August 2011

[KZ 064] **Sub. Code: 1901**

MASTER OF CHIRUGIAE (M.Ch.) DEGREE EXAMINATION

(SUPER SPECIALITIES)

BRANCH X – ENDOCRINE SURGERY

BASIC SCIENCES AS APPLED TO ENDOCRINE SURGERY
(APPLIED ANATOMY, PHYSIOLOGY, BIOCHEMISTRY, PHARMACOLOGY AND PATHOLOGY)

Q.P. Code:181901

Time : 3 hours **Maximum : 100 marks**
(180 Min)

Answer ALL questions in the same order.

I. Elaborate on :	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. Mode of action, advantages and disadvantages of carbimazole over propylthiouracil.	11	35	15
2. Histopathological features of papillary carcinoma and its relevance in the postoperative management.	11	35	15
II. Write notes on :			
1. Development of parathyroid glands and describe its application in the localistion of parathyroid tumours.	4	10	7
2. Thyroid auto antibodies and its relevance in the management of various thyroid disorders.	4	10	7
3. Anatomical and physiological problems pertaining to Prolactinoma.	4	10	7
4. Mode of action, bio availability and half life of Prazocin and Phenoxybenzamine.	4	10	7
5. Applied anatomy of superior laryngeal nerve.	4	10	7
6. Urinary iodine assay and its relevance in Thyrotoxicosis and thyroiditis.	4	10	7
7. Development and functions of parafollicular C cells and its relevance in the management of medullary carcinoma thyroid.	4	10	7
8. Adrenal cortical tumours and the pathology of Cushings.	4	10	7
9. Biosynthesis of steroid hormones and the effect of 21-hydroxylase deficiency.	4	10	7
10. Calcium sensing receptor and its therapeutic application.	4	10	7

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[LB 064] **AUGUST 2012** **Sub. Code: 1901**

M.Ch – ENDOCRINE SURGERY

Paper – I BASIC SCIENCES AS APPLED TO ENDOCRINE SURGERY

Q.P. Code: 181901

Time : 3 hours **Maximum : 100 marks**

(180 Min)

Answer ALL questions in the same order.

I. Elaborate on :	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. Anatomy and development of parathyroid and its relevance during parathyroid surgery.	16	35	15
2. The development of thyroid gland and discuss about the disorders produced by defective development of thyroid gland.	16	35	15

II. Write notes on :

1. Relevance of thyroid autoantibodies in thyroiditis and thyroid cancer.	4	10	7
2. Organ of Zuckerkandl and its clinical implication.	4	10	7
3. Urinary iodine estimation and its relevance in various thyroid disorders.	4	10	7
4. Epinephrine reversal phenomenon and its relevance in the management of phaeochromocytoma.	4	10	7
5. Histopathological differentiation of parathyroid adenoma and Hyperplasia.	4	10	7
6. 21 – Hydroxylase deficiency and its clinical manifestation.	4	10	7
7. Anatomy of pituitary gland and its relevance in trans – sphenoidal hypophysectomy.	4	10	7
8. Development of Parafollicular C-cells and its relevance in MEN II.	4	10	7
9. Perchlorate discharge test and its relevance in dyshormonogenic goiter.	4	10	7
10. Dexamethasone suppression test and its relevance in the management of Cushing's disease.	4	10	7

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(LD 064) **AUGUST 2013** **Sub. Code:1901**

M.Ch. – ENDOCRINE SURGERY
Paper – I BASIC SCIENCES AS APPLIED TO ENDOCRINE SURGERY
Q.P.Code: 181901

Time: Three Hours **Maximum: 100 marks**

I. Elaborate on: **(2X15=30)**

1. Write an essay on the physiology of thyroid hormone synthesis and the factors that control it.
2. Describe the embryology of the parathyroid glands and its implications for surgical treatment of disease.

II. Write notes on: **(10X7=70)**

1. Anatomy of the tubercle of Zuckerkandl and its importance in thyroid surgery.
2. Calcitonin – describe its physiology and clinical importance.
3. Thyroid hormone synthesis and pharmacokinetics.
4. Biochemical assessment of hyperparathyroidism.
5. Pathology of the adrenal cortex.
6. Adrenocorticotrophic Hormone –physiology and role in Cushing's syndrome.
7. Gastrin – pathophysiology of hypersecretion.
8. Role of immunohistochemistry in diagnosis of endocrine disease.
9. Bethesda system of reporting thyroid cytology.
10. Catecholamine synthesis and disorders of the adrenal medulla.

