ul>
Admission Calendar	<ul style="list-style-type: none"> <li>• August every year</li> </ul>
PIO quota	<ul style="list-style-type: none"> <li>• No</li> </ul>

**Information of Infrastructure and other Resources Available:**

- a. Number of Classrooms and size of each – 16 classrooms of minimum size 66 Sq. M.
- b. Number of Tutorial rooms and size of each – 4 Tutorial rooms of minimum size 33 Sq. M.
- c. Number of laboratories and size of each – 28 Laboratories of minimum size 66 Sq. M.
- d. Number of Drawing halls with capacity of each – 1 Drawing hall with capacity of 60.
- e. Number of Computer Center with capacity of each – 1 Computer center with capacity of 80
- f. Central Examination Facility, Number of Rooms and capacity of each – 1 Room is for Central Examination facility as per AICTE norms
- g. Barrier free Built Environment for disabled and elderly persons – Available
- h. Occupancy Certificate – Available and Submitted to AICTE Portal
- i. Fire and Safety Certificate – Available and submitted to AICTE Portal
- j. Hostel Facilities – Not Available

**Library:**

- a. Number of Library Books: 6192
- b. Number of Titles: 1602
- c. Journals available: 15
- d. List of online Journals /International Journals subscribed: N/A

**Laboratory and Workshop:**

- a. List of Major Equipment/Facilities in each Laboratory/Workshop
- b. List of Experimental setup in each Laboratory/Workshop

**Laboratory Details - CSE Department and Common paper**

S. No.	Department & 1st year's common sub. lab	Name of Laboratory(*As per syllabus of JUT	Major Equipments
4	1st Year Common Subject Lab	Fundamental of Computer Lab	Microsoft office, internet
		Programmimg in C Lab	Turbo C
	2nd Year comp Sc. & Engg.	web page Technology Lab	Note Pad
		Object oriented programming in c++ Lab	Turbo C++
		SQL/PL SQL Lab	My SQL
		Data Structure Lab	Turbo C++
	3rd Year comp Sc. & Engg.	Java Progrmmimg Lab	blue jay java
		Network Management Administration Lab	Networking component &Devices
		Advance Java Progrmmimg Lab	Net beans/blue jay java

### Civil Engineering Lab. Branch

S.No.	Department & 1 <sup>st</sup> year's common sub. lab	Name of Laboratory(*As per syllabus of JUT)	Major Equipments
1	CIVIL	Surveying and advance surveying	Theodolite, Tachymeter, Total station, Alidade, Alidade table, Plane table ,Dumpy level, Tape (surveying), Measuring tape, Pole (surveying), Surveyor's chain, Engineer's chain, Level staff, Ranging rod , Tripod , Prismatic compass
		Auto- Cad Lab	Computer
		Concrete Lab	Loss angles abrasion test machine, compressing testing machine, slump testing equipments, etc
		Geo –Technical Lab	Sieve, Pycnometer, core cutter, using tri-axial shear test. Equipment, CBR etc.
		Hydraulics Lab,	Manometer ,Notch, U-Tube etc.
		Transportation Lab	Standard temperature and humidity curing box, Sieve shaker, Proctor Moulds ,C.B.R. Moulds, Aggregate Impact Test Apparatus, Plate Bearing Test Equipment, Los Angeles abrasion tester, Aggregate impact tester

### **Electrical Laboratory Details :**

S.No.	Department & 1 <sup>st</sup> year's common sub. lab	Name of Laboratory(*As per syllabus of JUT)	Major Equipments
3.	Electrical	Basic Electrical Technology Lab	Basic theorem kit, Energy meter trainer kit, Single phase transformer trainer kit, incandescent lamp with kit
		Network Theory Lab	Basic theorem kit, CRO
		Electrical Measurement Lab	Ammeter, Voltmeter, Wattmeter, Megger, Kelvin double bridge trainer kit, Maxwell bridge trainer kit
		Electrical Machine-I Lab	D.C. Shunt motor, D.C. Series motor, single phase transformer, Three phase transformer, 3-point starter, 4-point starter
		Electrical Machine –II (A.C. Machine) Lab	Three phase induction motor, Three phase synchronous motor, Three phase alternator, D.C. Motor
		Maintenance And Repairs Of Electrical Equipments	Electric iron, Electric fan with regulator, Air cooler, DVD Player, Electric Oven

		Testing & Maintenance Of Electrical Machines	Single phase induction motor, Single phase transformer, D.C. Series motor, D.C. Shunt motor,
		Power Electronics Lab	SCR (Half and full wave Converter), Series inverter, Parallel inverter, SCR Characteristics Kit, Chopper
		Electrical Workshop	Single phase Energy meter, Wiring accessories (All).
		Switchgear And Protection	Over current relay Testing Kit, Three phase induction motor with DOL Starter.

