



**INDIRA GANDHI INSTITUTE OF MEDICAL SCIENCES, SHEIKHPURA, PATNA – 800 014 (Bihar, India)**

(An Autonomous Institute of Government of Bihar & Statutory University Created by  
an Act of State Legislature and recognised by UGC & MCI)

**OFFICE OF THE DEAN (ACADEMIC)**

Tel.: 0612 – 2297631, 2297099; Fax: 0612 – 2297225; Website: [www.igims.org](http://www.igims.org);

E-Mail: [dean@igims.org](mailto:dean@igims.org)

**ADMISSION NOTICE**

**Advt. No.04/Acad./2023**

Applications are invited from eligible Indian citizen for admission to the following courses in the session (January) -2024.

Course Name	No. of seats	Last Date of Application
<b>(A) Post Doctorate Advanced Fellowship (PDAF)</b>		<b>17/01/2024</b>
(i) Emergency Critical Care	<b>04</b>	
<b>(B) Post Doctorate Certificate Course (PDCC)</b>		
(i) Paediatric & Neonatal Anaesthesia	02	
(ii) Cardiac Anaesthesia	02	
(iii) Neuro Anaesthesia	02	
(iv) Critical Care Medicine	02	

Prospectus and application form can be downloaded from Institute website [www.igims.org](http://www.igims.org). Demand Draft of Rs. 1000/- for (UR & others) & Rs. 500/- for SC/ST candidate in favour of Director, IGIMS, Patna as Examination fee must be attached along with application form. Application without required fee shall be rejected. Complete application form should be addressed and sent to **Dean (Academic), Indira Gandhi Institute of Medical Sciences, Sheikhpura, Patna-800014** by Regd./Speed Post/Courier only.

*Sd/-*  
Dean

IGIMS, Patna

Memo No. IGIMS/ Acad./ 2261 /2023

Date: 23/12/2023

**Copy to:-** Director /Principal, Medical College/ Medical Superintendent/Controller of Examinations/Administrative Officer with request to publish in Local & National Hindi/English News Paper/Principal, Nursing College/F&CAO/Superintending Engineer (Bio-Med.) with request to upload on the Institute's website.

*Sd/-*  
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IGIMS, Patna

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Medical Sciences, Sheikhpura, Patna

# **PROSPECTUS**

(For the Academic Session 2024-2025 & 2024-2026)



**POST DOCTORATE CERTIFICATE COURSE (PDCC) -01 YEAR**  
**POST DOCTORATE ADVANCED FELLOWSHIP (PDAF)- 02 YEAR**



**INDIRA GANDHI INSTITUTE OF MEDICAL SCIENCES, SHEIKHPURA, PATNA-14**

**An Autonomous Institute of Government of Bihar & Statutory University Created by an Act  
of State Legislature and recognized by UGC, New Delhi.**

**DEAN**  
Indira Gandhi Institute  
Medical Sciences, Sheikpura, Patna



**INDIRA GANDHI INSTITUTE OF MEDICAL SCIENCES, SHEIKHPURA, PATNA-14**  
(An autonomous Institute of Govt. of Bihar, India Statutory University by an Act of State Legislature)

**OFFICE OF THE DEAN**

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**IMPORTANT DATES AT A GLANCE**

1.	Date for uploading of information brochure and date of commencement to apply for Admission	—	26/12/2023
2.	Last date for submission of application forms	—	17/01/2024
3.	Display of eligibility status of application on the website	—	25/01/2024
4.	Appeal for review by non-eligible applicants	—	To be notified soon

***NOTE:*** The candidate is advised to read the prospectus carefully before filling up the application form and ensure that no column is left blank. In the event of rejection of the application form, no correspondence/ request for re-consideration will be entertained. Please retain the prospectus till the completion of admission process.

DEAN

Indira Gandhi Institute  
Medical Sciences, Sheikhpura, Patna

## INTRODUCTION

Indira Gandhi Institute of Medical Sciences, Sheikhpura, Patna-800014, is an autonomous super specialty institute in the State of Bihar, established by an act of Legislative Assembly. Various facilities are available at this Institute to cater to the needs of patients belonging to the State of Bihar and neighbouring states. It is situated in a sprawling 133 Acre campus in the heart of the city with important landmarks of the city like Airport, Raj Bhawan, Secretariat, Vidhan Sabha, High Court, Patna Junction Railway Station and Bus Stand being located within 6 kilometers of the Institute. Being situated on Main Bailey Road, it is easily accessible round the clock.


Indira Gandhi Institute of Medical Sciences, Sheikhpura, Patna is a tertiary care hospital, providing treatment in various super-specialties. Patients referred from various hospitals and Medical Colleges come here for highly specialized treatment.

At present the Institute provides clinical services in various disciplines including Nephrology, Urology, Gastroenterology, G.I. Surgery, Neurology, Neurosurgery, Cardiology, General Medicine, Pulmonology, Reproductive Biology, General Surgery, Paediatrics, Paediatric Surgery, Anaesthesia (Pain and Palliative Care Clinic), Obs. & Gyne, Community Medicine, Regional Institute of Ophthalmology, Dentistry and Regional Cancer Centre (Cancer Treatment and Research Centre) are providing specialized services in respective fields. Clinical services are backed by investigative services including conventional Radiology, Ultrasound, whole body Spiral CT Scan, Biochemistry, Histopathology, General Pathology, Microbiology, Video- Endoscopy, Urodynamics, EEG/EMG Lab. Etc. the Institute provides emergency and Intensive care services to acutely ill Patients.

As per the decision of Govt. of Bihar, a Medical College with 120 seats has been established for imparting teaching and training in Under Graduate course.

