Information Brochure for Admission to

The 2-Year (4-Semester)
Full-Time
Master of Computer Application (MCA)
Program 2022-2024

at
Jaipur, Lalpur, Mesra & Noida Campuses



BIRLA INSTITUTE OF TECHNOLOGY
A Deemed to be University u/s 3 of UGC Act 1956
MESRA, RANCHI – 835215 (INDIA)
www.bitmesra.ac.in

CONTACT DETAILS

| Campus | Addresses and contact details |
|--------|---|
| Mesra | Dean Admissions & Accreditation Coordination E-mail: daac@bitmesra.ac.in |
| | OR Controller of Admissions Email: coa@bitmesra.ac.in |
| | Birla Institute of Technology Mesra, Ranchi - 835215 Toll-Free:18003457057, 18003457058 Phone: PBX: 0651-2275444 / 896 / 2276496, Extn 4469, & 2275868 (Direct) Email: admissions@bitmesra.ac.in |
| | For Information about MCA program: Head, Department of Computer Science & Engineering Birla Institute of Technology Mesra, Ranchi - 835215 Phone: 0651–2275548 Email: hod.cse@bitmesra.ac.in |
| Jaipur | Director, Birla Institute of Technology, Jaipur Campus 27, Malviya Industrial Area, Jaipur – 302017 Phone No.: 0141 – 4019819 / 4019798 Mobile No.: 6377439408, 9414278777 E-mail: bitjaipur@bitmesra.ac.in |
| Lalpur | Director, Birla Institute of Technology, Lalpur Campus Lalpur, Ranchi 834001 Phone: 0651–2531229 /9905745754 E-mail: bitlalpur@bitmesra.ac.in |
| Noida | Director, Birla Institute of Technology, Noida Campus A-7, Sector-1 Noida 201301 Phone: 0120-2440408 / 4264080/ 4263080 / 2553661 /2553662 E-mail: bitnoida@bitmesra.ac.in |

Please visit our Institute website for addresses and contact details of our other Off Campuses

TABLE OF CONTENTS

| Section | Content | Page No. |
|---------------|--|------------|
| 1. | Introduction | 4 |
| 2. | Eligibility Criteria | 5 |
| 3. | How to apply | 6 |
| 4. | Selection Procedures | 7 |
| 5. | Availability of seats & Reservations | 8 |
| 6. | Financial Information | 9 |
| 7. | Course Structure | 1 <u>0</u> |
| 8. | The Online Computer Based Test | 1 <u>3</u> |
| 9. | Syllabus for Online Entrance Test | 1 <u>4</u> |
| 10. | Placement | 1 <u>6</u> |
| 11. | Discipline, Rules & Regulations, Hostel, Medical Examination | 1 <u>8</u> |
| Annexure -I | Format for undertaking for candidates appearing for Final Examinations in 2022 | 19 |
| Annexure -II | Required list of documents | 21 |
| Annexure -III | Procedure for submission of Anti-ragging Affidavit [during admission] | 22 |

IMPORTANT DATES

| Filling of Online Application Form commence from | 02.04.2022 |
|--|------------|
| Last Date to Apply | 02.06.2022 |
| Issue of Admit Card | 15.06.2022 |
| DATE FOR ONLINE ENTRANCE TEST | 19.06.2022 |
| Declaration of Result | 29.06.2022 |

Note: All the dates mentioned above are tentative, and liable to be changed. Hence, please check our Institute website periodically.

Sec 1. Admission to MCA Program - an Introduction

Master of Computer Applications (MCA) Program at the Birla Institute of Technology, Mesra, Ranchi is of 2 years duration.

The Master of Computer Applications (MCA) program offered by the Department of Computer Science, BIT Mesra is one of the most coveted Post Graduate courses in the Institute. The course was originally designed as a three-year program to produce top quality, industry ready professionals who would provide tremendous value addition to the burgeoning IT service sector in the country.

In conformance with the guidelines issued by AICTE, the program is now being offered with a reduced tenure of two years, which features an intensive course curriculum and a multitude of sessional and laboratory courses. The course structure has been carefully designed with an even mix of courses addressing core facets of computer science and IT applications. We regularly invite eminent experts form the Industry and academia to moderate our course structures and are committed to updating them regularly to keep them relevant. Accredited by the National Board of Accreditation1, the MCA program provides ample opportunities to students to hone their programming, application development and software engineering skills which are in high demand in the IT sector.

