

INTRODUCTION

Originally established by the Government of Kerala as an advanced centre for medical specialties, Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST) metamorphosed into an Institute of National Importance with the status of a University in 1980 under the Department of Science and Technology, Govt. of India by an Act of Parliament (Act 52 of 1980). The joint culture of medicine and technology that the Institute pioneered more than three decades ago has come of age and gained unprecedented acceptance in India. Imbued with an inclination to venture into less-trodden domains, the Institute focuses on patient care of high quality, technology development of industrial significance and health research studies of social relevance. The emphasis is on development of facilities less readily available elsewhere in the country such as interventional radiology, cardiac electrophysiology, presurgical evaluation and surgery for epilepsy, microsurgery and deep brain stimulation for movement disorders, new biomedical devices and products, evaluation of medical devices to global specifications, new academic programmes and global public health networks.

The Institute has three wings – the Hospital, Biomedical Technology Wing and the Achutha Menon Centre for Health Science Studies. Excellent research and teaching facilities are available at these centres. This uniquely poised Institute has a dedicated team of clinicians, scientists and engineers devoted to high quality biomedical research and developing technologies in health care with emphasis on cardiovascular and neurological diseases.

The Institute's missions are:

- Promote research and development in biomedical engineering and technology
- Deliver high quality patient care in selected specialties and subspecialties
- Develop innovative postgraduate training programmes in advanced medical specialties, and biomedical engineering and technology.
- Participate in public health reforms through research, training and interventions.

The Sree Chitra Tirunal Institute for Medical Sciences & Technology Act, 1980, empowers the Institute to sponsor post-graduate programmes in medical sciences and biomedical engineering and stipulates that the medical degrees, diplomas and other academic distinctions granted by the Institute shall be recognized qualifications for the purpose of the Indian Medical Council Act and that they shall be included in the First Schedule to the Act.

PROGRAMMES ON OFFER - 2014

Post-doctoral courses	Ph.D./Master's	Other Programmes
1. DM Cardiology	16. Ph.D.	Joint Programmes: (for details please see page no. 32 to 34. (1) M Tech. (Clinical Engineering) (2) Ph.D. (Biomedical Devices and Technology)
2. DM Neurology	17. Master of Public Health (MPH)	
3. DM Neuroimaging and Interventional Neuroradiology	18. M Phil (Biomedical Technology)	
4. DM Cardiothoracic & Vascular Anaesthesia	Diplomas	Affiliated Programmes with other Centres: (pl. refer page no.35 to 39) A. National Institute of Epidemiology, Chennai: (1) Master of Public Health (Epidemiology and Health Systems) B. Christian Medical College, Vellore. (1) Master of Science Bioengineering (2) Ph.D.in Bioengineering (3) Master of Public Health (MPH)
5. DM Neuroanaesthesia	19. Cardiovascular & Thoracic Nursing	
6. MCh Cardiovascular & Thoracic Surgery	20. Neuro-Nursing	
7. MCh Vascular Surgery	21. Cardiac Laboratory Technology	
8. MCh Neurosurgery (after M.S)	22. Operation Theatre Technology	
9. MCh Neurosurgery—5-year course (after MBBS and 1 year Senior house surgery/ Residency in General Surgery)	23. Neuro-Technology	
10. Post-doctoral certificate course in Cardiothoracic and Vascular Anaesthesia	24. Advanced Medical Imaging Technology	
11. Post-doctoral certificate course in Neuroanaesthesia	25. Medical Records Science	
12. Post-doctoral certificate course in Cardiovascular Imaging and Vascular Interventional Radiology	26. Clinical Perfusion	
13. Post-doctoral certificate course in Diagnostic Neuroradiology	27. Blood Banking Technology	
14. Post-doctoral certificate course in Vascular Surgery	28. Diploma in Public Health	
15. Post-doctoral Fellowship (Post DM/MCh./DNB)		

COURSES OFFERED

1. POST-DOCTORAL COURSES

Currently, the Institute is offering the following Post-doctoral courses:

DM— Cardiology, Neurology, Neuroimaging and Interventional Neuroradiology, Cardiothoracic & Vascular Anaesthesia, Neuroanaesthesia.

MCh—Cardiovascular and Thoracic Surgery, Vascular Surgery, Neurosurgery

Post-doctoral Certificate Course—Cardiothoracic and Vascular Anaesthesia, Neuroanaesthesia, Cardiovascular Imaging and Vascular Interventional Radiology, Diagnostic Neuroradiology, Vascular Surgery.

Post-doctoral (Post DM/MCh./DNB) Fellowship

MINIMUM EDUCATIONAL QUALIFICATIONS FOR ADMISSION

A. DM COURSES

DM Cardiology and DM Neurology

MD in General Medicine or Paediatrics from an Indian University recognized by MCI or Diplomate of the National Board (DNB) in General Medicine/Paediatrics or any equivalent Degree recognized by MCI.

Candidates with MD in Psychiatry from an Indian University recognized by MCI or DNB in Psychiatry with a minimum of six months residency posting in General Medicine during the said course can apply for DM (Neurology)

DM Neuroimaging & Interventional Neuroradiology:

MD/DNB in Radiology/Radiodiagnosis

DM Cardiothoracic and Vascular Anaesthesia

MD/DNB in Anaesthesia or equivalent

DM Neuroanaesthesia

MD/DNB in Anaesthesia or equivalent

**B. MCh Cardiovascular and Thoracic Surgery,
Vascular Surgery, Neurosurgery.**

MS in General Surgery from an Indian University recognized by MCI or Diplomate of the National Board in General Surgery or any equivalent degree recognized by MCI for this purpose from time to time.

C. MCh Neurosurgery (5-year course)

MBBS from an Indian University recognized by MCI and one-year post-MBBS residency/Senior house surgery in General Surgery from a University/PG Institute/Teaching Hospital recognized by the MCI for general surgery post graduate training.

**D. Post-doctoral Certificate Courses: Cardiothoracic and Vascular
Anaesthesia, Neuroanaesthesia, Cardiovascular Imaging and Vascular
Interventional Radiology, Diagnostic Neuroradiology, Vascular Surgery.**

MD/MS Degree in Anaesthesia/Radiology/General Surgery, from an Indian University recognized by MCI or DNB in Anaesthesia/Radiology/General Surgery, or any equivalent degree recognized by MCI.

UPPER AGE LIMIT

35 years (as on **1st January 2014**), relaxable by 5 years for qualified Ex-service personnel with a service of not less than 5 years, SC/ST and Sponsored candidates.

METHOD OF SELECTION (Total 100 marks)

1. 10 marks for MBBS.
2. 15 marks for MD/MS/DNB
3. 30 marks for Theory (Written) Entrance Examination
4. 30 marks for Departmental Clinical/Practical and Viva Voce
5. 15 marks for the Final Interview

Note:

- a. For calculating the marks for eligibility for admission to these courses, a deduction of one mark shall be made for having failed once in any of the University Examinations. Two more marks will be deducted for the second failure in any of the University Examinations. Candidates with more than two failures will not be called for the entrance examination.
- b. All candidates called for assessment should appear for a Theory Examination of 90 minutes duration, carrying 100 multiple choice questions, half of which will be from the specialty applied for. **OMR will be used for evaluation of answer sheets.** Theory examination will be based on the core post-graduate specialty and post-doctoral specialty applied for.

