

April-2001

[KD 126]

Sub. Code : 2024

M.D. DEGREE EXAMINATION.

Branch V — Physiology

(Revised Regulations)

Paper IV — HISTORY OF MEDICINE, RECENT
ADVANCES IN CLINICAL PHYSIOLOGY,
ENDOCRINOLOGY AND REPRODUCTIVE SYSTEM

Time : Three hours (MAR - 2001) Maximum : 100 marks

Answer ALL questions.

Draw diagrams wherever necessary.

1. Discuss the physiology of growth and its disorders.
(25)
 2. Describe the physiology of coitus and add a note on
Impotency. (25)
 3. Write briefly on : (5 × 10 = 50)
 - (a) Addison's disease.
 - (b) Muller's Doctrine of Nerve energies.
 - (c) Chiari — Frommel Syndrome.
 - (d) Foeto-placental unit.
 - (e) Insulin receptors.
-

November-2001

[KE 126]

Sub. Code : 2024

M.D. DEGREE EXAMINATION.

(Revised Regulations)

Branch V — Physiology

Paper IV — HISTORY OF MEDICINE, RECENT
ADVANCES IN CLINICAL PHYSIOLOGY,
ENDOCRINOLOGY AND REPRODUCTIVE SYSTEM

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

Draw diagrams wherever necessary.

1. Discuss various types of neuro-endocrine regulations. (25)
 2. Discuss in detail the dynamic interrelationship between hypothalamus, anterior pituitary and ovary. (25)
 3. Write briefly on : (5 × 10 = 50)
 - (a) Pineal gland.
 - (b) J.E. Purkinje.
 - (c) Evoked potentials.
 - (d) Foeto-placental unit.
 - (e) C-peptide.
-

March-2002

[KG 126]

Sub. Code : 2024

M.D. DEGREE EXAMINATION.

(Revised Regulations)

Branch V — Physiology

Paper IV — HISTORY OF MEDICINE, RECENT
ADVANCES IN CLINICAL PHYSIOLOGY,
ENDOCRINOLOGY AND REPRODUCTIVE SYSTEM

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

Draw diagrams wherever necessary.

1. Write an essay on the mechanisms of action of hormones on their target cells. (25)
 2. Describe the chemistry, biosynthesis, mechanism of action and functions of oestrogens in humans. (25)
 3. Write briefly on : (5 × 10 = 50)
 - (a) Somatostatin.
 - (b) Factors controlling insulin release.
 - (c) Puberty.
 - (d) Alzheimer's disease.
 - (e) Pavlov.
-

September-2002

[KH 126]

Sub. Code : 2024

M.D. DEGREE EXAMINATION.

(Revised Regulations)

Branch V — Physiology

Paper IV — HISTORY OF MEDICINE, RECENT
ADVANCES IN CLINICAL PHYSIOLOGY
ENDOCRINOLOGY AND REPRODUCTIVE SYSTEM

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

Draw diagrams wherever necessary.

1. Describe synthesis, storage, release, transportation and metabolism of Triiodothyronine and Thyroxine. (25)
 2. Describe pituitary and gonadal controls of various events of uterine and vaginal cycles. (25)
 3. Write briefly on : (5 × 10 = 50)
 - (a) Somatomedins
 - (b) Spermatogenesis
 - (c) Positron emission tomography
 - (d) Acquired immune deficiency syndrome
 - (e) Claude Bernard.
-

[KI 126]

Sub. Code : 2024

M.D. DEGREE EXAMINATION.

(Revised Regulations)

Branch V — Physiology

**Paper IV — HISTORY OF MEDICINE, RECENT
ADVANCES IN CLINICAL PHYSIOLOGY,
ENDOCRINOLOGY AND REPRODUCTIVE SYSTEM**

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

Draw diagrams wherever necessary.

1. Discuss the organization and functions of the placenta. What is its influence in fetal and maternal physiology? (25)
 2. Discuss the changes in body mechanisms during thyroid dysfunction and the methods of investigating them. (25)
 3. Write briefly on : (5 × 10 = 50)
 - (a) E.H. Starling
 - (b) Pathophysiology of obesity
 - (c) Permissive action
 - (d) Paracrine secretion
 - (e) Pseudohermaphroditism.
-

[KJ 126]

Sub. Code : 2024

M.D. DEGREE EXAMINATION.