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[LH 064] **AUGUST 2015** **Sub. Code: 1901**

M.Ch. – ENDOCRINE SURGERY

PAPER I – BASIC SCIENCES AS APPLIED TO ENDOCRINE SURGERY

Q.P.Code: 181901

Time : Three Hours **Maximum : 100 marks**

Answer ALL questions

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

1. Describe the embryology of adrenal gland and synthesis, catabolism and release of catecholamines.

2. Parathyroid hormone and its role in regulation of calcium homeostasis and bone changes in primary hyperparathyroidism.

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

1. Anatomy of organ of Zuckerkandl and its importance in surgery of paragangliomas.

2. Pathophysiology in Thyroiditis.

3. Surgical anatomy and its variations of Recurrent Laryngeal Nerve.

4. Iodine deficiency and its role in development of goiter.

5. Pancreatic endocrine physiology.

6. Pathophysiology of Insulinomas.

7. Endocrine diarrhea.

8. Vitamin D deficiency and its effects on biochemical changes in Primary Hyperparathyroidism.

9. Endocrine disorders in pregnancy.

10. Metabolic changes in hypercortisolism.

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(LJ 064) AUGUST 2016 **Sub. Code:1901**

M.Ch. – ENDOCRINE SURGERY

Paper I – BASIC SCIENCES AS APPLIED TO ENDOCRINE SURGERY

Q.P.Code: 181901

Time: Three Hours **Maximum: 100 Marks**

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

1. Describe the functional morphology of the adrenal cortex and highlight the physiological effects of corticosteroids synthesised in the adrenal gland.

2. Describe the islet cell anatomy and briefly highlight the hormones secreted by the beta cells.

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

1. Serum Thyroglobulin.
2. External branch of superior laryngeal nerve.
3. Urinary iodine estimation.
4. Molecular carcinogenesis of radiation induced thyroid cancer.
5. BRAF.
6. miRNAs in thyroid cancer.
7. Adrenal venous drainage and its surgical implications.
8. Biosynthesis of catecholamines.
9. Glucagon.
10. Biochemical diagnosis of Insulinoma.

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(LL 064) AUGUST 2017 **Sub. Code:1901**

M.Ch. – ENDOCRINE SURGERY

Paper I – BASIC SCIENCES AS APPLIED TO ENDOCRINE SURGERY

Q.P.Code: 181901

Time: Three Hours **Maximum: 100 Marks**

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

1. Describe the physiology of thyroid hormone synthesis and the mechanism of action of anti-thyroid drugs.

2. Write an essay on the anatomy of the pituitary gland and the pathology of it's endocrine tumours.

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

1. Screening tests for Cushing's syndrome.
2. Pathophysiology of Graves' disease.
3. Serum calcium measurement and interpretation.
4. Role of Vitamin D in the body and relation to calcium homeostasis.
5. Surgeon performed ultrasound.
6. Surgical anatomy of the thyroid.
7. Histopathology of parathyroid tumours.
8. Adrenal myelolipoma – imaging and pathology.
9. Pathophysiology of gastrin hypersecretion.
10. Anatomy of the larynx and implications in thyroid surgery.

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(LN 064) AUGUST 2018 **Sub. Code: 1901**

M.Ch. – ENDOCRINE SURGERY

Paper I – BASIC SCIENCES AS APPLIED TO ENDOCRINE SURGERY

Q.P.Code: 181901

Time: Three Hours **Maximum: 100 Marks**

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

1. Surgical anatomy of Recurrent Laryngeal nerve and Superior Laryngeal nerve and management of their injuries.

2. Endocrine Hypertension - pathophysiology and metabolic changes.

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

1. Intact Parathormone assay.
2. Hypothalamic – Pituitary Adrenal axis pathways.
3. Hypercortisolism – endogenous versus exogenous.
4. Alpha receptors in Pheochromocytomas.
5. Sodium iodide symporters.
6. Natural history of non-toxic goiters.
7. Tetany and its management post total thyroidectomy.
8. Hungry bone syndromes.
9. Thyroglobulin assays.
10. Adrenal venous sampling.

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(LP 064) AUGUST 2019 **Sub. Code: 1901**

M.Ch. – ENDOCRINE SURGERY

Paper I – BASIC SCIENCES AS APPLIED TO ENDOCRINE SURGERY

Q.P. Code: 181901

Time: Three Hours **Maximum: 100 Marks**

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

1. Describe the embryology and surgical anatomy of the thyroid gland with specific reference to thyroid remnants.

2. Physiology of secretion of catecholamines and its clinical effects.

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

1. Variations in parathyroid gland locations.
2. Thyroid hormone synthesis.
3. Calcitonin.
4. Stunning effect in Whole body iodine scan.
5. Dopamine agonists.
6. Isolated mediastinal goitre.
7. Acromegaly.
8. Pathophysilogy of 21 – hydroxylase deficiency.
9. Genetics of pheochromocytoma and paragangliomas.
10. Non recurrent laryngeal nerve.