- c. The minimum pass marks in Theory Examination will be 50%. Candidates scoring less than the minimum prescribed will not be considered.
- d. Out of the candidates who have qualified in the Theory Examination, a merit list will be drawn up based on the aggregate marks obtained in the Theory Examination. From the said merit list, candidates will be selected in the order of merit for further evaluation - clinical, practical and viva voce in the respective departments. The ratio of candidates selected for these will be approximately three candidates for each available vacancy.
- e. The candidates for the final interview will be selected in the order of merit based on aggregate marks scored for academic performance including theory and departmental clinical/practical and viva-voce (aggregate of 1,2,3,4 under method of selection marks). The proportion of candidates called for the final interview will be two per available seat in each discipline.
- f. Candidates will be notified of their provisional selection immediately after the Entrance Examination. The final announcement will carry the names of selected candidates (in serial order), wait-listed candidates (in rank order), and those eligible for Institute scholarship. The number of wait-listed candidates will not exceed that of the selected. Selection will be purely on merit, based on the method of assessment indicated.
- g. Candidates can apply for Cardiothoracic and Vascular Anaesthesia specialty or for Neuroanaesthesia specialty. Examinations are different for the two specialties. The examination is common for both DM and PDCC courses in the same specialty.
 - There will be a common application form for both DM and PDCC programs. A candidate should submit only one application form.
 - The candidate has 3 options to apply for the programs:
 1. To apply only for DM program (Group I).
 2. To apply for both DM and PDCC program, with the aim of joining either of them whichever would be available to him/her based upon ranking in the final examination (Group II).
 3. To apply only for PDCC (Group III).
 - Theory examination will be common both for DM and PDCC.
 - Only those candidates successfully passing the theory examination will be considered for departmental examination. Candidates equal to 3 times the total number of seats (DM plus PDCC) will be selected for departmental examination. However, maximum number of candidates among them, who apply for group I (DM program only), will not exceed 3 times the number of DM seats.

- Only those candidates successfully passing the departmental examination will be considered for final interview. At the end of departmental examination, all candidates will be rank listed according to the score obtained. Candidates equal to twice the number of seats (DM plus PDCC) will be selected for final interview. However, maximum numbers of candidates among them, who are in group I (DM program only), will not exceed 2 times the number of DM seats.
 - Only those candidates successfully passing the final interview will be considered for admission counseling. A merit list will be created after final examination.
 - The candidates for DM seats will be selected from group I and group II according to the merit order. Number of candidates equal to the number of DM seats will be kept in the waiting list for DM. However, those candidates from group II, who are included in DM waiting list, can also compete for PDCC seats. They may join the DM program depending upon their merit order if a DM seat falls vacant at a later date. A candidate who joins the DM course will not be permitted to change over to PDCC at a later date.
 - The candidates from Group II and Group III will compete for PDCC. Those who are not selected for PDCC, will be kept in the PDCC waiting list.
- h. The panel of candidates selected for DM/MCh. courses will be valid for a period of six months from 1st January of each year. Any vacancy occurring before 1st February will be filled from the waiting list. Any candidate from the waiting list admitted against a vacant seat who fails to join on or before January 31st will be admitted to the course only on 1st July of that year. All candidates shall, however, undergo the period of training prescribed for the course before being permitted to appear for the Examination.

Note: (1) One seat in DM Cardiology is normally reserved for candidates with MD in Paediatrics or its equivalent qualification. However, in the absence of suitable candidates, the seat will be filled from candidates with MD in General Medicine. So also, MD Paediatrics candidates may be admitted to general seats if found suitable. Students applying for DM Cardiology, from the Paediatric stream should select the course name as DM Cardiology (for Paediatric stream). Candidates applying for DM Neurology from Paediatric stream should select the course name as DM Neurology (Paediatric stream).

(2). One seat in MCh. Neurosurgery will be reserved for MBBS candidates with one year senior house surgency/residency. In the absence of suitable candidates, the seat will be filled from the candidates with MS/DNB in General Surgery.

E. POST-DOCTORAL FELLOWSHIP (PDF)

The Institute offers one-year Post-doctoral Fellowship (PDF) for those who have DM/MCh (3-year) or equivalent qualifications. The PDF provides an excellent opportunity to obtain advanced training in a sub-specialty area. The PDF programmes are organized by faculty trained in the concerned sub-specialty area. In addition to obtaining advanced clinical training, PDF provides opportunities to gain hands-on experience in advanced diagnostic and therapeutic techniques and high quality research. The applicant is encouraged to visit the website (www.sctimst.ac.in) and directly communicate with respective PDF Programme Supervisors listed below to gather more details about the programme and areas of future research during the fellowship period.

The following PDF positions are available for the academic year beginning January 2014.

(i) Department of Neurology

<i>Subspecialty</i>	<i>Programme Supervisor</i>
Electroencephalography (one seat)	Dr.Sanjeev V Thomas sanjeev@sctimst.ac.in
Epilepsy (one seat)	Dr.Sanjeev V Thomas sanjeev@sctimst.ac.in
Movement Disorder (one seat)	Dr.Asha Kishore asha@sctimst.ac.in
Neuromuscular Disorders (one seat)	Dr.M.D.Nair, mdnair@sctimst.ac.in
Stroke (one seat)	Dr.P.N.Sylaja sylajapn@sctimst.ac.in

(ii) **Department of Cardiology**

Adult Cardiology and Interventions (one seat) Dr.Thomas Titus
titus@sctimst.ac.in

Cardiac Electrophysiology (one seat) Dr.Thomas Titus
titus@sctimst.ac.in

Paediatric Cardiology (one seat) Dr.Thomas Titus
titus@sctimst.ac.in

(iii) **Department of Neurosurgery**

Cerebrovascular Surgery (one seat) Dr.N.Suresh Nair
snair@sctimst.ac.in

Skull Base Neurosurgery (one seat) Dr.N.Suresh Nair
snair@sctimst.ac.in

(iv) **Department of CVTS** (one seat)

Adult Cardiac Surgery or Paediatric Cardiac Surgery Dr.K.Jayakumar
jay@sctimst.ac.in

**Minimum Educational Qualification for Admission
(for Post-doctoral Fellowship) :**

DM/MCh (3 year) or equivalent qualification from MCI recognized institutions.
Registration with Central/State Medical Council.

Application to include bio-data and a 500 words write-up on the work/project proposed to be done. Institutional grants are available for selected research proposals. The candidates can contact the Programme Supervisor in advance to discuss the feasibility of the proposed programme.

Letter of Reference

Applicants for PDF courses are required to submit 2 reference letters from specialists working in the area of application, one of which should be from the last employer/teacher under whom the candidate worked. The reference letters must be sent in sealed envelopes along with the application

Upper Age Limit

45 years (as on 1st January 2014), relaxable by 5 years for qualified Ex-service personnel with a service of not less than 5 years, SC/ST and Sponsored candidates.

Method of selection:

Short-listing of the application based on the merit of a 500 words short research project proposal and letters of references. Short listed candidates will be called for an interview for final selection.

SPONSORED CANDIDATES (for all programmes)

Candidates will be considered as “Sponsored” only when they are financially supported by the Government, governmental agencies or Universities.

Sponsored candidates will have to apply through proper channel and submit a “No Objection Certificate” from their employer along with their application forms. Government Orders regarding sponsorship with financial support must be submitted at the time of admission. The decision of the Institute regarding the eligibility of sponsorship shall be final.

All eligible candidates seeking admission (including sponsored) will appear in the Entrance Examination and go through the process of selection as envisaged for all. Candidates applying under the sponsored category will be considered as “Sponsored” only if they figure in the merit list. Should a sponsored candidate be qualified to be among those wait-listed, he/she would be given admission under the sponsored category irrespective of the wait-listed position. No other type of preference will be given to sponsored candidates.

Sponsored candidates are eligible for 7 days Leave on Duty for attending National Conferences/Workshop/Seminar. They are not eligible for Accommodation, HRA, medical reimbursement, travel grant, TA/DA, Registration fee reimbursement to attend conferences.

Foreign Nationals (for all programmes)

The Institute accepts foreign nationals for various courses but there is no reservation of seats for foreign nationals. Selection will be on the basis of their performance in the entrance examination. The candidates need to be sponsored and supported by Government or inter-governmental agencies. Foreign nationals are required to apply through the Indian Council of Cultural Relations & The Ministry of External Affairs, Government of India, New Delhi.