(Revised Regulations)

Branch V — Physiology

Paper IV — HISTORY OF MEDICINE, RECENT
ADVANCES IN CLINICAL PHYSIOLOGY,
ENDOCRINOLOGY AND REPRODUCTIVE SYSTEM

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.

Answer ALL questions.

Draw suitable diagrams wherever necessary.

1. Discuss the recent advances in various
contraceptive methods and explain the physiological
basis of their action. (15)

2. Explain the actions and mechanism of action of
Insulin. Discuss in detail recent advances in the
treatment of Diabetes Mellitus and their physiologic
basis. (15)

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

- (a) Pituitary Gonadal axis in males.
- (b) Milk ejection reflex.
- (c) Actions of Aldosterone.
- (d) Acromegaly and Gigantism.
- (e) Placental hormones.
- (f) Actions of Glucocorticoids.
- (g) Pathophysiology of ageing.
- (h) E.H. Starling.
- (i) Permissive action.
- (j) Pathophysiology of obesity.

[KL 126]

Sub. Code : 2024

M.D. DEGREE EXAMINATION.

(Revised Regulations)

Branch V — Physiology

Paper IV — HISTORY OF MEDICINE, RECENT
ADVANCES IN CLINICAL PHYSIOLOGY,
ENDOCRINOLOGY AND REPRODUCTIVE SYSTEM

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) Explain the physiological basis of the various
drugs used to treat peptic ulcers.

(2) Describe the role of hormones in the
development and functioning of the mammary gland

(a) during pregnancy (b) Lactation.

II. Write short answers : (10 × 5 = 50)

- (a) Sexual differentiation
- (b) Investigations to diagnose gall bladder diseases
- (c) Regulation of aldosterone secretion
- (d) Clinical use of streptokinase
- (e) Features of hypovolemic shock
- (f) Give a flow chart to show how insulin deficiency leads to acidosis and dehydration
- (g) Actions of testosterone in an ADULT male
- (h) Mechanisms by which oral contraceptive pills act
- (i) Steps in synthesis of thyroid hormones
- (j) Renal actions of parathyroid hormone.

[KM 126]

Sub. Code : 2024

II. Write short notes on :

(10 × 5 = 50)

M.D. DEGREE EXAMINATION.

(Revised Regulations)

Branch V — Physiology

**Paper IV — HISTORY OF MEDICINE, RECENT
ADVANCES IN CLINICAL PHYSIOLOGY,
ENDOCRINOLOGY AND REPRODUCTIVE SYSTEMS**

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 developments in the understanding of cardiovascular physiology.

(2) Describe the physiological role of the pineal gland.

(a) Chromosomal aberrations

(b) Somatostatin.

(c) Alzheimer's disease.

(d) Obesity : types, causes.

(e) Pathophysiology of :

(i) Cushing's disease

(ii) Adrenogenital syndrome.

(f) Defibrillators.

(g) Mechanism of ADH action.

(h) Thermoregulation in newborns.

(i) **Tropoblastic functions.**

(j) Galactopoiesis.

[KP 126]

Sub. Code : 2024

M.D. DEGREE EXAMINATION.

Branch V — Physiology

**Paper IV — HISTORY OF MEDICINE, RECENT
ADVANCES IN CLINICAL PHYSIOLOGY,
ENDOCRINOLOGY AND REPRODUCTIVE SYSTEMS**

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 :

**(1) Discuss the contribution of following
physiologists,**

(a) Sherrington.

(b) Einthoven.

(c) Banting and Best. (20)

**(2) Describe the endocrine basis of lactation and
suppression of lactation. (15)**

**(3) Discuss about physiological dysjunction
arising from Genetic disorders. (15)**

II. Write Short notes on :

(6 × 5 = 30)

(a) Lefitins.

(b) Wolff chaikoff effect.

(c) Gold blatt kidneys.

(d) Recombinant DNA technology.

(e) Adrenogenital syndrome.

(f) Combined pill.

[KQ 123]

Sub. Code : 2023

M.D. DEGREE EXAMINATION.

Branch V — Physiology

HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS

Common to

Paper IV — (Old/New/Revised Regulations)

(Candidates admitted from 1988–89 onwards)

and

Paper — IV (for candidates admitted from 2004–2005
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 :

(1) Discuss various functions of glucocorticoids.