### ECE Laboratory Details:

S.No.	Department & 1 <sup>st</sup> year's common sub. lab	Name of Laboratory(*As per syllabus of JUT)	Major Equipments
5	Electronics & Communication	Elect. & Electronics Measurement Lab	Multimeter, CRO, Voltmeter, Ammeter, Wien Bridge Trainer, Anderson Bridge Trainer, Temperature sensor Trainer, LVDT Trainer, Strain Gauge Trainer, Stroboscope, Photodiodes Trainer, Transducer Trainer kits.
		Electronic Devices and Circuit Lab	Function Generator, CRO, PN Junction diode Trainer, Zener Diode Trainer, Single Stage amplifier Trainer, FET Trainer, BJT for CB,CC, CE Trainer, Rectifiers Trainer, Filter network Trainer, Bread boards, Discrete passive & active components.
		Communication System Lab	TDM Trainer, Amplitude Modulation & Demodulation Trainer, FM Modulator & Demodulator Trainer, PCM Modulator & Demodulator Trainer, Delta Modulator & Demodulator Trainer, BPSK Trainer, FSK, PSK, DPSK Trainer kits.
		Control System Lab	Transfer function of 1 <sup>st</sup> & 2 <sup>nd</sup> order system Trainer, Passive elements measurement using Bridge networks, Transducers Trainer, P, PI,PID Controllers Trainer kit, Breadboards, Components.
		Digital & Microprocessor Lab	Microprocessor 8085 kit, Microprocessor 8086 kits, Stepper motor, Keyboard, Display experiments, Serial & Parallel Interface Experiments.
		Electronics Workshop	Resistances various types, Capacitors, Inductors, Diodes, Transistors, SCRs, ICs, Photodiodes, Phototransistor, LED, LDR, Potentiometers, CRO, Soldering & De soldering sets, PCBs, LED, Opto couplers, SMPS with ICs, DVD Player, LCD TV & LED TV.
		Microcontrollers	Microcontroller 8051 kits, 8155 Interfacing, 8255 Interfacing, DAC kits, A to D Converter Interfacing, Stepper motor control, Seven Segment codes, CRO, Square wave generator.
		Digital Communication Lab	CRO, Function Generator, PAM kit, PWM Trainer, PCM Modulator & Demodulator Trainer, Delta Modulator & Demodulator Trainer, ASK,FSK, PSK Trainer kits, QAM Modulator & Demodulator Trainer kits.
		Industrial	DIAC Characteristics kit, TRAIC Trainer, SCR Characteristics

		Electronics Lab	kit, IGBT Trainer kit, UJT Trainer kit, SCR Phase Control kit.
		Audio Video Engineering Lab	LCD TV, LED TV, Speakers, Woofer, Squawker, Twitter, CD Player, Chroma Section of TV Receiver, Multimeter, LCR meter, Active and Passive Components, Resistors, Inductors, Capacitors, Transformer, Tester, Diodes, VDR, Photodiode, LDR, 7-Segment Display, FETs, MOSFET, SCR, TRAIC, Power Supply Circuit, Probes, ICs, IC Tester, Computer Mother Boards, Switches, Fuses, IC TTL, IC Sockets, Solder Materials, De solder, Thyristors, Cutters, Spanners, Screw Drivers, Inspection Mirror, Magnifying Glass, Contact Cleaner, Cleaners Lubricants.
		Control Systems Lab	DC Position, AC Position Control System kit, First order RC Circuit kit, RLC Second order circuit kit, PI Controller kit, PID Controller kits, Breadboard, Multimeter, Components.
		Advanced Communication Lab	Whole Microwave Test Bench Setup with Reflex Klystron, E-Plane, H-Plane, Magic Tee, Isolators, Circulator, MHD Couplers, FOC Trainers, LASER Study Trainer, LED, Photodiode Trainer kit.
		Embedded Systems Lab	Microcontroller's 8051 Trainer kit, ADC, DAC Interfacings, Stepper Motor Control Interfacing, LEDs Interfacing, Display Interfacings, PWM Waveform Generator Interfacings, Display Digital outputs of Analog Signals Interfacings, CRO.