Acknowledging the fact that the best way to learn is by doing, the course provides for a compulsory one semester Industry Internship, during which students spend time across India's top IT companies, learning the nuances of applying their skills to practical IT challenges. The program also features courses from the domains of Social Sciences, Management, Soft skills etc., which are important ingredients in producing truly committed professionals who appreciate the social, ethical and economical needs of the nation.

The program also ensures that all students get to explore their own aptitudes to the fullest by offering a vast array of electives, which students can opt for from the second semester onwards. These electives have been carefully curated to be in sync with the demands of the Industry and add to the value of the course.

It is this pursuit and commitment towards excellence that has been acknowledged by the Industry and each year some of the best IT companies from India and abroad visit the Institute to offer placement opportunities to the students of the MCA program. We are proud that for over three decades the MCA program has maintained an enviable placement record and our alumni now occupy positions of eminence across many corporates spread across the globe.

BIRLA INSTITUTE OF TECHNOLOGY, Mesra, Ranchi, Jharkhand, India Deemed University u/s 3 of UGC Act 1956; Website: http://www.bitmesra.ac.in

Sec 2. Eligibility Criteria

- 1) Candidates must hold a Bachelor's Degree or equivalent qualification of any of the Universities incorporated by an act of the central or state legislatures in India or other educational institutions established by an act of Parliament or declared to be deemed as a University under section 3 of UGC Act, 1956, or possess an equivalent qualification recognized by the Ministry of HRD, Government of India / AIU. This degree must entail a minimum of three years of education after completing higher secondary schooling [Class 12 or equivalent] (10+2+3 system).
- 2) Candidates must have one of following qualifications:
 - a) Bachelor of Computer Applications OR
 - b) B.Sc. in Computer Science OR
 - c) B.Sc. in Information Technology OR
 - d) B.Sc. in Computer Applications
- 3) Candidates with above mentioned qualifications must have minimum 55% (50% for SC/ST/PwD) marks in average in graduation, marks to be computed as average of marks obtained in all subjects in which the candidate has appeared. [Candidates with B.Sc. Honours must have minimum 55% (50% for SC/ST/PwD) marks in average in their Honours subject].
- 4) Candidates appearing for final examinations of their Bachelor's Program in 2022 can also apply, provided they have obtained requisite marks or equivalent (as per item 3 above) based on latest available grades / marks at the time of applying, and if selected can join the program provisionally. At the time of reporting for the verification of documents cum admission such an applicant must bring a certificate in original from the Principal of Institute stating that:

 - b) (s)/he has obtained requisite marks or equivalent (as per item 3 above), based on latest available grades / marks.

Provisionally selected candidates will be required to sign an undertaking at the time of admission on Non-Judicial Stamp Paper of Rs. 20/- (as format given in Annexure -I).

Further, their admission will be confirmed only when they submit the mark sheet and a certificate of having passed the Bachelor's degree / equivalent qualification with requisite marks as per item 3 above. They must submit proof of passing their final examinations with requisite marks by **31 October 2022.** Non-fulfillment of this condition will automatically result in the cancellation of the provisional admission.

5) Candidates with qualifications acquired through correspondence or distance-learning programs are eligible only if (a) the programs are recognized by the DEC-IGNOU (b) they have passed the qualifying examination at the time of applying, with minimum requisite marks in average calculated as per item (3) above. They must carry original copy of pass certificate, marksheets of qualifying examination and proof of Institute recognized by the DEC-IGNOU along with their application during admission. [Appearing candidate in distance learning programs, whose results are yet to be declared, are not eligible to apply].

Notes:

- 1) Candidates with foreign diplomas should see the EdCIL website for equivalence (http://www.edcil.co.in), and if required should obtain an equivalence certificate from the evaluation division of the AIU (website http://www.aiuweb.org).
- 2) In case any Board / University awards grades instead of marks, the calculation of equivalent marks would be based on the procedure prescribed by the Board / University. In case a University does not have any scheme for converting CGPA into equivalent marks, the equivalence would be established by dividing obtained CGPA with the maximum possible CGPA and multiplying the resultant with 100.
- 3) At any level of the studies [class X, class XII or graduation], a candidate / applicant must have passed all the required subjects at that level from the same Board/ University.