Indira Gandhi Institute of Medical Sciences, an autonomous Institute of the State of Bihar, was established by IGIMS Act 1984. Preamble of the IGIMS Act, 1984 is as follows:

***“To establish an Institute in the State of Bihar with view to develop clinical services in super specialities of the highest standard, a system of supportive supervision and continued education for the medical and health functionaries and promote services, research and education in the field of Community Medicine and allied subjects.”***

  
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## **AIMS & OBJECTIVES OF THE INSTITUTE**

The relevant provisions of the IGIMS Act 1984 pertaining to the objects of the Institute are reproduced below:

**The objects of the Institute shall be:**

- 1) To develop an apex centre for delivery of health and medical care of highest standard.
- 2) To train specialists of high order in different branches of medical science.
- 3) To improve the health services, in the State through appropriate linkages and referral system with Medical Colleges, District and Sub divisional hospitals.
- 4) To develop the continued education Programme and award Degree, Diploma Certificates and Postgraduate Degrees.
- 5) To develop clinical research centre for conducting investigation on the problems of human health and diseases peculiar to and prevalent in this part of the country.
- 6) To develop Community Health Research Centre to study and find out solutions to the problems of health of the community with particular emphasis on reproductive biology and population control.
- 7) To develop research and training in basic sciences relevant to the problems and needs of the community.

**INSTITUTE OF EXCELLENCE:**

The Relevant Provisions (Clause 6) of the IGIMS Act, 1984 declaring the Indira Gandhi Institute of Medical Sciences as an Institute of Excellence is reproduced below:

*"Declaration of Institute as an Institute of Excellence- It is hereby declared that the Indira Gandhi Institute of Medical Sciences shall be an Institute of Excellence."*

**LOCATION AND JURISDICTION OF THE INSTITUTE:**

Clause 4 (iii) of the IGIMS Act, 1984 pertaining to location and jurisdiction of the Institute is reproduced below:

*"The Institute shall be located in Patna. Its jurisdiction shall extend to the whole of State of Bihar."*

IGIMS, Patna invites online application from **Indian Citizens** for Post- Doctorate Certificate course (PDCC) & Post Doctorate Advanced Fellowship (PDAF) courses.

S. No.	Name of the Program with Department	Duration	Seat (S)
1.	Post- Doctorate Certificate Course in Paediatric & Neonatal Anaesthesia by Department of Anaesthesiology & Critical Care Medicine	01 year	02 Seat
2.	Post- Doctorate Certificate Course in Cardiac Anaesthesia by Department of Anaesthesiology & Critical Care Medicine	01 year	02 Seat
3.	Post- Doctorate Certificate Course in Neuro Anaesthesia by Department of Anaesthesiology & Critical Care Medicine	01 year	02 Seat
4.	Post- Doctorate Certificate Course in Critical Care medicine by Department of Anaesthesiology & Critical Care Medicine	01 year	02Seat
5.	Post- Doctorate Advanced Fellowship in Emergency Critical Care by Department of Trauma & Emergency	02 Year	04 Seat

**ELIGIBILITY FOR POST- DOCTORATE CERTIFICATE COURSE (PDCC) & POST DOCTORATE ADVANCED FELLOWSHIP (PDAF) PROGRAMMES:-**

1. S. No.	Program Type	Eligibility for course
1.	Post- Doctorate Certificate Course in Paediatric & Neonatal Anaesthesia by Department of Anaesthesiology & Critical Care Medicine	Post Graduation (MD/ MS/ DNB or equivalent) in Anaesthesiology from and MCI/ NMC recognized Institution.
2.	Post- Doctorate Certificate Course in Cardiac Anaesthesia by Department of Anaesthesiology & Critical Care Medicine	Post Graduation (MD/ DNB or equivalent) in Anaesthesiology from and MCI/ NMC recognized Institution
3.	Post- Doctorate Certificate Course in Neuro Anaesthesia by Department of Anaesthesiology & Critical Care Medicine	Post Graduation (MD/ MS/ DNB or equivalent) in Anaesthesiology from and MCI/ NMC recognized Institution
4.	Post- Doctorate Certificate Course in Critical Care medicine by Department of Anaesthesiology & Critical Care Medicine	Post Graduation (MD/ MS/ DNB or equivalent) in Anaesthesiology from and MCI/ NMC recognized Institution
5.	Post- Doctorate Advanced Fellowship in Emergency Critical Care by Department of Trauma & Emergency	MD/ DNB in Anaesthesiology/ General Medicine / Pulmonary Medicine/ TB & B Chest from a NMC recognized college or from an Institute accredited by NAT Board.

\*DNB in a subject from an Institute or Medical College recognized by MCI/ NMC with experience according to NMC Guidelines\*

**Upper Age limit:** 45 (Forty Five) years as on **01<sup>st</sup> January 2024** (Relaxation as per State Govt. Rule, I.e., 05 years for SC/ST, 03 years of EBC/ BC and 03 years for all categories of Female Candidate.)

(In service candidates will have to apply through proper channel and submit a "No Objection Certificate" from their employer along with their application forms. All eligible candidates seeking admission (Including in service) will have to appear in the entrance examination and go through the process of selection as envisaged for all).

