## **INFORMATION BROCHURE 2017**

for

## **Admission to**

5-year (10-Semester) full-time
Integrated M.Sc. in Chemistry, Food Technology,
Mathematics & Computing and Physics
at
Birla Institute of Technology, Mesra



## **BIRLA INSTITUTE OF TECHNOLOGY**

(Deemed University under section 3 of UGC Act 1956)

Mesra, Ranchi - 835215

Jharkhand, India
Website: http://www.bitmesra.ac.in

# Admission to 5-year (10-Semester) Full-Time Integrated M.Sc. Programmes 2017 at Mesra (Main Campus)

Section	Table of Contents	Page No.
1	Introduction and How to Apply	3
2	Eligibility Criteria for BBA and BCA programmes	4
3	List of Documents to be carried along with proof of application fee at the time of Reporting for Documents Verification cum Admission	5
4	Selection Procedures	6
5	Total number of seats, Reservations and Distribution of seats	7
6	Financial Information and fees payable	8
7	Profiles of the Departments	9-13
8	Discipline, Rules & Regulations and Medical Examination	14-15
9	Contact Details	16
10	Anti-ragging Affidavit	17

## **IMPORTANT DATES**

Filling of online form commences from	3 May 2017
Last date to Apply online	20 June 2017
Declaration of FIRST shortlisted candidates for Documents Verification cum Admission	25 June 2017

#### Note:

- 1. All the dates mentioned above are tentative, and liable to be changed. Hence, please check Institute website periodically.
- 2. Please fill and submit the application online only, take printout of the same and retain with you as the same will be required to produce at the time of reporting for Documents verification cum admission.

## Sec 1. An Introduction and How to Apply

This Information Brochure covers admissions to full-time 5-year (10-semester) Integrated M.Sc. in Chemistry, Food Technology, Mathematics & Computing and Physics programmes 2017 at Mesra (Main Campus), which will commence in July 2017.

### **How to Apply:** (Please see Instructions also for details)

- To start online application, click on the link "Apply Online", create 'username' and 'password' when prompted. Do not share the username and password with anyone.
- To apply for above programmes, eligible candidates must complete and submit the application online only [the link is available on Institute website <a href="www.bitmesra.ac.in">www.bitmesra.ac.in</a>]. Pay application fee of Rs.1,500/- (General candidates) or Rs.1,000/- (SC/ST candidates) through State Bank Collect net banking or debit/credit card of any nationalized bank in favour of "Birla Institute of Technology" within the given time period. [Fee once remitted shall not be refunded under any circumstances].
- Use separate application form, in case applying for more than one programme and pay additional application fee.

### **Important Instructions:**

- 1. Please fill and submit the application online only, take printout of the same and retain with you as the same will be required to produce at the time of reporting for Documents verification cum admission.
- 2. At the time of reporting for verification of documents cum admission, candidates will be required to produce originals of Pass Certificate of Class 10, Marksheets of Class 10 and Class 12, as well as Caste or Special Category certificates in proper format signed by appropriate authority (please see relevant section).
- 3. Candidates should proceed to fill the Online Application Form only after they satisfy themselves that they fulfill all the eligibility criteria.
- 4. Candidate must have adequate proficiency in written & spoken English to cope with the programme as all instruction and examinations will be in English only.

#### Form / Application Numbers:

The Form / Application numbers on each online application form may be noted and cited in correspondence if required. **No individual intimation will be sent to candidates.** 

#### **Documents verification cum Admission:**

The list of shortlisted candidates to be called for documents verification cum admission will be notified on the Institute website on 25<sup>th</sup> June 2017. No individual intimation will be sent to candidates.

## Sec 2. Eligibility Criteria

Programmes	Eligibility criteria
Integrated M.Sc. in Chemistry	Pass in Class 12 / equivalent examination with English, Physics, Chemistry, Mathematics and having at least 60% (50% for SC/ST/PwD) marks in average of 4 subjects - English, Physics, Chemistry, Mathematics
Integrated M.Sc. in Food Technology	Pass in Class 12 / equivalent examination with English, Physics, Chemistry, Mathematics and having at least 60% (50% for SC/ST/PwD) marks in average of 4 subjects - English, Physics, Chemistry, Mathematics
Integrated M.Sc. in Mathematics & Computing	Pass in Class 12 / equivalent examination with English, Physics, Chemistry, Mathematics and having at least 60% (50% for SC/ST/PwD) marks in average of 4 subjects - English, Physics, Chemistry, Mathematics
Integrated M.Sc. in Physics	Pass in Class 12 / equivalent examination with English, Physics, Chemistry, Mathematics and having at least 60% (50% for SC/ST/PwD) marks in average of 4 subjects - English, Physics, Chemistry, Mathematics