Sec-3. How to Apply

How to Apply:

- 1. To fill online application form, click on the link "APPLY ONLINE" to register for the program and create password for the application process. Do not share the password with anybody. Please see instructions for filling online application form.
- 2. Eligible candidates must complete and submit the application form online only [link available on the Institute website www.bitmesra.ac.in].
- 3. Pay application fee of Rs.1,500/- (General / OBC /EWS candidates) and Rs.1,000/- (SC/ST candidates) through Online Payment Gateway (candidates may use net banking / debit card / credit card of any nationalized bank) till the last date of application process. Fee once remitted shall not be refunded.
- 4. The candidates may select multiple choice of place for study **MAXIMUM OF THREE CAMPUSES**, in order of preference from the prompt. **Candidates will not be permitted to alter their preferences at a later stage**.
- 5. Candidates should proceed to fill the Online Application Form only after they satisfy themselves that they fulfill all the eligibility criteria.

Form / Application Numbers

The Form / Application numbers on each online application form may be noted and cited in correspondence, if required.

Sec 4. Selection Procedures

- Provisional selection will be based on performance of candidates in MCA Online Entrance Test conducted by the Institute, subject to fulfilling eligibility conditions mentioned under eligibility criteria.
- Admission will be offered, subject to fulfillment of the eligibility conditions.
- The waitlisted candidates may be called for verification of documents and admission against the vacant seats, if any, in successive rounds, as required. The same will be intimated on the Institute website only. No separate intimation will be sent to candidates.

Cancellation of Admission Offer:

- > The admission of a candidate will be automatically cancelled:
 - if any information provided in the application form is found incorrect or missing.
 - who fail to submit the final degree / qualifying examination in time as stipulated or fail to secure minimum eligible marks in the degree / qualifying examination.

Note: Eligible SC/ST, OBC, PwD students admitted to MCA Program at any of 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. Availability of Seats & Reservations

The number of seats to be offered in the Academic Year 2022-23 for the MCA Program at

various Campuses is as given below:

| SI No. | Campus | Seats to be offered |
|--------|--------|---------------------|
| 1. | Jaipur | 45 |
| 2. | Lalpur | 120 |
| 3. | Mesra | 60 |
| 4. | Noida | 30 |

Reservations: Currently the Institute follows reservations as given below for its MCA Program.

- 1. For all programs at the Institute which are supported by any of the respective State Governments, the reservation criteria for the state quota are as per the norms of the respective State Government.
- 2. For all other programs 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 (5%).
- 4. Upto 1 seat at all Campuses is reserved for candidates who are Sons or Daughters of Kashmiri Migrant who otherwise have qualified for admissions.
- 5. Upto 6% of the seats at its other Campuses [except Mesra Campus] are reserved for candidates who are sons and daughters of serving employees of BIT, who otherwise have qualified for admissions.
- 6. Upto 10% seats are reserved for candidates belonging to Economically Weaker Section (EWS).
- 7. 50% of the total seats are reserved for candidates who have passed / are appearing for qualifying examination (graduation) from the state in which Campus is located. (The "State of Eligibility" of a candidate for the purpose will be determined based on location of his/her College where (s)/he has passed/is appearing for the qualifying examination / graduation).

[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.

Note: Please select the state of eligibility from drop down box while filling the online

application form. (Examples):

| | State of Eligibility |
|---|----------------------|
| Qualifying examination (graduation) from Jharkhand | Jharkhand |
| Qualifying examination (graduation) from Rajasthan | Rajasthan |
| Qualifying examination (graduation) from West Bengal | West Bengal |
| Qualifying examination (graduation) from Uttar Pradesh | Uttar Pradesh |
| Qualifying examination (graduation) from Delhi | Delhi |
| Qualifying examination (graduation) from Andhra Pradesh | Andhra Pradesh |

Sec 6. Financial Information

Fees payable [In INR] for the full-time MCA Program at Mesra & its Other Campuses for 2022 Batch

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

| Particulars | 1 st Semester | 2 nd Semester | 3 rd Semester | 4 th Semester |
|--|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Tuition Fee | 108500 | 108500 | 119500 | 119500 |
| Development Fee | 8000 | 8000 | 8500 | 8500 |
| Institute Exam Fee | 6500 | 6500 | 7000 | 7000 |
| Sub-Total | 123000 | 123000 | 135000 | 135000 |
| Hostel Seat Rent, Electricity and Transport etc. (For Mesra Campus only) | | To be notif | ied shortly. | |

| | Additional amount to be paid at the time of admission | | | | | | | |
|------|---|---------------|--|--|--|--|--|--|
| (i) | Admission Fee (One time only) | Rs.17,500.00 | | | | | | |
| (ii) | Caution Money (One time only-Refundable) | Rs.10,000.00 | | | | | | |
| | Sub-Total | Rs. 27,500.00 | | | | | | |

