



Yearly Status Report - 2018-2019

Part A

Data of the Institution

1. Name of the Institution	BIRLA INSTITUTE OF TECHNOLOGY
Name of the head of the Institution	Dr. M. K. Mishra
Designation	Vice Chancellor
Does the Institution function from own campus	Yes
Phone no/Alternate Phone no.	+916512275402
Mobile no.	9931577628
Registered Email	vc@bitmesra.ac.in
Alternate Email	registrar@bitmesra.ac.in
Address	BIT Mesra
City/Town	Ranchi
State/UT	Jharkhand
Pincode	835215
2. Institutional Status	

University	Deemed
Type of Institution	Co-education
Location	Rural
Financial Status	private
Name of the IQAC co-ordinator/Director	Prof. Sudip Das
Phone no/Alternate Phone no.	+916512276052
Mobile no.	9431178604
Registered Email	dir.iqac@bitmesra.ac.in
Alternate Email	sudipdas@bitmesra.ac.in

3. Website Address

Web-link of the AQAR: (Previous Academic Year)	https://www.bitmesra.ac.in/iqac/page?page=iqac&pid=170
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4. Whether Academic Calendar prepared during the year

Yes

if yes,whether it is uploaded in the institutional website:
Weblink :

<https://bitmesra.ac.in/UploadedDocuments/admin/tt/files/Academic%20Calender.pdf>

5. Accreditation Details

Cycle	Grade	CGPA	Year of Accreditation	Validity	
				Period From	Period To
1	B+	78.25	2003	16-Sep-2003	15-Sep-2008

6. Date of Establishment of IQAC

22-Sep-2010

7. Internal Quality Assurance System

Quality initiatives by IQAC during the year for promoting quality culture		
Item /Title of the quality initiative by IQAC	Date & Duration	Number of participants/ beneficiaries
PG NBA Accreditation	01-Jul-2018 730	8
UG NBA Accreditation	01-Jul-2018	1

	1095	
NIRF	08-Apr-2019 365	6
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8. Provide the list of Special Status conferred by Central/ State Government-UGC/CSIR/DST/DBT/ICMR/TEQIP/World Bank/CPE of UGC etc.

Institution/Department/Faculty	Scheme	Funding Agency	Year of award with duration	Amount
Institute	TEQIPIII	NPIU MHRD	2017 1095	150000000
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9. Whether composition of IQAC as per latest NAAC guidelines:

Yes

Upload latest notification of formation of IQAC

[View File](#)

10. Number of IQAC meetings held during the year :

5

The minutes of IQAC meeting and compliances to the decisions have been uploaded on the institutional website

Yes

Upload the minutes of meeting and action taken report

[View File](#)

11. Whether IQAC received funding from any of the funding agency to support its activities during the year?

No

12. Significant contributions made by IQAC during the current year(maximum five bullets)

Ranking and ratings Accreditation MoU's UG/PG Ordinance CBCS Curriculum Course revisions

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13. Plan of action chalked out by the IQAC in the beginning of the academic year towards Quality Enhancement and outcome achieved by the end of the academic year

Plan of Action	Achivements/Outcomes
4) Course revisions	4) Majority of courses have been revised
3) CBCS Implementation	3) Implemented from MO 2018

2) Accreditation	2) NBA accreditation to 1 UG and 8 PG Programs
1) Ranking and rating	1) NIRF Ranking, Engineering: 33, Pharmacy: 11, Management: 61, Architecture: 10, Overall : 85, University : 59
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14. Whether AQAR was placed before statutory body ?	No
15. Whether NAAC/or any other accredited body(s) visited IQAC or interacted with it to assess the functioning ?	No
16. Whether institutional data submitted to AISHE:	Yes
Year of Submission	2019
Date of Submission	08-Feb-2019
17. Does the Institution have Management Information System ?	Yes
If yes, give a brief description and a list of modules currently operational (maximum 500 words)	<p>The management information system at BIT Mesra has been in force since 2011 with three modules implemented for the purpose of proper record keeping and smooth functioning of different sections. All the three modules work independently. Osprey Technology from Kolkata provides the three different modules which are listed below</p> <p>1) Administration 2) Finance and Accounts 3) Student Admission and support.</p> <p>Examination section uses the ERP based software from BIRLASOFT for 1) student enrollment, 2) semester registration, 3) issuance of student admit card and 4) result processing. The integration of IT with centralized functioning of the overall exam process improves the efficiency, reliability, transparency and accuracy of examination system. The Training and Placement office also uses a separate MIS software procured from ELEMENT94, Noida to manage the activities of placements.</p>

Part B

CRITERION I – CURRICULAR ASPECTS

1.1 – Curriculum Design and Development

1.1.1 – Programmes for which syllabus revision was carried out during the Academic year

Name of Programme	Programme Code	Programme Specialization	Date of Revision
BArch	BA0101	Bachelor of Architecture	01/07/2018
MPlan	MU0101	Master of Urban Planning	01/07/2018
Mtech	MT0102	M.Tech. (Biotechnology)	01/07/2018
MSc	MS0102	M.Sc. (Biotechnology)	01/07/2018
BTech	BT0102	B.E. / B.Tech. (Biotechnology)	01/07/2018
BTech	BT0103	B.Tech. (Chemical Engineering)	01/07/2018
Integrated(PG)	MS0103	IMSc (Food Technology)	01/07/2018
Integrated(PG)	MS0204	IMSc (Chemistry)	01/07/2018
MSc	MS0104	MSc (Chemistry)	01/07/2018
BTech	BT0105	B.Tech. (Civil Engineering)	01/07/2018

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1.1.2 – Programmes/ courses focussed on employability/ entrepreneurship/ skill development during the Academic year

Programme with Code	Programme Specialization	Date of Introduction	Course with Code	Date of Introduction
Null	Null	Null	AR101-PRINCIPLES OF ARCHITECTURE	01/07/2018

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1.2 – Academic Flexibility

1.2.1 – New programmes/courses introduced during the Academic year

Programme/Course	Programme Specialization	Dates of Introduction
MPlan	N/A	01/07/2018
BArch	N/A	01/07/2018

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1.2.2 – Programmes in which Choice Based Credit System (CBCS)/Elective Course System implemented at the University level during the Academic year.

Name of programmes adopting CBCS	Programme Specialization	Date of implementation of CBCS/Elective Course System
Mtech	Information Technology	02/07/2018
Mtech	Information Security	02/07/2018
MCA	Null	02/07/2018
Mtech	Power System	02/07/2018

Mtech	Control System	02/07/2018
Mtech	Power Electronics	02/07/2018
Mtech	ECE (Instrumentation and Control)	02/07/2018
Mtech	ECE (Microwave)	02/07/2018
Mtech	ECE (Wireless Communications)	02/07/2018
MBA	Null	02/07/2018
MSc	Mathematics	02/07/2018
Integrated(PG)	IMSC (Mathematics & Computing)	02/07/2018
Mtech	Mechanical Engg (Energy Technology)	02/07/2018
Mtech	Mechanical Engg (Design of Mechanical Equipment)	02/07/2018
Mtech	Mechanical Engg (Computer Aided Analysis & Design)	02/07/2018
Mtech	Mechanical Engg (Heat Power)	02/07/2018
MSc	Physics	02/07/2018
Integrated(PG)	IMSc (Physics)	02/07/2018
Mtech	Automated Manufacturing Systems	02/07/2018
Mtech	Remote Sensing	02/07/2018
MSc	Geoinformatics	02/07/2018
Mtech	Space Engineering & Rocketry (Rocket Propulsion)	02/07/2018
Mtech	Space Engineering & Rocketry (Aerodynamics)	02/07/2018
BArch	Null	02/07/2018
BTech	Biotechnology	02/07/2018
BTech	Chemical Engineering	02/07/2018
BTech	Chemical Engg (Plastic & Polymer)	02/07/2018
BTech	Civil Engineering	02/07/2018
BTech	Computer Science and Engineering	02/07/2018
BTech	Information Technology	02/07/2018
BTech	Electrical and Electronics Engineering	02/07/2018
BTech	Electronics and Communication Engineering	02/07/2018
BHMCT	Null	02/07/2018

BTech	Mechanical Engineering	02/07/2018
BTech	Production Engineering	02/07/2018
MPlan	Master of Urban Planning	02/07/2018
Mtech	Biotechnology	02/07/2018
MSc	Biotechnology	02/07/2018
Mtech	Chemical Engineering	02/07/2018
Integrated(PG)	IMSc (Food Technology))	02/07/2018
Integrated(PG)	IMSc (Chemistry)	02/07/2018
PhD or DPhil	Engineering	02/07/2018
PhD or DPhil	Technology	02/07/2018
PhD or DPhil	Architecture	02/07/2018
PhD or DPhil	Pharmaceutical Sciences & Technology	02/07/2018
PhD or DPhil	Science	02/07/2018
PhD or DPhil	Management	02/07/2018

1.3 – Curriculum Enrichment

1.3.1 – Value-added courses imparting transferable and life skills offered during the year

Value Added Courses	Date of Introduction	Number of Students Enrolled
(indian classical)	01/07/2018	33
(western)	01/07/2018	29
guitar workshop	01/07/2018	85
drums workshop	01/07/2018	32
keyboard workshop	01/07/2018	15
flute workshop	01/07/2018	12
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1.3.2 – Field Projects / Internships under taken during the year

Project/Programme Title	Programme Specialization	No. of students enrolled for Field Projects / Internships
BHMCT	BH0109 B.H.M.C.T.	35
BArch	Bachelor of Architecture	40
MPlan	Master of Urban Planning	4
BE	BE CSE	1
BE	BE IT	2
MCA	MCA	9
Mtech	M.Tech(Remote Sensing)	18
MBA	MBA	95
Integrated(PG)	IM.Sc Chemistry	1
BE	UG - CHEMICAL	10

ENGINEERING (BE)[View File](#)**1.4 – Feedback System**

1.4.1 – Whether structured feedback received from all the stakeholders.

