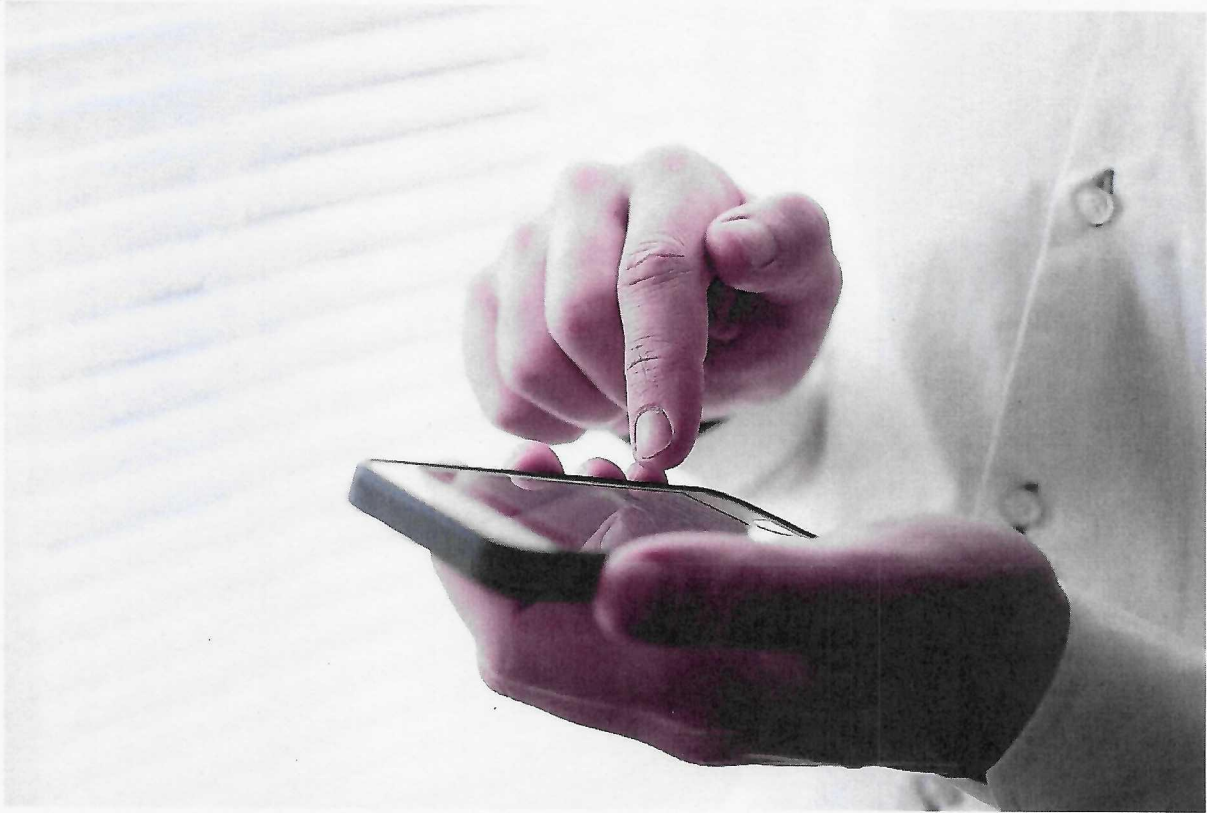


Syllabus for MCh (Cardiothoracic and Vascular Surgery) Programme



Guru Gobind Singh Indraprastha University

A State University established by the Govt. of NCT of Delhi

University School of Medicine and Allied Health Sciences

SYLLABUS FOR M. Ch. DEGREE IN CARDIOVASCULAR & THORACIC SURGERY

The overall goal of the training program is to produce a specialist who can serve as a tertiary care physician capable of carrying out effective treatment for cardiac, vascular and thoracic surgical problems. The M.Ch. course in Cardio-Vascular and Thoracic surgery will aim at inculcating a rational approach in treatment of patients by imparting sound knowledge of the

Subject and by teaching surgical skills to the post-graduate student.