SUMMARY OF THE POST - DOCTORAL COURSES AND QUALIFICATIONS

<i>Course</i>	<i>No. of seats</i>	<i>Duration (Year)</i>	<i>Qualifications</i>
DM Cardiology	6+1 ^c	3	MD/DNB in Gen. Medicine/Paediatrics
DM Neurology	6	3	MD/DNB in Gen. Medicine/Paediatrics/Psychiatry*
DM Neuroimaging & Interventional Neuroradiology	2		MD/DNB Radiology/Radiodiagnosis
DM Cardiothoracic & Vascular Anaesthesia	4	3	MD/DNB in Anaesthesia
DM Neuroanaesthesia	2	3	MD/DNB in Anaesthesia
MCh Cardiovascular & Thoracic Surgery	4	3	MS/DNB in Gen. Surgery
MCh Vascular Surgery	1	3	MS/DNB in Gen. Surgery
MCh Neurosurgery	4	3/5	MS/DNB in Gen. Surgery (MBBS + 1 year experience in Gen. Surgery)
Post-doctoral Fellowship (Post DM/MCh.): Cardiovascular & Thoracic Surgery	1	1	DM/MCh (3 year) or equivalent qualifications
Neurology	5	1	
Cardiology	3	1	
Neurosurgery	2	1	
PDCC: Cardiothoracic & Vascular Anaesthesia	2	1	MD/DNB in Anaesthesia
PDCC: Neuroanaesthesia	3	1	MD/DNB in Anaesthesia
PDCC: Cardiovascular Imaging and Vascular Interventional Radiology	2	1	MD/DNB in Diagnostic Radiology
PDCC: Diagnostic Neuroradiology	1+1 ^c		
PDCC: Vascular Surgery	1	1	MS/DNB in Gen. Surgery

*with 6 months Residency in General Medicine.

^ccarried over.

Note: The number of **sponsored** candidates in any course will not exceed 50% of the number of seats in general quota.

Salary/Stipend (per month)
(Except for Sponsored candidates)

<i>Course</i>	<i>Duration</i>	<i>Scale of pay/Stipend</i>
DM & MCh	1 st Year	₹ 15600--39100 [@]
	2 nd Year	₹ 15600--39100 [@]
	3 rd Year	₹ 15600--39100 [@]
5 years MCh (Neurosurgery)	1 st Year	₹ 15600--39100 [@]
	2 nd Year	₹ 15600--39100 [@]
	3 rd Year	₹ 15600--39100 [@]
	4 th Year	₹ 15600--39100 [@]
	5 th Year	₹ 15600--39100 [@]
Post-doctoral Certificate Courses	1 year	₹ 15600--39100 [@]
Post-doctoral Fellowship	1 year	₹ 15600--39100 [@]
M.Phil	1 year	₹ 5000/-
Specialty Courses in Nursing	1 st year	₹ 6830/-
	2 nd year	₹ 7970/-
Diploma Courses (Technology)	1 st Year	₹ 5120/-
	2 nd Year	₹ 6260/-

[@]with allowances as per rules.

FEES STRUCTURE

Particulars	Post-doctoral courses (DM/MCh/PDCC/PDF)	Ph.D.	MPH	M.Phil	DPH	Diploma
Application fee [§]	₹ 1500/-	₹ 1000/-	₹ 1000/-	₹ 500/-	₹ 1000/-	₹ 300/-
Admission fee	₹ 2000/-	₹ 1000 /-	₹ 1000	₹1000/-	₹ 1000	₹ 500/-
Tuition Fee	₹ 15000/- (per year)	₹ 5000/- (per year)	₹ 1,10,000 (for 2 years- for Non-sponsored independent students) ₹ 2 lakhs (for sponsored students) US\$ 6000 (for Overseas students)	--	--	₹ 1000/- per year
Course Fee	--	--	--	₹ 5000/-	₹ 1 lakh	--
Caution Deposit	₹ 5000/-	₹ 2000/-	₹ 2000/-	₹ 1000/-	₹ 1000/-	₹.1000/-
Examination Fee: Part—I	₹ 2,000/- [£]	..	₹ 1000/-	₹ 1000/-	..	₹ 250/-
Part—II	₹ 10,000/- [£]					
Comprehensive Examn.		₹ 2000/-				
Thesis Evaluation Fee		₹ 5000/-				
Identity Card	₹ 220/-	₹ 220/-	₹ 220/-	₹ 220/-	₹ 220/-	₹ 220/-
Library	₹ 1000/-	₹ 500/-	--	--	--	₹ 200/-
Student Welfare Fund	₹ 1000/-	₹ 500/-	₹ 500/-	₹ 500/-	₹ 500/-	₹ 200/-
Certificates	₹ 1000/-	₹ 1000/-	₹ 1000/-	₹ 500/-	₹ 500/-	₹ 200/-
Hostel Fee			₹ 20,000/- per year			

[£] Applicable for DM/MCh only.

[§] for SC/ST candidates: for Post-doctoral Courses -₹ 1200/-
Ph.D/MPH/.DPH ₹ 800/-
M.Phil ₹ 400/-
Diploma courses ₹ 240/-

2. SPECIALTY NURSING COURSES

The Institute offers two Specialty Diploma programmes in Nursing to meet the growing demand for competent and trained nurses in super specialties. These programmes are:

- (i) **Diploma in Cardiovascular & Thoracic Nursing**
- (ii) **Diploma in Neuro Nursing.**

The programmes are designed to offer advanced education and clinical experience to registered nurses to prepare them as skilled bedside nurses in respective specialties including outpatients, inpatient and intensive care areas and equip them to assume leadership roles in these areas as skilled clinical nursing personnel.

MINIMUM EDUCATIONAL QUALIFICATIONS FOR ADMISSION

- a. GNM or B.Sc. Nursing.
- b. For GNM candidates, one year experience as bedside nurse after passing GNM, as on **1st of September 2013**
- c. Professionally registered as a nurse by any recognized State Nursing Council in India or by Nursing Boards approved by the Indian Nursing Council.

Upper Age Limit

35 years (as on 1st January 2014), relaxable by 5 years for qualified ex-service personnel with a service of not less than 5 years, SC/ST and sponsored candidates.

Summary of Specialty Nursing Courses

<i>Course</i>	<i>No. of seats</i>	<i>Duration</i>
Diploma in Cardiovascular & Thoracic Nursing	10	2 years
Diploma in Neuro Nursing	10	2 years

Method of Selection

Selection will be strictly on merit on the basis of percentage of marks obtained in the Common Entrance Examination for Cardiovascular & Thoracic Nursing and Neuro Nursing held by the Institute. The candidates may indicate their preferred choice of the specialty in the application form. The common Entrance Examination will be held in the Institute. Based on seat availability, preference and merit obtained in the Entrance Examination, selection list will be finalized.

Sponsored candidates will also go through the selection process but a separate list of finally selected candidates from those who qualify in the Entrance Examination will be put up.

The minimum pass marks in the objective-type written examination (90 minutes duration: 100 questions) will be 50% for all. Candidates who have qualified in the written examination will be short-listed for practical and interview, the very next day.

Note: See “Special Information” (Page 17)

3. DIPLOMA PROGRAMMES

Diploma in Cardiac Laboratory Technology

The rapid advances in science and technology have transformed cardiac medical practice from purely clinical to laboratory-oriented cardiology. This has resulted in newer investigative techniques and procedures both for diagnostic and therapeutic purposes. There is a need for training people as more hospitals strive to update the practice of cardiology. The training programme will cater to the needs of those technical personnel who will be in increasing demand in the years to come. The trainees will be attached to the Departments of Cardiology and Clinical Engineering.