### Mechanical Laboratory Details:

S.No.	Department & 1 <sup>st</sup> year's common sub. lab	Name of Laboratory(*As per syllabus of JUT)	Major Equipments
2	Mechanical	Engg. Mechanics	Jib crane Machine, Micrometer, Vernier
		Strength of Material	UTM, Hardness Tester, Impact Tester
		Manufacturing Technology	Lathe, Milling, Drilling, Wooden saw machine
		Fluid Mechanics	Pelton Wheel, Bernoulli's, Notch, Venturimeter Apparatus
		Theory of Machines	Quick return mechanism of Shaper Machine
		Thermal Engg.	Models of Cochran, Locomotive, Babcock Wilcox, Lancashire boilers, compressor test rig
		Advance Manufacturing Process	CNC machine
		Power Engg.	Petrol Engine Test Rig, Compressor Test Rig
		Measurement & Control	Vernier Caliper, Screw Gauge, Profilometer, Spirit Level
		Metrology & Quality Control	Vernier Caliper, Screw Gauge, Profilometer, Spirit Level

		Automobile Engg. (Ele.)	Vehicle Chassis, Petrol Engine Test Rig, Vehicle parts
		Design of Machine Elements	Joints (Universal, Cotter, Knuckle), Keys
		Industrial Fluid Power	Shaper Machine, UTM, Vehicle Chassis
		Refrigeration & Air Conditioning (Ele.)	Air Conditioning test rig, Vapor Compression Refrigeration Test Rig, Refrigerator

**Computing Facilities:**

- a. Internet Bandwidth – 100 mbps
- b. Number and configuration of system – 212
- c. Total Number of system connected by LAN – 212
- d. Total Number of system connected by WAN – 100
- e. Major software packages available – 23 Software (Oracle, Visual Studio.net, MS Office, MS Visio, MS Project, JAVA – ZEK – 7 etc.)
- f. Special purpose facilities available – Yes
- g. Innovation cell – Yes
- h. Social Media Cell – Yes
- i. Compliance of NAD – Not applicable

**List of Facilities available:**

- a. Games and Sports facilities – Yes
- b. Extra Curricular activities – Yes
- c. Soft skill Development Facilities - Yes

**Teaching Learning Process:**

- a. Curricula and Syllabus for each of the programmes as approved by the University - YES
- b. Academic Calendar of the University – Available on University website
- c. Academic time table with the name of the faculty members handling the course – Available on Institution Notice Board

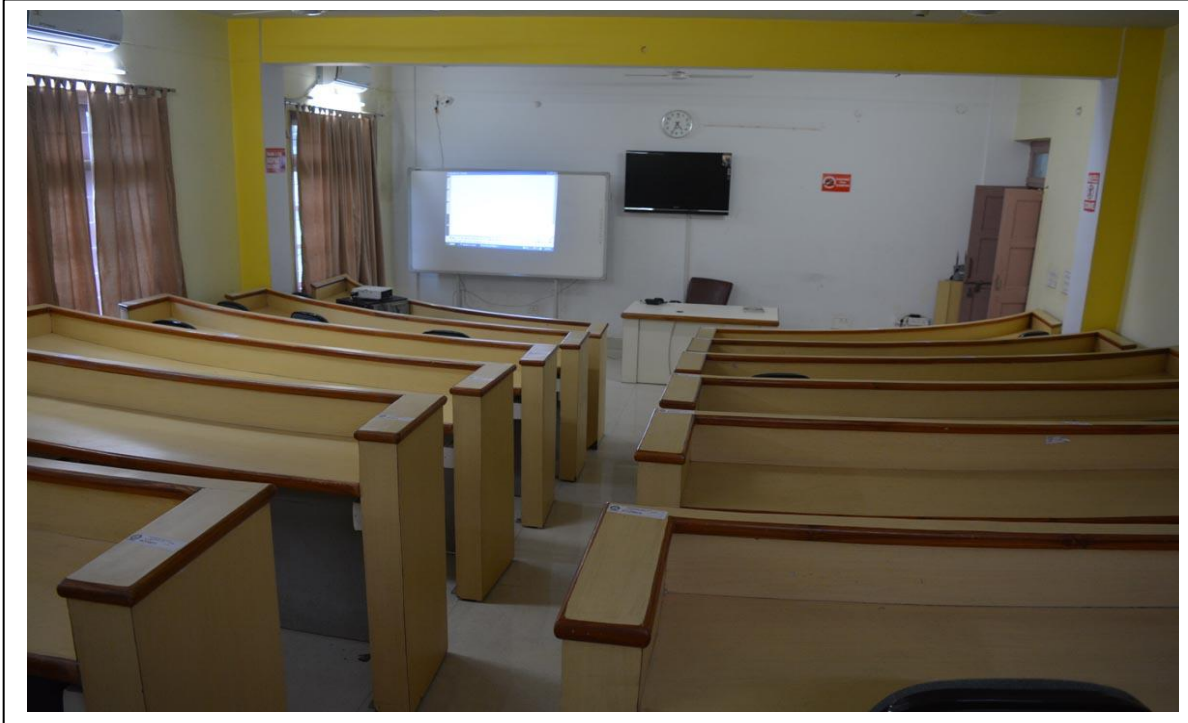
**LoA and subsequent EoA till the current Academic year. – Uploaded on Institution website**