## 1. SUBMISSION OF APPLICATION FORM

- A candidate seeking admission to Fellowship & PDCC Courses will have to submit his/her application in **prescribed format available online with the Prospectus** on [www.igims.org](http://www.igims.org).
- Candidate is required to go through Prospectus carefully and acquaint himself/herself with all requirements with regard to filling of application form. He/ She should fill in the application form with utmost care and follow instructions. Incomplete/wrongly filled application forms will be rejected. Institute will not be held responsible for any incorrect information/cancellation of candidature/loss or lack of communication etc. due to wrongly filled application form **and no communication in this regard will be entertained.**
- It will be responsibility of candidate to ensure that correct address, Mobile No. & Email ID in the application form is filled. Institute shall not be responsible for any miscommunication due to incorrect address, Mobile No. and email ID given by applicant on Application Form or for non- receipt for any communication.
- Duly filled up application is to be delivered in an envelope on which subject should be clearly superscripted, for example you have to write on the top of the envelope like this-"Application for Post- Doctorate Advanced Fellowship in Emergency Critical Care or Application for Post-Doctoral Certificate Course in Anaesthesiology &Critical Care Medicine, Session: 2024-25/2024-26" whichever is applicable.
- Completed application forms are to be submitted in **sealed envelope, which should reach the "Dean (Academic) ", Indira Gandhi Institute of Medical Sciences, Sheikhpura, Patna-800014 (Bihar) by Speed Post/ Registered Post / Courier on or before the date and time specified under the head 'IMPORTANT DATES AT A GLANCE' in the very beginning of this prospectus..**
- *Candidates are required to ensure that Photo / Signature are according to the instructions provided in the Prospectus. Failure to do so may result in rejection of the applications.*
- *Duplicate applications from applicants will result in cancellation of their applications. No intimation regarding such summary rejections will be provided.*

## 2. DOCUMENTS TO BE ATTACHED WITH APPLICATION FORM:-

- (i) MBBS degree certificate
- (ii) All mark sheets of MBBS
- (iii) Internship completion certificate
- (iv) Permanent Registration Certificate
- (v) MD or MS/ DNB Certificate
- (vi) Matric / Higher Secondary/ Birth Certificate for proof of date of birth
- (vii) For candidates who are employed, No Objection Certificate is require from employer
- (viii) Aadhar card or Voter ID or Passport
- (ix) NEET SS 2023 Score card

## 3. APPLICATION FEE:

- D.D. in favor of “**Director IGIMS, Patna**” of the amount as mentioned in the prospectus must also be attached with the same application form. **The application fee is not refundable.**
- **The Institute will not be responsible for any delay in the receipt or loss of the application in postal transit and no correspondence in this regard shall be entertained**
- For PBwD/ SC/ST category Candidate: 500/- (Five Hundred)
- General/OBC category: ☐ 1,000/- (One Thousand)
- Each candidate selected **for admission to Post- Doctorate Advanced Fellowship** will have to pay the following course fees and dues (INR) at the time of provisional admission:

Registration Fee (One Time)	:	Rs. 10,000/- (Ten Thousand only)
Tuition Fee inclusive of Laboratory and Library fee	:	Rs. 100000/- per Annum (One Lac only)
Electricity Charge	:	As applicable on consumption basis
Admission Charge (One Time)	:	Rs. 10,000/- (Ten Thousand only)

- Each candidate selected **for admission to Post- Doctorate Certificate Course** will have to pay the following course fees and dues (INR) at the time of provisional admission:

Registration fee	:	Rs 10,000/-(Ten thousand only)
Tuition fee inclusive of Laboratory & Library	:	Rs 1,40,000/- (One lakh forty thousand only)
Electricity Charge	:	As applicable on consumption basis
Registration fee (Examination)	:	Rs 10,000/-(Ten thousand only)
Admission Charge (One time)	:	Rs 10,000/-(Ten thousand only)



## **METHOD OF SELECTION**

### **Method of Selection : -**

The selection will take place on the basis of NEET Super Specialty Anaesthesia rank 2023 obtained by the candidates for **PDCC Course**.

The selection will take place on the basis of NEET Super Specialty **Anaesthesia/ Medicine** rank 2023 obtained by the candidates for **PDAF Course**.

### **(I) POST DOCTORATE ADVANCED FELLOWSHIP (PDAF) IN EMERGENCY CRITICAL CARE**

#### **Introduction to the Course:**

Critical Care management is multidisciplinary approach. Many trainee doctors are attracted to emergency critical care but few opportunities exist in India for specific training. With the advent of numerous critical care systems, this programme would help in generating trained and qualified personnel dedicated to this field and a career opportunity. Programme has the potential to boost quality service, research and eventual sub-specialty development in this area. Course carries much relevance in this part of the country where critical care management is still not well defined.

Aim of this programme would be to make trainees well versed with various aspects of critically ill patient like airway management shock, fluids resuscitation and advanced hemodynamic, massive transfusion protocols, ventilator management of pneumonia/COPD/ARDS, AKI management, traumatic and non-traumatic abdominal compartment syndrome, and also to train and transform trainees to assume the role of team leaders.

#### **FACILITIES AVAILABLE:**

- The Clinical services are provided through a 24 bedded well equipped state of art ICU with the following
- Bed side 7 Para monitor with invasive and non-invasive monitor.
- Continuous renal replacement therapy at the bedside
- Bed side ultra-sonography with echo facility.
- Fiber optic bronchoscope facility at bed side
- Percutaneous traheostomy at bedside

#### **OBJECTIVES:**

1. To facilitate and encourage post-graduates aspiring to learn skills and competencies in their area of interest
2. To facilitate and encourage our young post-graduates aspiring to provide for higher level of specialized critical care services in own country.
3. To improve and promote the existing medical institutions in India to perform high professional services in various fields.
4. To promote medical research and Innovations adaptable to the socioeconomic status and culture of our country.

