Post Graduate Diploma

in Clinical Embryology & Assisted Reproductive Technology

A one-year programme

CHAITANYA
(Deemed to be University)

*This **one-year programme** aims to provide post-graduate students, scientists and clinicians with highly advanced theoretical and practical understanding of human reproductive biology, embryology, infertility and assisted reproductive technology (ART) along with intensive 'hands-on' practical training in essential laboratory skills, including the sophisticated micromanipulation techniques associated with ART. The programme is administered by Chaitanya (Deemed to be University), Hyderabad, in collaboration with MOMSOON Academy.*

Post Graduate Diploma in Clinical Embryology & Assisted Reproductive Technology

Clinical embryology is a relatively young branch of reproductive science that has undergone enormous expansion over the last twenty years. Louise Brown, the world's first 'test tube' baby, was born in 1978 as a result of pioneering research carried out by a team of British clinicians led by Dr. Patrick Steptoe and Sir Robert Edwards. Since then, infertility treatment has undergone phenomenal development and has become a highly specialised field involving a multitude of interventions known collectively as **Assisted Reproductive Technology (ART)**.

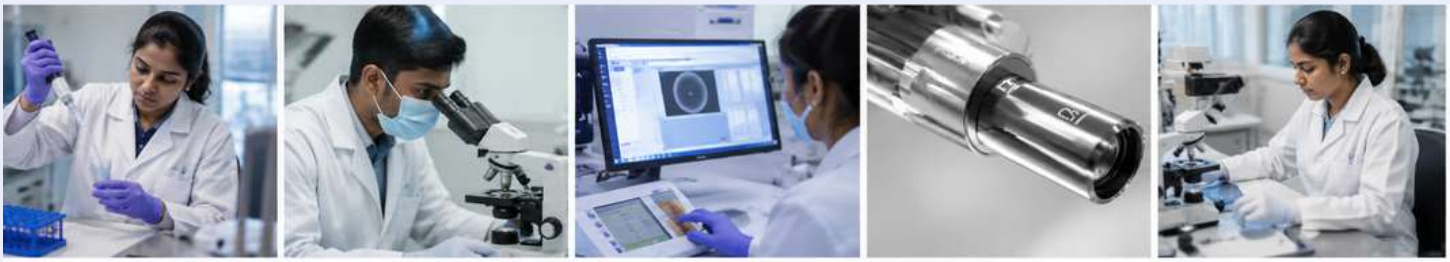
Worldwide, approximately one million ART treatments are now performed each year and over five million ART babies have been born. However, a major concern is that there are too few appropriately trained clinical embryologists, both within India and throughout the rest of the world, to maintain this pattern of growth. In addition, the field of clinical embryology is becoming ever more closely regulated, with greater emphasis on quality assurance. Meticulous training of new personnel in theoretical knowledge and practical skills is therefore critical to future advancement and ensuring patients consistently receive the best care. In response to these concerns, **the Chaitanya (Deemed to be University) has developed an intensive, one-year PG Diploma in Clinical Embryology & Assisted Reproductive Technology programme.**

Our intention is to inspire, motivate and train a network of future leaders in clinical embryology throughout the world. Our PG Diploma programme provides students with theoretical and practical understanding of human reproductive biology, embryology, infertility and ART. The course includes the very latest developments in ART including legislation, ethics, and quality management

Significant emphasis is placed upon continuing professional development and acquiring valuable transferable skills. To this end, our PG Diploma program will include a considerable practical component. Students will learn skills and techniques directly relevant to ART, as well as a range of 'traditional' and 'cutting edge' scientific techniques and procedures. A particular strength of our programme is the fact that each of our students will be individually trained in gamete manipulation / injection and embryo biopsy. For this purpose, students will use gametes and embryos acquired from mice and sheep.

Our PG Diploma programme will prepare students for active employment within the clinical embryology / ART sector and / or a research career in reproductive science. As the course was designed in response to identified employment needs, our post graduates are likely to be highly sought after. In particular, we expect our post graduates to possess sufficient knowledge and skills to allow them to make a significant contribution to the design and establishment of new in vitro fertilisation (IVF) units, which need to incorporate the latest techniques and conform strictly to current legislation.