Notes:

- 1. Hostel facilities are available only at its Mesra (Main Campus). Hostel mess charges at Mesra Campus will be approximately Rs. 3,500/- to Rs. 4,000/- per month. Students at Mesra Campus will be required to deposit Hostel Caution Money* (One Time only Refundable) of Rs.5,000/- and suitable mess advance at the beginning of each semester, which will be adjusted against their mess charges. This mess advance will be Rs.20,000/- [Total of Rs. 25,000/-] for the Academic Session 2022-23.
 - For Mesra Campus— Hostel Caution Money (One Time only Refundable) and Hostel Mess Advance (each semester) are payable through SBI Collect in favour of "BIT Welfare Society".
- 2. Pay Institute fee (for 1st semester), using Online Payment Gateway through debit / credit card and net banking of any nationalized bank. [URL of payment gateway will be shared in applicant email ids during admission].
- 3. 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.

Sec 7. Course Structure

PROGRAMME COURSE STRUCTURE (ALL SEMESTERS)

Based on CBCS & OBE model Recommended scheme of study for MCA Program

| Semester | Course | Category of | Course | Courses | Mode of de | elivery & cre | dits | Total |
|------------------|--------|------------------------------|--------|--|-------------------------|-------------------------|-------------------------|---------|
| | Level | Course | Code | | | | | Credits |
| | | | | | L (periods/ week) | T (periods/ week) | P (periods/ week) | |
| | | | | Theory | | | | |
| | FOURTH | Programme Core (PC) | CA403 | Computer Organization & Architecture | 3 | 0 | 0 | 3 |
| | FOURTH | Programme Core (PC) | CA405 | Data Structures and Algorithms | 3 | 0 | 0 | 3 |
| First/ Monsoon | FOURTH | Programme Core (PC) | CA407 | Database Design Concepts | 3 | 0 | 0 | 3 |
| r ii su vionsoon | FOURTH | Programme Core (PC) | CA409 | Object Oriented Design using Java | 3 | 0 | 0 | 3 |
| | FOURTH | Programme Core (PC) | CA411 | Modern Operating Systems | 3 | 0 | 0 | 3 |
| | FIRST | Humanities & Social Sciences | MT123 | Business Communication | 2 | 0 | 2 | 3 |
| | 1 | | l | Laboratories | | | I. | ı |
| | FOURTH | Programme Core (PC) | CA406 | Data Structures and Algorithms Lab | 0 | 0 | 3 | 1.5 |
| | FOURTH | Programme Core (PC) | CA408 | Database Design Concepts Lab | 0 | 0 | 3 | 1.5 |
| | FOURTH | Programme Core (PC) | CA410 | Object Oriented Design using Java Lab | 0 | 0 | 3 | 1.5 |
| | | | | Total | | | | 22.5 |

| Semester | Course | Category of | Course | Courses | Mode of do | elivery & cre | dits | Total |
|----------------|--------|------------------------|--------|---|-------------------------|-------------------------|-------------------------|---------|
| | Level | Course | Code | | | | | Credits |
| | | | | | L (periods/ week) | T (periods/ week) | P (periods/ week) | |
| | | | | Theory | | | | |
| | FIRST | HSS | MT114 | Fundamentals of management & Organization Behaviour | 3 | 0 | 0 | 3 |
| | FOURTH | Programme Core (PC) | CA413 | Data Communication & Computer Networks | 3 | 0 | 0 | 3 |
| Second/ Spring | FOURTH | Programme Core (PC) | CA415 | Software Engineering Principles | 3 | 0 | 0 | 3 |
| | FOURTH | Programme Core (PC) | CA417 | Theory of Computation | 3 | 0 | 0 | 3 |
| | FOURTH | Programme Core (PC) | CA419 | Analysis of Algorithms | 3 | 0 | 0 | 3 |
| | FOURTH | Program Elective | _ | Program Elective - I | 3 | 0 | 0 | 3 |
| | | | | Laboratories | | | | |
| | FOURTH | Programme Core (PC) | CA414 | DCCN Lab | 0 | 0 | 3 | 1.5 |
| | FOURTH | Programme Core (PC) | CA416 | Software Engineering Lab | 0 | 0 | 3 | 1.5 |
| | FOURTH | Programme Core (PC) | CA422 | IT Tools & Techniques Lab | 0 | 0 | 3 | 1.5 |
| | | | | Total | | | | 22.5 |