  
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## **Curriculum for PDAF in Emergency Critical Care**

(The training program can be updated and modulated as and when required)

- The candidate must have gained experience in the diagnosis and treatment of patients with serious medical and surgical disease including coronary artery disease and neurosurgical disease.
- During the training the candidate must gain knowledge in two aspects - The knowledge about pathophysiology, diagnosis and treatment of a series of disease processes and skills of specific procedures and interventions that the candidate must be able to perform.

### **Theoretical Knowledge**

- The candidate must understand the pathophysiology, construct a differential diagnosis and apply the appropriate prophylactic and therapeutic interventions in the following disorders. This list is not comprehensive.

### **Respiratory**

- Management of airways (including respiratory arrest, upper airways obstruction, smoke or burns airways damage), pulmonary edema, adult respiratory distress syndrome and hypercapnic respiratory failure, severe asthma, chest trauma, respiratory muscle disorders, thoracic surgery.

### **Cardiovascular**

- Hemodynamic instability and shock, cardiac arrest acute myocardial infarction and unstable angina severe heart failure, common arrhythmias and conduction disturbance, specific cardiac disorders (cardiomyopathies, valvular heart disease, atrial or ventricular septal defects, myocarditis), cardiac tamponade, pulmonary embolism, aortic dissection, hypertensive crisis, peripheral vascular diseases. Cardiovascular surgery. Cardio pulmonary resuscitation (CPR) Training in Basic Life Support (BLS), and Advance Life Support (ALS)

### **Neurology**

- Coma, head trauma, intracranial hypertension, cerebrovascular accidents, cerebral vasospasm, meningo-encephalitis, acute neuromuscular disease (including myasthenia & Guillain Barre syndrome), post anoxic brain damage, acute confusional states, spinal cord injury, neurosurgery, brain death.

### **Renal**

- Oliguria. Acute renal failure, renal replacement therapy Metabolic & Nutritional
- Fluid electrolyte and acid-base disorders, endocrine disorders (including diabetes), nutritional requirements, monitoring of nutrition.

### **Haematological**

- Disseminated intravascular coagulation and other coagulation disorders, haemolytic syndromes, acute and anaemia, blood component therapy, immune disorders.

### **Infections**

- Severe infection due to aerobic and anaerobic bacteria, viruses, fungal and parasites, nosocomial infection, infection in the immunocompromised, tropical disease, antimicrobial therapy, immunotherapy.

### **Gastro-intestinal**

- Inflammatory bowel diseases, pancreatitis, acute and chronic liver failure, prevention and treatment of acute G.I. Bleeding (including variceal bleeding) peritonitis, mesenteric infarction, perforated viscous, bowel obstruction, abdominal trauma, abdominal surgery.
- Toxemia (including in HELLP syndrome), amniotic fluid embolism, eclampsia, and haemorrhage.

**Environmental Hazards**

- Burns, hypo-and hyperthermia, near-drowning electrocution, radiations, chemical injuries, animal bites.

**Toxicology, poisoning**

- Acute intoxications, drug overdose, serious adverse reactions, anaphylaxis.

**General**

- Pharmacology, pharmacokinetics and drug interactions. Analgesia, sedation and muscle relaxants, inflammation and anti-inflammatory agents, multiple trauma, transport of the critically ill, multisystem disorders (including Multi-Organ Dysfunction syndrome MODS and the Systemic Inflammatory Response Syndrome SIRS) Management of the organ donor.

**Interventions and procedures****General**

- Pharmacology, pharmacokinetics and drug interactions. Analgesia, sedation and muscle relaxants, inflammation and anti-inflammatory agents, multiple trauma, transport of the critically ill, multisystem disorders (including Multi-Organ Dysfunction syndrome MODS and the **Systemic Inflammatory Response Syndrome - SIRS**) **Management of the organ donor.**

**Respiratory**

- Maintenance of open airway, Endotracheal intubation (oral and nasal) and emergency cricothyrotomy, suctioning of the airway, setting and turning of the respirator with different modes of ventilation, titration of oxygen therapy, use of ambubag, techniques of weaning from mechanical ventilation, placement of a intercostal tube, implementation of respiratory pharmacological support, Fiberoptic bronchoscopy, interpretation of arterial and mixed venous blood gases, assessment of gas exchange and respiratory mechanics.

**Cardiovascular**

- Placement of a central venous catheter (by different routes), pulmonary artery (Swan Ganz) catheter, arterial catheter (by different routes) measurement and interpretation of the hemodynamic variables (including the derived variables), implementation of cardiovascular support antiarrhythmic therapy and thrombolysis.

**Neurologic**

- Basic interpretation of brain CT/MRI scan, intracranial pressure monitoring.

**Nutrition**

- Metabolic and Nutritional Implementation of intravenous fluid therapy, enteral and parental nutrition.

**Haematologic**

- Correction of haemostatic and coagulation disorders, interpretation of a coagulation profile, implementation of thrombolysis.

**Renal**

- bladder catheterization, renal replacement techniques.

**Gastro-intestinal**

- Placement of gastric tube, an esophageal and gastric tamponade balloon
- General Measurement of severity of illness and outcome assessment. Exposure to clinical research, ethical and legal aspects of critical care.
- Participation in regional and national CME's seminars and conference in critical care and affiliation with such critical care organizations is desirable.

