April-1996

[AK 162]

M.D. DEGREE EXAMINATION.

Branch X — Anaesthesiology

(Revised Regulations)

Part II

Paper I — APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA INCLUDING PHYSICS IN ANAESTHESIA HISTORY OF ANAESTHESIA

Time : Three hours Maximum : 100 marks

Answer ALL questions.

1. How does a normal adult humanbeing maintain body temperature? Enumerate the physiological and metabolic changes that occur during moderate hypothermia. (25)

2. Describe the physiology of haemostasis. How do you evaluate haemorrhagic diathesis? What precautions will you take before surgery? (25)

3. Write briefly on (5 x 10 = 50)

   (a) Drug metabolism in liver disease.

   (b) Oxygen toxicity.

   (c) Laminar flow and its application in anaesthesia.

   (d) Oxygen dissociation curve.

   (e) Static electricity.

October-1996

RK 145

M.D. DEGREE EXAMINATION

Branch X - Anaesthesiology

(Revised Regulations)

Part II

Paper I - APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA INCLUDING PHYSICS IN ANAESTHESIA, HISTORY OF ANAESTHESIA

Time: Three hours Max.marks:100

Answer All Questions

1. Describe briefly the working principles of pulse oximetry and capnography. Discuss their role in anaesthesia practice. (25)

2. Discuss in detail the development of inhalational anaesthetic agents. Discuss in detail Isoflurane. (25)

3. Write briefly on:

   (a) Circle absorption system

   (b) Esmolol

   (c) Physiological responses to Endotracheal intubation

   (d) Peter Safar

   (e) SIMV

(5x10=50)

April-1997

M.D. DEGREE EXAMINATION

Branch X - Anaesthesiology

(Revised Regulations)

Part II

Paper I - APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA INCLUDING PHYSICS IN ANAESTHESIA, HISTORY OF ANAESTHESIA

Time: Three hours Max.marks:100

Answer All Questions

1. Describe the physiology of normal neuro-muscular transmission. (25)

2. Classify adrenergic receptors. Write on the clinically used drugs acting on any one sub-type of adrenergic receptors. (25)

3. Write briefly on:

   (a) Co-axial anaesthetic breathing systems

   (b) Effect of halothane on liver

   (c) E.C.G. changes in hyperkalaemia

   (d) Poiseuille's law

   (e) Aorto-caval compression.

(5x10=50)

October-1997

MS 150

M.D. DEGREE EXAMINATION

Branch X - Anaesthesiology

(Revised Regulations)

Part II

Paper I - APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA INCLUDING PHYSICS IN ANAESTHESIA, HISTORY OF ANAESTHESIA.

Time: Three hours Max. marks:100

Answer All Questions

1. With the help of a diagram, describe the anatomy of epidural space. What is the fate of local anaesthetics in the epidural space? What are the factors controlling the spread of epidural block? (25)

2. What is Central Venous Pressure? What are the different approaches for central venous cannulation? Discuss the merits and demerits of each technique. (25)

3. Write briefly on:

   (a) Intravenous regional anaesthesia

   (b) Pin index system

   (c) Minimum alveolar concentration

   (d) Steroids in anaesthetic practice

   (e) Post-spinal headache.

(5x10=50)

April-1998

[SV 160]

M.D. DEGREE EXAMINATION.

Branch X — Anaesthesiology

(Revised Regulations)

Part II

Paper I — APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA INCLUDING PHYSICS IN ANAESTHESIA, HISTORY OF ANAESTHESIA

Time : Three hours Maximum : 100 marks

Answer ALL questions.

1. Describe the anatomy of the tracheo–bronchial tree. (25)

2. Briefly describe hepatic blood flow. How is hepatic blood flow altered by anaesthetic and adjuvant drugs? (25)

3. Write notes on : (5 × 10 = 50)

(a) Apparent volume of distribution of drugs

(b) Glycopyrronium

(c) Closing capacity of lungs

(d) Laryngeal Mask Airway (LMA)

(e) William Thomas Green Morton.

October-1998

[SM 157]

M.D. DEGREE EXAMINATION.

Branch X — Anaesthesiology

(Revised Regulations)

Part II

Paper I — APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA INCLUDING PHYSICS IN ANAESTHESIA, HISTORY OF ANAESTHESIA

Time : Three hours Maximum : 100 marks

Answer ALL questions.