Students	Yes
Teachers	Yes
Employers	Yes
Alumni	Yes
Parents	Yes

1.4.2 – How the feedback obtained is being analyzed and utilized for overall development of the institution?
(maximum 500 words)**Feedback Obtained**

The feedback is collected systematically from all stakeholders. The feedback mechanism is formulated to get feedback on the courses, syllabus, programmes, teachers, overall system, etc. These are collected either through soft or hard copy format. Collected feedbacks are analysed by the respective heads of concerned departments and after a due consideration in departmental faculty meetings, they are communicated to the Dean Academic Program to be implemented through Board of Studies and Academic Council, if found feasible. The feedback on teachers are being discussed and deliberated upon with the respective teachers by the head of concerned department and accordingly faculty members are advised to make necessary changes and improve. The analysis of the course and program feedback helps the Institute to consider any revision of courses, addition/subtraction of elective courses, change in program structure, etc. The exit feedback gives a holistic view of the Institute as a whole and the scope of further improvements and developments in major areas such as administration, hostels, ambience, library, internet, infrastructures, etc. These feedbacks are shared with the concerned officers to take an action on particular matters of concern.

CRITERION II – TEACHING- LEARNING AND EVALUATION**2.1 – Student Enrolment and Profile**

2.1.1 – Demand Ratio during the year

Name of the Programme	Programme Specialization	Number of seats available	Number of Application received	Students Enrolled
MBA	Nil	120	514	95
MCA	Nil	60	864	52

[View File](#)**2.2 – Catering to Student Diversity**

2.2.1 – Student - Full time teacher ratio (current year data)

Year	Number of students enrolled in the institution (UG)	Number of students enrolled in the institution (PG)	Number of fulltime teachers available in the institution teaching only UG courses	Number of fulltime teachers available in the institution teaching only PG courses	Number of teachers teaching both UG and PG courses
2018	799	551	67	26	181

2.3 – Teaching - Learning Process

2.3.1 – Percentage of teachers using ICT for effective teaching with Learning Management Systems (LMS), E-learning resources etc. (current year data)

Number of Teachers on Roll	Number of teachers using ICT (LMS, e-Resources)	ICT Tools and resources available	Number of ICT enabled Classrooms	Number of smart classrooms	E-resources and techniques used
274	245	Nil	60	10	Nil

[View File of ICT Tools and resources](#)

[View File of E-resources and techniques used](#)

2.3.2 – Students mentoring system available in the institution? Give details. (maximum 500 words)

Students during their academic Journey in the institution, need mentoring / guidance from their faculty member/s. Students mentoring needs may arise from very simple matters like selection of electives, registration to respective credits or more complicated like career counselling, selection of open electives / opting for minors in our recently introduced CBCS system, registration to extra or less credits etc. Each faculty member is the mentor of a group of 20 to 25 students. First year students have mentors from the departments teaching Basic Engineering Science and second, third, fourth year students have mentors from the parent department. Departmental faculties continue to be mentors for the same group of students till their graduation. The mentor performs the following functions, however these are not limited to this list. A mentor can always do more for the benefit of the students

1. Meet the group of students at least twice a month
2. Continuously monitor, counsel, guide and motivate the students in all academic matters
3. Regularly monitor and advice regarding attendance and performance in various institute assessment examination.
4. Contact parents/guardians if situation demands e.g. academic irregularities, negative behavioural changes and interpersonal relations, detrimental activities etc
5. Advise students in their career development/professional guidance
6. Advise students regarding choice of electives, project, summer training etc
7. Advise students regarding option of minor programme under CBCS
8. To guide the students in taking up extra / less academic load and professional activities for value addition as a member of the society
9. Intimate HOD and suggest if any administrative action is called for
10. Keep contact with the students even after their graduation to help Institute Alumni Cell

Number of students enrolled in the institution	Number of fulltime teachers	Mentor : Mentee Ratio
4911	274	1:18

2.4 – Teacher Profile and Quality

2.4.1 – Number of full time teachers appointed during the year

No. of sanctioned positions	No. of filled positions	Vacant positions	Positions filled during the current year	No. of faculty with Ph.D
335	274	61	4	238

2.4.2 – Honours and recognition received by teachers (received awards, recognition, fellowships at State, National, International level from Government, recognised bodies during the year)

Year of Award	Name of full time teachers receiving awards from state level, national level, international level	Designation	Name of the award, fellowship, received from Government or recognized bodies
2018	Dr. Kaushik Kumar	Associate Professor	Best paper award
2018	Dr. Shelly Biswas	Assistant Professor	Outstanding Contribution in Reviewing, Fuel (Elsevier)
2018	Dr. Rajiv Kumar	Assistant	Jury Member

		Professor	Inspire Award Manak Scheme 2018-19
2019	Dr. Sudip Das	Professor	Eminent Engineering Personality Award 2018
2019	INDRAJIT ROY	Associate Professor	Selected by DAAD-RISE Internship to guide a german student
2019	KIRTI AVISHEK	Assistant Professor	Indo Global Excellence Award in Environmental Science by IGCCIA, Pune
2019	Abhinav Kumar Shandilya	Assistant Professor	Certificate of Excellence for Foundation Program in ICT for education and Pedagogy for Online and Blended Teaching
2019	Dr Mahendra Pratap Chopra	Assistant Professor	Jharkhand Pharma Achievement Award 2018 by Indian Pharmaceutical Graduates Association, Jharkhand
2019	Dr. R. N. Gupta	Professor	Pharmaceutical Scientist of the Year Award by Indian Association of Pharmaceutical Scientist Technologist, IPA President Oration Award 2018 by Indian Pharmaceutical Association
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2.5 – Evaluation Process and Reforms

2.5.1 – Number of days from the date of semester-end/ year- end examination till the declaration of results during the year

Programme Name	Programme Code	Semester/ year	Last date of the last semester-end/ year-end examination	Date of declaration of results of semester-end/ year- end examination
BHMCT	BH0109	SP-19	09/05/2019	22/05/2019
Mtech	MT0102	SP-19	09/05/2019	22/05/2019

BE	BE0102	SP-19	09/05/2019	22/05/2019
MPlan	MU0101	SP-19	09/05/2019	22/05/2019
BArch	BA0101	SP-19	09/05/2019	22/05/2019
MBA	MB0110	SP-19	09/05/2019	22/05/2019
BPharm	BP0113	SP-19	09/05/2019	22/05/2019
MPharm	MP0113	SP-19	09/05/2019	22/05/2019
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2.5.2 – Average percentage of Student complaints/grievances about evaluation against total number appeared in the examinations during the year

Number of complaints or grievances about evaluation	Total number of students appeared in the examination	Percentage
44	4549	0.97%

2.6 – Student Performance and Learning Outcomes

2.6.1 – Program outcomes, program specific outcomes and course outcomes for all programs offered by the institution are stated and displayed in website of the institution (to provide the weblink)

https://bitmesra.ac.in/Visit_Department_Page?cid=1&deptid=49&pid=76

2.6.2 – Pass percentage of students

Programme Code	Programme Name	Programme Specialization	Number of students appeared in the final year examination	Number of students passed in final year examination	Pass Percentage
BE0203	BE	Nil	35	28	80.0%
BE0103	BE	Nil	43	40	93.0%
MS0102	MSc	Nil	20	18	90.0%
MT0102	Mtech	Nil	5	5	100.0%
BE0102	BE	Nil	35	28	80.0%
MU0101	MPlan	Nil	6	6	100.0%
BA0101	BArch	Nil	40	23	57.5%
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2.7 – Student Satisfaction Survey