Diploma in Operation Theatre Technology

A variety of electrical and electronic equipments are in use in modern operation theatres for monitoring anaesthesia and for surgical purposes. The safety of patients depends largely on the reliable and smooth functioning of these equipments. The course is designed to train candidates in the operation and maintenance of theatre equipment and hospital pipeline systems. The trainees will be attached to the Department of Anaesthesia and Clinical Engineering.

Diploma in Neuro Technology

The advent of sophisticated electronic equipment and computers has made neurophysiology a fast developing clinical specialty. Simultaneously, the need for well-trained technicians to maintain and use these machines has become a necessity. A highly developed epilepsy programme offers hand on experience in video-EEG monitoring, intraoperative electro-cortocography and stimulation and brain mapping. The trainees will be attached to the Departments of Neurology and Clinical Engineering.

Diploma in Advanced Medical Imaging Technology

Medical Imaging Techniques have advanced tremendously in the last decade and have found widespread use in diagnostic applications. However, the paucity of well-qualified technical personnel has always been a problem in exploiting the full potential of these techniques. The Department of Imaging Sciences & Interventional Radiology at this Institute is one of the best-equipped departments of its kind in the country.

Apart from conventional radiological facilities for outpatient radiography, tomography, myelography and so on, CT Scan and Digital Subtraction Angiography (DSA) units are functioning for the last several years. A state-of-the-art Magnetic Resonance Imaging unit and a PACS system are also functional. The trainees will be attached to the Departments of Imaging Sciences and Interventional Radiology and Clinical Engineering.

Diploma in Medical Records Science

Health care records are maintained to pursue the clinical, academic, administrative and legal requirements of the hospital. Medical record is a confidential document and it is a product of privileged communication between patient and health care providers.

This academic programme is designed to train candidates potentially to organize and maintain a Manual/Electronic Medical Records Department. The trainees will be attached to the Medical Records Department and sections of Hospital Administration.

Diploma in Clinical Perfusion

This course is designed to train the candidate to become a Perfusionist who is a blood circulation specialist with a unique role in the field of cardiac surgery. Cardiac and pulmonary circulation are temporarily bypassed to facilitate a bloodless field, whereby the surgeon can perform the necessary repair inside the heart.

A Perfusionist manages the Heart Lung Machine equipment through which venous blood from the patient is diverted, oxygenated and infused back to the patient. Mechanical action of heart is temporarily stopped. The Perfusionist is also responsible for hypothermia, total circulatory arrest etc. The patient is warmed back and weaned off the Heart Lung Machine. Student Perfusionist is required to work in the operation theatre and has to follow aseptic techniques. He/She will be given clinical and theoretical training in the set up and operation of Heart Lung Machine, perfusion management, support devices such as Intra Aortic Balloon Pump etc. The trainees will be attached to the Departments of CVTS.

Diploma in Blood Banking Technology

Rapid advances in technology have revolutionized blood transfusion services and enhanced our knowledge in Transfusion Medicine. This has necessitated thorough selection of donors for donor and recipient safety during blood donation, extensive serological and immunohaematological techniques, infectious disease screening, processing of blood into components for optimal usage and proper storage of blood and components. During the training period students will have ample 'hands on experience' under expert guidance and supervision. There is growing need in the

State for training in this specialty owing to acute shortage of trained personnel. During the training programme, the student will have enough opportunity to be familiar with state-of-the-art equipment and access to computer and library facilities. Training is designed to equip students to meet increased demand for qualified personnel in blood banks. The trainees will be attached to the Department of Transfusion Medicine and Section of Hospital Administration.

MINIMUM EDUCATIONAL QUALIFICATIONS FOR ADMISSION

Diploma in Cardiac Laboratory Technology

B.Sc. degree of any recognized University in India with Physics as major or ancillary subject with an aggregate marks of at least 60%.

Diploma in Operation Theatre Technology

Diploma in Electronics/Biomedical Engineering/Instrumentation from a recognized Institution. Good academic record.

Diploma in Neuro Technology

B.Sc. Physics, Chemistry, Biological Sciences, Bio-Technology or Computer Science with aggregate marks of atleast 60%.

Diploma in Advanced Medical Imaging Technology

Certificate in Radiographic Assistance (CRA)/Diploma in Radiological Technology (DRT) 2 year course or equivalent qualification from a recognized Institution with an aggregate marks of atleast 60%.

Diploma in Medical Records Science

B.Sc. degree of any recognized University in India with an aggregate marks of at least 60%.

Diploma in Clinical Perfusion

B.Sc. degree in Zoology as main or subsidiary subject of any recognized University in India. An aggregate of at least 60% marks

Diploma in Blood Banking Technology

B.Sc. in any branch of Biological Science from a recognized University with an aggregate of at least 60% marks in these subjects.

Upper Age Limit

25 years (as on 1st January 2014) relaxable by 5 years for SC/ST and sponsored candidates. In addition, candidates will be admitted if sponsored by the Government, governmental agencies or Universities. Candidates belonging to Scheduled Caste/Scheduled Tribe need secure only 50% in the qualifying examination.

Method of Selection

Selection will be strictly on merit on the basis of percentage of marks obtained in the Entrance Examination (written and viva-voce held at the Institute). Sponsored candidates will also go through the procedure for selection but a separate list of finally selected candidates from those who qualify in the Entrance Examination will be put up.

Minimum pass marks in the objective-type written examination of 90 minutes duration (100 questions) will be 50% for all. Candidates who have qualified in the written examination will be short-listed for interview.

Note: See “*Special Information*”

In addition, candidates will be admitted if sponsored by the Government, governmental agencies or Universities.

Candidates belonging to Scheduled Caste/Scheduled Tribe need secure only 50% in the qualifying examinations.

SPECIAL INFORMATION

Hostel Accommodation

Candidates selected will be provided accommodation as per rules and availability.

Course Content

The training is strictly full-time and continuous. The candidates at the time of admission will be provided with a handbook covering the syllabus, training programme and the examination scheme. They should acquaint themselves with the syllabus prescribed for the course to which they are admitted. They should strictly adhere to the rules and regulations of the Institute.

Summary of Diploma Course

<i>Course Available</i>	<i>Seats</i>	<i>Duration (Years)</i>	<i>Qualification</i>
Cardiac Laboratory Technology	3	2	B.Sc.with Physics as major or ancillary 60% aggregate
Operation Theatre Technology	2	2	Diploma in Electronics/ Biomedical Engineering /Instrumentation
Neuro Technology	4	2	B.Sc. Physics, Chemistry, Biological Sciences, Bio Technology or Computer Science 60% aggregate
Advanced Medical Imaging Technology	3	2	CRA/DRT 2 year course or equivalent
Medical Records Science	2	2	B.Sc.with 60% aggregate
Clinical Perfusion	2	2	B.Sc.Zoology as main or subsidiary, 60% Aggregate
Blood Banking Technology	2	2	B.Sc. in any branch of Biological Science, 60% aggregate

Contract Service

All students and Senior Residents selected for various programmes are required to execute a bond of service for a duration depending upon the length of the course. Admission will be denied to candidates who fail to join or submit the contract bond by the date stipulated in the letter of selection. **Private practice in any form during the pendency of the course is strictly prohibited.**

Duties and Responsibilities

Duties and responsibilities of students and Senior Residents shall be fixed by the Institute from time to time and will include such clinical work as may be essential for patient care and professional training.

Medical Fitness

The selection will be provisional until the candidate is declared medically fit by a Medical Board appointed by the Institute. The candidate should declare all problems connected with aspects of his/her health and should certify that he/she is fit to undergo the rigorous programme that he/she is joining. The opinion of the Medical Board shall be final.