#### Notes:

- Only those candidates whose date of birth falls on or after 1 October 1992 in case of General category and 1 October 1987 in case of SC/ST/PwD are eligible for admission. Date of Birth as recorded in the Secondary Education Board Class X (High School) certificate only will be considered as authentic.
- Candidates with foreign diplomas should see the EdCIL website for equivalence (<a href="http://www.edcil.co.in">http://www.edcil.co.in</a>), and if required should obtain an equivalence certificate from the evaluation division of the AIU (website <a href="http://www.aiuweb.org">http://www.aiuweb.org</a>).
- In case any Board awards grades instead of marks, the calculation of equivalent marks would be based on the procedure prescribed by the Board.
- At the time of document verification, candidates will be required to produce originals of Pass Certificate of Class X, Marksheets of Class X and Class XII showing requisite minimum marks, as well as Caste or Special Category certificates in proper format signed by appropriate authority (please see instructions).
- At any level of the studies [Class X or Class XII], a candidate / applicant must have passed all the required subjects at that level from the same Board.

# Sec 3: List of Documents to be carried along with proof of application fee at the time of Reporting for Documents Verification cum Admission

[This page may be printed for your own convenience and easy reference]

- 1. A print-out of the duly completed online form (original copy)
- 2. One recent colour photograph [same as uploaded on the form]
- 3. Payment receipt towards application fee of Rs.1,500/- (General) and Rs.1,000/- (SC/ST) candidates (non-refundable)
- 4. <u>Original of the following documents / certificates</u>: Candidates must carry the originals of the following documents at the time of reporting for Admission cum Document Verification as well as one set of photocopies:
  - a) Pass certificate of Class X (for age proof)
  - b) Marksheet of Class X
  - c) Marksheet of Class XII / Intermediate or equivalent
  - d) Caste certificate (if applicable), which should be in proper format and signed by appropriate authority of rank not less than SDO.
  - e) Candidates belonging to other special categories mentioned in Sec 5 (Persons with Disability [PwD] / Kashmiri Migrant) must provide photocopy of certificate in proper format from appropriate authority.
  - f) Photo identification: (Driving license, Passport, PAN Card, Voter ID, Aadhaar Card, School / College ID, are acceptable)

Without original of above documents / certificates, no candidates will be permitted to appear for the admission cum documents verification.

If provisionally admitted, all the above documents in original (except the original Photo ID) together with photocopies will be retained by the Institute for some time.

#### Sec 4: Selection Procedure

- The provisional selection will be made on the basis of marks obtained by the candidates in Class XII / Intermediate / equivalent qualifying examination. However, candidates must meet the age criteria and other minimum academic requirements (see Eligibility Criteria).
- ➤ The shortlisted candidates will be called for documents verification cum admission on the basis of their merit and data submitted by the candidates on their application forms for 1<sup>st</sup> round. The same will be intimated on the Institute website only as web notifications. **No separate intimation will be sent to candidates.**
- ➤ The waitlisted candidates or candidates not called in 1<sup>st</sup> round may be called for documents verification cum admission process against the vacant seats, (if any), in successive rounds, as required. The same will also be intimated on the Institute website only as web notifications. **No separate intimation will be sent to candidates.**

Note: Admission will be offered subject to verification of original documents at the time of admission.

#### **Exit option from the programme:**

The students will be allowed to exit from the programme after successful completion of 6<sup>th</sup> semester. In order to avail the exit option, the student has to submit in writing his/her willingness to avail this before 6<sup>th</sup> semester end semester examination. Such students would be given B.Sc. Degree with Major in Chemistry / Mathematics & Computing / Physics/ Food Technology.

#### **Cancellation of Admission Offer:**

- The admission of a candidate will be automatically cancelled
  - (a) if any information provided in the application form is found incorrect or missing.
  - (b) those who fail to submit the marksheet of Class XII or equivalent qualifying examination in time as stipulated.