**Clinical skills to be acquired by the candidates:**

At the end of the course, the resident should be able to:

1. Initial evaluation and management, team approach, triage, surgical priorities and mass casualty management
2. Airway management, algorithms for emergency induction and intubation
3. Vascular cannulation
4. Shock resuscitation and fluid therapy, damage control resuscitation
5. Blood component therapy and trauma coagulopathy, massive transfusion protocols.
6. Dialysis and management of Acute Kidney Injury
7. Management considerations for patients with the following blunt or penetrating injuries:
  - a. Traumatic brain injury
  - b. Spinal cord trauma
  - c. Ocular and maxillofacial trauma
  - d. Chest trauma
  - e. Abdominal trauma
  - f. Musculoskeletal trauma
8. Perform the following procedures:
  - a. Endotracheal intubation with and without in line cervical immobilization including but not limited to direct, indirect video laryngoscopic and fiber optic techniques.
  - b. Arterial puncture and cannulation.
  - c. Insertion of central venous catheter (internal jugular and subclavian)
  - d. Assessment of patients using USG
  - e. Management of ARDS patients, PEEP titration, lung protective ventilation
  - f. Use of newer modes of ventilator, prone ventilation

Residents will be responsible for the day-to-day implementation of resuscitation, airway management. All procedures will be carried out under the direct supervision of critical care faculty.

  
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### **(III) POST DOCTORATE CERTIFICATE COURSES**

#### **CURRICULUM**

PDCC of various specialties will be conducted under following broad heading:

#### **PDCC Paediatric & Neonatal Anaesthesia**

- The Practice of Paediatrics Anaesthesia
- Growth and Development
- Preoperative Behavioral Stress in Children
- Preoperative Evaluation, Premedication, and induction of Anaesthesia
- Ethical Issues in Paediatric Anaesthesiology
- Pharmacokinetics and Pharmacology of Drugs Used in Children
- Total Intravenous Anaesthesia and Target-Controlled Infusion
- Fluid Management
- Essentials of Haematology
- Strategies for Blood product management and Reducing Transfusions
- Essentials of Pulmonology
- The Paediatric Airway
- Anaesthesia for Thoracic Surgery
- Essentials of Cardiology
- Anaesthesia for Children Undergoing Heart Surgery
- Cardiac Physiology and Pharmacology
- Cardiopulmonary Bypass and Management
- Medications for Haemostasis
- Mechanical Circulatory Support
- Interventional Cardiology
- Anaesthesia for Non-cardiac Surgery in Children with Congenital Heart Disease
- Essential of Neurology and Neuromuscular Disorders
- Surgery Anaesthesia, and the Immature Brain
- Paediatric Neurosurgical Anaesthesia
- Essentials of Endocrinology
- Essentials of Nephrology
- General Abdominal and Urological Surgery
- Essentials of Hepatology
- Organ Transplantation
- Orthopedic and Spinal Surgery
- Otorhinolaryngologic procedures
- Ophthalmology
- Plastic and Reconstructive Surgery
- Burn Injuries
- The Extremely premature infant (Micropremie)
- Neonatal Emergencies
- Fetal Intervention and the EXIT Procedure
- Trauma
- Cardopulmonary resuscitation
- Malignant Hyperthermia
- Regional Anaesthesia
- Ultrasound –Guided Regional Anaesthesia
- Acute Pain
- Chronic Pain
- Anaesthesia Outside the Operating Room
- The Post Anesthesia Care Unit and Beyond
- Sedation for Diagnostic and Therapeutic Procedures outside the Operating Room
- Procedures for Vascular Access
- Infection Disease Consideration for the Operating Room

- Paediatric Equipment
- Medicolegal Issues
- Simulation in Paediatric Anaesthesia

### **PDCC- Cardiac Anaesthesia**

- The Cardiac Surgery Patient
- Cardiovascular Drugs
- Monitoring the Cardiac Surgical Patient
- Transesophageal Echocardiography
- Induction of Anaesthesia
- Anaesthetic Management in the Precardiopulmonary Bypass Period
- Anaesthetic Management During Cardiopulmonary Bypass
- The Post cardiopulmonary Bypass Period: Weaning to ICU Transport
- Postoperative Care of the Cardiac Surgical Patient
- Anaesthetic Management of Myocardial Revascularization
- Anaesthetic Management for the Surgical treatment of Valvular Heart Disease
- Alternative Approaches to Cardiac Surgery with and Without Cardiopulmonary bypass
- Anaesthetic Management for Patients with Congenital Heart Disease
- Anaesthetic Management of Cardiac Transplantation
- Arrhythmia, Rhythm Management Device, and Catheter and Surgical Ablation
- Surgical Ventricular Restoration and Remodeling
- Cardiopulmonary Bypass Circuits: Design and Uses
- Pathophysiology of Cardiopulmonary Bypass
- Intraoperative Myocardial Protection.
- Protection of the Brain During Cardiac Surgery
- Anaesthetic Management for Thoracic Aortic Aneurysms and Dissections
- Anaesthetic Management for Surgery of the Lungs and Mediastinum
- Cardiovascular Imaging
- Cardiovascular Molecular Biology and Genetics'
- Thoracic Aortic Surgery
- Extracorporeal Circulation
- Errors in Cardiac Anaesthesiology

### **PDCC- Neuro Anaesthesia**

- Brain Metabolism
- Pathophysiology of Brain Injury & Potential beneficial Agents and Techniques.
- Cerebral and Spinal Cord Blood Flow
- Cerebrospinal Fluid
- Intracranial Pressure Monitoring
- Effects of Anaesthetic Agents and other Drugs on Cerebral Blood Flow, Metabolism and Intracranial Pressure
- Modern Neuroradiology Relevant to Anaesthetic and Neurosurgery.
- Evoked Potentials
- Transcranial Doppler Ultrasonography in Anaesthesia and Neurosurgery/
- Fluid Management During Craniotomy
- Care of the Acutely Unstable patient
- Supratentorial Masses: Anaesthetic Considerations
- Anaesthetic Management for Posterior Fossa Surgery
- Anaesthetic Management of Cerebral Aneurysm Surgery
- Interventional Neuroradiology: Anaesthetic Management
- Anaesthetic Considerations for Surgical Resection of Brain Arterio-venous Malformations
- Occlusive Cerebro-vascular Disease: Anaesthetic Considerations
- Awake Craniotomy, Epilepsy, Minimally Invasive, and Robotic Surgery
- Perioperative Management of Adult Patients with Severe Head Injury
- Pediatric Neuro anaesthesia and Critical Care

