

APRIL 2001

[KD 1522]

Sub. Code : 3030

DIPLOMA IN ANAESTHESIOLOGY EXAMINATION.

(New Regulations)

Part I

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

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. (a) Discuss the anatomy of epidural space.
(b) Discuss the current status of epidural analgesia. (25)
 2. Discuss the Biotransformation of Intravenous anaesthetic agents. (25)
 3. Write short notes on : (5 × 10 = 50)
 - (a) Calcium channel blockers
 - (b) Propofol
 - (c) CVP
 - (d) Magill
 - (e) Flowmeters.
-

NOVEMBER 2001

[KE 1522]

Sub. Code : 3030

DIPLOMA IN ANAESTHESIOLOGY EXAMINATION.

(New Regulations)

Part I

Paper I — BASIC SCIENCES RELATED TO
ANAESTHESIA – HISTORY OF ANAESTHESIA AND
PHYSICS IN ANAESTHESIA

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Describe various types of Hypoxia and their effects on various systems. Discuss about post operative Hypoxia. (25)
 2. Describe Bronchopulmonary segments and their importance in Thoracic Anaesthesia. (25)
 3. Write short notes on : (5 × 10 = 50)
 - (a) Second Gas effect
 - (b) Kartagener's Syndrome
 - (c) Claude Bernard
 - (d) Ayre's T Piece
 - (e) Chloroprocaine.
-

MARCH 2002

[KG 1522]

Sub. Code : 3030

DIPLOMA IN ANAESTHESIOLOGY EXAMINATION.

(New Regulations)

Part I

**Paper I — BASIC SCIENCES RELATED TO
ANAESTHESIA — HISTORY OF ANAESTHESIA AND
PHYSICS IN ANAESTHESIA**

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Describe the factors affecting pulmonary function with special reference to Anaesthesia. Describe various devices and methods of administration of oxygen therapy. (25)
 2. Describe various endobronchial tubes with special reference to physiology of one lung anaesthesia. (25)
 3. Write short notes on : (5 × 10 = 50)
 - (a) Amethocaine.
 - (b) Surfactant.
 - (c) H.E.G. Boyle.
 - (d) Water's canister.
 - (e) Diltiazem.
-

SEPTEMBER 2002

[KH 1522]

Sub. Code : 3030

DIPLOMA IN ANAESTHESIOLOGY EXAMINATION.

(New Regulations)

Part I

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

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. (a) Describe in detail the anatomy and physiology of neuromuscular junction.
(b) Write briefly the differences between depolarising and non-depolarising neuromuscular block. (25)
 2. Describe in detail the mechanism of acid base balance in human physiology. (25)
 3. Write short notes on : (5 × 10 = 50)
 - (a) Sir Ralph Water
 - (b) CIDEX
 - (c) Adam valve
 - (d) Glomerular Filtration rate
 - (e) Dantrolene Sodium.
-

APRIL 2003

[KI 1522]

Sub. Code : 3030

DIPLOMA IN ANAESTHESIOLOGY EXAMINATION.

(New Regulations)

Part I

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

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. (a) Describe pharmacology of antiarrhythmic drugs.
(b) How will you detect and treat perioperative arrhythmias? (25)
 2. (a) Discuss the lung function tests.
(b) Narrate the preoperative evaluation of a patient coming for lung resection. (25)
 3. Write short notes on : (5 × 10 = 50)
 - (a) Laplace's law
 - (b) Ideal gas equation
 - (c) Double burst stimulation
 - (d) Green morton
 - (e) Magnesium.
-

OCTOBER 2003

[KJ 1522]

Sub. Code : 3030

DIPLOMA IN ANAESTHESIOLOGY EXAMINATION.

(New Regulations)

Part I

**Paper I — BASIC SCIENCES RELATED TO
ANAESTHESIA, HISTORY OF ANAESTHESIA AND
PHYSICS IN ANAESTHESIA**

Time : Three hours

Maximum : 100 marks

**Theory : Two hours and
forty minutes**

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

**M.C.Q. must be answered SEPARATELY on the
answer sheet provided as per the instructions on the
first page of M.C.Q. Booklet.**

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay : (2 × 15 = 30)

**(1) Describe the anatomy of the larynx and
tracheobronchial tree and the clinical applied anatomy
in relation to the anaesthesiologist.**

