

CARDIO THORACIC SURGERY

PAPER-I

Time : 3 hours
Max. Marks : 100

CTS/D/11/04/I

**Attempt all questions in order.
Each question carries 10 marks.
Write short notes on:**

1. Describe surgical anatomy of tracheo-bronchial tree. 10
2. a. Enumerate constituents and various types of cardioplegic solutions. 5+2+3
b. Functions of those constituents
c. Advantages and disadvantages of blood Vs crystalloid cardioplegic solution
3. a. Embryology of transposition of great arteries. 5+5
b. Coronary arterial anomalies
4. Briefly discuss diaphragmatic rupture under the following headings: 3+4+3
a. Clinical presentation and signs
b. Investigations
c. Treatment
5. Discuss in brief solitary pulmonary nodule under the following headings: 3+3+4
a. Differential diagnosis
b. Investigations
c. Management algorithms (flowchart)
6. Hemolysis during cardiopulmonary bypass: Causes, Systemic effects, management and recent advances. 3+3+2+2
7. Discuss in brief cardiac tissue engineering under the following headings: 3+4+3
a. Donor cell types
b. Delivery routes, advantages and disadvantages
c. Clinical applications
8. 64 slice MDCT angiography: 2+2+3+3
a. Comparison with conventional angiography
b. Preoperative planning of primary and re-operative surgeries
c. Role in congenital heart diseases
d. Role in coronary artery disease
9. Describe the causes, risk assessment and neuroprotective strategies of cerebral injury during CPB. 3+3+4

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FINAL EXAM
DECEMBER 2011

NATIONAL BOARD OF EXAMINATIONS

Time : 3 hours
Max. Marks : 100

Attempt all questions in order.
Write short notes on:

10. Briefly discuss the role of nitric oxide (NO) in cardiac surgery 3+2+2+3
under the following headings:
- Physiological basis of use of NO
 - Indications for its use
 - Modes of administration with dosing
 - Precautions, safety issues related to its use in ICU

5-5

3+3+3

3+3+4

3+3+2+2

3+4+3

2+2+3+3

3+3+4

CARDIO THORACIC SURGERY

PAPER- II

Time : 3 hours

CTS/D/11/04/II

Max. Marks : 100

**Attempt all questions in order.
Each question carries 10 marks.**

Write short notes on:

1. Discuss briefly the spinal cord protection during thoracic aortic surgery under the following headings: 3+3+4
 - a. Blood supply and collateral circulation.
 - b. Methods of ischemia detection.
 - c. Preventive strategies for spinal cord protection.

2. Benign thymic tumours: Classification, role of thymectomy in myasthenia gravis, and effects/complications after thymectomy. 3+4+3

3.
 - a. Causes and types of post-operative cardiac dysarrhythmias. 3+3+4
 - b. Univentricular Vs biventricular pacing.
 - c. Post-operative heart blocks and roles of temporary atrial or A-V sequential pacing.

4.
 - a. Treatment for pectus excavatum 3+2+3+2
 - b. Physiological effects of pectus excavatum
 - c. Treatment for pectus carinatum
 - d. Physiological effects of pectus carinatum.

5.
 - a. Briefly discuss techniques of total chordal preservation; and 6+4
 - b. Advantages of chordal preservation and long term effects on reverse left ventricular remodeling.

6. Double outlet right ventricle: Anatomic definition, classification, investigations, management (surgical) and results. 1+3+2+3+1

7. Tricuspid valve anomalies: Types of congenital / acquired anomalies, indications of surgery and types of repair. 3+2+5

P.T.O.

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- 8. Discuss briefly your reasons for choice of valve prosthesis and / or procedure: 2+2+2+2+2
 - a. In a patient with end stage renal disease (ESRD)
 - b. In a pediatric patient (≤ 12 years)
 - c. In a lady in child bearing age.
 - d. Non rheumatic mitral valve disease in adult in 30's.
 - e. Rheumatic mitral and aortic valve disease in an adult (≤ 45 years).

- 9. Enumerate types of congenital arch anomalies. Discuss in brief their presentation, investigations, management and results. 2+2+2+2+2

- 10. a. Hydatid cyst of lung: Diagnosis and management 2+3
- b. Pericardial cysts: Diagnosis and management 2+3

P.T.O.

CARDIO THORACIC SURGERY

PAPER- III

Time : 3 hours

CTS/D/11/04/III

Max. Marks : 100

Attempt all questions in order.

Each question carries 10 marks.

Write short notes on:

1. Describe current status of extra-corporeal membrane oxygenation (ECMO) under the following headings: 2+2+2+2+2
 - a. Indications of use
 - b. Physiological basis
 - c. Equipment required for setting up
 - d. Method of weaning
 - e. Complications
2. Discuss TNM classification for lung carcinoma in relation to: 3+3+4
 - a. Recent recommendations in TNM criteria
 - b. Choice of treatment based on TNM staging
 - c. Results of treatments in various TNM stages.
3. 3+2+3+2
 - a. CHOUSSATS' criteria for single ventricle
 - b. Modified Fontan criteria
 - c. Physiological basis of Fontan's circulation
 - d. Advantages of one and half ventricle repair
4. 5+3+2
 - a. Design of SYNTAX trial
 - b. Outcomes of SYNTAX trial
 - c. Impact of SYNTAX scoring system on current practice of coronary bypass surgery.
5. Discuss cardiopulmonary bypass strategies in a patient of Heparin Induced Thrombocytopenia (HIT) in terms of: 3+3+4
 - a. Platelet pretreatment
 - b. Platelet inhibition
 - c. Alternate drugs for anticoagulation
6. Bosentan: Mechanism of action, pharmacokinetics, indications, side effects and current status of its use. 2+2+2+2+2
7. Percutaneous Left Ventricular Assist Devices (P-LVADs): 4+3+3
 - a. Types of P-LVADs available,
 - b. It's role in bridge to transplantations
 - c. Systemic deleterious effects on various organ systems.

P.T.O.

8. Discuss in brief methods to stop anastomotic leaks from a vascular anastomosis under the following headings: 3+3+4
- a. Names of various devices/substances
 - b. Advantages and disadvantages of their uses
 - c. Use of Gel-plugs; mechanism of action and contraindication of its usage.
9. Modified Vs conventional ultrafiltration: Difference between them, indications and advantages/disadvantages. 3+3+4
10. Discuss transannular patch in Tetralogy of Fallots under the following heads: 3+3+1+3
- a. Indications and contraindications
 - b. Advantages and disadvantages
 - c. Surgical technique
 - d. Role of homografts Vs heterografts as replacement to transannular patch