Note: Eligible SC/ST, OBC, PwD students admitted to above programmes at the Campus should submit their scholarship form in the Scholarship Section of the Campus for the academic year by February for processing scholarship to SC/ST, OBC, PwD students each year, as per UGC guidelines.

## Sec 5. Total number of Seats, Reservations and Distribution of seats

The number of seats to be offered in 2017 for the following programmes, as given below:

Programmes	No. of seats to be offered
Integrated M.Sc. in Chemistry	40
Integrated M.Sc. in Food Technology	30
Integrated M.Sc. in Mathematics & Computing	80
Integrated M.Sc. in Physics	60

#### **Reservations:**

- 1. For all programmes at the Institute which are supported by the State Governments, the reservation criteria for the state quota are as per the norms of the State Government.
- 2. For all other programmes the reservation criteria for SC & ST are as per the statutory norms of Central Govt. (SC -15% & ST 7.5%)
- 3. The Institute observes statutory reservation for Persons with Disability (3%).
- 4. Upto 1 seat may be allotted to candidates who are Sons or Daughters of Kashmiri Migrant who otherwise have qualified for admissions.
- 5. For the above programmes, 50% of the total seats are reserved for candidates who have passed their qualifying examination (Class 12) from Jharkhand State. (The "State of Eligibility" of a candidate for the purpose will be determined on the basis of location of his/her School / College where she/he has passed the qualifying examination (Class 12).

[In case sufficient numbers of suitable candidates from any group are not available, the Institute reserves the right to fill the seats from the other group].

However the final reservation proportion will depend on notification, if any, issued by competent authority and as accepted by the Institute.

#### **Notes:**

- 1. The Institute reserves the right to lower the intake in a programme without showing any reason
- 2. The Institute also reserves the right not to offer a particular programme in case the number of students found to be eligible / admitted is less than 30% in number.
- 3. Please see our website <a href="http://www.bitmesra.ac.in">http://www.bitmesra.ac.in</a>. for course syllabus / any other matters related to admission procedures.

Examples for selecting the name of State while filling the application form:

	State of Eligibility
Qualifying examination (Class XII) from Jharkhand	Jharkhand
Qualifying examination (Class XII) from Rajasthan	Rajasthan
Qualifying examination (Class XII) from West Bengal	West Bengal
Qualifying examination (Class XII) from Uttar Pradesh	Uttar Pradesh
Qualifying examination (Class XII) from Delhi	Delhi

### Sec 6. Financial Information

## Fees payable [in INR] for the full-time Integrated M.Sc. programmes for the 2017 Batch

Fee payable at the time of admission and in each subsequent semester

Deutienten		2 <sup>nd</sup>	3rd	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>	9 <sup>th</sup>	10 <sup>th</sup>
Particulars	Sem	Sem	Sem	Sem	Sem	Sem	Sem	Sem	Sem	Sem
Tuition Fee	33000	33000	36500	36500	41000	41000	45500	45500	51000	51000
Development Fee	2500	2500	3000	3000	3000	3000	3500	3500	3500	3500
Institute Exam Fee	4500	4500	5000	5000	5500	5500	6000	6000	6500	6500
Total	40000	40000	44500	44500	49500	49500	55000	55000	61000	61000
Hostel Seat Rent*, Electricity and Transport etc.	13500	13500	14500	14500	15500	15500	16500	16500	17500	17500
Grand Total	53500	53500	59000	59000	65000	65000	71500	71500	78500	78500

<sup>\*</sup> Hostel fees are subject to revision in future

Additional amount to be paid at the time of admission:	
(i) Admission Fee (One time only) =Rs. 15,000.00 and	Total Rs.25,000.00
(ii) Caution Money (One time only-Refundable)=Rs. 10,000.00	

#### Notes:

- Hostel mess charges will range from approximately Rs.2,500/- to Rs.3,000/- per month. Students will be required to deposit Hostel Caution Money\* (One Time only - Refundable) of Rs.5,000/- .They will also be required to pay suitable mess advance at the beginning of each semester, which will be adjusted against their mess charges. For the session July 2017, this mess advance\* will be Rs.20,000/- [ total of Rs. 25,000/-]
  - \*Hostel Caution Money (One Time only Refundable) and Hostel Mess Advance (each semester) are payable by crossed Demand Draft in favour of "BIT Hostels Mess Account" payable at Ranchi.
- Other fees must be paid by crossed Demand Draft in favour of "Birla Institute of Technology" payable at Ranchi.
- Students will be expected to provide themselves with stationery and textbooks, etc, as prescribed for different subjects.
- 4. The Institute reserves the right to revise the fees and other charges at any stage.
- 5. For rules regarding refund of fees on withdrawal, please see separate Notice on Notice Boards.