**(2) Describe the cardiac cycle in detail with
diagrammatic representation and discuss factors
controlling cardiovascular physiology.**

II. Short notes :

(10 × 5 = 50)

- (1) Sir Robert Magill.**
- (2) Venturi principle.**
- (3) Oxygen dissociation curve.**
- (4) Anatomy of the neuromuscular junction.**
- (5) Hypoxic Pulmonary Vasoconstriction (HPV).**
- (6) Intrathecal opioids.**
- (7) Aprotinin.**
- (8) LUFT principle and its clinical application.**
- (9) Pharmacogenetics of suxamethonium.**
- (10) ACE inhibitors.**

AUGUST 2004

[KL 1522]

Sub. Code : 3030

DIPLOMA IN ANAESTHESIOLOGY EXAMINATION.

(New Regulations)

Part I

**Paper I — BASIC SCIENCES RELATED TO
ANAESTHESIA, HISTORY OF ANAESTHESIA AND
PHYSICS IN ANAESTHESIA**

Time : Three hours

Maximum : 100 marks

**Theory : Two hours and
forty minutes**

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay : (2 × 15 = 30)

- (1) Describe the anatomy of epidural space.
- (2) Describe the transport of oxygen in the blood.

II. Short notes : (10 × 5 = 50)

- (a) Triple Index.
- (b) Shunt Fraction.
- (c) Liquid Oxygen.
- (d) Buffer systems of body.

- (e) Remi fantanyl.
 - (f) Neuromuscular junction.
 - (g) Hagen-Poiseuille's equation.
 - (h) John snow.
 - (i) Pathways of pain in labour.
 - (j) Liver function Tests.
-

FEBRUARY 2005

[KM 1522]

Sub. Code : 3030

DIPLOMA IN ANAESTHESIOLOGY EXAMINATION.

(New Regulations)

Part I

**Paper I — BASIC SCIENCES RELATED TO
ANAESTHESIA, HISTORY OF ANAESTHESIA AND
PHYSICS IN ANAESTHESIA**

Time : Three hours

Maximum : 100 marks

**Theory : Two hours and
forty minutes**

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay : (2 × 15 = 30)

(1) Describe the historical milestones in the development of regional anaesthesia (drugs and technique) from its early days to as it stands today. (15)

(2) Describe the physiological effects of CENTRAL NEURAXIAL BLOCKADE. (15)

II. Short notes :

(10 × 5 = 50)

- (a) Anatomy of Nasal Cavity.
- (b) Reynolds Number
- (c) Transcutaneous monitoring of O₂ and CO₂
- (d) Checking the integrity of circle system with CO₂ absorbant in anaesthesia machine
- (e) Differences between crystalloids and colloids
- (f) Protamine
- (g) FRANK STARLING relationship
- (h) Etomidate
- (i) High dose opioid anaesthesia advantages and limitations
- (j) Carbon monoxide poisoning.

MARCH 2006

[KO 1522]

Sub. Code : 3030

DIPLOMA IN ANAESTHESIOLOGY EXAMINATION.

**Paper I — BASIC SCIENCES RELATED TO
ANAESTHESIA, HISTORY OF ANAESTHESIA AND
PHYSICS IN ANAESTHESIA**

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes	Theory : 80 marks
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M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay : (2 × 15 = 30)

(1) Classify anti arrhythmic drugs and write in detail about one drug.

(2) Bronchopulmonary segments.

II. Short notes : (10 × 5 = 50)

(a) 2,3-diphosphoglycerate

(b) Standard Base Excess (SBE)

(c) Cardioversion

(d) Adrenergic agonists

(e) Standard deviation

(f) Hagen – Poiseuille's law.

(g) Osmolality

(h) Opiate receptors

(i) John snow

(j) **Transport of CO_2 in Blood.**

MARCH 2007

[KQ 1522]

Sub. Code : 3030

**DIPLOMA IN ANAESTHESIOLOGY (D.A.)
EXAMINATION.**

**Paper I — BASIC SCIENCES RELATED TO
ANAESTHESIA, HISTORY OF ANAESTHESIA AND
PHYSICS IN ANAESTHESIA**

Common to

(Candidates admitted from 1993-94 onwards)

and

(Candidates admitted from 2004-05 onwards)

Time : Three hours

Maximum : 100 marks

**Theory : Two hours and
forty minutes**

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay questions :

(1) Classify Opioids according to their anaesthetic uses. Describe opioid anaesthesia (high dosage opioid anaesthesia). (20)

(2) Describe Cardiovascular effects of Epidural Blockade. Mention clinical tests to evaluate residual activity in cardiac sympathetic nerves. (15)

(3) Discuss closed circuit anaesthesia. (15)

II. Write short notes : (6 × 5 = 30)

(a) Atypical Thoracic Vertebra

(b) Dr. Ralph M. Waters

(c) Mivacurium

(d) High air flow with oxygen enrichment masks

(e) Intraosseous administration of fluids and drugs.