| Semester | Course | Category of | Course | Courses | Mode of de | elivery & cre | dits | Total |
|----------------|--------|--|--------|--|-------------------------|-------------------------|-------------------------|---------|
| | Level | Course | Code | | | | | Credits |
| | | | | | L (periods/ week) | T (periods/ week) | P (periods/ week) | |
| | | | | Theory | | | | |
| | FIFTH | Programme Core (PC) | CA511 | Basics of Machine Learning | 3 | 0 | 0 | 3 |
| | FIFTH | Programme Core (PC) | CA513 | Compiler Design | 3 | 1 | 0 | 4 |
| Third/ Monsoon | FIFTH | Programme Core (PC) | CA515 | Soft Computing | 3 | 0 | 0 | 3 |
| | FIFTH | SIT / Soft Skill Course / Extra OE | CA550 | Small Industrial Training/ Small Project /MOOC | | | | 6 |
| | FIFTH | Program Elective | - | Program Elective - II | 3 | 0 | 0 | 3 |
| | FIFTH | Program Elective | - | Program Elective - III | 3 | 0 | 0 | 3 |
| | | | | Laboratories | | | | |
| | FIFTH | Programme Core (PC) | CA512 | Basics of Machine Learning Lab | 0 | 0 | 3 | 1.5 |
| | FIFTH | Programme Core (PC) | CA514 | Compiler Design Lab | 0 | 0 | 3 | 1.5 |
| | | | | Total | | | | 25 |

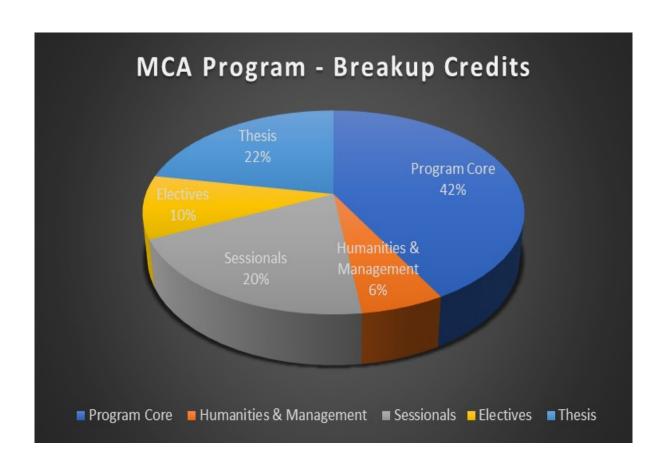
| Semester | Course | Category of | Course | Courses | Mode of d | elivery & cre | dits | Total |
|----------------|--------|-------------|--------|---------|-------------------------|-------------------------|-------------------------|---------|
| | Level | Course | Code | | | | | Credits |
| | | | | | L (periods/ week) | T (periods/ week) | P (periods/ week) | |
| Project | | | | | | | | |
| Fourth/ Spring | FIFTH | Project | CA590 | Project | | | | 20 |
| | Total | | | | | 20 | | |

Total Credits: 90

| List of Program | Electives |
|-----------------|-----------|
|-----------------|-----------|

| PE/ LEVEL | | Course Code | Name of the PE courses | L | T | P | Credit |
|--------------|-----|----------------|---------------------------------|---|---|----------|--------|
| 4 | | CA431 | Distributed Databases Concepts | 3 | 0 | 0 | 3 |
| 4 | | CA433 | Intrusion Detection System | 3 | 0 | 0 | 3 |
| 4 | DE4 | CA435 | Modern Artificial Intelligence | 3 | 0 | 0 | 3 |
| 4 | | CA437 | Information Retrieval | 3 | 0 | 0 | 3 |
| 4 | PE1 | CA439 | Image Processing | 3 | 0 | 0 | 3 |
| 4 | | CA441 | Data Mining Techniques | 3 | 0 | 0 | 3 |
| | | - I | | | | <u> </u> | |
| 5 | | CA519 | Mobile Computing | 3 | 0 | 0 | 3 |
| 5 | PE2 | CA521 | Cyber Security | 3 | 0 | 0 | 3 |
| 5 | | CA523 | Cloud Computing | 3 | 0 | 0 | 3 |
| 5 | | CA525 | Deep Learning | 3 | 0 | 0 | 3 |
| 5 | | CA527 | Computer Vision | 3 | 0 | 0 | 3 |
| 5 | | CA529 | Network Security & Cryptography | 3 | 0 | 0 | 3 |