CURRICULUM

The course of study shall include:

- i) A wide coverage of Basic Sciences like Anatomy, Physiology, Biochemistry, Pathology, Microbiology, Pharmacology and Immunology pertaining to the Cardiovascular and Respiratory systems and the Chest and its contents;
- ii) A thorough knowledge, theoretical as well as practical, of the various investigative procedures - invasive and non-invasive - including biochemical, radiological and ultrasonographic investigations, radioisotope scanning and dynamic function studies such as pulmonary function tests, cardiac catheterisation
- iii) A detailed knowledge of and practical experience in clinical and operative paediatric and adult cardiac surgery, surgery of great vessels and peripheral arteries and general thoracic surgery including surgery of the chest wall, diaphragm, oesophagus, mediastinum, trachea, lungs and pleura.
- iv) A broad knowledge of Cardiology, Respiratory Medicine and other medical problems relating to Cardiovascular-thoracic Surgery

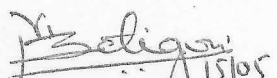
THE COURSE OF STUDY SHALL INCLUDE THE THEORY AND APPLIED ASPECT OF:

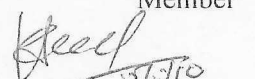
- 1] **Anatomy and Embryology:** Applied and developmental anatomy of cardio-respiratory system, mediastinum and mediastinal structures
- 2] **Physiology:** of the cardiovascular system and principles it is based on and respiratory physiology
- 3] **Bacteriology, Virology, Parasitology & immunology :** of the pathogens affecting the cardio-respiratory system


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Chairman

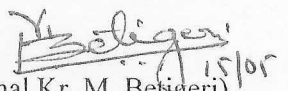
4] **Pathology:** gross and microscopic pathology of diseases involving the cardio-respiratory and vascular tree

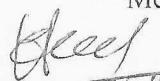
5] **Pharmacology:** Pharmacology of drugs used in the treatment of cardiovascular disorders, including antibiotics


6] **Cardio – Thoracic Surgery**

- * Principles of Anesthesia as relevant to CardioThoracic surgery.
- * Postoperative Care and complications in CardioThoracic surgery .
- * Thoracic trauma.
- * Pulmonary resection Anatomy and Techniques.
- * Thoracic Imaging.
- * Bronchoscopy: trans bronchial biopsy and bronchoalveolar lavage.
- * Thoracoscopy : general principles, diagnostic & therapeutic procedures
- * Developmental Abnormalities of the airways and lungs
- * Thoracic Outlet Syndrome
- * Mediastinal tumours, Thymic tumors and management of myasthenia gravis
- * Trachea : tumors , strictures , tracheomalacia ,tracheal resections & reconstructions .
- * special diagnostic and therapeutic procedures in cardiac surgery:
- * Management of Cardiopulmonary Bypass in adults,infants & children
- * Palliative Procedures in Congenital Heart Disease Congenital Cyanotic and acyanotic heart disease including complex congenital heart disease
- * Intra-aortic Balloon Counter pulsation,Ventricular Assist devices,
- * Artificial Heart.
- * Preservation of Intrathoracic Organs for Transplantation.
- * Heart & heart-lung Transplantation.
- * Acquired and Congenital diseases of the heart valves
- * Homografts and Auto grafts


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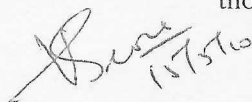
- * Cardiac Valvular Prostheses: design, selection, complications of
- * Coronary Revascularization
- * Surgery for supraventricular & ventricular arrhythmias, pacemaker therapy.
- * diseases of the aorta
- * Constrictive pericarditis, cardiac tamponade
- * Cardiac Tumors.
- * History and development of cardiac surgery
- * Legends in CVT surgery
- * Recent advances in cardio thoracic & vascular surgery like stemcell therapy, genetherapy, minimal invasive surgery, hybrid surgery & endovascular procedures.