(f) Factors affecting hypoxic pulmonary vasoconstriction.

MARCH 2008

WS 11

[KS 1522]

Sub. Code : 3030

DIPLOMA IN ANAESTHESIOLOGY (D.A.) EXAMINATION.

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

(Common to All Regulations)

Q.P. Code : 343030

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay questions : (2 × 20 = 40)

(1) Discuss the pharmacology of various drugs used for controlled hypotension. What are the demerits of controlled hypotensive anaesthesia. (20)

(2) Describe the anatomy of broncho-pulmonary segments with the help of a diagram. Discuss the pulmonary function tests. (20)

II. Write short notes : (10 × 6 = 60)

- (1) Three-in-one block.
 - (2) Autologous blood transfusion.
 - (3) Positioning under anaesthesia.
 - (4) 16th October 1846.
 - (5) Anaesthesia for laproscopic surgery.
 - (6) Flow meters.
 - (7) Amniotic fluid embolism.
 - (8) Venturi principle.
 - (9) Pharmacology and clinical utilization of Heparin.
 - (10) Low flow anaesthesia.
-

September 2008

[KT 1519]

Sub. Code: 3027

DIPLOMA IN ANAESTHESIOLOGY EXAMINATION.

**Paper I – BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN
ANAESTHESIA**

(Common to all candidates)

Q.P. Code : 343030

Time : Three hours

Maximum : 100 marks

Draw suitable diagram wherever necessary.

Answer ALL questions.

I. Essay questions :

(2 X 20 = 40)

1. Discuss in detail the uptake and distribution of inhalational anaesthetic agents and factors affecting it.
2. Describe the anatomy and discuss stellate ganglion block.

II. Write short notes on :

(10 X 6 = 60)

1. Anaphylactic reactions during anaesthesia.
 2. Monitoring neuromuscular blockade.
 3. Malignant hyperthermia.
 4. Weaning from mechanical ventilation.
 5. Horace wells.
 6. Thromboelastograph Tracings.
 7. Epidural analgesics.
 8. Hyperkalemia.
 9. Propofol.
 10. Oxygen dissociation curve.
-

MARCH -2009

[KU 1522]

Sub. Code: 3030

DIPLOMA IN ANAESTHESIOLOGY EXAMINATION.

**Paper I – BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN
ANAESTHESIA**

(Common to all candidates)

Q.P. Code : 343030

Time : Three hours

Maximum : 100 marks

Draw suitable diagram wherever necessary.

Answer ALL questions.

I. Essay questions : (2 X 20 = 40)

1. Describe coronary circulation. Discuss factors affecting cardiac output.
2. Describe in detail the development, functioning and usage of circle absorber system.

II. Write short notes on : (10 X 6 = 60)

1. Phase II block.
2. Pulmonary capillary wedge pressure.
3. Failed intubation drill.
4. Recurrent laryngeal nerve.
5. James young simpson.
6. Sodium nitroprusside.
7. Autologous Transfusion.
8. PEEP.
9. Pulse oximetry.
10. Glasgow coma scale.

September - 2009

[KV 1522]

Sub. Code: 3030

DIPLOMA IN ANAESTHESIOLOGY EXAMINATION.

**Paper I – BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN
ANAESTHESIA**

(Common to all candidates)

Q.P. Code : 343030

Time : Three hours

Maximum : 100 marks

**Draw suitable diagram wherever necessary.
Answer ALL questions.**

I. Essay questions : (2 X 20 = 40)

1. Discuss about sympathomimetic drugs.
2. Hyponatremia and hypernatremia – causes, clinical features, treatment and anaesthetic considerations.