2.7.1 – Student Satisfaction Survey (SSS) on overall institutional performance (Institution may design the questionnaire) (results and details be provided as weblink)

<https://www.bitmesra.ac.in/UploadedDocuments/admnaac/files/Exit%20Feedback%202019%20Graduated%20Students.pdf>

CRITERION III – RESEARCH, INNOVATIONS AND EXTENSION

3.1 – Promotion of Research and Facilities

3.1.1 – Teachers awarded National/International fellowship for advanced studies/ research during the year

Type	Name of the teacher awarded the fellowship	Name of the award	Date of award	Awarding agency
International	Dr. Dinesh Prasad	Visiting professor under	06/09/2018	University of Padova, Italy

		Erasmus plus program at DAFNAE, University of Padova, Italy		
International	S. K. Swain	KINGS Fellowship for the PhD program in the School of Electronics Engineering	26/02/2019	Kyungpook National University, South Korea
International	Deepak Kumar	Postdoctoral research in Professor Matti Lahtonens research group (Power Systems and High Voltage Engineering)	31/12/2018	Aalto University, Denmark
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3.1.2 – Number of JRFs, SRFs, Post Doctoral Fellows, Research Associates and other fellows in the Institution enrolled during the year

Name of Research fellowship	Duration of the fellowship	Funding Agency
Project Fellowship (Project Fellow)	01	Kagoshima University sponsored
Project Fellowship (Research Associates - I)	03	ICMR, New Delhi sponsored
Project Fellowship (JRF)	03	DRDO sponsored
Project Fellowship (JRF)	01	MoES sponsored
Project Fellowship (JRF)	01	SERB sponsored
Project Fellowship (JRF)	02	CSIR sponsored
Project Fellowship (JRF)	03	SERB, DST sponsored
Project Fellowship (JRF)	01	MoEFCC sponsored RD project
Project Fellowship (Traineeship)	01	DBT, BTISNet, GOI, New Delhi sponsored
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3.2 – Resource Mobilization for Research

3.2.1 – Research funds sanctioned and received from various agencies, industry and other organisations

Nature of the Project	Duration	Name of the funding agency	Total grant sanctioned	Amount received during the year
Students Research	01	INSTITUTE PROJECT	3.5	3.5

Projects (Other than compulsory by the University)				
Projects sponsored by the University	02	INSTITUTE (SEED MONEY SCHEME)	2	2
Industry sponsored Projects	01	SMC Pneumatics	2.35	2.35
Minor Projects	3	SAC-ISRO	13.44	7.62
Minor Projects	3	GOI	8	6
Major Projects	3	SERB-DST	31.2	2.5
Major Projects	3	SERB-DST	55.81	40.6
Major Projects	3	BTISNet, DBT, Govt. of India	106	6
Major Projects	3	CMPDI	75.3	40
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3.3 – Innovation Ecosystem

3.3.1 – Workshops/Seminars Conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative practices during the year

Title of workshop/seminar	Name of the Dept.	Date
Bamboo Construction Workshop	Architecture	31/08/2018
GRIHA Workshop	Architecture	29/10/2018
Hands on Workshop on Bricks Arches	Architecture	30/03/2019
Unravelling of long noncoding RNA in cancer	Bioengineering	26/07/2018
One day Industry-Academia Interaction on Coal mining and Sustainable Environment	Civil and Environmental Engineering	15/03/2019
Transforming communities through sustainable Tourism in and around Jharkhand - Trends and Challenges	Hotel Management and Catering Technology	15/02/2018
AICTE-QIP: Innovations and Challenges in Newer Drug Delivery Systems	Pharmaceutical Sciences and Technology	30/11/2018
AICTE-QIP: Cutting Edge Emerging Technologies in Pharamceutical Education	Pharmaceutical Sciences and Technology	11/01/2019

3.4 – Research Publications and Awards**3.4.1 – Ph. Ds awarded during the year**

Name of the Department	Number of PhD's Awarded
Mathematics	2
Mechanical Engineering	3
Pharmaceutical Sciences Technology	27
Physics	6
Production Engineering	2
Remote Sensing	6
Space Engineering Rocketry	3
Architecture	2
Bio-Engineering	8
Chemical Engineering	2
Chemistry	10
Civil Environmental Engineering	8
Computer Science Engineering	18
Electrical Electronics Engineering	6
Management	6
Electronics and Communication	18

3.4.2 – Research Publications in the Journals notified on UGC website during the year

Type	Department	Number of Publication	Average Impact Factor (if any)
International	Bio-Engineering	31	Nil
International	Chemical Engineering	14	Nil
International	Chemistry	23	Nil
International	Civil and Environmental Engineering	9	Nil

[View File](#)**3.4.3 – Books and Chapters in edited Volumes / Books published, and papers in National/International Conference Proceedings per Teacher during the year**

Department	Number of Publication
Mechanical Engineering	35
Hotel Management and Catering Technology	5
Electrical and Electronics Engineering	17
Electronics and Communication Engineering	98
Computer Science and Engineering	30

Chemistry	4
Chemical Engineering	5
Civil and Environmental Engineering	7
Bioengineering	5
Architecture	1
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3.4.4 – Patents published/awarded/applied during the year

Patent Details	Patent status	Patent Number	Date of Award
Name of Patenter: BIRLA INSTITUTE OF TECHNOLOGY, ALL-OPTICAL PASSIVE TRANSISTOR ADAPTING A MACH-ZEHNDER INTERFEROMETER	Published	304332	01/07/2018
Name of Patenter: DR. SARANG MEDHEKAR, MR. PUNYA PRASANNA, BIRLA INSTITUTE OF TECHNOLOGY MESRA , ALL-OPTICAL NOT/XOR, AND NAND GATES, ALL-OPTICAL BISTABLE, ASTABLE MULTIVIBRATORS AND ALLOPTICAL HALF ADDER USING NOVEL ALL-OPTICAL SWITCHING IN A MACH-ZENDER INTERFEROMETER	Published	296862	01/07/2018
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3.4.5 – Bibliometrics of the publications during the last academic year based on average citation index in Scopus/ Web of Science or PubMed/ Indian Citation Index

Title of the Paper	Name of Author	Title of journal	Year of publication	Citation Index	Institutional affiliation as mentioned in the publication	Number of citations excluding self citation
Antioxidant and antibacterial hydroxyapatite-based biocomposite for orthopedic applications	Pandey, Aditi Midha, Swati Sharma, Rajeev Kumar Maurya, Rita Nigam, Vinod Kumar Ghosh,	MATERIALS SCIENCE ENGINEERING C- MATERIALS FOR BIOLOGICAL APPLICATIONS	2018	17	5.67	Nil

	Sourabh Balani, Kantesh					
Endothelial dysfunction in diabetes and hypertension: Role of microRNAs and long non-coding RNAs	Zhang, Hai-na Xu, Qiao-qiao Thakur, Abhimanyu Alfred, Martin Omondi Chakraborty, Manas Ghosh, Arunima Yu, Xu-ben	LIFE SCIENCES	2018	18	6	Nil
Electronic Structure and Enhanced Charge-Density Wave Order of Monolayer VSe ₂	Feng, Jiagui Biswas, Deepnarayan Rajan, Akhil Watson, Matthew D. Mazzola, Federico Clark, Oliver J. Underwood, Kaycee Markovic, Igor McLaren, Martin Hunter, Andrew Burn, David M. Duffy, Liam B. Barua, Sourabh Balakrishnan, Geetha Bertra	NANO LETTERS	2018	34	11.33	Nil
Green synthesis of silver nanoparticles: biomolecule-nanoparticle organizations targeting antimicrobial	Roy, Anupam Bulut, Onur Some, Sudip Mandal, Amit Kumar Yilmaz, M. Deniz	RSC ADVANCES	2019	30	15	Nil

activity						
Salinity sensor using photonic crystal fiber	Vigneswaran, D. Ayyanar, N. Sharma, Mohit Sumathi, M. Rajan, M. S. Mani Porsezian, K.	SENSORS AND ACTUATORS A-PHYSICAL	2018	28	9.33	Nil
Gut microbiota in neurodegenerative disorders	Sarkar, Suparna Roy Banerjee, Sugato	JOURNAL OF NEUROIMMUNOLOGY	2019	26	13	Nil
Design and development of guar gum based novel, superabsorbent and moisture retaining hydrogels for agricultural applications	Thombare, Nandkishore Mishra, Sumit Siddiqui, M. Z. Jha, Usha Singh, Deodhari Mahajan, Gopal R.	CARBOHYDRATE POLYMERS	2018	26	8.67	Nil
Hybrid laser arc welding: State-of-art review	Acherjee, Bappa	OPTICS AND LASER TECHNOLOGY	2018	25	8.33	Nil
View File						

