

INSTITUTE OF MATHEMATICS AND APPLICATIONS

Science & Technology Department, Government of Odisha

BHUBANESWAR-751029



ADMISSION 2023-24

INFORMATION BROCHURE

(Undergraduate Programme)

B.Sc.(Hons.) in Mathematics and Computing

(Postgraduate Programme)

M.A./M.Sc. in Computational Finance

M.A./M.Sc. in Mathematics with Data Science

VISION

To generate, disseminate and preserve knowledge in Mathematical Science and related discipline and to use this knowledge for promoting welfare of the people.

MISSION

- To be a Centre of Excellence in Mathematics and related areas by providing academic study and excitement of discovery in an atmosphere of freedom.
- To create an environment and support for faculties and students to work creatively and effectively for the betterment of society.

INSTITUTE AT A GLANCE

The Institute of Mathematics and Applications was established in the year 1999, by the Science and Technology Department, Government of Odisha with wide ranging aims and objectives as notified in the Gazette No. 18, July 23, 1999/SRAVANA, 1, 1921. In the last twenty-three years since its inception, consistent with its aims and objectives, it has been active in research, teaching and nurturing talents in mathematics. Impressive activities of the Institute and its potential have persuaded the State Government to graciously lease a piece of land measuring about twenty one acres on which the TATA Steel Ltd. has constructed the present campus.

GOVERNING COUNCIL OF THE INSTITUTE

Prof. M. S. Raghunathan , F.R.S., Head of the National Centre for Mathematics, Indian Institute of Technology, Mumbai	Chairman
Vice Chancellor , Utkal University, Bhubaneswar	Member
Secretary to Government , Science and Technology Department, Govt. of Odisha	Member
Chairman or anominee , National Board for Higher Mathematics, Department of Atomic Energy, Govt. of India.	Member
Senior most Professor of Mathematics , Utkal University, Bhubaneswar	Member
Senior most Professor of Mathematics , Sambalpur University, Sambalpur	Member
Senior most Professor of Mathematics , Berhampur University, Brahmapur	Member
Director , Institute of Physics, Bhubaneswar	Member
Prof. Gadadhara Misra , Department of Mathematics, Indian Institute of Science, Bengaluru	Member
President , Odisha Mathematical Society	Member
Prof. R. Balasubramanian , Former Director, Institute of Mathematical Sciences, Chennai	Member
Prof. Sudhakar Panda , Director, NISER, Bhubaneswar.	Member
Prof. G D Veerapa Gowda , TIFR Centre for Applicable Mathematics, Bengaluru	Member
Secretary , Finance Department, Govt. of Odisha or his nominee not below the rank of Additional Secretary to Govt.	Member
Director , Institute of Mathematics and Applications, Bhubaneswar.	Member Secretary

FACULTY MEMBERS OF THE INSTITUTE

Director

- Prof. Jasobanta Jena, Ph. D. (Mathematics).

Regular Faculty of IMA

- Dr. Trailokya Panigrahi, Ph. D. (Mathematics).
- Dr. Pinakadhar Baliarsingh, Ph. D. (Mathematics).
- Dr. Sudhakar Sahoo, Ph. D. (Computer Sc.).
- Shri Indra Bate, M. Sc. (Mathematics).

Guest Faculty Associated with IMA

- Prof. Sudarsan Padhy, Former Director, IMA.
- Professor Akshaya Kumar Mishra, Former Director, IMA
- Prof. Jagannath Patel, Former Governing Council Member, IMA
- Dr. Shishir Kumar Sahoo, Former Registrar, IMA
- Prof. Lokanath Sahoo, Ph.D. (Statistics).
- Prof. A. K. Ojha, Former Professor of Mathematics, IIT Bhubaneswar
- Dr. Rupaj Nayak, Ph. D. (Mathematics).
- Dr. Dilip Senapati, Ph. D. (Computational Finance).
- Dr. Sasmita Mishra, M. Sc. (Computational Finance), Ph. D. (Economics).