II. Write short notes on : (10 X 6 = 60)

1. Sodalime.
2. Total intravenous anaesthesia.
3. Nerve supply of larynx.
4. Extra-Junctional receptors.
5. Double burst stimulation.
6. Principles of pulse-oximetry.
7. Ivan Magill.
8. Malignant hyperthermia.
9. Monitored anaesthesia care.
10. Anatomy of epidural space.

March 2010

[KW 1522]

Sub. Code: 3030

DIPLOMA IN ANAESTHESIOLOGY EXAMINATION

**BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN
ANAESTHESIA**

(Common to all candidates)

Q.P. Code : 343030

Time : Three hours Maximum : 100 marks

Draw suitable diagram wherever necessary

Answer ALL questions

I. Essay questions : (2 x 20 = 40)

1. Describe the brachial plexus.
2. Discuss the physiological changes during pregnancy in relation to anaesthesia.

II. Write short notes on : (10 x 6 = 60)

1. Visual analogue scale.
2. Rocuronium.
3. John snow.
4. Capnography.
5. Propofol.
6. Oxygen toxicity.
7. Allens test.
8. Safety devices on anaesthesia machines.
9. Venturi principle and its application.
10. Surfactant.

September 2010

[KX 1522]

Sub. Code: 3030

DIPLOMA IN ANAESTHESIOLOGY (D.A.) EXAMINATION.
Part I for Candidates admitted upto 2003-04 & Candidates admitted
from 2008-09 onwards

And

Paper I for Candidates admitted from 2004-05 to 2007-08

BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN
ANAESTHESIA

Q.P. Code : 343030

Time : Three hours

Maximum : 100 marks

Draw suitable diagram wherever necessary.

Answer ALL questions.

I. Essay questions :

(2 X 20 = 40)

1. Discuss in detail positioning under Anaesthesia.
2. Discuss in detail about post operative Hypoxia.

II. Write short notes on :

(10 X 6 = 60)

1. Nerve supply of larynx.
2. Limitations of pulse oximetry.
3. Respiratory effects of subarachnoid block.
4. Aortacaval compression.
5. Propofol.
6. Fentanyl.
7. Caudal block.
8. Ether dome.
9. Liquid Oxygen.
10. Carbondioxide absorbants.

APRIL 2011

[KY 1522]

Sub. Code: 3030

DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION

**BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN
ANAESTHESIA**

Q.P. Code : 343030

**Time : 3 hours
(180 Min)**

Maximum : 100 marks

Answer ALL questions in the same order.

I. Elaborate on :

	Pages (Max.)	Time (Max.)	Marks (Max.)
1. Describe the physiology of neuro muscular transmission. Discuss the factors that modify the action of muscle relaxants.	11	35	15
2. Classify vaporizers. Briefly discuss the functioning of TEC 6 vaporizer and mention about pumping and pressurizing effect.	11	35	15

II. Write notes on :

1. Anatomy of internal jugular vein.	4	10	7
2. Critical temperature.	4	10	7
3. Hoffmann's degradation.	4	10	7
4. Anion gap.	4	10	7
5. Changes in vocal cord in various types of palsies.	4	10	7
6. Capnography and various abnormal capnographs.	4	10	7
7. Ralph waters.	4	10	7
8. B. Adrenergic blocking drugs.	4	10	7
9. Oxygen toxicity.	4	10	7
10. Hyperkalemia.			

October 2011

[KZ 1522]

Sub. Code: 3030

DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION
BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN ANAESTHESIA

Q.P. Code : 343030

Time : 3 hours
(180 Min)

Maximum : 100 marks

Answer ALL questions in the same order.

I. Elaborate on :

Pages	Time	Marks
(Max.)	(Max.)	(Max.)

- | | | | |
|---|----|---------|----|
| 1. Draw anatomy of Brachial plexus and summarize various approaches for shock with merits and demerits. | 11 | 35 min. | 15 |
| 2. Definition and classification of shock. Anaesthetic management of two days old perforation peritonitis in a male aged 62 years. such patients? | 11 | 35 min. | 15 |

II. Write notes on :

- | | | | |
|-----------------------------------|---|---------|---|
| 1. W.T.G. MORTON. | 4 | 10 min. | 7 |
| 2. Etomidate. | 4 | 10 min. | 7 |
| 3. Cerebro spinal fluid. | 4 | 10 min. | 7 |
| 4. Duchenne muscular dystrophy. | 4 | 10 min. | 7 |
| 5. First pass metabolism. | 4 | 10 min. | 7 |
| 6. Hagen – Poiseuille's law. | 4 | 10 min. | 7 |
| 7. GABA. | 4 | 10 min. | 7 |
| 8. Post dural puncture head ache. | 4 | 10 min. | 7 |
| 9. Transverse abdominis block. | 4 | 10 min. | 7 |
| 10. Q-T interval prolongation. | 4 | 10 min. | 7 |

April 2012

[LA 1522]

Sub. Code: 3030

DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION

**BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN ANAESTHESIA**

Q.P. Code : 343030

**Time : 3 hours
(180 Min)**

Maximum : 100 marks

Answer ALL questions in the same order.