3.4.6 – h-Index of the Institutional Publications during the year. (based on Scopus/ Web of science)

Title of the Paper	Name of Author	Title of journal	Year of publication	h-index	Number of citations excluding self citation	Institutional affiliation as mentioned in the publication
Electronic Structure and Enhanced Charge-Density Wave Order of Monolayer VSe ₂	Feng, Jiagui Biswas, Deepnarayan Rajan, Akhil Watson, Matthew D. Mazzola, Federico Clark, Oliver J. Underwood,	NANO LETTERS	2018	34	Nil	Birla Institute of Technology Mesra

	Kaycee Markovic, Igor McLaren, Martin Hunter, Andrew Burn, David M. Duffy, Liam B. Barua, Sourabh Balakrishnan, Geetha Bertra					
Green synthesis of silver nanoparticles: biomolecule-nanoparticle organizations targeting antimicrobial activity	Roy, Anupam Bulut, Onur Some, Sudip Mandal, Amit Kumar Yilmaz, M. Deniz	RSC ADVANCES	2019	30	Nil	Birla Institute of Technology Mesra
Salinity sensor using photonic crystal fiber	Vigneswaran, D. Ayyanar, N. Sharma, Mohit Sumathi, M. Rajan, M. S. Mani Porsezian, K.	SENSORS AND ACTUATORS A-PHYSICAL	2018	28	Nil	Birla Institute of Technology Mesra
Gut microbiota in neurodegenerative disorders	Sarkar, Suparna Roy Banerjee, Sugato	JOURNAL OF NEUROIMMUNOLOGY	2019	26	Nil	Birla Institute of Technology Mesra
Design and development of guar gum based novel, superabsorbent and moisture retaining hydrogels for agricu	Thombare, Nandkishore Mishra, Sumit Siddiqui, M. Z. Jha, Usha Singh, Deodhari Mahajan, Gopal R.	CARBOHYDRATE POLYMERS	2018	26	Nil	Birla Institute of Technology Mesra

ltural applications						
Hybrid laser arc welding: State-of-art review	Acherjee, Bappa	OPTICS AND LASER TECHNOLOGY	2018	25	Nil	Birla Institute of Technology Mesra
Endothelial dysfunction in diabetes and hypertension: Role of microRNAs and long non-coding RNAs	Zhang, Hai-na Xu, Qiao-qiao Thakur, Abhimanyu Alfred, Martin Omondi Chakraborty, Manas Ghosh, Arunima Yu, Xu-ben	LIFE SCIENCES	2018	18	Nil	Birla Institute of Technology Mesra
Antioxidant and antibacterial hydroxyapatite-based biocomposite for orthopedic applications	Pandey, Aditi Midha, Swati Sharma, Rajeev Kumar Maurya, Rita Nigam, Vinod Kumar Ghosh, Sourabh Balani, Kantesh	MATERIALS SCIENCE ENGINEERING C- MATERIALS FOR BIOLOGICAL APPLICATIONS	2018	17	Nil	Birla Institute of Technology Mesra
Appraisal of diversity and functional attributes of thermotolerant wheat associated bacteria from the peninsular zone of India	Verma, Priyanka Yadav, Ajar Nath Khannam, Kazy Sufia Mishra, Shashank Kumar, Sanjay Saxena, Anil Kumar Suman, Archana	SAUDI JOURNAL OF BIOLOGICAL SCIENCES	2019	16	Nil	Birla Institute of Technology Mesra

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3.4.7 – Faculty participation in Seminars/Conferences and Symposia during the year

Number of Faculty	International	National	State	Local
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Attended/Seminars/Workshops	22	145	10	5
Presented papers	52	14	Nil	Nil
Resource persons	12	30	3	2
View File				

3.5 – Consultancy

3.5.1 – Revenue generated from Consultancy during the year

Name of the Consultant(s) department	Name of consultancy project	Consulting/Sponsoring Agency	Revenue generated (amount in rupees)
Civil and Environmental Engineering	SCIENTIFIC STUDY	BGR MINING INFRA LTD.	150000
Chemistry	N-SUBSTITUTED-3-(TRIFLUOROMETHYL) BEMZA,ODES SCAFFOLD BASED ANALOGS	COBEX B2B SOLUTIONS	49000
Civil and Environmental Engineering	TECHNICAL ASSESSMENT, PREPARATION OF TECHNICAL ESTIMATES	COLLECTIVES FOR INTEGRATED LIVELIHOOD	300000
Civil and Environmental Engineering	SCIENTIFIC STUDY	EASTERN COAL FIELD LTD. RAJMAHAL OC PROJ	300000
Civil and Environmental Engineering	SLOPE STABILITY STUDY	GUJRAT INDUSTRIES POWER COMPANY LTD.	100000
Civil and Environmental Engineering	SLOPE STABILITY STUDY	MONTECARLO LIMITED	150000
Civil and Environmental Engineering	SCRUTINY PF PROJECT PROPOSALS FOR THE STATE OF JHARKHAND UNDER PMGSY	NATIONAL RURAL INFRASTRUCTURE DEVELOPMENT	2141000
Mechanical Engineering	DESIGN AND DEVELOPMENT OF A 6 DOF GOUGH-STEWART PLATFORM	SMC PNEUMATICS (INDIA) PVT. LTD.	218000
Civil and Environmental Engineering	SCIENTIFIC STUDY	WCL BALLARPUR AREA, BALLARPUR OPENCAST MINE	300000
Civil and Environmental Engineering	SCIENTIFIC STUDY	WCL BALLARPUR AREA, POUNI OC MINES	274000
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3.5.2 – Revenue generated from Corporate Training by the institution during the year

Name of the	Title of the	Agency seeking /	Revenue generated	Number of trainees
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Consultan(s) department	programme	training	(amount in rupees)	
N/A	N/A	N/A	0	0
View File				

3.6 – Extension Activities

3.6.1 – Number of extension and outreach programmes conducted in collaboration with industry, community and Non- Government Organisations through NSS/NCC/Red cross/Youth Red Cross (YRC) etc., during the year

Title of the activities	Organising unit/agency/ collaborating agency	Number of teachers participated in such activities	Number of students participated in such activities
Social Visit	Rotaract	2	24
Donating Clothes	LEO CLUB	2	45
Village Visit	LEO CLUB	2	5
Cashless Bhim App Drive	NCC	2	195
Tree Plantation	NCC	2	23
Swachtha Abhiyan	NCC	2	22
NATIONAL INTEGRATION CAMP	NSS	2	5
WATER BORNE DISEASES AWARENESS	NSS	2	85
SWACCHTA RALLY	NSS	2	190
NUKKAD NATAK	NSS	2	30
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3.6.2 – Awards and recognition received for extension activities from Government and other recognized bodies during the year

Name of the activity	Award/Recognition	Awarding Bodies	Number of students Benefited
Youth Exchange Program,NSS	International Youth Exchange Program(2018-19)	Ministry of Youth Affairs and Sports, Government of India	1
View File			

3.6.3 – Students participating in extension activities with Government Organisations, Non-Government Organisations and programmes such as Swachh Bharat, Aids Awareness, Gender Issue, etc. during the year

Name of the scheme	Organising unit/Agen cy/collaborating agency	Name of the activity	Number of teachers participated in such activites	Number of students participated in such activites
NUKKAD NATAK	NSS	NUKKAD NATAK	2	30
SWACCHTA RALLY	NSS	SWACCHTA RALLY	2	190
WATER BORNE DISEASES AWARENESS	NSS	WATER BORNE DISEASES AWARENESS	2	85
NATIONAL INTEGRATION CAMP	NSS	NATIONAL INTEGRATION CAMP	2	5

Swachtha Abhiyan	NCC	Swachtha Abhiyan	2	22
Swachtha Abhiyan	NCC	Swachtha Abhiyan	2	18
Village Visit	LEO CLUB	Village Visit	2	5
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3.7 – Collaborations

3.7.1 – Number of Collaborative activities for research, faculty exchange, student exchange during the year

Nature of activity	Participant	Source of financial support	Duration
Teaching	1	Institute	36
Joint collaborative research	1	Institute	12
Research	1	Institute	12
Research	1	Institute	12
Research	1	Institute	12
Research	1	Institute	12
Characterising and algorithm development for various aspects of Martian Surface using Indian Mars Orbiter Mission data	2	Institute	12
Characterising and algorithm development for various aspects of Martian Surface using Indian Moon Mission data	3	Institute	12
Mapping and Characterising minerals using Microwave data	2	Institute	12
Research	5	Institute	12
View File			

3.7.2 – Linkages with institutions/industries for internship, on-the- job training, project work, sharing of research facilities etc. during the year

Nature of linkage	Title of the linkage	Name of the partnering institution/ industry /research lab with contact details	Duration From	Duration To	Participant
Internship	Internship	Accolite	01/07/2018	31/12/2018	1