- Dr. Ch. Sanjeev Kumar Dash, Ph. D. (Computer Sc.).
- Dr. Biswajit Pradhan, Ph. D (Physics).
- Dr. R. K. Kar, Ph. D (English)
- Dr. Nilambar Tripathy, Ph. D. (Mathematics)
- Dr. Arjun Singh, Ph. D. (Mathematics)
- Dr. Debopriya Mukherjee , Ph. D. (Mathematics)
- Dr. Snigdha Samantaray, Ph. D. (Mathematics)
- Mr. Pradipta Kumar Pattanayak, M. Tech. (Computer Science).
- Mr. Amitav Saran, M. Tech. (Computer Sc.).
- Mr. Nilkanta Das, M. Sc. (Computational Finance).
- Mr. Chinmayananda Padhy, M. Tech. (IT).
- Mr. Rudra Prasad Tripathy, M. Tech. (Computer Science).
- Mr. Sudhansu Ray, B. Tech. (Electronics), MBA.
- Ms. Dharashree Panda
- Mr. Bhagabat Prasad Choudhury
- Mr. Bijaya Kumar Biswal
- Mr. Krishna Yadav
- Mr. Biswajit Mahato
- Mr. Kartik Sahoo

UNDERGRADUATE (U.G.) PROGRAMME

- **B.Sc. (Hons.) in Mathematics and Computing, (Three Year Course)**

About the Programme:

The Institute of Mathematics and Applications is offering a well-designed programme “B.Sc. (Hons.) in Mathematics and Computing” in order to impart high quality education in Mathematics and Computing to those student who love Mathematics and at the same time keep career option open in Computer Science/Statistics. Besides a research career in Mathematics, there are varieties of other career options for the graduates of these programmes both in academics as well as in the corporate sector. Students finishing B.Sc. (Hons.) in Mathematics and Computing from this institute have joined in Master’s Degree courses and integrated Ph. D. programmes in reputed R&D institutions and foreign Universities.

Eligibility:

A candidate seeking admission to this programme should have passed Higher Secondary or equivalent examination with Mathematics and English as subjects.

Applicants appearing at the qualifying examination can also appear in the entrance test. However, if selected, they have to submit the results of the qualifying examination at the time of admission along with Provisional Certificate, College/School Leaving Certificate and Mark sheet.

Intake:

The maximum number of students to be admitted into the programme is 30 (**likely to be increased to 45**) which include the number of students admitted under reserved categories as prescribed by the Govt. of Odisha and in vogue at the time of admission.

Admission Fee and Course Fees:

1. Admission Fees : Rs 20,000/-
2. 1st Year Course Fee : Rs 25,000/-
3. 2nd Year Course Fee : Rs 25,000/-
4. 3rd Year Course Fee : Rs 25,000/-

(Excluding hostel accommodation fees, mess fees and other fees).

POSTGRADUATE (P.G.) PROGRAMME

- **M.A./M.Sc. in Computational Finance. (Two Year Course)**

Finance as a subject has emerged to be an extremely involved branch of knowledge with growing number of stock exchanges and investors in the field. Risk and return that constitute cardinal aspects of the subject remain a major concern for every investor, individual as well as institutional. Volumes of data encountered in the processes make investment decisions difficult. In apparently erratic behaviors of the market mathematicians try to capture patterns vis-à-vis predictability, which may help investors decide on their investment. Computational Finance deals with portfolio selection, options and futures, asset pricing, managing derivative markets and hedging under uncertainty. The course imparts, besides, basic grounding on finance, expertise in modeling under uncertainty, a high level computational skill geared towards finance, knowledge of financial accounting and regulations. The aim is to produce a competent financial engineer capable of analyzing existing financial products and suggest new innovative products for the financial market. It is a unique venture on the part of the Institute to offer this prized programme in India.