NB: Students may also pay the admission fee online through State Bank Collect. For details, please visit Institute website www.bitmesra.ac.in.

## **Sec 7 Profiles of the Departments**

## **Department of Chemistry**

The Department of chemistry was established in 1956 and is dedicated to providing a high quality chemistry education at both undergraduate & postgraduate level. The department supports the institute's undergraduate, postgraduate and Ph.D. programmes in pure and applied chemistry.

Programmes Offered	Course Duration	Sanctioned Intake	
M.Sc. in Chemistry	2 Year (4-Semesters)	15	
Integrated M.Sc. in Chemistry	5 years (10- Semesters)	40	
Ph.D. programme			

The M.Sc. and Integrated M.Sc. courses are interdisciplinary in nature, designed to provide an in-depth knowledge in various branches of chemistry such as Inorganic, Organic & Medicinal, Polymer, Physical, Environmental, Analytical, Materials, Nanoscience Nanotechnology, Energy studies & Computational Chemistry. The maximum intake in both the courses is limited to 20, in order to ensure quality in instruction and mentoring. The aim of this program is to prepare students for entry into Ph.D. programs, academics and careers in R & D laboratories. Several Institutes, R & D laboratories and pharmaceutical industries from different parts of India are in collaboration with the department to promote the educational and research environment for to perform world-class research. Other than national collaboration, the department is also actively collaborating with institutes in USA, Japan and France.

Laboratory courses are designed to provide a hands-on experience on working with various sophisticated instruments. The facilities available in the department include: Materials synthesis and characterizations, Electrochemical studies, Environmental monitoring and control, Fuel chemistry, Advanced instrumentation facility and Softwares for computational chemistry. The department has developed as a nodal centre for qualitative and quantitative analysis of various environmental pollutants and engineering materials.

The faculty members are actively involved in research in the fields of pure and applied chemistry and have various publications in high-impact international journals. The department has quality research programs supported by UGC, DST, DBT, CSIR and BRNS. The department is actively involved in promoting environmental awareness amongst the tribal and rural population in Jharkhand.

Upgradation in research laboratories, and infrastructures were made to carry out quality research. The research facilities available in the department at present are as follows:

- 400 MHz NMR Spectrophotometer (JEOL)
- AUTOLAB 302N Potentialstat/Galvanostat
- Peccell AM 1.5 Solar Simulator
- CHI 608E Potentiostat
- AUTOLAB 302N Potentialstat/Galvanostat
- Ultrasonicator
- Water circulator bath
- Rotavapower R-100
- Distillation Unit
- Ice machine
- Balance
- Origin Lab Professional
- Chemoffice Professional
- Gaussian Software.

## **Department of Chemical Engineering & Technology**

The Department of Chemical Engineering with well qualified faculty provides high standard of education in the diversified fields of Chemical Engineering and Chemical Technology. The Department received national recognition by winning the Gold Trophy for Plasticon Award 2012 in the category of Best Educational Institution Contributing to Plastics. The Plasticon Award was conferred on 1st February 2012, at 8th International Plastics Exhibition and conference. The programme was supported by Ministry of Chemicals and Fertilizers, Department of Chemicals and Petrochemicals, Government of India. Faculty members are working on sponsored projects and collaborative research with various organizations. The Department is also recognized under DST-FIST. Department is recipient of a major grant from Ministry of Food Processing Technology, Govt. of India, for infrastructure development for programmes in Food Technology.

Programmes Offered	Course Duration	Sanctioned Intake
B.E. in Chemical Engineering	4 Years (8 Semesters)	60
B.E. in Chemical Engineering (Plastic & Polymer)	4 Years (8 Semesters)	60
M.E. in Chemical Engineering	2 Years (4 Semesters)	18
Integrated M.Sc. (Food Technology)	5 Years (10 Semesters)	30
Ph.D. Programme		

#### **VISION**

The Department of Chemical Engineering aspires to be a centre of excellence for the provision of instruction, teaching, training, and research in the areas of chemical engineering & polymer science and engineering. It aims to advance and disseminate knowledge in the above areas, provide an enriched academic environment in undergraduate and graduate education, build partnerships and collaborative relationships, and respond to the growing needs of society.