Once enrolled on the PG Diploma programme, you will be allocated a mentor, who will be a senior member of the clinical, scientific or research staff. Your mentor will provide individual support and guidance throughout the course and will meet you regularly to discuss coursework and assessment.



Course

The course runs over a period of one year, incorporating two semesters. Andrology laboratory techniques, basic embryology and role of hormones are taught in the first semester. Assisted Reproductive Technology and clinical aspects of embryology are delivered in the second semester at the end of which students are required to present a dissertation.

Program Specific Outcomes (PSO)

On successful completion of the programme, the candidates will be able to

1. Analyse semen and determine if low sperm count and/or sperm dysfunction is the cause of infertility.
2. Prepare semen for ART procedures using techniques to separate human spermatozoa from seminal plasma to yield a semen preparation containing a high percentage of morphologically normal and motile cells, free from debris, non-germ cells and dead spermatozoa.
3. Carry out cryopreservation of spermatozoa, oocytes and embryos.
4. Develop embryos through IVF (In-vitro Fertilization) by fertilizing human oocytes with processed semen.
5. Perform ICSI, the procedure of injecting an oocyte with an immobilized spermatozoa and developing an embryo for achieving pregnancy in the case of male factor infertility.

Course Structure

Semester 1

The first semester is planned to ensure that students gain core knowledge in the fundamental principles of reproductive science and the application of essential laboratory techniques.
It comprises the following two units:

Theory:
- Andrology
- Clinical Embryology

Practical:
- Andrology Laboratory Techniques

Semester 2

The second semester aims to provide students with advanced theoretical and practical knowledge of Assisted Reproductive Technology. During this semester, a dissertation topic is assigned to students and the students are expected to document and present the results of their dissertation by way of a short talk.
It comprises the following units:

Theory:
- Assisted Reproductive Technology

Practical:
- Assisted Reproductive Technology procedures

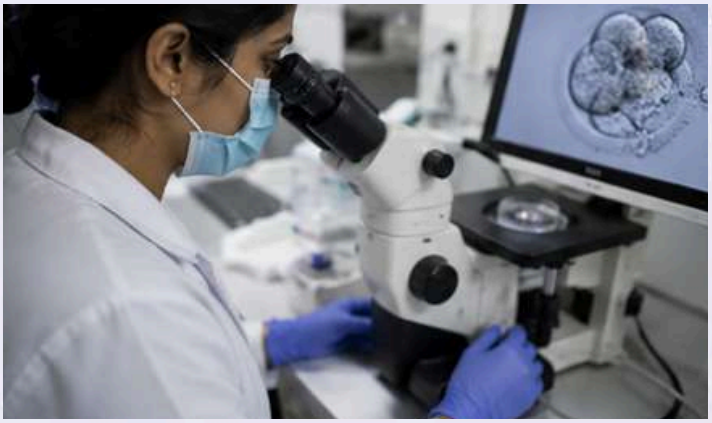
Dissertation

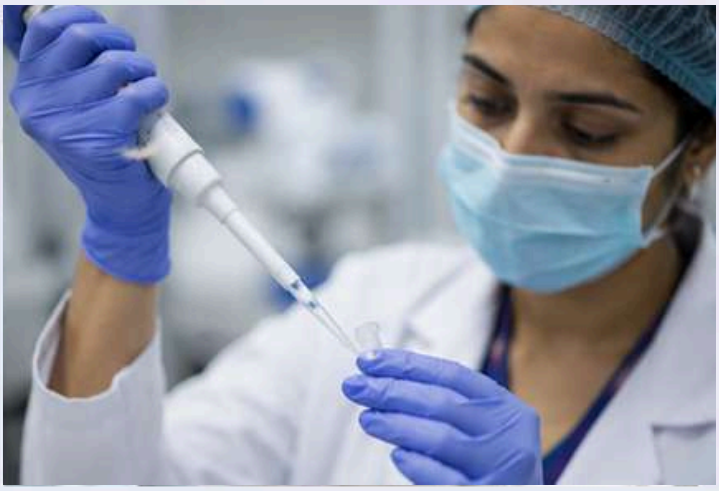
Practical Skills

Our PG Diploma places significant emphasis on practical skills and techniques, particularly those relevant to andrology laboratory and clinical embryology laboratory. Students will learn a wide array of 'hands on' practical techniques, these include:

- Safety, liquid handling, aseptic techniques, waste management
- Preparation of media and buffers
- Sperm counting and morphological analysis
- Oocyte and embryo grading
- Cryopreservation of gametes and embryos.
- Vitrification protocols
- In Vitro Fertilization
- Micromanipulation of gametes (animal model)
- Intra-cytoplasmic sperm injection (animal model)

Emphasis is placed directly on our students acquiring 'hands on' experience, facilitated by experienced scientific and clinical instructors. Our teaching laboratory has been purposefully designed to provide a stimulating learning environment.





Teaching and Learning Methodology

The programme will be taught by the faculty at Chaitanya (Deemed to be University) and also by the clinicians and embryologists of MOMSOON Academy & MOMSOON Fertility.

A variety of teaching methods will be employed to enhance and optimise student learning, e.g. class lectures, laboratory practical classes, and in-house demonstrations by visiting companies. Students will also receive regular lectures from many visiting scientists who are world experts in their field. Our programme places special emphasis on the development of practical laboratory skills, especially those that are applicable to ART and the routine duties ofa clinical embryologist.

Self-directed learning strategies allow students to study topics of interest on an individual basis without formal facilitation and subsequently present their findings to the rest of the class, aided by programme teaching staff. Additional problem-based learning techniques allow the class to analyse and research a given problem collectively. In these cases, the group will be led by a student. Findings are subsequently presented and discussed with programme teaching staff.

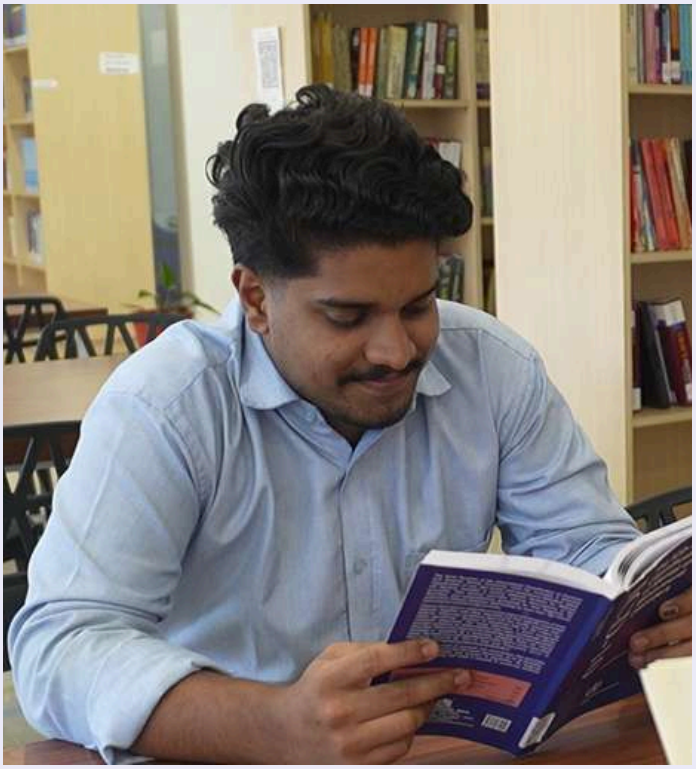
Student Resources

Mentors

Each student will be allocated a mentor for the duration of their PG Diploma programme. Mentors are members of senior academic, clinical or research staff. Students will meet regularly with their mentor to discuss progress. The mentor will read and appraise first drafts of essays and laboratory reports, ensure that essays are marked and discussed, and will be available to offer help and advice throughout the course. The mentor will additionally provide one-on-one feedback to the students.

Libraries

The Chaitanya (Deemed to be University) has one of the best library collections. Our students can access all the required academic journals and text books needed for the course.



IT Resources

Our PG Diploma students are provided with dedicated office space and teaching facilities. The student office is equipped with a variety of IT equipment including personal computers, printer and scanner. Computers are connected to the Chaitanya network and possess all the necessary software required by the PG Diploma Programme in terms of word processing, presentation preparation and data analysis. Photocopying facilities are also available.