1. With the help of a diagram, describe the formation and distribution of a typical spinal nerve. Enumerate the sites at which the intercostal nerve can be blocked and describe *any one* such technique. (15 + 4 + 6 = 25)

2. Describe the formation of the circle of Willis. Define *cerebral perfusion pressure* and discuss the factors that affect cerebral perfusion pressure. (10 + 3 + 12 = 25)

3. Write briefly on : (5 × 10 = 50)

(a) Diffusion hypoxia.

(b) Factors affecting laminar flow of fluids through a tube.

(c) Timed expiratory spirogram (Forced vital capacity manoeuvre).

(d) Scavenging systems for anaesthesia breathing circuits.

(e) Sir Ivan Magill.

April-1999

[SG 157] **Sub. Code : 2040**

M.D. DEGREE EXAMINATION.

Branch X — Anaesthesiology

(Revised Regulations)

Part II

Paper I — APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA INCLUDING PHYSICS IN ANAESTHESIA, HISTORY OF ANAESTHESIA

Time : Three hours Maximum : 100 marks

Answer **ALL** questions.

1. With the help of a diagram, describe the formation of the lumbar plexus. Enumerate the three nerves blocked in the *"3-in-1 block"* and describe how you would perform this block. (12 + 3 + 10 = 25)

2. Describe the distribution of ventilation and perfusion in the *awake individual in the upright position.* Develop the alterations that occur in the distribution of ventilation and perfusion in an *anaesthetised patient with a closed chest breathing spontaneously* in (a) *the supine position and* (b) *in the lateral decubitus position.* (10 + 7 + 8 = 25)

3. Write briefly on : (5 × 10 = 50)

(a) Boyle's law and its applications in anaesthesia.

(b) Hydroxyethyl starch.

(c) Principles of mainstream capnography.

(d) Link–25 mechanism (in flowmeter bank of anaesthesia machine)

(e) Ralph Waters.

October-1999

[KA 157] **Sub. Code : 2040**

M.D. DEGREE EXAMINATION.

(Revised Regulations)

Branch X — Anaesthesiology

Part II

Paper I — APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA INCLUDING PHYSICS IN ANAESTHESIA, HISTORY OF ANAESTHESIA

Time : Three hours Maximum : 100 marks

Answer ALL questions.

1. Discuss the classification, basic Pharmacology, Pharmacokynetics and Pharmacodynamics of alpha two adrenergic agonists. (25)

2. Discuss the Electrical hazards in the operation theatre and the various steps to prevent and minimize them. (25)

3. Write short notes on : ($5 \times 10 = 50$)

(a) Poynting effect

(b) What are autocoids, discuss the mechanism of action of prostaglandin inhibitors analgesics

(c) John Sials Lundy

(d) Oxygen concentrators

(e) Sevoflurane.

———

April-2000

[KB 157] **Sub. Code : 2057**

M.D. DEGREE EXAMINATION.

(Revised Regulations)

Branch X — Anaesthesiology

Part II

Paper I — APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA INCLUDING PHYSICS IN ANAESTHESIA, HISTORY OF ANAESTHESIA

Time : Three hours MAR 2000 Maximum : 100 marks

1. With the help of a diagram, describe the formation of the brachial plexus. Describe one method of performing brachial plexus block. (25)

2. Classify breathing systems. Discuss the conduct of low flow anaesthesia. (25)

3. Write short notes on :
   (a) Propofol
   (b) Heat moisture exchanger
   (c) Ralph waters
   (d) Mixed venous oxygen tension
   (e) Sevoflurane. (5 × 10 = 50)

October-2000

[KC 157] **Sub. Code : 2057**

M.D. DEGREE EXAMINATION.

Branch X — Anaesthesiology

(Revised Regulations)

Part II

Paper I — APPLIED–BASIC–SCIENCES RELATED TO ANAESTHESIA INCLUDING PHYSICS IN ANAESTHESIA, HISTORY OF ANAESTHESIA

Time : Three hours SEP 2000 Maximum : 100 marks

Answer ALL questions.

1. Describe briefly various "Breathing Circuits". What factors will influence you in choosing a breathing circuit for paediatric patients. (25)

2. Describe the pathways of pain–stimuli. Mention the various methods of post–operative analgesia. (25)

3. Write short notes on : (5 × 10 = 50)

   (a) Sir. W.T.G. Morton.

   (b) Oculo cardiac reflex.

   (c) Diffusion–Hypoxia.

   (d) Magnesium and Anaesthetist.

   (e) Methods of measuring blood–loss.

———————