#### **MISSION**

The mission of the Department of Chemical Engineering is to educate and prepare students with critical thinking skills in the areas of chemical engineering & polymer science and engineering, for national and international positions in industry, academia and government; to develop and transmit new knowledge in these areas; to serve as a knowledge and service base to the nation; and to provide guidance and leadership in the solution of technical and socio-economic problems.

The undergraduate programme BE (Chemical Engineering) imparts high standard training, emphasizing on Chemical Engineering fundamentals - Heat Transfer, Mass Transfer, Fluid Flow, Process Control, Reaction Engineering, Computer Aided Engineering etc to groom them to carry out economic and environment friendly design, technology development and operation of a wide range of chemical plants – Industrial chemicals, petroleum, polymers, pharmaceuticals, cement, fertilizer, fuel, processed food etc. The core curriculum is complemented by electives in the important emerging areas like Nanotechnology, Biotechnology, Food Technology, Polymer Engineering, Energy Engineering etc.

In addition to the core Chemical Engineering subjects, students of BE (Chemical Engineering – Plastics and Polymers) programme are exposed to courses in Polymer Materials Technology, Polymer Processing, Polymer Product Design and Development in order to serve industries involved in polymer manufacture, polymer processing and conversion industries, polymer science research and development organizations.

The M.E.(Chemical Engineering) programme deals with topics on advanced Transport Phenomena, Reaction Engineering, Thermodynamics along with elective courses on Polymer Processing, Specialty Polymers, Nano-science and Nanotechnology, Plant Design, Surface Engineering

Food Processing Industry in India is growing at a very fast pace. Envisaging a great demand for qualified food technologists in our country, From 2014 academic year with support from Ministry of Food Processing Industries 5 year Integrated M.Sc.(Food Technology), with exit option after three years, has been introduced. The courses include training in the area of Food Composition and Chemistry, Food Biochemistry and Human Nutrition, Food Microbiology, Food Plant sanitation, Food Analysis and Quality Control, Food Preservation and Processing Technology, Chemical Engineering unit operations in Food Processing Industries, Food Packaging, Post-Harvest Technology etc.

## Admission to 5-year (10-Semester) Full-Time Integrated M.Sc. Programmes 2017 at Mesra (Main Campus)

The Department also offers facilities for Ph. D. programme in fields of Chemical Engineering, Polymer Science and Technology.

Apart from standard Chemical Engineering laboratories like Fluid Flow, Heat Transfer, Mass Transfer, Reaction Engineering, Process Control etc. the Department of Chemical and Polymer Engineering has state of the art facilities for Post Graduate and Doctoral Research in Reaction Engineering, Instrumental Analysis of chemicals and Polymer, Polymer Processing, Product Development Laboratory etc. The major facilities include computer controlled reactors, Haake Minilab Micro Compounder and Haake Minilab micro injection Moulding, Air Bearing Rotational Rheometer, Malvern, HAAKE Torque Rheometer with Mixer and Extruder, Oscillating Disc Rheometer, Instron Tensile Testing machine, ATLAS accelerated weathering system, Dynamic Mechanical Thermal analyzer (TA), Gas Chromatograph. The Polymer Processing and Product development facilities include Injection Moulding machines - 80 ton L&T Ergotech and 25 ton Windsor, Extrusion Blow moulding machine with parison programming, Kolsite Single screw extruder, Kolsite Film blowing plant and PVC pipe Extrusion plant, Two roll mixing mills, Thermoforming, Compression moulding, Welding facilities – Ultrasonic and Hot air, Fused Deposition Modeling system, Stratasys, for rapid prototyping, MCP-HEK vacuum casting machine for prototyping, 3 axis CNC EDM machine etc.

The students are trained in various CAE applications ASPEN Plus, Accelerys -Material Studio for molecular simulation, MATLAB, PROENGINEER, ANSYS, CATIA, FLUENT, POLYFLOW, MOLDFLOW etc. E-learning facility has been created with Paulsons Training Basic Injection Moulding, Simtech, Single Screw Extrusion, and Compounding with Twin Screw Extruder.