Laboratory Equipment

The dedicated integrated Post Graduate Diploma teaching facility at Chaitanya (Deemed to be University) is equipped with the very latest laboratory equipment, as well as sophisticated micromanipulation workstation. A sufficient number of equipment set-ups are provided to ensure that each student is guaranteed to have hands-on practical experience in all the laboratory sessions.

MOMSOON Academy

MOMSOON Academy is backed by over a decade of expertise in providing excellent teaching-learning and research experience to Clinical Embryologists and Infertility Specialists. Students are significantly benefited from our diverse community of specialists who are dedicated to providing a stimulating learning environment and ensuring adequate hands-on practice. The academic endeavors of the students have been enormously enhanced as a result of a close partnership with the MOMSOON Fertility & IVF Centre, a fertility treatment unit founded in 2009. MOMSOON Fertility's mission is 'to provide efficient and cost-effective fertility treatment in a caring and professional environment, and to foster research and development in the field of reproductive medicine'. The Unit offers a wide range of treatments including intra-uterine insemination, in vitro fertilisation, intra-cytoplasmic sperm injection, surgical sperm extraction, donor insemination, IVF with donor sperm / egg, sperm and embryo cryopreservation and pre-implantation genetic diagnosis.

MOMSOON Fertility & IVF Centre is ranked among the Best ART Clinics as per the survey conducted by the Times Group in 2022. For more information, visit the website: www.momsoonacademy.com

Chaitanya (Deemed to be University)

Chaitanya (Deemed to be University) is sponsored by the Viswa Bharati Education Society. Chaitanya (Deemed to be University) has evolved into a Centre of Excellence by undertaking new initiatives, building world-class infrastructure, fostering international collaborations, introducing innovative programs, establishing partnerships with industries, hiring well-qualified and globally trained faculty, promoting talent, nurturing research and innovation, and engaging in outreach activities with a sustainable fund flow.

Its sprawling campus in Himayatnagar, Hyderabad, boasts state-of-the-art facilities within academic, administrative, and amenity blocks. The cosmopolitan ambience attracts a diverse student population from across the globe, fostering an environment conducive to learning.

This atmosphere provides access to experienced teaching faculty with international exposure, nurturing students' creative abilities and encouraging new innovations through knowledge partnerships.

Chaitanya (Deemed to be University) is comprised of the following academic departments dedicated to various disciplines: School of Engineering, School of Pharmacy, School of Management, School of Sciences, School of Nursing, School of Agriculture, School of Computer Applications, and School of Allied Health Sciences.
Chaitanya (Deemed to be University) is approved by UGC, AICTE and PCI, and accredited by NAAC with an 'A' grade, reflecting its strong commitment to academic quality and industry-relevant education.

Further information

For further information about the Post Graduate Diploma in Clinical Embryology & Assisted Reproductive Technology,
visit:https://www.chaitanya.edu.in/admission-form
For further details about
Chaitanya (Deemed to be University),
visit: https://www.chaitanya.edu.in/

Admissions

Applicants must have a minimum of Master's degree in Biological Sciences / Life Sciences / Veterinary Sciences/ Medical Sciences / Pharmacy

Fees

Rs. 3,50,000/- for Indian applicants
Rs. 4,00,000/- for international applicants (from Srilanka, Bhutan, Nepal and Bangladesh)
Rs. 4,50,000/- for international applicants (except Srilanka, Bhutan, Nepal and Bangladesh)

Applications

The application procedure for the Post Graduate Diploma in Clinical Embryology is as follows:

- Apply online (The link to apply online is https://www.chaitanya.edu.in/admission-form)
- Mail scanned copies of certificates for verification to info@momsoonacademy.com along with a short essay (no more than 500 words) describing why they wish to study PG Diploma in Clinical Embryology and how they think our program might influence their future career. (once verified, you will receive an invitation to proceed further)
- Pay 50% of the course fee and share the transaction details (you will receive an admission confirmation letter)

Further details can be obtained from:
The Programme Co-ordinator, PG Diploma in Clinical Embryology & Assisted Reproductive Technology
Call or WhatsApp: **+91 9403893634**
Email: info@momsoonacademy.com
Website: www.momsoonacademy.com