INFRASTRUCTURE INFORMATION

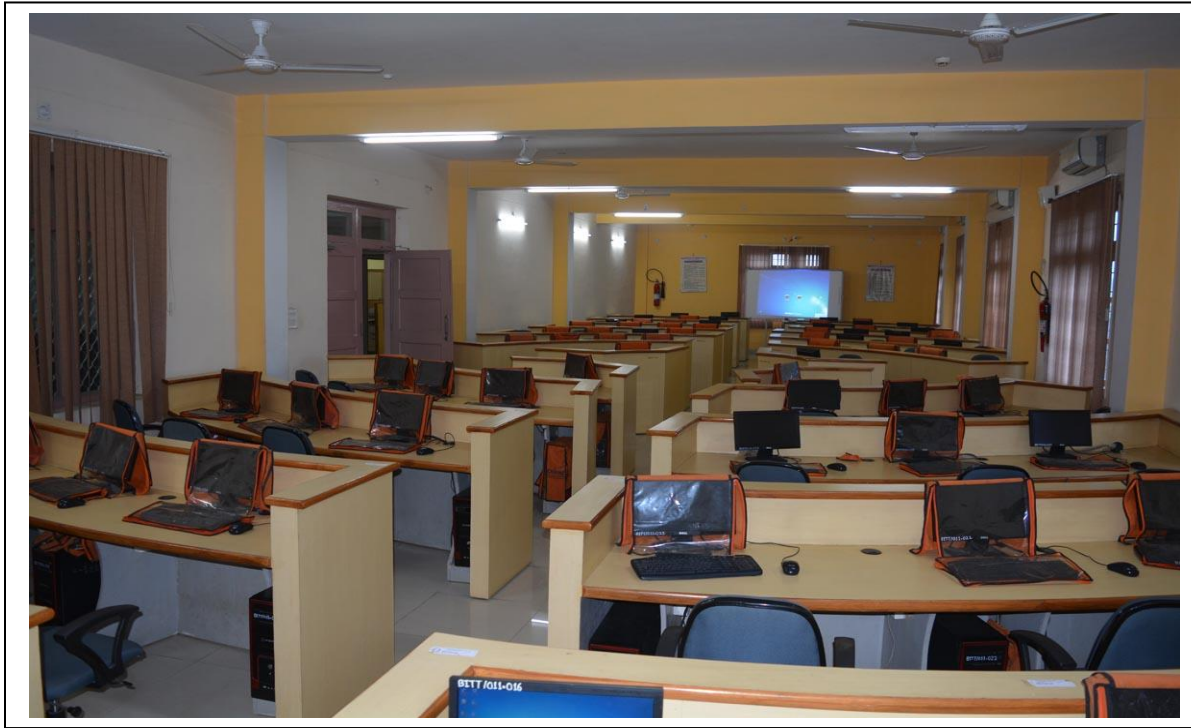
Building



## Smart Class Room