Laboratories in the area of Food Technology include Food Processing Laboratory, Food Microbiology Laboratory, and Food Analysis Laboratory. The Food Processing Laboratory includes Pulper machine, vegetable dicing machine, Juice Extraction, Homogenizer, Twin Screw Extrusion cooker, Homogenizer, Colloidal Mill, Grinders, Can Body Reformer, Canning Retort, Steam generator, Steam jacketed cooker, Tray dryer, fluidized bed dryer, Vacuum bottle Filling machine, Form Fill and Seal packaging etc. Food Microbiology lab with Autoclave, Laminar flow clean air workstation, BOD incubator has the expertise of microbiological tests of water and food. The Food Analysis and quality Control facilities included Flame photometer, HPLC, Digital colorimeter, NIR Spectral Analyzer, UV-VIS Spectrophotometer etc. The other required equipment are available in Central Instrumentation Facility are also available. The facilities are being augmented with capability for determination of protein by Kjeldahl method, dietary and crude fibre determination, Fat determination, Food Texture Analysis, Atomic Absorption Spectrophotometry, Spray drying, etc.

#### **RESEARCH AREA:**

Nanoparticle synthesis, Catalysts, Advanced Polymer Composites, Alternative Energy, Pollution Control, Water Treatment Technologies, Polymer Blends and Interpenetrating Polymer Networks, Nano filtration Membrane, Recycling of Polymer Waste, Specialty Polymer, Colloids and Interfacial Science, Tissue Engineering, Sensors, Fuel Cell Membrane etc.

## **Department of Mathematics**

The Department of Mathematics provides facilities for research work leading to Ph.D. degree in different areas of mathematics. Besides this, the department offers various topics in mathematics to undergraduate and post graduate students of different departments of the institute, also runs its own courses: 5 years Integrated M.Sc. (Mathematics & Computing) and 2-years M. Sc. (Mathematics). The Department also has its own state of the art Computational Laboratory.

Programmes Offered	Course Duration	Sanctioned Intake
M.Sc. in Mathematics -	2 Years (4 Semesters)	15
Integrated M.Sc. in Mathematics & Computing	5 Years (10 Semesters)	80
Ph.D. Programme		

#### **Mission of the Department:**

- to provide an environment where students can learn and become competent users of mathematics and mathematical applications.
- to conduct research that has worldwide recognition

#### **Vision of the Department:**

- to develop and offer dynamic programs in mathematics that helps the students to enter in new emerging fields and specialisations of mathematics.
- · to be among the best departments of the country

The faculties of the Department are actively engaged in research in the following areas:

- Cyber Attack, Defence and Crime
- Statistical Analysis of Hindustani Classical Music
- Differential Equations and Difference Equations
- Seismology & Earthquake Engineering
- Computational Solid Mechanics
- Operations Research, Optimisation Techniques
- Fuzzy Optimisation
- Mathematical Models on Infectious Disease, Environment Pollution
- Algorithm Analysis
- Numerical Analysis

## **Department of Physics**

The Department of Physics (previously known as Department of Applied Physics) since its inception in 1955 has played a pivotal role in the institute. A gamut of very motivated, well qualified and talented faculty is actively engaged in teaching as well as research in areas of theoretical and experimental physics. They have, to their credit, numerous research publications and several R&D projects. Some faculty members have been awarded international fellowships from Universities abroad and some have received BOYSCAST fellowship awarded by the DST, Government of India and Senior Associateship of International Center for Theoretical Physics (ICTP), Italy.

Programmes Offered	Course Duration	Sanctioned Intake		
Integrated M.Sc. in Physics	5 Years (10 Semesters)	60		
M.Sc. in Physics	2 Years (4 Semesters)	15		
Ph.D. Programme				

#### Vision of the Department

The vision of the Department is to achieve excellence in undergraduate and postgraduate education and research for scholarly inquiry and development of new knowledge.

### Mission of the Department

- To train the students to become lifelong learners who will contribute to the creation of new knowledge, new technology, and innovation through excellence in research in emerging areas.
- To educate students to become future leaders in science, technology, industry, education and other professions and succeed in a globally competitive environment.
- To create National and International collaborations for research engagement in strategic areas of research
- To provide beneficial service to local, state, national and international communities.

The prime objectives of the offered programmes are as follows:

- Impart high quality education in a vibrant academic ambience.
- Prepare students to take up challenges as researchers in academic and R & D organizations.
- To train students for participation in multidimensional academic activities.
- To impart scientific knowledge and inculcate human values.