Uniform for Specialty Nursing programme

Female :	White Churidhar set		white, half sleeve overcoat for all
Male :	Black pants, white shirt		

Commencement of Academic Session

The session commences on **1st January, 2014**. Selected candidates will report on this date with all necessary original documents, the verification of which is mandatory for confirmation of admission.

Senior Residents and students will be assessed at the end of six months after admission for their academic ability, desire for training, acquisition of competence, commitment to patient care, interpersonal relationship and so on. Those with low scores will be given a chance to improve in the next three months and, if found unsatisfactory, the candidate's registration in SCTIMST will be terminated.

Evaluation

Internal assessment and External Examination towards the end of first year for Specialty Nursing and towards the end of second year for all other Diploma programmes.

Attendance on the last working day of the course, normally 31st December, will be compulsory, except in extraordinary situations and for MPH course.

APPLICATION PROCEDURE

For on line applications please visit our Website: <http://www.sctimst.ac.in>

Application Fee

Post-doctoral courses including PDF	: ₹ 1500/- (₹ 1200/- for SC/ST candidates)
Ph.D/MPH/DPH	: ₹ 1000/- (₹.800/- for SC/ST candidates)
M.Phil	: ₹. 500/- (₹.400/- for SC/ST candidates)
Diploma courses	: ₹ 300/- (₹ 240/- for SC/ST candidates)

Hard copy of the duly signed application form along with prescribed fee by Demand Draft drawn in favour of the Director, SCTIMST payable at Thiruvananthapuram with copies of relevant documents to be sent to "The Registrar, SCTIMST, Thiruvananthapuram-695 011" to reach before the last date. Candidates eligible for the entrance examination can access their call letter from our website.

INSTRUCTIONS

1. Fill up the Application Form on-line carefully.
2. If you are an employee of a State or Central Government or Public Sector Undertaking, route your application through your employer. You may, however, send the advance copy of your application. The application through proper channel should reach this office within seven days of the closing date for the receipt of application. The "Advance Copy" should be complete in all respects and should be accompanied by all the documents mentioned above and must reach this office before the closing date.
3. Send a hard copy of application along with the copies of necessary documents well in time before the closing date.
4. Applications received after the closing date is liable to be rejected.
5. Attach all documents to your application form with a strong thread.
6. No intimation will be sent to candidates not called for Entrance Examination or not selected and no correspondence on this subject will be entertained.
7. The rules are subject to change in accordance with decisions of the Institute taken from time to time.

Check list of documents to be submitted along with the application form:

1. Copy of document to prove age
2. Caste certificate for SC/ST candidates issued by revenue authorities not below the rank of a Tahsildar.
3. "NO OBJECTION CERTIFICATE" in case of employed
4. Copies of certificates to prove academic qualifications and achievements
5. Copies of attempt certificates of MBBS/MD/MS/DNB Examinations issued by University/National Board of Examinations, as applicable.
6. Copy of Registration Certificate: Medical/Nursing
7. Demand Draft for application fee
8. Candidate should furnish a certificate from the respective colleges to the effect that the Department/Course is recognized by MCI. (applicable only for post doctoral courses)

Note: Academic certificates should be submitted on or before **31-10-2013**, otherwise candidates will not be called for Entrance Examination. In case of PDF programmes, those who have not completed DM & MCh courses at the time of interview may produce the original certificates at the time of joining.

Last date for the receipt of completed applications: **05th October, 2013.**

Apply to and contact for further details:

THE REGISTRAR
Sree Chitra Tirunal Institute for Medical Sciences and Technology
Trivandrum-695011, Kerala, India.
Telephone: 91-471-2524150, 2524269
Fax: 91-471-2550728
e-mail: reg@sctimst.ac.in
Website: <http://www.sctimst.ac.in>

Ph.D. PROGRAMME

Promoting interdisciplinary research, the Institute offers Ph.D. programme in the following major research areas.

Biological Sciences:

Biochemistry, Cell Biology, Cellular and Molecular Cardiology, Microbiology, Pathology, Physiology, Toxicology, Thrombosis

Bioengineering and Biomaterial Science and Technology:

Artificial Organs, Bioceramics, Dental Materials, Implant Biology, Material Tissue Interactions, Polymer Sciences and Technology, Nanomaterials, Tissue Engineering and Regenerative Medicine

Health Science Studies:

Epidemiology, Gender Issues in Health, Health Policy, Health Systems.

Medical Sciences:

Cardiac Sciences, Neurosciences, Imaging Sciences and Interventional Radiology.

Admission:

The selection for Ph.D. will be carried out twice in a calendar year, in November and June. The list of availability of seats and availability of research guides will be notified in the Institute website www.sctimst.ac.in in September and May every year for November and June selections.

There is no External or Part time Registration for the Ph.D. programme for those who are in full time job, temporary or permanent.

MINIMUM EDUCATIONAL QUALIFICATIONS FOR ADMISSION:

Biological Sciences

MSc. Life Sciences (excluding Botany and Bioinformatics), Veterinary Sciences, MSc. Physiology, Biochemistry, Biotechnology, Zoology or any other branch of life sciences.

Bioengineering and Biomaterial Science and Technology:

MSc. Physics, Chemistry, Biological Science(excluding Plant Sciences & Bioinformatics), Polymer Chemistry, Polymer Science, Veterinary Sciences, Material Science, MTech. Polymer Engineering Technology, MTech. Material Science/BME/Instrumentation/Biotechnology.

Health Science Studies:

Master of Public Health, Post Graduate Degree in Social Sciences, Statistics, Demography, Epidemiology.

Medical Sciences:

MD/DNB in Internal Medicine, Paediatrics, Radiology.

Minimum marks required to apply:

Consistently good academic record with 60% (GPA 6.5/10) marks in undergraduate and post graduate examinations. Medical Graduates (Modern Medicine) applying for Ph.D. in Medical Sciences should have 60% marks in MBBS.

There is no age limit for admission to the Ph.D Programme.

Method of selection:

The selection of research scholars will be based on the performance in written test and interview. Individual JRF Fellowship holders (UGC, CSIR, ICMR, INSPIRE, DBT) are exempted from Written Test, and their selection will be on the basis of Interview only. Individual KSCSTE JRF holders have to qualify in the written test and interview of this Institute.

Candidates awarded Senior Research Fellowships (SRF) from other sources (KSCSTE, UGC, CSIR, ICMR etc.) have to qualify in the written test and interview conducted by the Institute.

Candidates must provide a write-up describing the Research Proposal (300 to 400 words) and a Statement of Purpose for undertaking a research career (100 to 150 words).

The Institute reserves its right to short list candidates based on the number of seats available every year, academic merit and scientific records of the applicants, letters of reference, availability of research guides every year etc.

SCTIMST Ph.D. Fellowship:

Five Institute Fellowships at the DST approved rates are available each year for a maximum period of five years, of which one will be reserved for Health Science Studies.

Ph.D. Manual:

For all details, please refer the Ph.D. manual available in our website <http://www.sctimst.ac.in> or contact:

THE DEPUTY REGISTRAR
Division of Academic Affairs
SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES AND TECHNOLOGY
Trivandrum - 695011, Kerala, India.
Telephone: 91-471-2520440, 2524140
Fax: 91-471-2446433 E-mail: jsingh@sctimst.ac.in
Website: <http://www.sctimst.ac.in>

ACHUTHA MENON CENTRE FOR HEALTH SCIENCE STUDIES (AMCHSS)

AMCHSS, the Public Health and Health Sciences Wing of Sree Chitra Tirunal Institute for Medical Sciences and Technology is devoted to Public Health, and Social Sciences in relation to health care and development. It commenced the MPH Programme in January 1997, Ph.D. Programme in 2003 and DPH in 2005. Central to its mission are: 1) Educating students to assume leadership roles in public health policy and practice; 2) Advancing knowledge of the social, biological, economic and behavioral dimensions of health and to perform costing, cost-efficiency, and epidemiological studies and policy analysis; and 3) To provide technical expertise and consultancy service on public health issues to the public, NGO and the private sector. The Ministry of Health and Family Welfare, Govt. of India has accepted this Centre as a “**Centre of Excellence for Public Health Training**”.