| List of Program Electives | | | | | | | |
|---------------------------|-----|----------------|-----------------------------|---|---|---|--------|
| PE/ LEVEL | | Course Code | Name of the PE courses | L | Т | P | Credit |
| 5 | | CA539 | Parallel Computing | 3 | 0 | 0 | 3 |
| 5 | | CA541 | Digital Forensic | 3 | 0 | 0 | 3 |
| 5 | | CA543 | Internet of Things (IOT) | 3 | 0 | 0 | 3 |
| 5 | PE3 | CA545 | Natural Language Processing | 3 | 0 | 0 | 3 |
| 5 | | CA547 | Big Data Analytics | 3 | 0 | 0 | 3 |
| 5 | | CA549 | Block Chain Technology | 3 | 0 | 0 | 3 |



Sec 8. The Online Computer Based Test

The Online Computer Based Test for shortlisting candidates for admission to its 2 Years [4 Semesters] full-time MCA Program will be conducted by the Institute at national level. Please refer Section 9 for the details of the Test.

Date of Online Entrance Test: 19.06.2022 (Sunday)
Mode of Examination: Proctored Based Online Test.
Duration of Online Test: 2 hours [10 am to 12 Noon]

Admit Cards:

Admit card will be issued to the applied candidates whose online applications are submitted successfully within the stipulated time.

The candidates are advised to download their admit cards from the Institute website [Admission Page] on or after 15.06.2022. If a candidate is unable to download the admit card, candidates should contact the Admissions Office at BIT Mesra, Ranchi by email at admissions@bitmesra.ac.in or telephone or fax (contact numbers are given in page -2 of this Brochure).

At the end of the online test, the score obtained by the candidates will be flashed on the computer screen. You may note it down for your ready reference.

Candidates are also advised to visit our Institute website http://www.bitmesra.ac.in for any latest updates pertaining to Online Entrance Test and admission.

Notes:

- 1. The admit card is not transferable to any other person. Impersonation is a punishable offence under law. The admit card will be required to be produced at the time of admission. Therefore, all candidates are required to preserve the admit card until the admission process is complete.
- 2. The link along with instructions for mock test and actual test will be share within the Admit Cards of the applicants.
- 3. Merely being allowed to appear in the online test will not be considered as a ground for being eligible for admission.

Sec 9. Syllabus for the Online Entrance Test

The MCA 2022 Online Entrance Test shall comprise of 120 questions to be answered in 2 hours. Questions will be of objective type with multiple choices out of which only one is correct. A candidate must select only the correct answer to score full marks. For each correct answer a candidate will earn 4 marks. For every incorrect answer one mark will be deducted. If a question has not been attempted no credit will be given. The questions will be distributed into various areas as follows and the detailed syllabus is given below:

| Section | Subject | No of Questions |
|---------|--|-----------------|
| А | Mathematics | 40 |
| В | Analytical ability & Logical Reasoning | 20 |
| С | Computer Awareness | 40 |
| D | English | 20 |
| | Total | 120 |

Section A: Mathematics (40 questions – objective type)

- Algebra: Fundamental operations in Algebra, expansion, factorization, quadratic equations, indices, logarithms, arithmetic, geometric and harmonic progressions, binomial theorem, permutations and combinations, surds
- Set Theory: Sets and subsets, operations on sets, sequences, properties of integers, relations and functions
- Matrix Algebra: Elementary transformations, inverse of a matrix, rank, solution of simultaneous linear equations, eigenvalues and eigenvectors, quadratic forms
- Co-ordinate Geometry: Rectangular Cartesian co-ordinates, equations of a line, mid point, intersections etc., equations of a circle, distance formulae, pair of straight lines, parabola, ellipse and hyperbola, simple geometric transformations such as translation, rotation, scaling.
- Calculus: Limit of functions, continuous functions, differentiation of function(s), tangents and normals, simple examples of maxima and minima, integration of function by parts, by substitution and by partial fraction, definite integral application to volumes and surfaces of frustums of a sphere, cone, cylinder, Taylor Series.
- **Vectors:** Position vector, addition and subtraction of vectors, scalar and vector products and their applications to simple geometrical problems and mechanics.
- **Trigonometry:** Simple identities, trigonometric equations, properties of triangles, solution of triangles, height and distance, inverse function
- Probability and Statistics: Basic concepts of probability theory, averages, dependent
 and independent events, frequency distributions, and measures of dispersions,
 skewness and kurtosis, random variable and distribution functions, mathematical
 expectations, binomial, Poisson, normal distributions, curve fitting, and principle of least
 squares, correlation and regression