- Neurosurgical Diseases and Trauma of the Spine and Spinal Cord: Anaesthetic Considerations
- Neurologic Disease and Anaesthesia
- Postoperative and Intensive Care including Head Injury and Multisystem Sequelae
- Anaesthesia for Neurosurgery in the Pregnant Patient
- Ethical Considerations in the Care of Patients with Neurosurgical Disease
- Future Advances in Neuro Anaesthesia

## **PDCC- Critical Care Medicine**

### ***Theoretical Curriculum of PDCC- Critical Care Medicine***

The candidate must have gained experience in the diagnosis and treatment of patients with serious medical and surgical disease including coronary artery disease and neurosurgical disease.

During the training the candidate must gain knowledge in two aspects:

- i. The knowledge about pathophysiology, diagnosis and treatment of a series of disease processes
- ii. Skills of specific procedures and interventions that the candidate must be able to perform

The candidate must understand the pathophysiology, construct a differential diagnosis and apply the appropriate prophylactic and therapeutic interventions in the following disorders. This list is not comprehensive.

The critical care specialist (Intensivist) must understand the pathophysiology, construct a differential diagnosis and apply the appropriate prophylactic and therapeutic interventions in the following disorders. The list is not comprehensive and can be modified time to time.

- **Respiratory**
  - Airway (including Respiratory Arrest, Upper Airway Obstruction, Thermal Airway Injuries)
  - Pneumonia & Pulmonary oedema
  - Adult respiratory distress syndrome
  - Bronchial asthma
  - Neuromuscular disorders
  - Respiratory failure because of various reasons including respiratory and neuromuscular.
- **Cardiovascular:**
  - Hemodynamic instability and shock
  - Cardiac Arrest, Acute Myocardial Infarction and Unstable Angina
  - Heart Failure, Common Cardiac Arrhythmias and conduction disturbances
  - Complications of specific cardiac disorders (Cardiomyopathies, Valvular Heart Disease, Atrial or Ventricular Septal Defects, Myocarditis)
  - Cardiac tamponade, pulmonary embolism, aortic dissection and hypertensive crisis
  - Peripheral vascular disease, post-cardiovascular surgery.
  - Training in cardiopulmonary cerebral resuscitation including Basic Life Support. (BLS) and Advanced Life Support (ALS).

  
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- **Neurology**
  - Coma
  - Head trauma
  - Intracranial hypertension
  - Cerebrovascular accidents
  - Cerebral vasospasm
  - Meningo-encephalitis
  - Acute neuromuscular disease (including Myasthenia Gravis & Guillain-Barre Syndrome)
  - Post anoxic brain damage
  - Acute confusional states
  - Spinal cord injury
  - Brain death
- **Renal**
  - Oliguria
  - Acute renal failure
  - Renal replacement therapy
- **Metabolic & Nutritional**
  - Fluid electrolyte and acid-base disorders
  - Endocrine disorders (including diabetes)
  - Nutritional requirements
  - Monitoring of nutrition

### **Haematological**

- Disseminated intravascular coagulation and other coagulation disorders
- Haemolytic Syndromes
- Acute and Chronic anaemia
- Blood component therapy
- Immune disorders.
- **Infections**
  - Severe infection due to aerobic and anaerobic bacteria, viruses, fungal and parasites
  - Nosocomial infection
  - Infection in the immune-compromised
  - Tropical Disease
  - Antimicrobial therapy
  - Immunotherapy
- **Gastro-intestinal**
  - Inflammatory Bowel Diseases
  - Pancreatitis
  - Acute and Chronic Liver Failure
  - Prevention and Treatment of acute G.I. Bleeding (including Variceal Bleeding)
  - Peritonitis
  - Mesenteric infarction
  - Perforated viscous, bowel obstruction
  - Abdominal trauma & abdominal surgery
- **Obstetric**
  - Toxemia (including in HELLP Syndrome)
  - Amniotic fluid embolism
  - Eclampsia and Post Partum Haemorrhage



- **Toxicology & Poisoning**

- Acute intoxications & Drug overdose
- Serious adverse reactions
- Anaphylaxis.

**General**

- Pharmacology, Pharmacokinetics and Drug Interactions.
- Analgesia, Sedation & Muscle Relaxants
- Inflammation and Anti-Inflammatory Agents
- Multiple trauma, transport of the critically ill patients
- Multisystem Disorders including Multi-Organ Dysfunction Syndrome (MODS) and the Systemic Inflammatory Response Syndrome (SIRS)
- Management of the organ donor.