1. MASTER OF PUBLIC HEALTH (MPH)

The objectives of the Master of Public Health course are:

1. To provide a broad understanding of the core areas of public health and related disciplines
2. To develop through a field-intense practical training programme the individual ability to identify a health problem and conceptualize the related research questions, design a community-based study to investigate the problem, collect relevant data from the field, analyze the data and present the findings in a policy or scientific context.
3. To help acquire knowledge and skills to analyze health situations and help devise appropriate policies and programmes in a cost-effective manner.
4. To inculcate interdisciplinary approach to problem solving skills in public health.

Duration

The programme is a 24-month full time residential course commencing on the 1st of January every year. This has been designed to build understanding, knowledge, skills and attitude for better public health practice and research.

Minimum Educational Qualifications for Admission

Medical Graduates (MBBS), Dental Graduates, Graduates in Veterinary Sciences, Nursing Sciences or students with a Postgraduate degree in Medical Statistics/Biostatistics/Demography and Population Studies/Epidemiology, Nutrition/Social Sciences/Social Work and allied specialties.

Age: 40 years as on 1st January 2014. Age relaxation can be given in exceptional cases.

Method of selection

Indian students

Prospective candidates will be evaluated on the basis of educational qualifications, professional experience, relevant to the field of public health, written test and interview.

Overseas students

Selection will be based on educational qualifications, professional experience, assessments made by the sponsoring organizations and a telephonic interview. Applicants are required to submit 2 reference letters in sealed envelopes from experts working in the field of Public Health along with the application form.

Fee Structure (pl. see Fees structure): The Course Fee includes registration fee, examination fee, tuition fee, library fee and charges for computer lab.

The Course Fee does not include the cost of books, stationery, field trips, dissertation and so on.

Institute scholarship for MPH Students

A total of 5 scholarships will be given every year for the top five students. For the top most 3 will be given total fee waiver and a monthly stipend of Rs.5000/-, and the next 2 students will be given total fee waiver only.

2. DIPLOMA IN PUBLIC HEALTH (DPH)

Admission is offered only to Doctors with MBBS sponsored by the State or Central Government of India.

Duration : 1 Year (January to December 2014)

Minimum Experience required: 3 years in Government service after MBBS

Age Limit: Up to 50 years as on 01-01-2014

Maximum Number of seats: 10

Selection: If there are more than 10 applications, selection will be based on the performance in written test and interview to be conducted at this Institute.

Medium of Instruction: English

Fee Structure: (pl. see Fees structure). The course fee include registration fee, examination fee, tuition fee, charges for computer lab and does not include the cost of books, stationery, field trips, project work and so on.

Computer Lab: Students have access to a state-of-the-art computer laboratory equipped with e-mail and internet facilities.

Equipments for Class Presentations: Video Projector (LCD), over Head Projector and Slide Projector are available for class presentations.

Library: There is a good professional research and reference library with a substantial collection of books and journals on Public Health.

Accommodation: Candidates eligible for admission may find their own accommodation.

For further enquiries, please contact:

THE DEPUTY REGISTRAR
DIVISION OF ACADEMIC AFFAIRS
SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES AND
TECHNOLOGY, TRIVANDRUM
KERALA—695 011, INDIA

BIOMEDICAL TECHNOLOGY WING (BMT WING)
SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES AND
TECHNOLOGY (SCTIMST)

Objectives:

Promotion of Biomedical Engineering and Technology and development of post-graduate training programmes of the highest quality in this area.

The present vision of the wing is to:

- Develop technologies which are competitive in the international market
- Carry out research in frontier areas of health care technology
- Provide testing support conforming to national/international standards

A team of scientists, engineers and technical staff work here in multidisciplinary areas, ranging from biomaterials development and characterization to medical devices development, evaluation and technology transfer. Over the last three decades, a number of products have been successfully developed and commercialized, catalyzing the growth of medical device industry in India.

In the current context of globalization, a quality management system for its testing services conforming to ISO/IEC 17025 has been implemented, enabling international acceptance of test results. This system is now accredited by *Le Comité Français d'Accreditation* (COFRAC) of France.

High quality research and publications have led to peer recognition as a valued scientific research institution nationally and internationally. This has resulted in many international collaborative research programmes.

Research Opportunities and Facilities:

Biomedical Technology Wing aims to bring advances in research outcomes of the laboratory into the clinical setting to benefit patients at the earliest opportunity. The exceptional infrastructure facilitated in the campus underpins biomedical research and enables advances to improve the patient care. Institute has focused on creating resources to develop technologies that are cost-effective, accessible and responsive to the clinical needs of our population.

The material research group has proven record of research towards synthesis and characterization of biomedical polymers, their characterization and testing for biocompatibility to qualify the material for medical applications. The engineering & device development group has successfully developed and commercialized critical products which include blood bag, artificial heart valve, and oxygenator.

Major programmes include development of materials for orthopedic and dental applications, cardiovascular device fabrication, drug delivery systems, nano-

medicine, sensors and tissue engineering scaffolds. Biological research focuses on culture and differentiation of adult stem cells for regenerative medicine, *in vitro* tissue engineering, development of bio therapeutics and diagnostic reagents.

Sophisticated analytical equipments are available in the campus for characterization of materials which include scanning and transmission electron microscopes, Raman & FT-Raman spectroscopy, atomic force microscope, ICP, X-ray diffraction, micro computerized tomography, chromatography systems such as HPLC, gas chromatography and LCMS. Other routinely used and well-maintained equipments and facilities are available in all labs.

Important biological research equipments available are confocal microscope, environmental SEM, fluorescent activated cell sorter (FACS), Real Time PCR, ultra centrifuge and continuous flow centrifuge, Imaging systems for fluorescence/ luminescence/ radioisotope detection, live cell imaging, and facilities for proteomic and genomic analysis etc. apart from routinely used equipments that are available in almost all labs. Excellent cell culture and analysis facilities are present in almost all cell biology research labs.

The well maintained small and large animal experimental facility with excellent animal operating rooms provides the *in vivo* evaluation support. Toxicological evaluation of materials is done under GLP compliance. Tissue analysis is done to evaluate the results of experimental research using state-of -art histological/immunochemical/imaging techniques facilitated with sophisticated sample processing and analysis tools.

Above all, BMT Wing harness the academic and technological expertise of its multidisciplinary research faculty to conduct high-quality, patient-focused translational research. This involves taking research from the laboratory to the patient's bedside.

M.Phil. DEGREE COURSE IN BIOMEDICAL TECHNOLOGY

(12-month full time residential course - August to July)

(Admission for M.Phil course will be notified during the first week of June every year.

Aspirants may visit www.sctimst.ac.in for the exact details in June)

Objectives of this high quality academic and research training are :

1. Provide an excellent background in biomedical research with integration of chemical, biological and physiological aspects in a unified approach.
2. Emphasize an investigative as well as an empirical approach to the practical problems encountered in experimental and human biomedical science.
3. Training on research methodology which includes development of research hypothesis, work plan, experimental methods, data analysis and reproducibility and finally report preparation.
4. Impart theoretical and practical knowledge and competence that will prepare the student for employment in a variety of biomedical environments.
5. Improve communication skill through oral and poster presentations.

Expected Outcome :

1. The set of lecture and laboratory training courses are designed to strengthen their basic science background at the graduate level.
2. The experience gained will help in developing and focusing research skills in modern biomedical research laboratories.
3. Students will be encouraged to write competitive examinations conducted by various government agencies to obtain fellowships for pursuing a Ph.D. programme within the Institute or outside.
4. Students will gain awareness to determine if he or she really wants to make the commitment and pursue a lifelong research career.