# Computer Lab



CNC Lab



Class Room



## Departments Labs











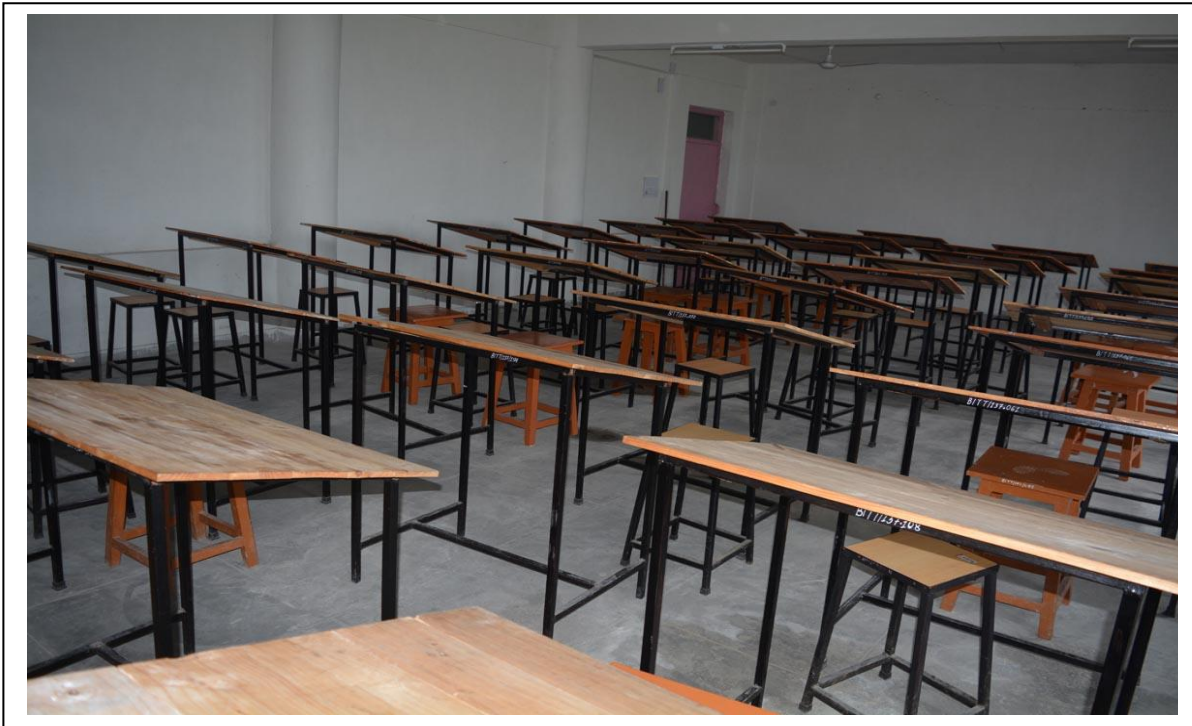