I. Elaborate on :

	Pages (Max.)	Time (Max.)	Marks (Max.)
1. Explain in detail the cardiac cycle, Factors regulating cardiac output and methods of measuring cardiac output.	16	35	15
2. Describe the mode of action of Local Anesthetic Drugs. What are the pharmacological requisites of an ideal local anesthetic?	16	35	15

II. Write notes on :

1. Write about AMBU bag, its usage and the different types of valves used.	4	10	7
2. Hagen poiselle law-state the law and its anesthetic applications.	4	10	7
3. Discuss in detail about Intubating Laryngeal Mask Airway (ILMA).	4	10	7
4. Diagnosis of Hyperkalemia and its anesthetic implications.	4	10	7
5. Mention the Factors affecting cerebral blood flow.	4	10	7
6. Causes and prevention of Mendelsons syndrome.	4	10	7
7. Describe the Bedside pulmonary functions tests.	4	10	7
8. Factors affecting Hypoxic pulmonary Vasoconstriction.	4	10	7
9. Explain Goldman cardiac risk index.	4	10	7
10. Uses of Peripheral nerve stimulator in monitor muscle relaxation.	4	10	7

[LB 1522]

OCTOBER 2012

Sub. Code: 3030

**DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION
BASIC SCIENCES RELATED TO ANAESTHESIA, HISTORY OF ANAESTHESIA
AND PHYSICS IN ANAESTHESIA**

Q.P. Code: 343030

**Time: 3 hours
(180 Min)**

Maximum: 100 marks

ANSWER ALL QUESTIONS IN THE SAME ORDER.

I. Elaborate on:

Pages (Max.)	Time (Max.)	Marks (Max.)
16	35	15

1. Discuss the lung function tests.
How will you evaluate preoperatively a patient coming for lung resection?

2. Discuss the pharmacology of anti-arrhythmic drugs.
How will you detect and manage peri-operative arrhythmias?

16	35	15
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II. Write Short Notes on:

1. Anatomy of epidural space and the anaesthetic implications.

4	10	7
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2. Phase 2 block and its significance to the Anaesthesiologists.

4	10	7
---	----	---

3. Autologous transfusion and its role in the peri-operative period.

4	10	7
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4. Signs, Symptoms of Malignant hyperpyrexia and its management.

4	10	7
---	----	---

5. Role of Thromboelastography for practicing Anaesthesiologists.

4	10	7
---	----	---

6. Ralph Waters and his Inventions in Anaesthesiology.

4	10	7
---	----	---

7. Pharmacodynamics & Pharmacokinetics of Propofol.

4	10	7
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8. Role of 2, 3 – DPG in massive Blood Transfusion

4	10	7
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9. Hagen-Poiseuille's law.

4	10	7
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10. Transport of carbon-di-oxygen in blood.

4	10	7
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(LC 1522)

APRIL 2013

Sub. Code: 3030

**DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION
BASIC SCIENCES RELATED TO ANAESTHESIA, HISTORY OF
ANAESTHESIA AND PHYSICS IN ANAESTHESIA**

Q.P. Code : 343030

Time: Three Hours

Maximum: 100 marks

I. Elaborate on:

(2X15=30)

1. Describe the factors influencing the normal cardiac output.
2. Describe the anatomy of epidural space. Discuss the physiological effects and complications of epidural block.

II. Write notes on:

(10X7=70)

1. John Snow
2. Hagen Poiseuille's law
3. Hypokalemia
4. Sodalime
5. Nerve supply of larynx
6. High airflow oxygen enrichment masks
7. Pin index system
8. Principles of pulse oximetry
9. Phase II block
10. Sodium nitroprusside

(LD 1522)

OCTOBER 2013

Sub. Code: 3030

**DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION
APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA, HISTORY
OF ANAESTHESIA AND PHYSICS IN ANAESTHESIA**

Q.P. Code : 343030

Time: Three Hours

Maximum: 100 marks

I. Elaborate on:

(2X15=30)

1. Describe the anatomy, indications and methods of stellate ganglion block.
2. Discuss the physiological changes occurring during pregnancy and their influence on anaesthesia.