Minimum Educational Qualifications for Admission :

First class MSc in Biological/Chemical/Physical Sciences (including Polymer Sciences/Chemistry **but** excluding Plant Sciences and Bioinformatics)

Upper age limit :

28 years as on 1st August every year.

Method of selection :

1. The course is notified and the applications are called for in the prescribed format.
2. Applications received with all required enclosures are screened by an authorized committee of the Institute.
3. Based on the merits of the application, candidates will be selected for written test.
4. Those who qualify the written test will only be called for interview on the following day.
5. Based on the performance in the interview, a panel will be prepared for admission and the provisional list of candidates eligible for admission will be published in the Institute website (www.sctimst.ac.in).
6. Verification of the original certificates against the submitted copies will be done at the time of admission.

Stipend and contingency :

Rs. 5000/- per month.

Accommodation :

To find accommodation outside the campus 15% of the stipend will be provided.

Library :

A collection of various books in different disciplines are available. Facility for use of internet is also available at the library.

Fee Structure (pl. see Fees structure)

For further enquiries, please contact:

THE DEPUTY REGISTRAR
Division of Academic Affairs
SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES AND TECHNOLOGY
Trivandrum - 695011, Kerala, India.
Telephone: 91-471-2520440, 2524140
Fax: 91-471-2446433 E-mail: dreg@sctimst.ac.in Website: <http://www.sctimst.ac.in>

**JOINT PROGRAMMES
of
SCTIMST, IIT MADRAS AND CMC, VELLORE**

- 1. M.Tech. (Clinical Engineering)**
- 2. Ph.D. (Biomedical Devices and Technology)**

Introduction

Over the last five decades, healthcare delivery has increasingly become technology driven - be it diagnosis, treatment and rehabilitation of patients in the hospitals, or the development of new drugs, vaccines and medical devices. Today India imports almost 80% of the implants and devices used in our country. As a result, healthcare costs are high and continue to increase. In order to address this issue, a twofold strategy is needed. Firstly, it is required to set up the infrastructure and have trained human resources for indigenous technology development. Secondly, it is necessary to develop human resources for ensuring efficient and effective utilization of the technology at the healthcare delivery points - i.e., mainly in the hospitals.

The three institutions - IIT Madras, CMC, Vellore, and SCTIMST, Trivandrum, each having a set of unique strengths and facilities, have joined together in starting two programmes - "M.Tech in Clinical Engineering" and "Ph.D. in Biomedical Devices & Technology" to address the issue of capacity building for reducing India's dependence on imports of medical devices. A unique feature of these courses is the clinical attachment with a maximum exposure to the clinical environment. This ensures that, at the end of the course, the students will be able to interact effectively with the clinicians, and other medical and paramedical staff in the hospital resulting in the identification 'unmet clinical needs'. This is also expected to trigger further research leading to development of innovative indigenous healthcare technology.

Admission

(1) M.Tech. (Clinical Engineering)

Aim: To train engineers to manage and ensure safe and effective use of technology in hospitals and healthcare delivery settings.

Duration: Two and a half years (rotation through all the three institutions).

Eligibility: B.E./B.Tech./Recognized four year course; on the basis of GATE subject (AE, CE, CH, EC, EE, IN, ME, MN, MT, PI, TF, XE) and score.

Selection: Screening test and personal interview.

(2) Ph.D. (Biomedical Devices and Technology)

Aim:

- To be leaders in research and development
- To be innovators and entrepreneurs in Biomedical Devices Technology

Duration: According to current requirements of IIT Madras

Eligibility: M.E./M.Tech./M.S(Eng.) with the same eligibility conditions for IITM Ph.D. entrance/ M.Sc. Physics.

Selection: Screening test and personal Interview

Hostel: Hostel facilities are available in all the three Institutions.

Stipend: As per IIT Madras norms

Fees Structure:

(to be paid for the period required at BMT Wing, SCTIMST):

A) FEES FOR THE JOINT PROGRAMME- M.Tech (CE) AT SCTIMST

Sl. No	Items of Fees & Deposits	Fees (In Rupees)
A.	One time fees :	
1.	Admission fees	1000/-
2.	Registration Enrolment Fee	300/-
3.	Caution Deposit (refundable)	2000/-
4.	Certificate fees	1000/-
5.	Student Welfare Fund	500/-
6.	Identity Card	220/-
7.	Medical Exam Fee	100/-
	Total Refundable	5120/- 2000/-
B.	Semester fees:	
1.	Tuition fee *	5000/-
2.	Examination fee	300/-
3.	Library & Internet	500/-
	Total	5800/-
C.	Hostel Fees :	
1.	Hostel Admission fee	250/-
2.	Hostel room rent /month	1500/-
3.	Hostel Caution Deposit (refundable)	1000/-
	Total Refundable	2750/- 1000/-

* SC/ST students/scholars are exempted from payment of Tuition fee irrespective of their parental income.

B) FEES FOR Ph.D. JOINT PROGRAMME (BIOMEDICAL DEVICES AND TECHNOLOGY)

The same fee of the regular Ph.D. programme of SCTIMST for the period required at BMT Wing (pl. see the fees structure).

CO-ORDINATORS:

SCTIMST: Dr.Niranjan D Khambete

Scientist—F, Instrumentation Lab, SCTIMST
Poojappura, Trivandrum—695 012
Kerala State.
Tel: 0471-2520201
E-mail: niranjan@sctimst.ac.in

Mr.Muraleedharan CV

Scientist—G, Devices Testing Laboratory
SCTIMST, Poojappura, Trivandrum—695 012
Kerala State.
Tel: 0471-2520259
E-mail: muralicv@sctimst.ac.in

IIT Madras: Prof. Mukesh Doble
Head, Department of Biotechnology,
IIT Madras
Chennai-600036, Tamil Nadu State
Tel: 044-22574107
Email: mukeshd@iitm.ac.in

CMC Vellore: Prof. Suresh Devasahayam,
Head, Department of Bioengineering
Bagayam
Vellore-632002
Tel: 0416-2222102 Extn.4298
E-mail: surdev@cmcvellore.ac.in

For Application forms/number of seats/course fee etc., please visit the website of IIT, Madras, Chennai (www.biotech.iitm.ac.in).

For further enquiries please contact:

THE DEPUTY REGISTRAR
Division of Academic Affairs
SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES AND TECHNOLOGY
Trivandrum - 695011, Kerala, India.
Telephone: 91-471-2520440, 2524140
Fax: 91-471-2446433 E-mail: dreg@sctimst.ac.in
Website: <http://www.sctimst.ac.in>

AFFILIATED PROGRAMME OF SCTIMST
Offered at
NATIONAL INSTITUTE OF EPIDEMIOLOGY, CHENNAI

The National Institute of Epidemiology (NIE), ICMR School of Public Health, Chennai, which is an institution under the Indian Council of Medical Research (ICMR) is offering **Master of Public Health (Epidemiology and Health Systems)** under the affiliated programme of SCTIMST.

MPH commences from **1st July** every year.

Duration and Course Organization :

Duration: 2 years

The programme is structured on “learning by doing” model comprising of four contact sessions across 13 months at NIE interspersed and with three field postings of 11 months duration (24 months duration in total).

Eligibility:

Applicants having the following criteria will be eligible to apply for the course:

- MBBS degree recognized by the Medical Council of India
- Three years experience in public health related activities after MBBS
- Age up to 45 years as on the date of commencement of the course (1st July every year)

Course Fees:

There is no course fee for the candidates sponsored by the State/Central/UT Governments/Armed Forces. For others, the course fee will be Rs.1,00,000/- (Rupees One lakh only) payable at the beginning of the academic year.