Internship	Internship	Software India, Sharon Paul, Staffing Specialist, ,sharon.paul@accoliteindia.com Accures Legal, Neelansh Gupta, Associate, 97175 82469, neelansh.gupta@accureslegal.com			
Internship Internship	Internship Internship	Adrosonic, Neeraj Kumar, Manager Consultant, 9029072021, neeraj@adrosonic.com Amadeus Software Labs, Ishita Chanana, HR, 9986524616, Ishita.chanana@amadeus.com	01/07/2018	31/12/2018	4
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3.7.3 – MoUs signed with institutions of national, international importance, other universities, industries, corporate houses etc. during the year

Organisation	Date of MoU signed	Purpose/Activities	Number of students/teachers participated under MoUs
DIT University, Dehradun	15/07/2018	Incubation and Entrepreneurship Knowledge exchange	1
Parul University	20/07/2018	Incubation and Entrepreneurship Knowledge exchange	2
Lovely Professional University	25/07/2018	Incubation and Entrepreneurship Knowledge exchange	1
View File			

CRITERION IV – INFRASTRUCTURE AND LEARNING RESOURCES

4.1 – Physical Facilities

4.1.1 – Budget allocation, excluding salary for infrastructure augmentation during the year

Budget allocated for infrastructure augmentation	Budget utilized for infrastructure development
4335.25	1855.62

4.1.2 – Details of augmentation in infrastructure facilities during the year

Facilities	Existing or Newly Added

Laboratories	Existing
Class rooms	Existing
Campus Area	Existing
View File	

4.2 – Library as a Learning Resource

4.2.1 – Library is automated {Integrated Library Management System (ILMS)}

Name of the ILMS software	Nature of automation (fully or partially)	Version	Year of automation
KOHA	Fully	16.05	2004

4.2.2 – Library Services

Library Service Type	Existing		Newly Added		Total	
Text Books	148382	1121	1311464	149503	1459846	150624
e-Books	148763	2499850	4210536	2499850	4359299	4999700
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4.2.3 – E-content developed by teachers such as: e-PG- Pathshala, CEC (under e-PG- Pathshala CEC (Under Graduate) SWAYAM other MOOCs platform NPTEL/NMEICT/any other Government initiatives & institutional (Learning Management System (LMS) etc

Name of the Teacher	Name of the Module	Platform on which module is developed	Date of launching e-content
Dr. Sudipta Goswami Dr. Akhil Kumar Sen	Polymer Science and Technology	NMEICT	01/07/2018
View File			

4.3 – IT Infrastructure

4.3.1 – Technology Upgradation (overall)

Type	Total Computers	Computer Lab	Internet	Browsing centers	Computer Centers	Office	Departments	Available Bandwidth (MBPS/GBPS)	Others
Existing	1859	22	5200	0	0	39	17	600	0
Added	264	0	300	0	0	0	0	1000	0
Total	2123	22	5500	0	0	39	17	1600	0

4.3.2 – Bandwidth available of internet connection in the Institution (Leased line)

1600 MBPS/ GBPS

4.3.3 – Facility for e-content

Name of the e-content development facility	Provide the link of the videos and media centre and recording facility
N/A	https://na/

4.4 – Maintenance of Campus Infrastructure

4.4.1 – Expenditure incurred on maintenance of physical facilities and academic support facilities, excluding salary

component, during the year

Assigned Budget on academic facilities	Expenditure incurred on maintenance of academic facilities	Assigned budget on physical facilities	Expenditure incurred on maintenance of physical facilities
1132.84	667.82	2340.04	1497.73

4.4.2 – Procedures and policies for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc. (maximum 500 words) (information to be available in institutional Website, provide link)

The academic infrastructure of the institute, such as laboratories and classrooms are housed in its 17 departments. All departments have their own laboratories. Some of the important facilities include the High Performance Computing Laboratory, Central Instrumentation Facility, Central CAD Laboratory, Design Lab and Language lab, etc. In addition, there are several shared classrooms and halls. The regular maintenance of these facilities is taken care of by the respective departments in which the facilities are located. The upgradation and repair work of these facilities are undertaken by the Planning and Development division, which has number of experienced engineers. This department is also responsible for periodically surveying the state of affairs of the various infrastructures in the campus and taking measures to ensure standard maintenance and upkeep. The computers and networking facilities and all digital physical infrastructures in the campus are maintained by the Communication Services section. The Estate Office, which has a support staff of mechanics, plumbers, welders, carpenters, masons and electricians, is responsible for the general maintenance of the campus. The Department of Physical Education manages the sports facilities in the campus. This department is headed by a sports-inclined faculty member and a group of sport-enthusiast students. This department manages the regular upkeep of the indoor game facilities and the extensive playgrounds. Any major works are reported to the Planning and Development division. The Institute has a well-developed Gymnasium, that is managed by the skilled employees under physical education. BIT Mesra has guest house facilities within the campus to meet its needs. The upkeep and maintenance of the guest houses are attributed to the Estate Office. The campus boasts two auditoriums, namely G.P. Birla Auditorium and CAT Hall, that are utilized for cultural events organized by the student community, and are maintained by the Estate Office. The campus also has two canteens and several other eating options within the premises, which are entrusted in the supervision of the Committee for Shop Allocation and Vendor Management. The same committee also manages the shopping complexes which are located in the campus. An on-campus dispensary provides primary healthcare facilities. A Doctor from the campus Health Centre accompanies the patient in case of an emergency. The campus Dispensary-cum-Health Centre also provides free treatment and supply of medicines to residents of local villages in the region. The Institute provides transportation facilities to students and staff and their children for commuting to and from Ranchi city. The bookings, schedules, running and maintenance of vehicles are undertaken by the Transport Office.

https://bitmesra.ac.in/Show_Content_Section?cid=1&pid=419

CRITERION V – STUDENT SUPPORT AND PROGRESSION

5.1 – Student Support

5.1.1 – Scholarships and Financial Support

	Name/Title of the scheme	Number of students	Amount in Rupees
Financial Support from institution	GP BIRLA SCHOLARSHIP	366	15172000

Financial Support from Other Sources			
a) National	E-Kalyan Jharkhand	314	14388000
b) International	Nil	Nil	Nil
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5.1.2 – Number of capability enhancement and development schemes such as Soft skill development, Remedial coaching, Language lab, Bridge courses, Yoga, Meditation, Personal Counselling and Mentoring etc.,

Name of the capability enhancement scheme	Date of implementation	Number of students enrolled	Agencies involved
ANNUAL ATHLETICS MEET 2018-19	01/02/2019	486	DEPARTMENT OF PHYSICAL EDUCATION SPORTS, BIT MESRA
RUN FOR UNITY	27/10/2018	262	NATIONAL SERVICE SCHEME, BIT MESRA
BLOOD DONATION CAMP	02/10/2018	380	NATIONAL SERVICE SCHEME, BIT MESRA
CHAMPION OF CHAMPIONS	04/09/2018	42	DEPARTMENT OF PHYSICAL EDUCATION SPORTS, BIT MESRA
WATER BORNE DISEASES AWARENESS	10/08/2018	85	NATIONAL SERVICE SCHEME, BIT MESRA
Soft Skills Training	15/01/2019	159	IMS Learning , Ranchi
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5.1.3 – Students benefited by guidance for competitive examinations and career counselling offered by the institution during the year

Year	Name of the scheme	Number of benefited students for competitive examination	Number of benefited students by career counseling activities	Number of students who have passed in the comp. exam	Number of students placed
2018	AMCAT	Nil	1054	Nil	586
2018	Pre Placement career counselling	Nil	16	Nil	14
2018	GATE GROOMING CLASSES-2018	23	Nil	Nil	Nil
2018	Soft Skills Training	493	Nil	Nil	Nil
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5.1.4 – Institutional mechanism for transparency, timely redressal of student grievances, Prevention of sexual harassment and ragging cases during the year

Total grievances received	Number of grievances redressed	Avg. number of days for grievance
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		redressal
7	7	5

5.2 – Student Progression

5.2.1 – Details of campus placement during the year

On campus			Off campus		
Name of organizations visited	Number of students participated	Number of students placed	Name of organizations visited	Number of students participated	Number of students placed
Accenture Services Pvt. Ltd	24	2	N/A	Nil	Nil
View File					

5.2.2 – Student progression to higher education in percentage during the year

Year	Number of students enrolling into higher education	Programme graduated from	Department graduated from	Name of institution joined	Name of programme admitted to
2018	2	M.E.	Space Engg. Rocketry	IIT Bombay	Ph. D
2018	1	M.E.	Space Engg. Rocketry	Shivnadar University	Ph. D
2018	1	M.E.	Space Engg. & Rocketry	IIT Kharagpur	Ph. D
2018	1	IMSc	Physics	University of Calgary	PhD
2018	1	B.H.M.C.T	HMCT	Xavier Institute of Social Science, Ranchi	Post Graduate in Marketing Management
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5.2.3 – Students qualifying in state/ national/ international level examinations during the year (eg:NET/SET/SLET/GATE/GMAT/CAT/GRE/TOFEL/Civil Services/State Government Services)