The department has well equipped laboratories having several systems viz., RF magnetron sputtering, Plasma Enhanced Chemical Vapour Deposition, thermal CVD, RF/DC magnetron co-sputtering, plasma nitriding, Raman spectrometer, nanoindenter, solar simulator, D33 meter, PE loop-tracer, UV Visible Spectrometer, 10K cryostat, optical spectrum analyzer, 35mW He-Ne laser, lock-in-amplifier, CCD spectrometer. etc.

At present the department has 9 faculty members and 15 research scholars, and three new faculty members are going to join shortly. The department has been pursuing several sponsored projects funded by the UGC, DST, BRNS, ARDB, and NRB. In addition, recently the department has also completed two Indo-Russian, one Indo-German and an Indo-Israel project. The Department has received "Fund for Improvement in Science & Technology Infrastructure (FIST)" from DST, New Delhi, as well as Special Assistance Programme (SAP) from UGC.

The current broad areas of research in the department include nanotechnology, condensed matter physics, quantum optics and nonlinear optics. Specific sub-areas are surface engineering with plasma coating, carbon nanotubes, diamond-like carbon (DLC) films, nano and ultra-nanocrystalline diamond films, solar cells, colossal magnetoresistive materials, dilute magnetic semiconductors, piezoelectric materials, electronic composite materials, magnetic composites, soliton and light propagation, optical communication, photonic crystal fibres, optoelectronics, etc.

# Sec 8. Discipline, Rules & Regulations (including UGC Regulations on Ragging) and Medical Examination

**Institute Rules & Regulations**: For details of Institute rules and regulations, please see booklet provided at the time of admission.

#### **Discipline**

The Institute places a very high emphasis on discipline of students both inside and outside the campus. Students must abide by the Institute and agree to conform to the rules and regulations enforced from time to time. They must not do anything either inside or outside the Institute that will interfere with its orderly governance, discipline and image. Students must attend lectures, tutorials and practical classes regularly. A minimum attendance of 75% in lectures, tutorials and sessionals for each subject is essential for appearing in the Semester Examinations. Thus, students should attend all theory and laboratory classes from the first day of the academic year. In case of absence due to unavoidable circumstances, students are advised to take prior permission from the Dean / Head. In case of absence due to illness, students will have to produce a Medical report signed by attending Physician / Surgeon with an application from their parents or guardians. In such a case, parents/guardians should inform the authorities immediately. Students should strike a proper balance between extracurricular activities and academic requirements. A student's participation in extra-curricular activities should not be allowed to interfere in his/her academic schedule.

During teaching hours, the main lobby, the library, the corridors of the Institute and the area surrounding the Institute are to be observed as silence zones. Students must not cause any disturbance / obstacle in these zones. Students must not indulge in any kind of misconduct or indiscipline or anti-social activities within or outside the campus. Students must not form a group causing any hindrance to the academic and administrative activities of the Institute. Those found doing so will be punished and strict disciplinary action will be taken by the authorities. Students shall not damage the property of the Institute. Cost of such damage will be recovered from students, parents/guardians of the students.

Students must always carry their Identity Card and produce it on request. In case of loss or damage of Identity Card, the concerned authorities should be informed immediately.

Students are not permitted to enter and use the laboratory / workshop / sports ground if they do not wear appropriate dress. For example, they should enter the laboratory only with apron, cap or mask as instructed. Students should park their cycles in an orderly manner at the cycle stands. Students should follow the rules of the Canteen. Students are advised to read the Notice Boards regularly.

Students are strictly prohibited from possessing or consuming spirits, tobacco products and narcotic drugs either within or outside the campus, and if found violating this will be rusticated immediately, without warning.

Ragging in any form inside or outside the campus is strictly prohibited by law. Any students found ragging other students will be summarily expelled from the Institute and dealt with as per the directive of Hon. Supreme Court/Hon. High Court.

Each student must read the "UGC Regulations on Curbing the Menace of Ragging in Higher Educational Institutions, 2009" on the UGC website. Each student admitted to any of the Institute's programmes must submit the two completed affidavits [one from candidate and one from parents] at the time of admission. [for details please see Sec-10 of this Information Brochure].

#### Hostel

Hostel facilities are provided at BIT Mesra. All students admitted are required to reside in one of the Institute hostels, to which they are allotted and must take food along with other inmates of the hostel in the common mess. There are separate hostels for girls students.