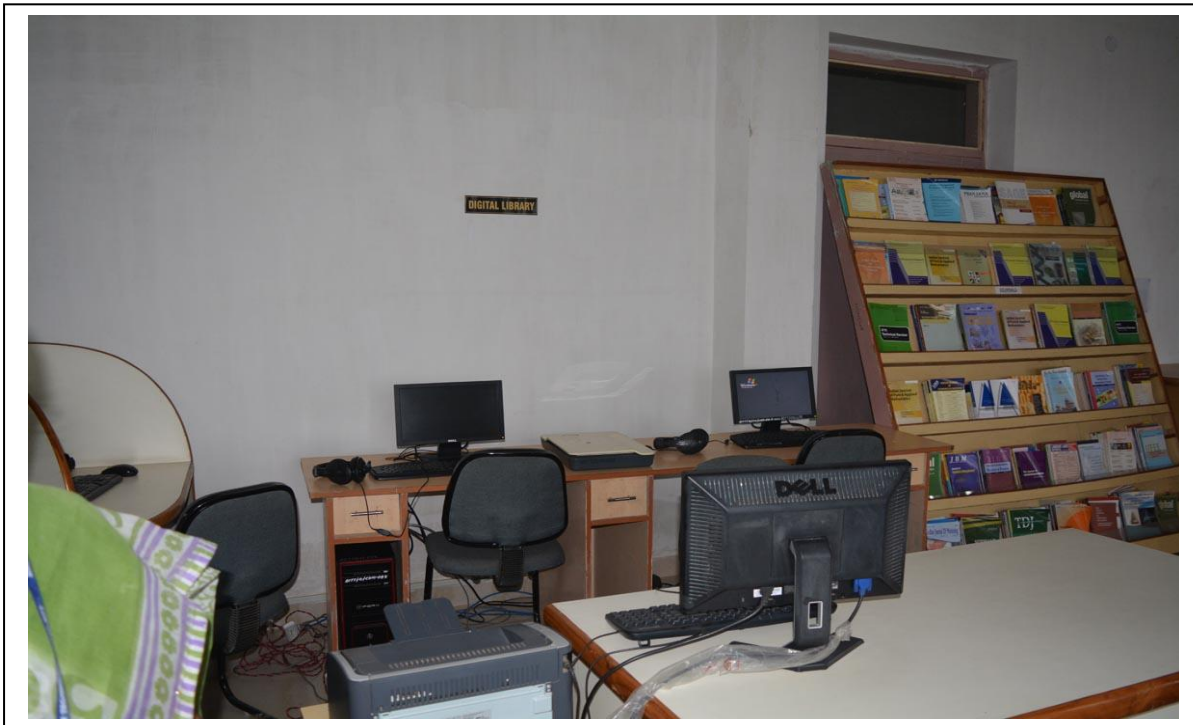
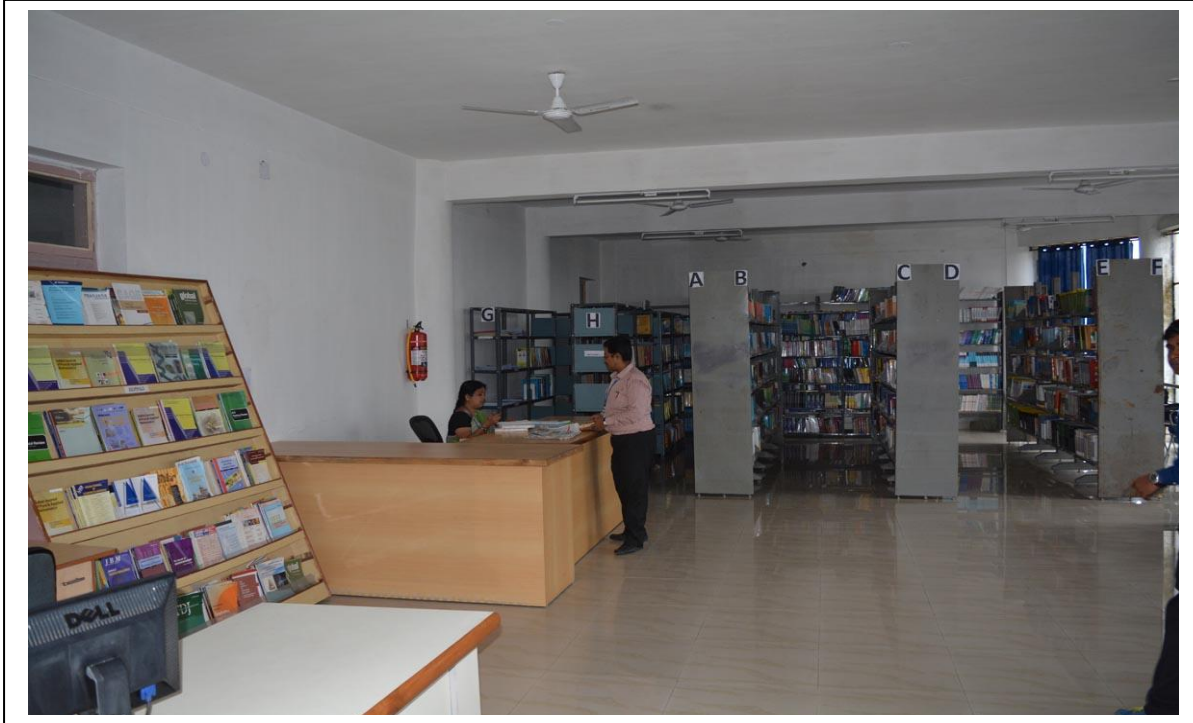
# Drawing Hall