***General Interventions and procedures***

The intensivist must be able to perform a number of specific procedures. For all candidate experience is desirable but not mandatory in the following areas:


- Endotracheal intubation (oral and nasal)
- Maintenance of open airway
- Intermittent positive pressure ventilation on resuscitation bag
- Setting and turning of the respirator with different modes of ventilation
- Chest Physiotherapy & Suctioning airway
- Assessment of gas exchange & respiratory mechanism
- Titration of oxygen therapy & Use of AMBU Bag
- Techniques of weaning from mechanical ventilation
- Various modes of weaning from ventilation
- Placement of intercostal drainage tube
- Fiberoptic Bronchoscopy and bronchoalveolar lavage
- Emergency cricothyrotomy, Mini tracheostomy and Percutaneous dilatational tracheostomy

***Speciality Specific Interventional Procedures:***
**Neurologic**

- Basic interpretation of brain CT/MRI scan
- Intracranial pressure monitoring
- Lumbar puncture and sampling of CSF

**Cardiovascular**

- Placement of a central venous catheter (by different routes)
- Arterial catheterization (by different routes)
- Placement of pulmonary artery (Swan Ganz) catheter
- Measurement and interpretation of the hemodynamic variables
- Implementation of cardiovascular support antiarrhythmic therapy and thrombolysis

  
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### **Metabolic and Nutritional**

- Implementation of intravenous fluid therapy
- Enteral and Parental Nutrition.

### **Haematological**

- Correction of haemostatic and coagulation disorders
- Interpretation of coagulation profile
- Implementation of thrombolysis.

### **Renal**


- Bladder catheterization
- Renal replacement techniques.

### **Gastro-intestinal**

- Placement of gastric tube
- Esophageal and gastric tamponade balloon

### **General:**

- Measurement of severity of illness and outcome assessment. Exposure to clinical research, ethical and legal aspects of critical care.
- Participation in regional and national CME's seminars and conference in critical care and affiliation with such critical care organizations is desirable.

  
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## Course Training Schedule

### Programme Content:

The Candidate must gain experience in the diagnosis and treatment of patients with acute, serious, and life-threatening medical and surgical diseases. The above mentioned course curriculum of respective specialty defines the cognitive knowledge and procedural skills that the candidate is expected to be equipped with to effectively approach the complex problems encountered in respective specialty patient.

The content of this one year training in respective specialty deals with the following aspects:


- **Teaching Schedule :-**
  - I. Will contain lecture, seminar, journal club, case discussion in addition to clinical teaching.
  - II. The candidate shall maintain log books of procedure preformed/ assisted, counter signed by the course coordinator.
  - III. The candidate shall be posted in work place related to the subspecialty, for example :OPD, OR, ICU, Allied Medical / Surgical work places.
  - IV. An academic calendar should be prepared by the concerned department in advance for smooth teaching and training.
- **Eligibility for exit examination**
  - I. Exit examination to be held in June on completion of the course.
  - II. 80% attendance will be mandatory.
  - III. Satisfactory performance in the assessment examinations is a must.
  - IV. Thesis writing is not required. Publication of one paper in NMC recognized journal is desirable.
- **Exit examination modality**
  - I. The examination will consist of two parts.
    - a) Part one : Theory
    - b) Part two : Practical /clinical/ viva.
  - II. Theory examination shall consist of two paper each of 3 hours duration.
  - III. Institute regulation will be followed for setting question papers and conduction the examination.
- **Marks distribution.**
  - I. Theory – 200 marks (Each paper of 100 marks)
  - II. Practical / Viva/ Clinical- 200 marks
  - III. Total Maximum Marks- 400
- **Scheme of written exit examination**
  - I. There shall be two papers of 3 hours duration each.
    - a) Paper-1 (Basic sciences as applied to the concerned subspecialty)
    - b) Paper -2 (Clinical and recent advance in the concerned subspecialty)
- **Scheme of clinical/ viva examination**
  - I. There shall be two internal and two external examiners : HOD of the department along with the course coordinator of the concerned subspecialty shall be the internal examiners.
  - II. Two external examiners will be invited as per institute regulation.
  - III. The examination will consist of long and short clinical case (case scenario if required) table viva, OSCE, Communication Skill etc.
- **Results**
  - I. The candidate must obtain a minimum of 50% marks in theory and 50% marks in practical/ clinical separately to pass the examination. The examiners shall report whether the candidate has passed or failed.
  - II. The certificate of PDCC/PDAF along with Senior Residency Certificate shall be awarded to the candidate after the candidate has passed the exit examination.
    - a) In PDCC after completion, Senior Resident certificate in Anaesthesiology will be also given
    - b) In PDAF Emergency Critical Care, after completion of Tenure Senior Residency certificate in Anaesthesiology/ Medicine will also be given.

**Note:- Candidate selected for pursuing the said course has to pay COURSE fee etc. In case, the Candidate withdraws from the course, fee is non-refundable and has to pay a penalty of Rs. 5,00,000/- (Five Lakhs Only).**

## **Annexure - I**

### **INFORMATION FOR PHOTOGRAPHS**

1. Recent clear passport size photographs (black & white or coloured) with light background are required. Polaroid photographs are not acceptable.
2. Photograph should not have cap or goggles. Spectacles are allowed.
3. Photograph should be pasted (not stapled) on Application Form.
4. The photograph on the Application Form should be unattested.
5. Application not complying with these instructions or with unclear photograph will be rejected.
6. Keep few identical photographs in reserve for use later.
7. Four Nos. of recent passport size photographs are required.

  
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## ANNEXURE- II

### FORMAT OF SPONSORSHIP CERTIFICATE BY CENTRAL GOVT./STATE GOVT. /ARMED FORCES (SPONSORING AUTHORITIES)

1. I certify that Dr./Miss/Mrs./Mr.\* \_\_\_\_\_ is being sponsored for training leading to award of **PDCC/ PDAF Course** in \_\_\_\_\_ at IGIMS, Patna for session commencing in **JANUARY 2024**.
2. That Dr./Miss/Mrs./Mr.\* \_\_\_\_\_ is a permanent employee of \_\_\_\_\_ (name of the State/Central Govt. Dept./Office/Armed Forces/ the Competent Authorities of PSU/Autonomous Body etc.)
3. That **PDCC/ PDAF Course** for which candidate is being sponsored, is not available in this State.
4. That he/she, after getting training at IGIMS, Patna, will be suitably employed by sponsoring authority in specialty in which training is to be provided in IGIMS, Patna.
5. That candidate will be paid all emoluments by sponsoring authority during entire training period. Such payment will not be the responsibility of IGIMS, Patna.
6. That candidate is being sponsored for entire duration of course as specified in prospectus for the above mentioned course.