Items	Number of students selected/ qualifying
NET	5
SET	Nil
GATE	43
CAT	9
GRE	14
TOFEL	4
Civil Services	2
Any Other	4
View File	

5.2.4 – Sports and cultural activities / competitions organised at the institution level during the year

Activity	Level	Number of Participants
Annual Athletics Meet	Intra University	40
Annual Sports Fest - Vajra18	Inter University	850
BIT Open Chess Tournament	Intra University	15
Inter Hostel Basketball Tournament (Men Women)	Inter Hostel	70
Inter Hostel Badminton Tournament (Men Women)	Inter Hostel	50
Save the egg	Intra University	25
The Symposium	Intra University	30
Cash flow	Intra University	25
Utkrisht	Intra University	25
View File		

5.3 – Student Participation and Activities

5.3.1 – Number of awards/medals for outstanding performance in sports/cultural activities at national/international level (award for a team event should be counted as one)

Year	Name of the award/medal	National/ Internaional	Number of awards for Sports	Number of awards for Cultural	Student ID number	Name of the student
2018	1st Prize-Play-Springfest IIT Kharagpur	National	Nil	Nil	Nil	Nil
2018	2nd Prize- Corporate Quiz, XISS Ranchi	National	Nil	Nil	Nil	Adnan Azmat
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5.3.2 – Activity of Student Council & representation of students on academic & administrative bodies/committees of the institution (maximum 500 words)

BIT encourages students' participation in various academic and administrative committees which empowers students in developing leadership qualities and team working skills. Different academic and administrative committees of the Institute are represented by adequate number of student representative through various student bodies, for example, student representatives are part of the grievance redressal committee which not only looks after the complaints and grievances of students and staffs of the Institute but are also authorised to initiate necessary remedial measures. Student play important role in preventing sexual harassment through their representation in the committee for prohibition and prevention of sexual harassment. They have been playing active role in maintaining discipline and decorum while various important activities are executed or performed by students. They work as a whole in every activity of the university contributing to its smooth functioning. Students also organise various programs such as paper presentations, workshops, and seminars every

year at department / institute level. Every year, Institute organizes several mega-events such as BITOTSAV, PANTHEON, VAJRA, DEEPOTSAV, Annual Athletic Meet etc which are exclusively organised and administered by students. All managerial, financial, security, sponsorship, advertisement/promotion, news/media, photography aspects are completely planned and executed by students under faculty mentorship. Overall through these activities student get the opportunity for their holistic development in leadership qualities as well as team working skills.

5.4 – Alumni Engagement

5.4.1 – Whether the institution has registered Alumni Association?

Yes

BITOSA-Gujrat(14.09.2016), BITOSA-Jaipur(03.08.2016), BITOSA-Mumbai (05.10.2015), BITOSA-Kolkata (29.09.2015), BITOSA-Ranchi (11.05.2015), BITOSA-Silicon Valley (04.04.2016), BITMAA-NA (North America) (02.10.2013) are the registered alumni associations. The main objectives of the association are : a) To establish and maintain contact among past students, present students and the teaching staff. b) To establish interaction with industry for the benefit of students. c) To extend financial assistance to the deserving present and past students of the University for academic purposes. d) Organizing Seminars / Workshops e) Personality Development Workshops. f) Career opportunities and prospects for present and past students g) Providing travel assistance to students for participating in academic activities in India h) Assisting in arranging campus interviews, placements and industrial training. i) Maintaining database of ex-students. j) Encouraging and supporting entrepreneurial efforts of students k) Sponsoring various Student Club activities l) Sponsoring Summer Research Experience of students in US Universities m) Helping alumni in need - Financially Non financially n) Mentoring and hand holding of students in various academic activities. o) Organizing reunions and social interactions

5.4.2 – No. of registered Alumni:

5692

5.4.3 – Alumni contribution during the year (in Rupees) :

635000

5.4.4 – Meetings/activities organized by Alumni Association :

a) Distinguished Alumni (Professors of US Universities) are engaged as Adjunct Faculty. They interact with students and faculty on various projects and contemporary issues. b) Distinguished Alumni (Industrial Experts) conduct webinars and deliver Guest Lectures. c) Alumni regularly help and support our placement / internship activities and connect us to their peers in other industries/Universities. d) The institute organizes Industry Academia Symposium to build relationship with industry/Universities with the support of senior alumni as brand ambassadors.

CRITERION VI – GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 – Institutional Vision and Leadership

6.1.1 – Mention two practices of decentralization and participative management during the last year (maximum 500 words)

The Birla Institute of Technology is a “Deemed to be University” under Sec. 3 of the U. G. C. Act 1956. The institute functions under the overall supervision, and guidance of a high power Board of Governors(BOG), comprising representatives of the Ministry of Education, Government of India, University Grants Commission(UGC), State Government, A.I.C.T.E, The Hindustan Charity

Trust and representatives of the Institute Faculty. In addition, the BOG is represented by Alumni of the institute as well. Her Excellency, The Governor of Jharkhand is the Chancellor of the University and Shri C.K. Birla is the Chairman of the Board of Governors. There are several committees formed under the supervision of the Board to look after specific matters in the Institute's functioning. These include (i) The Finance Committee, and (ii) The Institute and Building Works Committee. The Academic Council (formerly Technical council) decides the academic policy of the Institute. It approves the curriculum, courses and the examination results. For smooth functioning of the institute, the Vice Chancellor, who is the Chairman of the Academic council is authorized to appoint different Committees such as • Regulation Committee for Undergraduate and Postgraduate Courses • Semester Programme Co-ordination Committee • Admission Committee • Scholarship Committee • Students Welfare Committee. The teaching, training, faculty development and research activities of various departments at the Institute are constantly reviewed to monitor outcome, quality and available facilities. The Institute practices and nurture the culture of participatory Management to execute its activities such as Administration, Admission, Student activities, Curriculum Development, Research, Sports etc. The Institute ensures adequate representation in various committees by Professors, Associate Professor, Assistant Professors and student representatives from different Departments, that has made the functioning of the Institute smooth, participatory and transparent which is one of the best practices in the Institute. At the institute level, BIT has been adopting collective leadership which is provided by the Vice Chancellor, Deans, Head of the Department and Registrar which is another best practices of the Institute. The leadership for the regular activities of the Institute is provided by the Vice Chancellor, who is advised and assisted by Deans, Heads of Departments/ In- Charges besides the Registrar for overall administrative and academic activities of the Institute. The administrative structure is similar to that of some of the premier institutions in the country and abroad. BIT has created a governance plan that embodies the institute's values of transparency, accountability and efficiency. By participatory management, BIT has ensured the transparent, accountable and efficient functioning of the institute.

6.1.2 – Does the institution have a Management Information System (MIS)?

Partial

6.2 – Strategy Development and Deployment

6.2.1 – Quality improvement strategies adopted by the institution for each of the following (with in 100 words each):

Strategy Type	Details
Admission of Students	Birla Institute of Technology, Mesra, Ranchi is a Deemed to be University and the admission procedure is executed as per the clearly laid down policies and guidelines set by the Institute. Admission to all UG, PG and Ph.D. programs are based on National / Institute level competitive test and counselling / interviews. For B.Tech. B.Arch. programs, admissions are based on all-India entrance examination (JEE-Main) followed by JoSAA / CSAB counselling. This transparent process ensured good students from all over India thereby maintaining diversity in student profile. Eligibility criteria, Fee Structure, Selection process are

decided after due deliberation by the Admission Committee which comprise of Deans, HoDs and other administrative members. Reservation of seats for OBC / SC / ST / EWS and PWD are strictly adhered as per statutory reservation policy of State of Jharkhand and Govt. of India.

Industry Interaction / Collaboration

The Institute promotes the Industry-Academia interaction wherein the faculty and students are encouraged to go to industry visits to identify problems of practical nature and find possible solution. In addition students are encouraged to go for their internship for a better exposure and work culture in industry. Summer internships are considered as an important career stepping stone. Second and third year UG students are facilitated for industrial internship. Summer internships teach valuable on-the-job skills, provide excellent networking opportunities and make them ready for jobs in industry.