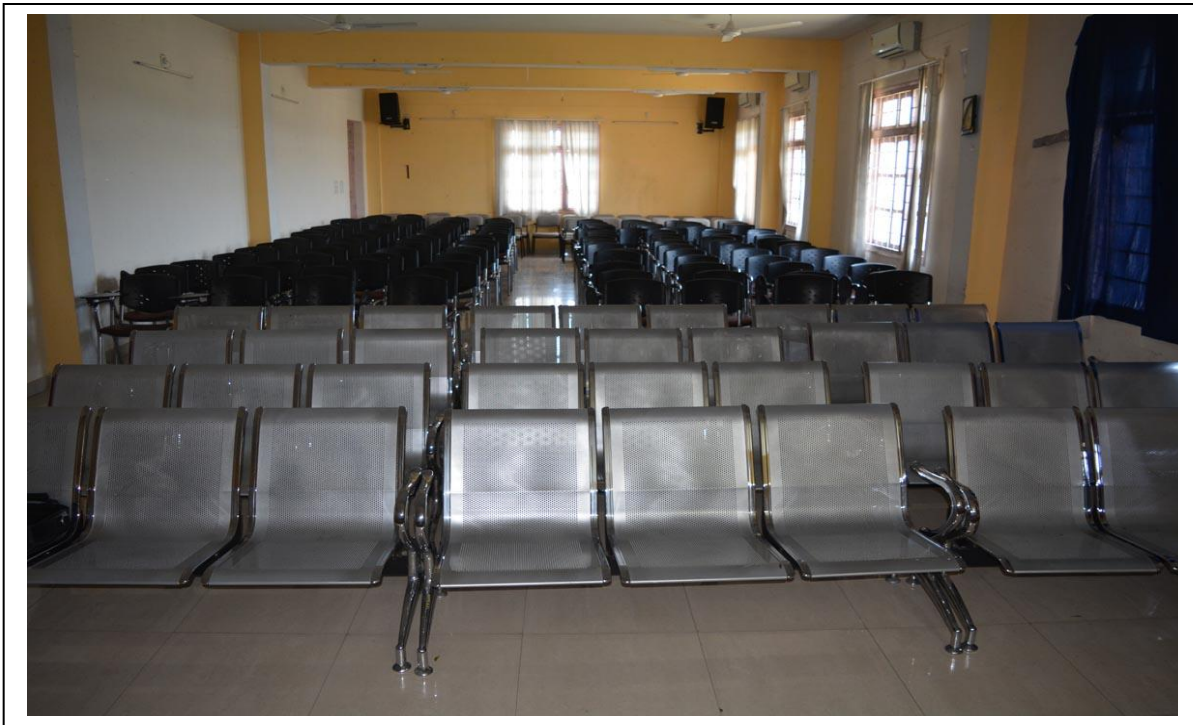
# Language Lab



# Library



# Seminar Hall



Cafeteria



Common Room



## ANNEXURE – I (Board of Governors)

S. No.	Name	Designation
1.	<b>Dr. Ranjeet Kumar</b> Managing Director & Chairman, BITT Group of Institutions	Chairman
2.	<b>Prof. (Dr.) A. N. Jha</b> Director, BIT Extension Center, Lalpur, Ranchi	Member
3.	<b>Dr. A. N. Thakur</b> Professor & Head, Dept. of Electrical Engineering NIT Jamshedpur	Member
4.	<b>Dr. P. R. Thapra</b> Professor, Dept. of Electronics & Communication Engineering BIT Mesra	Member
5.	<b>Dr. S. Choubey</b> Group Director, BITT	Member
6.	<b>Mr. Pramod Kumar</b> M.Tech (Computer) Chief Advisor, BITT	Member
7.	<b>Mr. P. N. Verma</b> M.Tech (Mechanical) Training & Placement Cell Head & Ex-Principal, BITT Polytechnic	Member
8.	<b>Director (Technical Education)</b> Dept. of Higher, Technical Education & Skill Development, Govt. of Jharkhand	Member (Ex-officio)
9.	Nominee of Jharkhand University of Technology, Ranchi	Member (Ex-officio)
10.	Industrialist/Technologist/Educationist nominated by the State Govt.	Member
11.	<b>Dr. Neeraj Priyadarshi</b> PhD (Electrical) Principal, BITT Polytechnic	Member Secretary

# ANNEXURE – II (Organizational Chart)

## BITT POLYTECHNIC Getlatu, Ranchi-835217

### ORGANISATION CHART