\_\_\_\_\_  
Signature of sponsoring authority

Date: \_\_\_\_\_ Name: \_\_\_\_\_

Place: \_\_\_\_\_ Designation: \_\_\_\_\_

Office Seal \_\_\_\_\_


**\*Delete whichever is not required/applicable.**

#### IMPORTANT:

- (i) Above certificate, duly signed only by Competent Authority, i.e., Secretary/Director General of Health Services of Central/State Government concerned/ DGAFMS/ Director/ Executive Head, will be considered.
- (ii) No addition or alteration in above certificate is allowed.
- (iii) Subject/Discipline must be specified in sponsorship certificate failing which candidature will not be considered under sponsored category.

**NOTE 1:** While sponsoring candidates, Central/State Government/Defence Authorities/PSU/Autonomous Bodies should furnish a certificate prescribed for this purpose duly completed and signed by competent authority.

**NOTE 2:** 'Sponsorship Certificate' should indicate discipline/specialty for which candidate is being sponsored, failing which application will not be considered under sponsored category.

  
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**INDIRA GANDHI INSTITUTE OF MEDICAL SCIENCES SHEIKHPURA, PATNA-14**
(AN AUTONOMOUS INSTITUTE OF GOVT. OF BIHAR: (India) Statutory University by an Act of State Legislature)
**CONTROLLER OF EXAMINATION**
Tel.: 0612 – 2297631, 2297099-Ext.: 265; Fax: 0612 – 2297225; Website: www.igims.org; E-Mail: dean@igims.org

Sl. No.	
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**APPLICATION FORM**
**(For Post Doctorate Certificate Course / Post Doctorate Advance Fellowship Course)**
**(To be filled in Capital Letters)**

- |   |
|---|
| Affix you recent<br>coloured passport<br>Photograph with<br>signature |
|---|
- Ref. Advt. No.: .....
1. Course applied for.....Session:.....
  2. Department:.....
  3. Name (in Block Letters): .....
  4. Father's/Husband's Name: .....
  5. Mother's Name.....
  6. Address (Permanent):.....  
.....  
.....  
(Address proof to be enclosed)
  7. Address for correspondence: .....
  - .....
  - .....
  - Aadhar/Voter ID/Passport No.: .....Mobile No.....
  - E-mail (IN BLOCK LETTER):.....
  8. NEET (SS) (2023) Roll NO. ....
  9. Total Marks Obtained (NEET (SS) – 2023): .....
  - In Words:.....
  10. Details of Demand Draft of (Rs. 1000/- UR/ EWS/ BC/ EBC) or (Rs.500/- for SC/ST/PBwD)  
DD No:-.....Date:-.....  
Bank Name:-.....Amount:-.....
  11. Date of Birth (in DD/MM/YYYY format):
  12. Age as on last date of application (in YY/MM/DD format):
  13. Category: (EWS/GEN/SC/ST/BC/ EBC/PwD/OPH) - .....
  14. Gender (Male/Female): - .....

15. **Educational/Professional Qualification:**

Degree/Exam.	Name of Board/University	Year of Passing	Subject	Percentage/ Division

16. **Research Publications/Presentation**

Title of Publication	Author/ Co Author	Name of Publication	National /International	Date of Publication/ Presentation

17. **Project with Grant**

Title of Project	Name of Principle Investigator	Project sanctioned by/ Funding agency	National /International	Date of Sanction and amount

18. **Work Experience:**

Sr. No	Name of Department/ Section	Name of the post held	Date of Joining	Date of Leaving

19. **Whether MBBS/MD/MS degree is recognized by Medical/State Council of India: Yes/No**

.....

20. Whether registered with State Medical Council or Indian Medical Council: Yes/No  
(Attached the copy of registration)

a. Registration No.....

b. State in which registered.....

21. Fee Details: D.D. No.: \_\_\_\_\_ Amount (in Rs.) \_\_\_\_\_

Dated: \_\_\_\_\_ Bank Name: \_\_\_\_\_

### **DECLARATION**

I..... hereby declare, that all statements made in this application are true, complete and correct to the best of my knowledge and belief. In the event of any information being found false or incorrect my candidature is liable to be cancelled/ terminated. I will have no claim for absorption after termination/ completion of tenure contract. I shall abide by terms & condition as prescribed. In the event of ineligibility being detected before or after the selection procedure, action can be taken against me under the relevant rules/instruction and hereby undertake to abide by them.

Date: \_\_\_\_\_

(Signature of the Candidate)

Place: \_\_\_\_\_

Name: .....

Enclosure Checklist:

Sl. No.	Copy of the Certificate	Please Tick
1.	Class X & XII Mark sheet/certificate for Date of Birth	
2.	MBBS Mark Sheet & Certificate	
3.	Internship Completion Certificate	
4.	MD/MS/DNB/ Mark sheet & Certificate	
5.	State/MCI registration	
6.	SC/ST/OBC/PH certificate issued by the competent Authority (If applicable)	
7.	NOC (if any)	
8.	Attempt Certificates	
9.	Copies of any other relevant documents	
10.	NEET SS 2023 Score card	