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(LR 064) NOVEMBER 2020 **Sub. Code: 1901**

(AUGUST 2020 SESSION)

M.Ch. – ENDOCRINE SURGERY

Paper I – BASIC SCIENCES AS APPLIED TO ENDOCRINE SURGERY

Q.P. Code: 181901

Time: Three Hours **Maximum: 100 Marks**

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

1. Describe the embryology and surgical anatomy of the parathyroid glands and its use in surgical approach to parathyroid disease.

2. Physiology of adrenocortical hormone secretion and its use in biochemical testing for adrenal cortical tumours.

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

1. Genetic alteration in calcium sensing receptor gene and clinical manifestations.
2. Thyroid peroxidase
3. Physiology of catecholamine synthesis
4. Surgical anatomy of the thymus
5. Histology of adrenal gland and its importance
6. Pituitary hormone synthesis and clinical syndromes.
7. Thyroglobulin estimation and interpretation in thyroid cancer follow up.
8. Nuclear medicine scans in evaluation of hyperthyroidism
9. External branch of superior laryngeal nerve.
10. Arterial stimulation and venous sampling for hyperinsulinemic hypoglycemia syndrome

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(MCH 0821) AUGUST 2021 **Sub. Code: 1901**

M.Ch. – ENDOCRINE SURGERY

Paper I – BASIC SCIENCES AS APPLIED TO ENDOCRINE SURGERY

Q.P. Code: 181901

Time: Three Hours **Maximum: 100 Marks**

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

1. Describe the embryology and surgical anatomy of the adrenal medulla and para-ganglia system and its use in surgical approach to tumours arising from them.

2. Physiology of thyroid hormone synthesis and secretion and its role in the biochemical evaluation of hyperthyroidism.

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

1. Goitrogenous chemicals and foods.
2. rTSH and its use in thyroid cancer.
3. Calcium measurement and clinical interpretation.
4. Hypomagnesemia.
5. Ectopic ACTH syndrome.
6. Physiology of insulin secretion.
7. PTH molecular structure and biochemical assay.
8. Head and neck paraganglioma.
9. Somatostatin receptor scintigraphy.
10. Catecholamine metabolites and measurement techniques.

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

(MCH 0822) **AUGUST 2022** **Sub. Code: 1901**

M.Ch. – ENDOCRINE SURGERY

Paper I – BASIC SCIENCES AS APPLIED TO ENDOCRINE SURGERY

Q.P. Code: 181901

Time: Three Hours **Maximum: 100 Marks**

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

1. Describe the functional morphology of the adrenal cortex and highlight the physiological effects of corticosteroids synthesised in the adrenal gland.

2. Describe the islet cell anatomy and briefly highlight the hormones secreted by the beta cells.

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

1. Serum Thyroglobulin.
2. External branch of superior laryngeal nerve.
3. Urinary iodine estimation.
4. Molecular carcinogenesis of radiation induced thyroid cancer.
5. BRAF.
6. miRNAs in thyroid cancer.
7. Adrenal venous drainage and its surgical implications.
8. Biosynthesis of catecholamines.
9. Glucagon.
10. Biochemical diagnosis of Insulinoma.

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

(MCH 0124) **JANUARY 2024** **Sub. Code: 1901**

M.Ch. – ENDOCRINE SURGERY

PAPER I – BASIC SCIENCES AS APPLIED TO ENDOCRINE SURGERY (APPLIED ANATOMY, PHYSIOLOGY, BIOCHEMISTRY, PHARMACOLOGY AND PATHOLOGY)

Q.P. Code: 181901

Time: Three Hours **Maximum: 100 Marks**

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

1. Physiology of steroidogenesis and with reference to enzyme deficiency.

2. Surgical Anatomy of trachea and Larynx in relation to Thyroid and Parathyroid surgery.

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

1. Genetics of Pheochromocytoma and Paraganglioma.
2. Development of Parathyroid Gland and Anatomical Variants.
3. Physiology of Calcitonin and Therapeutic Uses.
4. Progestereone and Breast Cancer.
5. Cellular Mechanisms of Bone Remodeling.
6. Gastrin – Pathophysiology of Hypersecretion.
7. ANDI (Aberrations in Normal Development and Involution) of Breast.
8. Anatomy of Islet of Langerhans.
9. Sentinel Lymph Node Biopsy in Breast Carcinoma.
10. Hypothalamo Pituitary Axis.

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