

# Indian Association of Cardiovascular Thoracic Anaesthesiologists



## Indian College of Cardiac Anaesthesia (ICCA)

### FIACTA: Course Curriculum, Syllabus, Examination pattern

The FIACTA (Fellowship of IACTA) course was started in 2006 by the education committee of IACTA with the following:

#### GOALS AND OBJECTIVES

1. Develop the expertise for the anaesthetic management of acquired/adult and congenital heart diseases. Understand the pathophysiology of lung disease, physiology of one lung ventilation (OLV) and management of patients on OLV.
2. Develop the knowledge and skill for the postoperative intensive care management of both adult and pediatric cardiac surgical patients.
3. Understand the postoperative pathophysiology of adult and pediatric cardiac surgical patients and developing the skills in management of these patients.
4. Develop the skill of undertaking procedures like percutaneous tracheostomy and bronchoscopy.
5. Understand the needs and develop the skills in the anaesthetic management of patients undergoing various procedures in the cardiac catheterization labs.
6. Understand, develop and utilize the skills of doing transesophageal echocardiography in adult and pediatric cardiac surgical patients.
7. To develop the knowledge and skills in the anaesthetic and postoperative management of patients undergoing major vascular surgical procedures.
8. Develop the skill and spirit of scientific inquiry and orientation to the principles of research methodology and epidemiology.
9. To plan and set up independent cardiac anaesthesia units catering to cardiothoracic and vascular surgery and intensive care units and cath labs

10. Develop the basic skills of teaching students at various levels of medicine.
11. Develop communication skills with surgeons and other members of cardiac surgical team.
12. Develop communication skills with patients and relatives.

### **COMPONENTS OF THE CURRICULUM FOR FIACTA COURSE**

The duration of the course is two years in a recognized center.

The major components of the curriculum shall be:

- Theoretical Knowledge
- Practical/ clinical skills
- Attitudes, including communication
- Training in research, presentations, publications

Source: Medical Council of India, Regulations on Postgraduate Medical Education, 2000.

### **SELECTION OF CANDIDATES**

Eligibility of candidates (Base qualifications) –

(i) a candidate should have one of following:

- A MD Anaesthesia
- B DNB Anaesthesia
- C DM / DNB in Cardiac Anaesthesia.

The basic qualifications must be from a recognized university or MCI equivalent.

OR

(ii) a candidate working in a teaching institute/hospital (DM/PDCC/FNB etc in cardiac anaesthesia) with an active teaching programme (certificate from unit head mandatory) with the same workload as above and good case mix of cardiac, vascular and thoracic. The intake of students to the above mentioned courses shall be in accordance rules of the University and MCI. E.g., AIIMS Delhi; GB Pant hospital Delhi; Nizams Hyderabad, SCTIMST Trivandrum

### **FIACTA CANDIDATE REGISTRATION**

The present resolutions and guidelines are aimed at defining the minimal requirements for **Fellowship in cardiac anaesthesia (FIACTA) offered by ICCA, the academic body of Indian Association of Cardiovascular Thoracic Anaesthesiologists** in India. To be eligible to present him or herself for this fellowship, the candidate must present evidence of following minimum requirements:

1. Candidates need to apply to the recognized institute/hospital (by IACTA) of their choice directly and then register for the course.
2. The course of study shall be for a period of 2 academic years.
3. The list of recognized institutes/teachers and their contact details is available on the IACTA website or will be available on request from the ICCA / IACTA office.
4. Appointment of candidates will be done by the recognized institutes under the guidance of the recognized teachers at their institute by interview.
5. The candidate needs to fill up the FIACTA registration form upon joining the course and mail it to the IACTA office. The form can be downloaded from the IACTA website: [www.iacta.co.in](http://www.iacta.co.in)
6. The fee for registration for FIACTA course is Rs 10,000. This should be paid to the IACTA office at the time of enrolment. Further, the candidate will have to pay the examination fee of Rs 10,000 at the time of applying for the examination.
7. Candidate must become a life member of IACTA. Membership form can be downloaded from the IACTA website

8. Fee can be remitted as demand draft/cheque/cash/NEFT. The details are given in the IACTA website. The registration form and the fee to be sent to the IACTA office before 31<sup>st</sup> May.
9. Candidates will require to be paid a salary/stipend as per the rules of the institute/hospital where they are appointed. This should be no different from the salary/stipend from that of other similarly qualified employees (senior residents) of that institute/hospital.
10. No hospital, institute or individual may levy any direct or indirect fee to an individual candidate in any relation to the certificate course.
11. Appointment letter from the teacher/institute on the institute/teacher letterhead certifying the candidate's qualifications and mentioning the date of joining the course should be mailed to the IACTA office.
12. Invitation/Advertisement for applications, appointments and registrations for the course must be completed before 1<sup>st</sup> June every year.
13. A recognized FIACTA center would be doing a minimum of 400 open heart surgeries per year and a teacher can admit two FIACTA candidates per year.

### **Assessment of candidates**

- A. Candidates are assessed at 6 monthly intervals by the teacher for progress towards appropriate goals.
- B. *Logbook*: A specified logbook will be maintained by FIACTA candidates under the supervision of their teachers that will track the attainment of specified competencies in cardiac anaesthesia. The logbook will have the data on the cases managed, procedures performed, academic presentations etc The format of the logbook can be obtained from the ICCA/IACTA office or IACTA website.
- C. *Periodic tests*: The concerned department would conduct tests every six months; annual tests would be conducted at the end of first year and the other at the end of second

year. The final test may be held three months before the final examination. The tests would include written papers, practicals/clinicals and viva voce. Records and marks obtained in such tests will be maintained by the head of the department and sent to ICCA, as part of internal assessment of the candidate.