II. Write notes on:

(10X7=70)

1. Oxygen cascade.
2. Protamine.
3. Cardioversion.
4. John Snow.
5. Fat embolism.
6. Ayre`s T piece.
7. Sodium bicarbonate.
8. Allen`s test.
9. Low flow anaesthesia.
10. Malignant hyperthermia.

(LE 1522)

APRIL 2014

Sub. Code:3030

DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION

**APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN ANAESTHESIA**

Q.P.Code: 343030

Time: Three Hours

Maximum: 100 marks

I. Elaborate on:

(2X15=30)

1. Define functional residual capacity and closing capacity. Briefly describe their significance in anaesthetic practice.
2. Describe CVP (central venous pressure) wave forms and correlate with ECG with the help of a diagram. Discuss the diagnostic significance of the CVP wave forms.

II. Write notes on:

(10X7=70)

1. Caudal epidural space.
2. BOHR Effect.
3. W.T.G Morton.
4. Hypokalemia.
5. α_2 agonists.
6. Boyle's law.
7. Alveolar Air equation.
8. Oxygen fail safe devices.
9. Proseal LMA (Laryngeal mask airway).
10. Innervation of larynx.

(LF 1522)

OCTOBER 2014

Sub. Code: 3030

DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION

**APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN ANAESTHESIA**

Q.P.Code: 343030

Time: Three Hours

Maximum: 100 marks

I. Elaborate on:

(2 x 15 = 30)

1. Describe the anatomy of the Broncho – pulmonary segments with the help of a diagram. Discuss the Pulmonary Function Tests.
2. Describe the pharmacology of anti-arrhythmic drugs. How will you detect and treat perioperative arrhythmias?

II. Write notes on:

(10 x 7 = 70)

1. Cerebral auto regulation.
2. Beer – Lamberts Law.
3. 16th October 1846.
4. Etomidate.
5. Liquid Oxygen.
6. Venturi Principle.
7. Carotid and aortic reflexes and respiration.
8. Diaphragm.
9. Target controlled Infusion.
10. Sir Ralph Water.

DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION
APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN ANAESTHESIA

Q.P. Code : 343030

Time: Three Hours

Maximum: 100 marks

Answer ALL questions

I. Elaborate on:

(2 x 15 = 30)

1. Discuss the uptake and distribution of inhalational anaesthetic agents and the factors affecting it.
2. Discuss the anatomy of epidural space with diagrammatic representation.
Describe the factors influencing height of analgesia in intradural block.

II. Write notes on:

(10 x 7 = 70)

1. Carl Koller.
2. Nor-adrenaline.
3. Blood substitutes.
4. Vocal cord palsy.
5. Blood – Gas Partition Coefficient.
6. Humidification.
7. Intravenous Paracetamol.
8. Oxygen Flux.
9. Closing capacity and Functional Residual capacity.
10. Obstructive Sleep Apnoea.

[LH 1522]

OCTOBER 2015

Sub. Code: 3030

**DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION
APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN ANAESTHESIA**

Q.P. Code : 343030

Time: Three Hours

Maximum: 100 marks

Answer ALL questions

I. Elaborate on:

(2 x 15 = 30)

1. Describe the anatomy of Brachial plexus with the help of a diagram.
Write briefly the various methods to block the same. Describe in detail about any one method.
2. Discuss the placental transfer of drugs and the anaesthetic implications.

II. Write notes on:

(10 x 7 = 70)

1. Venturi principle and applications.
2. Propofol.
3. Temperature regulation.
4. Counter current mechanism.
5. Cerebral circulation.
6. Crawford Long.
7. Diaphragm.
8. Control of respiration.
9. Bain's circuit.
10. Oxygen toxicity.

(LI 1522)

APRIL 2016

Sub. Code:3030

DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION

**APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN ANAESTHESIA**

Q.P.Code: 343030

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Describe briefly the Liver function tests.
2. Write in detail the anatomy of larynx and its anaesthetic implications.