#### Medical

All selected students will be required to undergo medical examination by a Medical Officer of the Institute and their admission is subject to being found medically fit for the Programme. Therefore, candidates, for their own satisfaction, are advised to get themselves examined by a registered medical practitioner.

## Admission to 5-year (10-Semester) Full-Time Integrated M.Sc. Programmes 2017 at Mesra (Main Campus)

### Applicability of Regulations for the time being in force, Disclaimer and Legal Jurisdiction:

#### In Force

Notwithstanding the nature of a programme spread over more than one academic year, the regulations in force at the time a student joins a programme shall hold good only for the examinations held during or at the end of the semester. Nothing in these regulations shall be deemed to debar the Institute from amending the regulations subsequently and the amended regulations, if any, shall apply to all students old or new, as specified therein.

#### **Disclaimer**

The statements made in this Information Brochure and all other information, contained herein are believed to be correct at the time of publication. However, the Institute reserves the right to make at any or without notice, changes in and additions to the regulations, conditions governing the conduct of students, requirements for degree, fees and any other information, or statements contained in this Information Brochure. No responsibility will be accepted by the Institute for hardship or expense encountered by its students or any other person for such changes, additions, omissions or errors, no matter how they are caused.

#### **Legal Jurisdiction**

All disputes will be subject to jurisdiction of the Civil Courts at Ranchi city only.

## Sec 9. Addresses and contact

Campus	Addresses and contact details
Mesra	Dean Admissions & Academic Coordination
	Birla Institute of Technology
	Mesra, Ranchi - 835215
	Phone: PBX: 0651-2275444 / 896 / 2276496, Extn 4469, & 2275868 (D)
	Fax: 0651- 2275401, 2276007
	e-mail: admissions@bitmesra.ac.in

Off Campuses located in India:

Off Campuses located in India:	
Campus	Addresses and contact details
Jaipur	Director, Birla Institute of Technology Off Campus 27, Malviya Industrial Area, Jaipur 302017 Phone: 0141– 4019798 / 4019819, Fax: 2751601 e-mail: bitjaipur@bitmesra.ac.in
Deoghar	Director, Birla Institute of Technology Campus P.O. Jasidih Dist. Deoghar - 814142 Jharkhand Phone: 06432-292565 Mobile No.: 9234158610 Telefax: 06432-292565 e-mail: bitdeoghar@bitmesra.ac.in
Lalpur	Director, Birla Institute of Technology Off Campus Lalpur Ranchi 834001, Phone: 0651–2531817 / 2531676, Fax: 2531658 / 2531676 e-mail: bitlalpur@bitmesra.ac.in
Noida	Director, Birla Institute of Technology Off Campus A-7, Sector-1 Noida 201701 Phone: 0120-2440408 / 4264080/ 4263080 / 2553661 / 3662, Fax: 2554146 e-mail: bitnoida@bitmesra.ac.in
Patna	Director, Birla Institute of Technology Off Campus Near Patna Airport, P.O. Bihar Veterinary College, Patna-800014 Phone: 0612- 2223545, 3200853 Fax: 2227050 e-mail: bitpatna@bitmesra.ac.in

## Sec 10. Anti-ragging Affidavit

## How can fill Online affidavits and Why?

- 1. It is mandatory for every student and his/her parents to submit an anti-ragging affidavit at the time of admission. These are UGC's regulations.
- 2. It is the order of the Hon. Supreme Court that contact details of students must be collected from these affidavits and stored electronically at a central location.

### It is a simple procedure comprising 3 steps

Step 1: Log on to

www.ANTIRAGGING.in or www.AMANMOVEMENT.org

#### Click on the button called 'On line affidavits'

**Step 2:** Fill in the information as desired and submit the form.

**Step 3:** On successful completion, you will receive affidavits, both for Students and Parents, through E-mail.

#### Note:

- If you do not have an E-mail address please create one before you fill an affidavit forms.
- If your mother or father or guardian does not have a phone or a mobile phone or email then please give the numbers / email of their friends or relations or neighbors.
- If you do not have a mobile number, then please give the mobile number of your friend in the Institute.

After filling this form successfully, you will receive the Student's Anti Ragging Affidavit and the Parents Anti Ragging Affidavit in your Email. Please print both the Affidavits, sign them yourself, request your parents to read the details and request them to sign their affidavit and then submit both during admission.