Human Resource Management

The Institute has well laid policies pertaining to the recruitment, training, welfare and promotion of faculty and staff members. The office of the Dean (Faculty affairs) has been responsible for addressing above issues pertaining to the faculty members. The promotions of faculty members are ensured through CAS as well as direct recruitment policies of UGC. A separate committee looks after the above issues pertaining to non teaching employees of the institute. The institute has endorsed the modified assured career progression scheme of MHRD, GOI, through its recruitment and promotion norms for non-academic staff since 2012. To upgrade knowledge base, faculties are encouraged to participate in Symposium/ Seminar Conference etc held in India and abroad regularly. Training programs are arranged regularly to upgrade the skill level of non-academic staff and successful employees are given additional increment/promotion as per rules of the Institute. Several welfare schemes such as Mediclaim, provident fund, group insurance etc are available for the benefit of employees. The Institute has in house Dispensary for staff and students.

Library, ICT and Physical
Infrastructure / Instrumentation

The institute Library is housed in the main academic building with 3900 sq. meter working space. It has a seating capacity for 200 students, fully automated with a Fiber Optic connectivity and Wi-Fi facility. A total of 60 classrooms are available in the Institute, out of which 50 are ICT enabled and 10 are smart classrooms. A state of the art Central instrumentation facility and high performance computing facility are available in the institute to cater to the needs of the students. The sports complex of the institute spreads over 25 acres of land. Everyday approximately five hundred students utilize the sports complex for PT Games classes and practice. The complex consists of a standard athletic track along with badminton hall, multi-gym hall, volleyball court, basketball court, hockey ground, football field, kabaddi court, netball court, kho - kho field, cricket field, lawn tennis court, gymnasium hall etc.

Research and Development

Institute has been actively pursuing research in a large number of emerging and classical fields of science and technology. It has a large number of Research scholars who are the heart of research activities in the institute. These scholars along with their mentors have been contributing significantly towards expanding the scientific and technological knowledge base, which could be useful for the development of society. The Institute has state of art laboratory facilities. Faculty members are executing Research and Development projects which are funded by reputed national organizations such as ISRO, DST, DRDO, ARDB, BRNS, DBT, CSIR, AICTE, UGC etc. The institute also encourages UG and PG students to engage in Research and Development activities by providing them grants for consumables and minor equipment which could be used to execute projects. The recruitment and promotion policies of the institute have been also framed in such a way to encourage and recognize research activities. The institute has been publishing several books and more than 300 research papers in SCI and SCOPUS indexed Journals every year.

Examination and Evaluation

The examination section of BIT Mesra

maintains the global standard in examination procedures. The continuous internal assessment is spread over the whole semester. The breakup of continuous internal assessment and the type of assessment tools to be used are mentioned in the course curriculum. The institute has the specific guidelines for examination in UG, PG and Ph.D. programs. Grading system with percentage conversion formula is followed in examination to maintain the global requirements. A proper seat-matrix system and corresponding ratio based invigilation duty are followed to maintain discipline in examination hall during MID and END Semester examinations. Any kind of unfair means is reported to the examination section for proper action. Guidelines for invigilators and Instructions for the candidates are strictly maintained by the examination section during the examination. Evaluations of Ph.D. thesis by both national and international examiners are executed within six months that illustrates the best practices of the examination section.

Teaching and Learning

The teaching and learning process involves theory classes which are complemented by laboratory classes with live examples. Usually, teacher explains the topics in an eloquent manner so that the student could grasp them easily and use them in furthering the courses. The Institute has been sensitive enough to promote experiential and participative learning and inculcate real world problem solving methodologies among students by providing industrial visits, field visits, Internship, assignments in the curriculum as well as activities of technical clubs. Students of specific programme are required to go for compulsory educational tour of 2 weeks duration. Apart from the scheduled trips, students are also sent for site inspection within the city to get adapted with the project management mechanism.

Curriculum Development

At BIT Mesra, involvement of all stakeholders is ensured for design and development of the Curricula. The Institute has the provision of a well-planned and organized Board of Studies

(BOS) in each Department which is approved by the Academic Council. The BOS is responsible for the design and development of curricula giving due recognition to the opinions of concerned faculty members of the department and institutes mission and vision. The curricula in practice have relevance to the regional and national developmental needs at all levels to meet requirements of the industry. While framing the curricula, the institute adheres to the guidelines recommended by the UGC /AICTE and other national apex regulation bodies. The review of curricula takes place at a regular interval.

6.2.2 – Implementation of e-governance in areas of operations:

E-governance area	Details
Student Admission and Support	<p>Admission to all UG, PG and Ph.D. programs are based on National / Institute level competitive test and counselling / interviews using the required web applications. For B.Tech. and B.Arch. programs, admissions are based on All-India entrance examination (JEE-Main) followed by JoSAA / CSAB counselling, which is nationally executed through a centralised online process. The Institute is also a Counselling centre for the above process to assist JoSAA/CSAB. Student life cycle which covers admission, registration of courses, examination, results, payment of fees, issue of grade cards etc is being captured by an ERP System. All the students are provided with an Institute email id. Institute central library has adopted library management system to manage its services which helps the students in the process of learning and development.</p>
Examination	<p>Exam Section follows the simultaneous conduction of examination and evaluation of answer scripts for faster result processing. The central evaluation system, has been using bar code in evaluation process which is one of the best practices of examination section. The speedy publication of result helps the students in their further career progression. Examination section has an ERP based system to manage its activities, where entry of marks, processing of marks and</p>

notification of results are carried out using this facility. As a result of this ERP, students can check their results individually through designated login credentials.

Planning and Development

The Planning and Development issues of the Institute are divided into two different categories, i.e., Academics and Administration. The academic planning and development are taken care by offices of the concerned Dean's wherein online mode of communication or MIS system is in operation to take care of different activities. Similarly, the administrative structure also is supported by different offices such as Accounts, Purchase, Stores, Estate and Construction, Communication services, Security and surveillance etc. All of them manage their data digitally that is based on the laid down Institutional policies. For example, all the indents for procurement of equipment or Services are made using the IBIS software, where they are processed online by the purchase office and the same is automatically linked to the Accounts office and general store section.

Administration

The institute has robust governance structures consisting of different Governance organs such as Board of Governors, General Council, Finance Committee and Academic Council etc., that are aligned to the UGC regulations as applicable from time to time. Institute has an MIS for access, processing and management of data. Data pertaining to different academic activities are captured in ERP. The procurement of equipments and services and payment for the same are done using software. There is online provision for submission of applications for admission and deposition of fees for students. Faculty and staff are able to get their monthly salary slips in ERP using dedicated login credentials. Main mode of communication amongst institute faculty and staff is through institute webmail. Notices and minutes of meetings are also circulated through emails. All the academic zones and hostels are covered under Wi-Fi facility which ensures seamless internet connectivity.

Finance and Accounts

The Finance and Accounts section of

the Institute is responsible for observance of regulations relating to maintenance of accounts of Income and Expenditures and consider any other matter referred by Board of Governors. The Accounts Department ensures that all statutory payments are being deducted as per the Government rules and regulations and are being deposited in time to the concerned Government Department. The Accounts also ensure that all statutory Returns are being filed in time. For all these activities, accounts section uses software such as IBIS, ERP etc. and uses the latest computing facilities.

6.3 – Faculty Empowerment Strategies

6.3.1 – Teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the year

Year	Name of Teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee is provided	Amount of support
2018	Dr. Ritesh Jha	Conference	Nil	12000
2018	Dr. Supriyo RoyJha	Workshop	Nil	2500
2018	Vandana	To attend Orientation Prog.	Nil	11800
2018	Randhir Singh	To attend Orientation Prog.	Nil	11800
2018	Dr. (Mrs.) Prajna Das	To attend Orientation Prog.	Nil	11800

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6.3.2 – Number of professional development / administrative training programmes organized by the University for teaching and non teaching staff during the year

Year	Title of the professional development programme organised for teaching staff	Title of the administrative training programme organised for non-teaching staff	From date	To Date	Number of participants (Teaching staff)	Number of participants (non-teaching staff)
2018	ISTE STTP On Electric Power System	Nil	10/07/2018	15/07/2018	30	Nil
2018	AICTE-	Nil			14	Nil

	QIP: Innovations and Challenges in Newer Drug Delivery Systems		30/11/2018	13/12/2018		
2018	AICTE-QIP: Cutting Edge Emerging Technologies in Pharmaceutical Education Research	Nil	11/01/2019	24/01/2019	Nil	Nil
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6.3.3 – No. of teachers attending professional development programmes, viz., Orientation Programme, Refresher Course, Short Term Course, Faculty Development Programmes during the year

Title of the professional development programme	Number of teachers who attended	From Date	To date	Duration
An online Course on ET702x: Designing Learner-Centric MOOC	1	02/08/2018	06/09/2018	34
AICTE Sponsored QIP-2019: Cutting Edge Emerging Technologies in Pharmaceutical Education research	2	11/01/2019	24/01/2019	15
AICTE sponsored QIP on "Innovations and Challenges in Newer Drug Delivery System"	4	30/11/2018	13/12/2018	30
1st Workshop of AICTE-UKIERI Technical Leadership Development Program	1	13/11/2018	16/11/2018	4
One day Indus	4	15/03/2019	15/03/2019	1

try-Academia
Interaction on
Coal mining and
Sustainable
Environment
held at Birla
Institute of
Technology,
Mesra, Ranchi

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6.3.4 – Faculty and Staff recruitment (no. for permanent recruitment):

Teaching		Non-teaching	
Permanent	Full Time	Permanent	Full Time
4	Nil	5	Nil

6.3.5 – Welfare schemes for

Teaching	Non-teaching	Students
10	10	12

6.4 – Financial Management and Resource Mobilization

6.4.1 – Institution conducts internal and external financial audits regularly (with in 100 words each)

The Institute has two type of Auditing system -Statutory and Internal. The Internal Audit is being conducted at regular Intervals -April to July, August to November, December to March every year. External auditors visit at the end of the financial year and help to close the Balance Sheet, Income and Expenditure and check the annexure relating to Balance Sheet. They mainly check statutory dues such as Income Tax, TDS, Professional Tax, GST etc. deducted from various payments and ensure that these are being timely deposited with the concerned Authority.