II. Write notes on:

(10 x 7 = 70)

1. Hagen – Poiseuilles law.
2. Oxygen dissociation curve.
3. Atracurium.
4. Placental transfer of drugs.
5. Surfactant.
6. Phase II Neuro Muscular Block.
7. Pressuring and pumping effects.
8. Sir Ivan Magill.
9. Epidural space.
10. Sodalime.

DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION

**APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN ANAESTHESIA**

Q.P.Code: 343030

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Describe the anatomy of coronary circulation with a diagram. Discuss the factors regulating coronary blood flow.
2. Describe the Physiology of neuromuscular junction. Write in detail about the neuromuscular blockade monitoring.

II. Write notes on:

(10 x 7 = 70)

1. Hypoxic pulmonary vasoconstriction.
2. Transport of CO₂ in blood.
3. Henry's law.
4. Sir Robert McIntosh.
5. Positive end expiratory pressure.
6. Coagulation cascade.
7. Placental barrier.
8. Supraglottic devices.
9. Air embolism.
10. Cerebral autoregulation.

DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION

**APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN ANAESTHESIA**

Q.P.Code: 343030

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Explain physiology of cardiac cycle and determinants of cardiac output.
Add a note on inotropic agents.
2. Describe the physiological changes in pregnancy and the anaesthetic implications.

II. Write notes on:

(10 x 7 = 70)

1. Dalton's law of partial pressure of gases.
2. August Bier.
3. Minimum alveolar concentration.
4. Oxygen cascade.
5. Myocardial oxygen balance.
6. Humidifiers.
7. Dexmedetomidine.
8. Second gas effect.
9. Informed consent.
10. Principles of Capnography.

DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION

**APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN ANAESTHESIA**

Q.P.Code: 343030

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss the placental transfer of drugs and the anaesthetic implication.
2. What are the factors which determine the intracranial pressure?
Describe the methods of reducing increased intracranial pressure.

II. Write notes on:

(10 x 7 = 70)

1. Tracheal tug.
2. Respiratory Alkalosis.
3. Phase I and phase II reactions of drug metabolism.
4. Angiotensin Receptor Blockers.
5. Anatomy of Larynx.
6. Double Lumen Endotracheal tubes.
7. Oxygen content of Blood.
8. Anaesthetic implications of positioning under Anaesthesia.
9. Minimum Alveolar concentration.
10. Desflurane.

DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION

**APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN ANAESTHESIA**

Q.P.Code: 343030

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Definition and classification of Breathing circuits.
Describe in detail about circle system.
2. Describe the anatomy of internal jugular vein.
What is the normal central venous pressure in adults and pediatrics?
Describe the technique of right internal jugular vein cannulation.
Enumerate the indications and complications.

II. Write notes on:

(10 x 7 = 70)

1. H.E.G Boyle.
2. Bernoulli's principle.
3. Cisatracurium.
4. Double Bohr effect.
5. Hepatic blood flow.
6. Current American Society of Anaesthesiologist physical status classification.
7. Double lumen tubes.
8. Concentration effect.
9. Scoline apnoea.
10. Functional residual capacity.

DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION

**APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN ANAESTHESIA**

Q.P. Code: 343030

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Write in detail about the brachial plexus and various techniques involved in brachial plexus block.
2. Describe in details the various lung volumes and pulmonary function tests.

II. Write notes on:

(10 x 7 = 70)

1. John Snow.
2. Rae tube.
3. Rocuronium.
4. Beer lambert law.
5. Magills circuit.
6. Coanda effect.
7. SLIPA (Stream Lined Pharyngeal Airway).
8. Bispectral index monitoring.
9. Oculo cardiac reflux.
10. Plasma volume expanders.

DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION

**APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN ANAESTHESIA**

Q.P. Code: 343030

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on: **(2 x 15 = 30)**

1. Describe the various causes of raised intra cranial pressure and Anaesthetic management of a 2 yr old child posted for V.P. shunt.
2. Define hypoxia. Enumerate the different types and effects of hypoxia and a note on postoperative hypoxia.

II. Write notes on: **(10 x 7 = 70)**

1. Ralf Waters.
2. Hagen Poiseulle equation.
3. Oxygen Cascade.
4. Cholinergic receptors-types, location and function.
5. Partition coefficient.
6. Chlorprocaine.
7. Tests of Neuromuscular transmission.
8. Humidification.
9. Respiratory acidosis.
10. Transdermal drug delivery systems.

DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION

**APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN ANAESTHESIA**

Q.P. Code: 343030

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on: (2 x 15 = 30)

1. Explain in detail the physiology of oxygen transport in the body.
2. Describe in detail the anatomy and physiology of cerebral circulation and factors affecting the autoregulation of cerebral blood flow.

II. Write notes on: (10 x 7 = 70)

1. John Snow.
2. Venturi principle.
3. Draw a diagram and explain a typical spinal nerve.
4. Determinants of cardiac output.
5. Context sensitive half time.
6. End tidal carbondioxide.
7. Opiod receptors.
8. Hypoxic pulmonary vasoconstriction.
9. Peak expiratory Flow rate.
10. Ethylene oxide (ETO).

(LQ 1522)

**AUGUST 2020
(MAY 2020 SESSION)**

Sub. Code: 3030

DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION

**APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN ANAESTHESIA**

Q.P. Code: 343030

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Define minimum alveolar concentration, enumerate the physiological & pharmacological factors affecting MAC. Give MAC for all the halogenated agents.
2. What is homeostasis? Describe in detail about the acid base regulation of human body?

II. Write notes on:

(10 x 7 = 70)

1. Father of anaesthesia
2. Poynting effect
3. Gate control theory of pain
4. Dexmedetomidine
5. Define perfusion index and pleth variability index
6. Hering -Breuer Reflex
7. Reynold' number and it's clinical application in anaesthesia
8. Methods of intra venous fluid warming
9. Liquid oxygen
10. Cerebral function monitoring

[LS 1522]

**NOVEMBER 2020
(OCTOBER 2020 SESSION)**

Sub. Code: 3030

DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION

**APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN ANAESTHESIA**

Q.P. Code: 343030

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on: **(2 x 15 = 30)**

1. Define pain, mention the various theories of pain. Describe pain pathway in detail.
2. What are the causes of hypoventilation? How will you detect & manage the hypoventilation as an anaesthesia provider?

II. Write notes on: **(10 x 7 = 70)**

1. Sir Ivan Magill
2. Henry's law & its application in anaesthesia
3. Coagulation pathway
4. Clonidine
5. Closing volume & its importance
6. Oxygen free radicals
7. Bispectral index -monitoring
8. Stages & signs of hepatic encephalopathy
9. Cardioversion
10. Glasgow coma scale

(DA 0721)

**JULY 2021
(MAY 2021 SESSION)**

Sub. Code: 3030

DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION

**APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN ANAESTHESIA**

Q.P. Code: 343030

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on: (2 x 15 = 30)

1. Describe bronchopulmonary segments with help of a diagram.
2. Describe pulmonary function tests and its relevance to anaesthesia.

II. Write notes on: (10 x 7 = 70)

1. Horace wells and his contribution to anaesthesia.
2. Predictors of difficult airway.
3. What is thromboelastogram ? What are the conditions where it can be used both intraoperative and postoperative monitoring?
4. What is bair circuit? Outline its merits and demerits.
5. Pressuring and pumping effects in vaporizers.
6. Blood substitutes.
7. Countercurrent mechanism in the kidney.
8. Myocardial protection.
9. Anaesthetic implications in prone position.
10. Coeliac plexus block, indications contraindications and technique of blockade via ultrasound.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[DA 1121]

**NOVEMBER 2021
(OCTOBER 2021 SESSION)**

Sub. Code: 3030

DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION

**APPLIED BASIC SCIENCES RELATED TO ANAESTHESIA,
HISTORY OF ANAESTHESIA AND PHYSICS IN ANAESTHESIA**

Q.P. Code: 343030

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Describe physiological changes in pregnancy and their relevance to anaesthesia.
2. Discuss the factors affecting the uptake and distribution of inhalational agents.

II. Write notes on:

(10 x 7 = 70)

1. Minimum alveolar concentration and its relevance to anaesthesia.
2. Placental barrier.
3. Sir Robert Mackintosh.
4. What are the principles of low flow anaesthesia and its significance?
5. Dalton law of partial pressures and its relevance to anaesthesia.
6. Safety features in anaesthesia machine.
7. Principles of capnography.
8. What is anion gap?
9. Supraglottic devices.
10. Vocal cord palsies following thyroid surgery.