VASCULAR

1. Physiologic assessment of arterial and venous disease and their management
2. Vascular imaging techniques
3. Antithrombotic therapy
4. Basic vascular surgical technique, Fogarty thrombectomy, endarterectomy

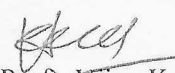
QUANTUM OF TRAINING

- i) The quantum of training shall be sufficient so that at the end of the training period, a candidate will be able to:
 - A) Identify the problem in a given patient.
 - B) Interpret the results of investigations.
 - C) Perform necessary special procedures / operations pertaining to this super-specialty.
 - D) Take care of any exigency / complication following the special procedure /operation.
 - E) Offer appropriate therapy on his/her own in a set up far withdrawn from his/her training centre.
- II) In order to achieve the above objectives, a candidate shall be apportioned graded responsibility in patient care under supervision.
- III) A candidate at the end of the training period must have acquired
 - A) Capability in conducting cardiopulmonary bypass ;
 - B) Competence in the intensive care management of patients with cardiac, vascular and thoracic surgical problems ; and



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- C) Confidence in the operating room by performing under supervision as well as independently.
- iv) ^{Acceptance/ Publication of} Submit/publish two or more research papers/in reputed journals ^{or he/she will be required to prepare two review articles on subjects specified by the Head of the department.}
- v) Candidate has to undergo one month rotation in cardiology during three years tenure.
- vi) ^{Individual review articles} The students should submit their three (3) copies of research paper/review articles in the faculty office of the I.P. University by 31st December of the year preceding the year of the final examination.
- vii) Certified work record (log book) to be maintained & produced at the time of examination

SCHEME OF EXAMINATION THEORY

Four theory papers of multiple / short essay / essay types of 3 hours duration each. (75 each) ^{Total - 300}

Paper I - Basic Sciences as applied to Cardio-Vascular & Thoracic Surgery.

Paper II - Practice of Cardio-Vascular and Thoracic Surgery.

Paper III - Practice of Cardio-Vascular and Thoracic Surgery ✓

Paper IV - Recent advances in Cardio-Thoracic Surgery ✓

CLINICAL : will include long and short cases/ward round and relevant supportive data.

VIVA-VOCE : will include Surgical Pathology, Operative Surgery and Surgical Radiology.

Total marks:
300

Note : Certified work record (log book) will be required to be produced

SUGGESTED READING

A. Books :

1. Cardiac Surgery
Vol. I & II
Kirklin J.W.
Barratt - Boyes
Churchill Livingstone
2. Thoracic and Cardiovascular Surgery
Glenn W.W.L Appleton Century
Croft
3. General Thoracic Surgery Thomas W. Shields Williams & Wilkins
4. Vascular Surgery
Vol. I & II
Robert B. Rutherford W.B.Saunders & Company
5. Surgical Anatomy of the Heart Benson Wilcox
6. Hurst's The Heart
Vol. I & II
Robert C. Schlant
R. Wayne Alexander
McGraw-Hill Inc.

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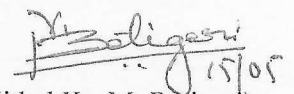
7. Paediatric Cardiac Surgery Mavroudis C.
Backer C.L.
Mosby
8. Pathology of Congenital Heart
Disease
Anton E. Beeker
Robert H. Anderson
Butterworths
9. Gibbon's Surgery of the Chest David C. Sabiston
Frank C. Spencer
W.B.Saunders & Company
10. Heart Disease: A Text Book of
Cardiovascular Medicine . Vol. I & II
Eugene Braunwald W.B.Saunders &
Company

B. JOURNALS

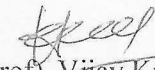
1. Journal of Thoracic and Cardiovascular Surgery
2. Annals of Thoracic Surgery
3. Indian Journal of Thoracic and Cardiovascular Surgery
4. Asian Cardiovascular and Thoracic Annals
5. European Journal of Cardiothoracic Surgery
6. Thorax
7. Indian Heart Journal
8. Journal of American College of Cardiology
9. Circulation


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15/7/11

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