Section B: Analytical Ability and Logical Reasoning: (20 questions – objective type)

Questions in this section will test logical reasoning, quantitative reasoning, and visio-spatial reasoning

Section C: Computer Awareness: (40 questions – objective type)

- Computer Basics: Organization of a computer, Central Processing Unit (CPU), Structure of instructions in CPU, input / output devices, computer memory, memory organization, back-up devices
- Data Representation: Representation of characters, integers, and fractions, binary and hexadecimal representations, Binary Arithmetic: Addition, subtraction, division, multiplication, 1's and 2's complement arithmetic, floating point representation of numbers, normalized floating point representation, Boolean algebra, truth tables, Venn diagrams
- Computer Architecture: Block structure of computers, communication between processor and I / O devices, interrupts
- Programming Languages: C, C++, Java, Python
- Flow chart and Algorithms
- Operating Systems: Evolution of operating systems, types of operating systems, functions of an operating system, modern operating systems
- Database Management systems: Relational Database, Entity-Relationship Diagram, Functional Dependencies, Decomposition
- Computer Networks: Classification of Networks: LAN, MAN, WAN, Network Topology: Bus, Star, Ring, Star bus, Star ring, Mesh, Modem, Repeater, NIC, Network adapters, Connectors, Transceiver, Hub, Bridge, Switches, Routers and Gateways

Section D: English: (20 questions – objective type)

- Use of articles and prepositions (fill in the blanks or correct use)
- Idioms and phrases
- Synonyms
- Reading comprehension
- Expansion of an idea
- Sentence sequence (jumbled sentences)
- Completion of a sentence (with choices)
- Choice of appropriate word to fill in the blanks (with options)
- Abridging sentences / paragraphs.

Sec 10. Major Recruiters















































































































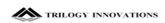
























Sec 11. Discipline, Rules & Regulations, Hostel and Medical Examination

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 Hostel rules 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 Certificate with an application from their parents or guardians. In such a case, parents/guardians or Hostel Warden should inform the authorities immediately. Students should strike a proper balance between extracurricular activities and academic requirements. A student's participation in extracurricular 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 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 College. 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 Hostel Mess / 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 Programs must submit the two completed affidavits [one from candidate and one from parents] at the time of admission. [For details, please refer Annexure -III of this Information Brochure].

Hostel

Hostel facilities are provided only at its Mesra Campus. All students admitted at its Mesra Campus 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 Program. Therefore, candidates, for their own satisfaction, are advised to get themselves examined by a registered medical practitioner.

The Institute at Mesra is located in a spacious green campus. There are small forests with a large number of trees – mostly sal trees which are native to Chotanagpur. These sal trees and a number of other trees and plants have their flowering season during mid-February to early April, and this sometimes leads to a large pollen content in the air. It has been noted that some people who are allergic or susceptible to pollen from these sal trees / other plants may develop some health problems / breathing problems or their existing problems may be aggravated during these weeks, as also during some other months of the year when other plants flower. Thus, such candidates who are known to be sensitive or susceptible to pollen from trees or other plants are required to get allergy tests done / take advice from their physicians / a specialist before taking admission at Birla Institute of Technology, Mesra, Ranchi.

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

In Force

Notwithstanding the nature of a program spread over more than one academic year, the regulations in force at the time a student joins a program 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.

Annexure - I

Format for undertaking for candidates appearing for final examinations in 2022

Format of the Undertaking to be typed and submitted on Non- Judicial Stamp Paper of Rs. 20/-, signed by Public Notary, at the time of admission by those candidates who are provisionally selected for the MCA Program of the Institute, and are appearing for their final examinations in 2022.