*D. Research:* Candidates should be encouraged to undertake at least one project during the course.

*E. Publication/Presentation:* It is mandatory for every FIACTA candidate to publish at least one original article in an indexed peer reviewed journal like Annals of Cardiac Anaesthesia. Presentation in the national conference also is acceptable.

*F. List of Procedures to be performed:*

<b>Procedure</b>	<b>Under Supervision</b>	<b>Independently</b>
Radial / Femoral artery cannulation	20	150
Subclavian vein/ Internal jugular vein cannulation	20	150
TEE	50	100
PA Catheter insertion	10	25
Fiberoptic Bronchoscopy	10	15
Percutaneous Tracheotomy	5	5
IABP Insertion	5	10
Neuraxial blocks such as Epidurals	10	25

**Preferred Period of Posting in Various Units (24 months)**

Adult Cardiac Operation theatre & ICU	12 months
Pediatric Cardiac Operation theatre & ICU	9 months
Cath Lab, MRI, CT room anesthesia	2 months
Research, Visit another center of excellence	1 month (Optional)

### **Monitoring of Teaching/ Learning Activities**

<b><i>Activity</i></b>	<b><i>Periodicity of Assessment</i></b>	<b><i>Method</i></b>
Journal clubs	Monthly	Faculty and Peer review
Seminars	Monthly	Faculty and Peer review
Theory Knowledge	Six monthly	Written tests
Clinical performance	Six monthly	Clinical exam
Procedures	Monthly	Log book
Research & Presentation	Three monthly	Logbook & Faculty peer view

### **EXIT EXAMINATION**

At the end of two years, an examination will be conducted by ICCA, the academic body of IACTA.

#### **Pattern of Examination**

- Examination is conducted over two days.

#### **Theory examination:**

MCQ - 50 marks

Theory - 100 marks

#### **Practical examination:**

long case (1)	-100 marks
short cases (2)	- 50x2 = 100 marks
Viva (two tables)	- 50x2= 100 marks
(Viva on equipment, pharmacology, ECG, Chest X-Ray, PFT, Echo, Monitoring, Recent advances etc)	
Log book	- 20 marks
Publications / Presentations	- 30 marks
Total Theory:	- 150 marks
Total Practical:	- 300 marks
Others:	- 50 marks
<b>Sum total:</b>	<b>-500 marks</b>

It is mandatory to score minimum of 60% in theory and practical for a pass.

## **SYLLABUS**

### **Basic Sciences**

#### **Anatomy**

Embryological development of heart & great vessels, and other thoracic structures. Basic and correlative anatomy of heart, lungs and vessels.

#### **Physiology**

Cardiac cycle, cardiac output & determinants of cardiac output, cardiac failure, coronary circulation and autonomic nervous system

Pulmonary circulation, physiology of lung functions, acid-base balance, pulmonary function tests, Physiology of one-lung-ventilation

Physiology during extracorporeal circulation, assisted circulation.

Body water, Oxygen transport, shock, hypothermia

Blood coagulation, hematology, perioperative physiology of liver, kidney and brain

## **Pharmacology**

Pharmacology of drugs acting on heart, lungs, vessels and vital organs: inotropes & vasopressors, cardiac glycosides, diuretics, beta-blockers, calcium channel blockers, anti-arrhythmic agents, drugs for ischemic heart diseases

Pharmacological principles: pharmacodynamics, pharmacokinetics, drug distribution, elimination etc.

Inhalational and intravenous anesthetic agents, muscle relaxants, narcotics, analgesics, sedatives and premedicants.

Drugs acting on tracheobronchial tree, pulmonary circulation and parenchyma

## **Physics**

Gas laws, gas cylinders, laminar flow, fluid dynamics

Physics of anesthetic machines, vaporizers

Basic physics of ventilators

Physics of ultrasound

## **Monitoring In Anaesthesia**

Invasive & Non-Invasive monitoring techniques for pre-peri & post-operative periods in cardio thoracic center:

- ✚ Understanding of basic concepts of monitoring



- ✚ Indications, cost effectiveness, complications
- ✚ Equipment usage & knowledge of accessories

Hemodynamic monitoring, TEE, Coagulation monitoring, Respiratory & Neurological monitoring, Neuro-muscular monitoring

## **Clinical Sciences**

### **Adult and Pediatric cardiac diseases**

Preoperative evaluation, intraoperative anesthetic & postoperative management of all types of congenital, adult cardiac, thoracic and vascular diseases.

### **Management of Cardiopulmonary Bypass, Various types of Circulatory assistance devices**

### **Thoracic Anaesthesia and One Lung Ventilation**

### **Intensive Care Management**

### **Intraoperative Transesophageal Echocardiography**

Principles of ultrasound, knobology, evaluation of LV / RV systolic and diastolic function, valvular heart diseases, CAD, aortic diseases, prosthetic valves, congenital heart diseases, hemodynamic assessment

### **Information Regarding Learning**

*Library facilities:* The institute/hospital/department should maintain a library which will have specialized text books and journals on cardiovascular & thoracic anesthesia, cardiac surgery, echocardiography and critical care