6.4.2 – Funds / Grants received from management, non-government bodies, individuals, philanthropies during the year(not covered in Criterion III)

Name of the non government funding agencies /individuals	Funds/ Grnats received in Rs.	Purpose
6.4.2 Total corpus fund generated	2125559	Nil

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6.4.3 – Total corpus fund generated

35379000

6.5 – Internal Quality Assurance System

6.5.1 – Whether Academic and Administrative Audit (AAA) has been done?

Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic	Yes	ICARE	Nil	Nil
Administrative	Yes	ICARE	Nil	Nil

6.5.2 – What efforts are made by the University to promote autonomy in the affiliated/constituent colleges? (if applicable)

NA

6.5.3 – Activities and support from the Parent – Teacher Association (at least three)

NA

6.5.4 – Development programmes for support staff (at least three)

1. Lab Safety: Pitfall and remedies 2. One day workshop on Koha and Library Automation 3. Awareness of Fire Safety held at Birla Institute of Technology, Mesra, Ranchi 4. Prevention of Harassment at Workplace

6.5.5 – Post Accreditation initiative(s) (mention at least three)

NA

6.5.6 – Internal Quality Assurance System Details

a) Submission of Data for AISHE portal	Yes
b) Participation in NIRF	Yes
c) ISO certification	No
d) NBA or any other quality audit	Yes

6.5.7 – Number of Quality Initiatives undertaken during the year

Year	Name of quality initiative by IQAC	Date of conducting IQAC	Duration From	Duration To	Number of participants
2018	NIRF	08/04/2019	08/04/2018	08/04/2019	33
2018	UG NBA Accreditation	01/07/2018	01/07/2018	30/06/2019	Nil

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CRITERION VII – INSTITUTIONAL VALUES AND BEST PRACTICES

7.1 – Institutional Values and Social Responsibilities

7.1.1 – Gender Equity (Number of gender equity promotion programmes organized by the institution during the year)

Title of the programme	Period from	Period To	Number of Participants	
			Female	Male
NA	01/07/2018	30/06/2019	Nil	Nil

7.1.2 – Environmental Consciousness and Sustainability/Alternate Energy initiatives such as:

Percentage of power requirement of the University met by the renewable energy sources

33.6

7.1.3 – Differently abled (Divyangjan) friendliness

Item facilities	Yes/No	Number of beneficiaries
Physical facilities	Yes	50
Provision for lift	Yes	50
Ramp/Rails	Yes	50
Rest Rooms	Yes	50
Scribes for examination	Yes	4

Any other similar facility	Yes	15
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7.1.4 – Inclusion and Situatedness

Year	Number of initiatives to address locational advantages and disadvantages	Number of initiatives taken to engage with and contribute to local community	Date	Duration	Name of initiative	Issues addressed	Number of participating students and staff
2018	Nil	Nil	30/10/2018	Nil	Nil	Musical Instrument distribution to the villagers	19
2018	Nil	Nil	05/10/2018	Nil	Nil	Fee contribution of Wards of institute employee Kislya Vidhya Mandir	26
2018	Nil	Nil	26/03/2019	Nil	Nil	Maintenance of School	15

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7.1.5 – Human Values and Professional Ethics Code of conduct (handbooks) for various stakeholders

Title	Date of publication	Follow up(max 100 words)
CONDUCT DISCIPLINE AND APPEAL RULES FOR BIT EMPLOYEES	01/07/2018	na

7.1.6 – Activities conducted for promotion of universal Values and Ethics

Activity	Duration From	Duration To	Number of participants
WORKSHOP ON WORK ETHICS STANDARDS	19/01/2019	19/01/2019	50

No file uploaded.

7.1.7 – Initiatives taken by the institution to make the campus eco-friendly (at least five)

1. Pedestrian Friendly campus 2. E-Vehicle Facility 3. Plastic Free Green campus 4. Solar Panel usage in Hostel and Academic Building 5. Energy Efficient light installed across the campus 6. Sensor operated power usage in classrooms
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7.2 – Best Practices

7.2.1 – Describe at least two institutional best practices

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Upload details of two best practices successfully implemented by the institution as per NAAC format in your institution website, provide the link

<https://bitmesra.ac.in/UploadedDocuments/admnaac/files/Two%20BEST%20PRACTICES.pdf>

7.3 – Institutional Distinctiveness

7.3.1 – Provide the details of the performance of the institution in one area distinctive to its vision, priority and thrust in not more than 500 words

The vision of the Institute is to become a globally recognized academic institution in consonance with the social, economic and ecological environment, striving continuously for excellence in education, research, and technological service to the Nation. Contribute to national needs through dissemination of knowledge, research and development, and technological service : BIT Mesra has a vision to be recognized as a world-class institution catering to engineering and technological education and research. Today, it has moved beyond the fulfillment of a scholastic promise to re-defining education and making its mark through significant contributions to knowledge and national needs. The thrust areas are: • Remote Sensing • Space Engineering and Rocketry • Civil and Environmental Engineering

The Department of Remote Sensing at BIT Mesra has been disseminating knowledge of satellite remote sensing technology and its applications since 1997 through research and post graduate academic courses like M. Tech. (Remote Sensing) and M.Sc. (Geo-informatics) degree programmes. The notable research activities of the department includes, Development of methodology to detect the pollutants in flowing river water, Development of algorithm for mineral mapping on the surface of the moon, Development of Drought Modelling Software, etc. The department established the line of Tropic of Cancer passing near Ormanjhi area of Ranchi using Differential and Geodetic Global Position System (GPS). Institute was the first technical institution to establish a Department of Space Engineering Rocketry way back in 1964. It was also the first to establish static rocket test firing facility and to offer P.G. programmes in the strategic areas in association with the Indian Space Research Organization (ISRO). The Department aims to provide state of art education and training to its students to enable them to contribute efficiently in the National efforts being made in the fields of Space, Defence related technologies and challenging future missions. The Department also provides research facilities at doctoral and postdoctoral levels in the fields of Aerodynamics and Flow Studies, Propellant Technology, Rocket Propulsion and Combustion. The Department of Civil Environmental Engineering has been contributing significantly in mitigating problems related to mine slope stability and disaster management issues across India. Faculties are involved in designing of stable slope for mine over burdens and engaged in its safety management. They are also part of the National Rural Road Development Authority, which contributes to the nation's road building endeavors. The department also played a role in the development of cost effective toilets based on gender sensitivity, in rural and government schools of Khunti, Hazaribagh and Deoghar districts. Research in multiple areas such as waste water treatment, environmental remediation using FENTON process, nano materials and fuzzy algorithm is being carried out and technical research papers are being published in reputed journals. In addition various other research works are pursued in multi - disciplinary areas related to core Civil Engineering discipline.

Provide the weblink of the institution

[https://bitmesra.ac.in/UploadedDocuments/admnaac/files/Institute%20Distinctiveness\(1\).pdf](https://bitmesra.ac.in/UploadedDocuments/admnaac/files/Institute%20Distinctiveness(1).pdf)

8.Future Plans of Actions for Next Academic Year

The following points describes the proposal of plan of action to be implemented for the next academic year in consonance with the Institute vision and mission.

- 1) Participation in NIRF and other rankings.
- 2) UG programs Accreditation to reach a target of 100 percent.
- 3) Accreditation to majority of PG Programs.
- 4) Increase in MoU's with Industry, research labs and academic institutions.
- 5) Implementation of a robust MIS system.
- 6) Formation of Institute Feedback Cell.
- 7) Implementation of Institute Alumni networking portal.