Please fill in all blanks, select relevant items and delete whatever is not applicable.

| 1. | I,S/o | | | | | |
|-------|---|---|--|--|--|--|
| | resident of | P.S | | | | |
| | Technology is 55% (50% for SC/S years in graduate level and there Program of Birla Institute of Technology | hereby declare that I am fully dmission to MCA Program of the Birla Institute of T/PwD) in Honours / aggregate of all subjects in all fore, I shall be disqualified for admission to MCA ology, if I do not secure minimum 55% marks (50% egate of all subjects in all years in graduate level or | | | | |
| 2. | I belong to General / GEN-EWS/ SC / ST / OBC category (strike out whichever is not applicable) | | | | | |
| 3. | I do hereby undertake that since I have been provisionally allowed to appear in the selection procedure to MCA Program although my graduation / equivalent eligibil qualifying examination has not yet been published, I shall not insist on extension conversion of the provisional admission, if i). I fail to secure minimum 55% marks (50% for SC/ST/PwD) in Honours / aggregate all subjects in all the years in such graduation or equivalent eligibility qualifying examination, or ii). I fail to produce the official result by the 31st October 2022. | | | | | |
| 4. | I undertake that all the certificates / documents submitted by me are authentic and are issued by competent authority. | | | | | |
| 5. | I undertake that if at any time during the Program I am found not to be eligible for admission for not having required marks in Graduation, my admission shall be cancelled. | | | | | |
| Count | ter Signed | | | | | |
| Name | (Guardian) & Address in Block Capitals | (Applicant) Name & Address in Block Capitals | | | | |
| Name | <u>, </u> | Name | | | | |
| Addre | ess | Address | | | | |
| | | | | | | |

Annexure -II

Required List of Documents

Candidates must carry the originals of the following documents at the time of reporting for admission, as well as one set of self-attested photocopies:

- 1. A print-out of the duly completed online form (original copy)
- 2. One recent colour photograph [same as uploaded on the form]
- 3. Marksheet and Pass certificate of Class 10 (as proof of age)
- 4. Marksheet of Class 12 / Intermediate or equivalent
- 5. Marksheets of Graduation for graduates

Marksheets upto pre-final year for candidates graduating in 2022. He /She must also bring a certificate from the Principal of Institute stating that:

- (ii) He / she has obtained requisite marks or equivalent based on latest available grades / marks.
- 6. Candidates with qualifications acquired through correspondence or distance-learning programs must carry a proof of pass certificate in addition to marksheets of graduation and proof of the program recognized by the DEC-IGNOU in letter head of the Institute/College /University.
- 7. Admit Card for the MCA 2022 Online Entrance Test
- 8. Score Card of the MCA 2022 Online Entrance Test
- 9. Caste certificate (if applicable), which should be in proper format and signed by appropriate authority of rank not less than SDO.
- 10. Candidates belonging to other special categories mentioned in Sec-6 [Person with Disability (PwD) / Kashmiri Migrant / Ward of BIT Employee/ Economically Weaker Section] must provide photocopy of certificate in proper format from appropriate authority.
- 11. College Leaving Certificate
- 12. Migration Certificate
- 13. Photo identification: (Driving license, Passport, PAN Card, Voter ID, College ID, Aadhaar Card, Employee Identification Card are acceptable)

Note: If selected for admission, candidates will be required to submit all the above documents in original (except the Photo ID) at the time of admission, along with the requisite fees.

Provisionally selected candidates appearing for final examinations in 2022 will be required to submit an undertaking at the time of admission on Non-Judicial Stamp Paper of Rs. 20/- to the effect that if they fail to obtain the requisite marks in their qualifying examination (graduation) their admission will be liable to be cancelled. The deadline for submission of the marksheet / degree certificate is 31st October 2022, failing which the provisional admission will be cancelled. (Please refer Annexure-I for the format of the above undertaking).

Annexure -III

Procedure for submission of Anti-ragging Affidavit [during admission]

Step 1:

A student should submit his/her details on the following below mentioned web

sites

1. www.antiragging.in OR

2. www.amanmovement.org

Read and confirm that you and your parents/guardians have read and

understood the AICTE regulations on curbing the menace of ragging. You should

then confirm & agree that you will not engage in ragging in any form.

Step 2:

You will receive an e-mail with your registration number and a web link. You

have to forward the link to the Institute Nodal Officer in the below mentioned

email ID.

Please note that you will not receive any pdf affidavits and you are not

required to print & sign it as used to be the case earlier.

BIT Mesra Nodal Officer: Chiranjeev Semwal

Email Id: antiragging@bitmesra.ac.in