Eligibility:

A candidate seeking admission to this programme should have passed Bachelor's Degree with Mathematics/Statistics as honours/pass subject.

Applicants appearing at the qualifying examination can also appear in the entrance test. However, if selected, they have to submit the results of the qualifying examination at the time of admission along with Provisional Certificate, College/School Leaving Certificate and Mark sheet.

Intake:

The maximum number of students to be admitted into the programme is 30 which include the number of students admitted under reserved categories as prescribed by the Govt. of Odisha and in vogue at the time of admission.

Admission Fee and Course Fees:

1. Admission Fees : Rs 50,000/-
2. 1st Year Course Fee : Rs 50,000/-
3. 2nd Year Course Fee : Rs 50,000/-

(Excluding hostel accommodation fees, mess fees and other fees).

• M.A./M.Sc. in Mathematics with Data Science. (Two year Course)

Establishing pattern in a pile of huge data in quest of optimality, precision, time efficiency or making smarter decisions amidst diverse information are challenges faced by corporate sector in a world taken over by digital revolution. The role of a data scientist is to predict what is likely to happen given past data of what has happened and recommend decision makers cost effective changes to existing procedures and strategies. To meet this objective a data scientist explores and examines data from various perspectives to determine weaknesses, trends, and opportunities, and employs machine learning and statistical methods, invents new algorithms to solve problems and builds new tools to automate work. So professionals with background in Data Science are now most sought after in business, industry, scientific labs, etc. This course aims at producing competent data scientists with strong foundation in mathematics to address the above requirements in corporate sector while having ample scope for a career option in academics as well. The syllabus is designed for in-depth theoretical background in data science, hands on training in laboratory; interfere with industry with varieties of electives to choose for different requirements. The course is an amalgamation of Mathematics, Statistics, Computation, Big Data Analysis, Machine Learning including Deep Learning, Business Analytics and much more.

Eligibility:

A candidate seeking admission to this programme should have passed Bachelor's Degree with Mathematics/Statistics as honours/pass subject.

Applicants appearing at the qualifying examination can also appear in the entrance test. However, if selected, they have to submit the results of the qualifying examination at the time of admission alongwith Provisional Certificate, College/School Leaving Certificate and Mark sheet.

Intake:

The maximum number of students to be admitted into the programme is 30 which include the number of students admitted under reserved categories as prescribed by the Govt. of Odisha and in vogue at the time of admission.

Admission Fee and Course Fees:

1. Admission Fees : Rs 50,000/-
2. 1st Year Course Fee : Rs 50,000/-
3. 2nd Year Course Fee : Rs 50,000/-

(Excluding hostel accommodation fees, mess fees and other fees).

The detailed course structures of all the courses (UG & PG) are available in IMA website.

METHOD OF SELECTION

Selection of candidates for admission into UG and PG courses shall be made on the basis of the entrance test. The entrance test will be of two hours duration. Previous year question papers are available in the institute website for reference.

APPLICATION PROCEDURES(U.G. & P.G.)

Applicants are advised to study the information brochure carefully and satisfy themselves that they are eligible for admission to the academic programme for which they are applying. If at any stage it is found that a candidate does not satisfy the eligibility conditions or the information furnished with the application is incorrect, the application will be cancelled.

Interested candidate has to download the application form from the institute website <https://iomaorissa.ac.in> Applicant has to deposit the required amount of application fee through the link **highlighted in the institute website**. Care should be taken to enclose the self-attested photo copy of online payment slip towards application fee and the transaction number of the payment should be written in the appropriate place of application form.

Filled in application form along with all enclosures in a closed envelope superscribed as **“APPLICATION FOR ADMISSION INTO _____ COURSE (mention either PG or UG)”** should be sent to the **Admission In-Charge, Institute of Mathematics and Applications, Andharua, Bhubaneswar-751029, Odisha, India either by speed/registered post** so as to reach at the institute on or before the last date fixed by the institute. (The candidates are also advised to send the scanned copy of application in PDF to the email ID: admission.ima@iomaorissa.ac.in).