Method of selection:

A selection committee constituted and approved by the Director, SCTIMST will evaluate the prospective candidates on the basis of educational qualifications, professional experience relevant to public health, entrance examination (written test/interview). Preference will be given to the candidates sponsored by the State/Central/UT Governments and Armed Forces.

The decision of the Director, SCTIMST shall be final in all matters.

For other details, please contact:

THE DIRECTOR

National Institute of Epidemiology (ICMR)

R-127, TNHB, Ayappakkam, Chennai - 600 077

Tamil Nadu

Phone: +91-44-26136420, Fax: +91-44-26820464/26136426

Email: directorne@dataone.in; nieicmr@gmail.com

URL: www.nie.gov.in

THE DEPUTY REGISTRAR

Division of Academic Affairs

Sree Chitra Tirunal Institute for

Medical Sciences and Technology

Trivandrum - 695 011, Kerala

Phone: +91 -471-2520440, 2520140 Fax: +01-471-2446443

Email : dreg@sctimst.ac.in, URL: <http://sctimst.ac.in>

AFFILIATED PROGRAMMES OF SCTIMST
offered at
CHRISTIAN MEDICAL COLLEGE, VELLORE

The following courses are offered at the Christian Medical College, Vellore.

- 1. Master of Science Bioengineering**
- 2. Ph.D. in Bioengineering**
- 3. Master of Public Health**

- 1. Master of Science Bioengineering and**
- 2. Ph.D. in Bioengineering**

The aim of these two degree programmes is to train engineering graduates to work in a medical institution to conduct research and development that will directly lead to improved healthcare in India.

The Department of Bioengineering at CMC, Vellore, works closely with several other departments in the institute and current work ranges across physiological measurement, systems modeling, prostheses design, biomedical analysis, and biomedical signal processing.

Lecture and seminar based courses on Instrumentation, imaging systems, physiological systems, signal processing etc form part the basic training. Both the MS Bioengineering and Ph.D. in Bioengineering are specialized engineering programmes with emphasis on research. MS candidates will undertake a research project of one year duration, while Ph.D. candidates will undertake a substantially larger research problem. Students will interact closely with at least one of the clinical or basic science departments to formulate a research question.

These degrees equip individuals to apply quantitative and engineering methods to solve healthcare problems. Career prospects include academic research and teaching careers as well as R&D in the medical devices industry.

Eligibility:**1. MS Bioengineering applicants should have:**

1. An undergraduate degree in engineering, preferably electrical, electronic, mechanical, computer science or equivalent.
2. A qualifying GATE score is required.

2. Ph.D. in Bioengineering applicants should have :

1. An undergraduate degree in engineering, preferably electrical, electronics, mechanical, computer Science or equivalent, and a Masters degree in Engineering preferable Bioengineering/Biomedical Engineering, Electrical/Electronics, Mechanical or equivalent.
2. A qualifying GATE score is required.
3. Some exposure to college level Biology or Biomedical Research.

Admissions:

Application to these two programmes is usually advertised in February, and candidates must apply before the end of April. An interview of short-listed candidates will be called in June to select suitable candidates. Term starts in the last week of July.

Duration of course:

MS Bioengineering – 2 years

Ph.D. in Bioengineering – Normally 3 years, extendable up to 5 years.

Course Fees:

Admission fees (one time): Rs.7200

Annual Fees : Rs.6000

3. Master of Public Health Course

Who can apply:

Students with MBBS, MOT, MPT, BDS, MSc. Nursing, and equivalent degrees with a biology background.

Duration: 2 years

Core course subjects will be taught in the first year (60 credits). Teaching methods will include didactic lectures, assignments, exercises, community work for data collection, analysis and visit to public health/administrative facilities

For admission and further details, please contact :

Prof. Suresh Devasahayam
Head, Department of Bioengineering (for MS & Ph.D. in Bioengineering)
Bagayam, Vellore-632002
E-mail: surdev@cmcvellore.ac.in
Tel: 0416-2222102 Extn.4298

Prof. Shantidani Minz
Dept. Community Health
Christian Medical College, Vellore (for MPH programme)
Phone: 0416-2284207
E-mail: chad@cmcvellore.ac.in

The Deputy Registrar
Division of Academic Affairs
Sree Chitra Tirunal
Institute for Medical Sciences and Technology
Trivandrum – 695011
Tel: (0471) 2520440 , 2524140
E-mail: dreg@sctimst.ac.in

IMPORTANT DATES OF ADMISSION

for the ACADEMIC SESSION – January 2014

Admission Notification	1st September 2013
Availability of on line Application	01.09.2013 to 01.10.2013
Last date for receipt of completed applications	5th October 2013
Commencement of courses	1st January 2014
Director's welcome address	4th January 2014

SCHEDULE OF ENTRANCE EXAMINATIONS/FINAL INTERVIEW

<i>Course</i>	<i>Date</i>	<i>Time</i>
MPH	01.11.2013	9.00 am
DPH	01.11.2013	9.00 am
Ph.D.	04.11.2013 & 05.11.2013	9.00 am
Diploma in Cardiac Laboratory Technology	06.11.2013	9.00 am
Diploma in Neuro Technology	07.11.2013	9.00 am
Diploma in Operation Theatre Technology	08.11.2013	9.00 am
Diploma in Clinical Perfusion	11.11.2013	9.00 am
Diploma in Advanced Medical Imaging Technology	12.11.2013	9.00 am
Diploma in Medical Records Science	13.11.2013	9.00 am
Diploma in Blood Banking Technology	14.11.2013	9.00 am
Diploma in Cardiovascular & Thoracic Nursing Diploma in Neuro Nursing	15.11.2013 & 16.11.2013	9.00 am
DM Cardiology, DM Neurology, DM Neuroimaging & Interventional Neuroradiology, PDCC Cardiovascular Imaging and Vascular Interventional Radiology, PDCC Diagnostic Neuroradiology,	21.11.2013 & 22.11.2013	9.00 am
DM Neuroanaesthesia DM Cardiothoracic and Vascular Anaesthesia MCh-CVTS, MCh Neurosurgery, MCh Neurosurgery (5-year course), MCh Vascular Surgery, PDCC Cardiothoracic and Vascular Anaesthesia, PDCC Neuroanaesthesia, PDCC Vascular Surgery	21.11.2013 & 22.11.2013	11.30 am
Post-doctoral Fellowship (Post-DM/MCh)	21.12.2013	11.00 am

No electronic gadgets including cell phone will be allowed in the examination hall.

Venue: Achutha Menon Centre for Health Science Studies (AMCHSS), SCTIMST.

All candidates who present for the written examination should confirm the time and date of practicals/departmental assessment and interview as applicable for their programme.

INTERVIEWS (for candidates selected in Written Test & Practical)

Time and Venue will be intimated along with the Selection List of candidates put up after the Written Examination.

Tentative **dates for Interview** are as follows:

- Technology Diploma Courses** : on the same days, immediately after written tests.
- Master of Public Health** : 1st November 2013, 11 a.m.
- Ph.D.** : 5th November 2013, 9 a.m.
- Specialty Nursing Diploma Courses** : 16th November, 2013.
- Post-doctoral Courses** : 21st & 22nd November 2013.

The final selection list will be put up immediately after the interview.

Seats available/proposed for the Academic Session 2014 are;

<i>Programme</i>	<i>Open seats</i>	<i>Reserved for SC/ST</i>	<i>Grand Total</i>
Ph.D..	3	2	5
M.Phil.	11	4	15
MPH	12	3	15
Diploma in Cardiovascular & Thoracic Nursing	8	2	10
Diploma in Neuro Nursing	8	2	10
DCLT	2	1	3
DNT	3	1	4
DOTT	1	1	2
DAMIT	2	1	3
DMRS	1	1	2
DBBT	1	1	2
DCP	1	1	2

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