*** Application Fee for UG and PG courses:**

Category	Amount
Odisha State domicile ST/SC candidates only.	Rs 400.00
All other category other than Odisha State domicile ST/SC candidates.	Rs 700.00

Information regarding admit card, test centres etc. will be announced in the Institute website: <https://iomaorissa.ac.in> Applicants are advised to visit the IMA website regularly for getting update information.

DOCUMENTS TO BE SUBMITTED WITH THE APPLICATION FORM

The following documents are to be enclosed with the application form.

- Photo copy (self-attested) of High School Certificate.
- Photo copy (self-attested) of High School Mark Sheet.
- Photo copy (self-attested) of Intermediate/Higher Secondary Certificate.
- Photo copy (self-attested) of Intermediate/Higher Secondary Mark Sheet.
- Photo copy (self-attested) of Caste Certificate (If belong to ST/SC candidates of Odisha state domicile.)
- Photo copy (self-attested) of valid certificate (If belong to Persons with Disability (PWD) Category)
- Photo Copy (self-attested) of online payment details towards application fee.
- Two recent passport size photographs.

In addition to all the above documents the following documents have to be submitted for P.G. admission.

- Photo copy (self-attested) of Bachelor's Degree certificates.
- Photo copy (self-attested) of Bachelor's Degree Mark Sheet.

FACILITIES

- **Campus Infrastructure:**

Located in Bhubaneswar, Institute of Mathematics and Applications with integrated modern wi-fi campus has a highly functional design and strong rationale to every aspect of the design. The serene environment provides a perfect setting for a professionally rewarding educational experience. Student activity areas such as a lounge and cafeteria, spacious classrooms of varying seating capacities, conference halls, faculty chamber, Library are available.

- **Uninterrupted Power Supply:**

Uninterrupted 24×7 electric supply to hostels, library and laboratories are ensured through alternate sources like solar panels, electric UPS and diesel generators.

- **Computer Laboratory:**

The Institute has two well-equipped and furnished computer laboratories that hosts servers and number of PCs, running different operating systems.

- **Library:**

The Library has more than 9900 references on mathematical, financial, computational and related subjects as well as professional journals, both national and international. It collectively supports the teaching, research and extension programmes of the Institute. All students, faculty members and employee of the institute are entitled to Library facilities on taking library membership. Library remains open from 10:00 A.M. to 5:30 P.M. on all working days.

- **Hostel:**

The Institute provides limited hostel facility to both boys and girls separately. The excellent study environment and sophisticated accommodation of the hostels with wi-fi facility inside the hostel premises are available for students. Security personnel are alert round the clock and in case of medical emergency, vehicle facility is also available.

TEST CENTRES

CITY	CODE		CITY	CODE
Balasore	BLS		Hyderabad	HYD
Bengaluru	BAN		Kanpur	KNR
Bhopal	BHO		Kerala	KER
Bhubaneswar	BBS		Kolkata	KOL
Brahmapur	BAM		Koraput	KPT
Chennai	CHN		Mumbai	MUM
Delhi	DLH		Raipur	RAI
Guwahati	GHT		Sambalpur	SBP

Applicants can opt for three test centres from the above list and the corresponding code must be entered in the appropriate box of the application form. However the Institute reserves the right to allot a centre to a candidate other than those opted by him/her in case of exigency.

IMPORTANT DATES

Date of availability of application forms and prospectus	06/04/2023
Last date of receipt of completed application form	31/05/2023
Date of entrance test (Tentative)	24/06/2023

ALL CORRESPONDENCE TO BE ADDRESSED TO

The Admission In-charge, Institute of Mathematics and Applications,
Andharua, Bhubaneswar-751029
E-Mail Id: admission.ima@iomaorissa.ac.in
Web site: <https://iomaorissa.ac.in>
Contact Number: 9040654553