Add a note on Cushing's syndrome. (20)

(2) Describe the role of hypothalamic-ovarian
axis in regulation of reproductive functions in females.

(15)

(3) Discuss the role of various evoked potentials
in the diagnosis neuromuscular dysfunctions. (15)

II. Write short notes on : (6 × 5 = 30)

(a) History of invention of ECG

(b) G proteins

(c) Voltage clamp technique

(d) Apoptosis

(e) Diabetes insipidus

(f) Insulin-glucagon ratio.

MARCH 2008

[KS 124]

Sub. Code : 2021

M.D. DEGREE EXAMINATION.

Branch V — Physiology

HISTORY OF MEDICINE, RECENT ADVANCES IN CLINICAL
PHYSIOLOGY ENDOCRINOLOGY AND REPRODUCTIVE
SYSTEMS

(Common to all candidates)

Q.P. Code : 202021

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

Draw diagrams wherever necessary.

- I. Essay questions : (2 × 20 = 40)
1. Define a Hormone. Classify and describe the mechanisms of action of each class.
 2. Discuss the contribution of the following physiologists.
 - (a) B.K. Anand
 - (b) J. Paintal
 - (c) Camillo Golgi
 - (d) W. Einthoven.
- II. Write Short notes on : (10 × 6 = 60)
1. Role of Mitochondria in Apoptosis.
 2. Echo cardiography.
 3. Sex determination-Role of chromosomes and hormones.
 4. Oral contraceptive pills.
 5. Glucose transporters.
 6. Synthesis of thyroid hormone.
 7. Bone growth.
 8. Phyto oestrogens.
 9. Plasma lipid.
 10. Heat shock proteins.
-

September 2008

[KT 124]

Sub. Code: 2021

M.D. DEGREE EXAMINATION

Branch V – Physiology

**Paper IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

(Common to all candidates)

Q.P. Code : 202021

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 hormones involved in calcium metabolism.
2. Discuss the contribution of the following physiologists.
 - a. Landsteiner.
 - b. Purleijnje.
 - c. Banting and Best.
 - d. Korotkov.

II. Write short notes on :

(10 X 6 = 60)

1. Addison's disease.
 2. Male infertility.
 3. Glucose transporters.
 4. Apoptosis.
 5. Milk ejection reflex.
 6. Cushing's syndrome.
 7. Alzheimer's disease.
 8. Sertoli cells.
 9. Voltage clamp technique.
 10. Tests for ovulation.
-

March 2009

[KU 124]

Sub. Code: 2021

M.D. DEGREE EXAMINATION

Branch V – PHYSIOLOGY

(Common to all candidates)

**Paper IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

Q.P. Code : 202021

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 hormonal regulation of blood glucose level.

2. Write briefly on:

- a) Cimetidine.
- b) Reynolds number.
- c) Blood brain barrier.
- d) Radio Immuno assay.

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

- 1. Thyroid function tests.
- 2. Cyclic – AMP.
- 3. Diabetes Insipidus.
- 4. Spermatogenesis.
- 5. Male contraceptives.
- 6. Biological clock.
- 7. Pregnancy tests.
- 8. Menopause.
- 9. Prolactin.
- 10. Oral hypoglycemic agents.

March 2010

[KW 124]

Sub. Code: 2021

M.D. DEGREE EXAMINATION

Branch V – PHYSIOLOGY

(Common to all candidates)

**Paper IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

Q.P. Code : 202021

Time : Three hours

Maximum : 100 marks

Draw suitable diagram wherever necessary.

Answer ALL questions.

I. Essay questions :

(2 x 20 = 40)

1. Discuss the physiology of adreno cortical hormones.
2. Write briefly on:
 - a. Brown fat.
 - b. Endothelium derived relaxing factor (EDRF).
 - c. Cardiac vector.
 - d. Leptin.

II. Write short notes on :

(10 x 6 = 60)

1. Peptic ulcer.
2. Artificial kidney.
3. IUCDs.
4. Coronary Angioplasty.
5. Erectile dysfunctions.
6. Nephrotic syndrome.
7. Nystagmus.
8. Vasectomy.
9. Conditioned reflexes.
10. Prostaglandins.

September 2010

[KX 124]

Sub. Code: 2021

M.D. DEGREE EXAMINATION

Branch V – Physiology

**Paper IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

(Common to all candidates)

Q.P. Code : 202021

Time : Three hours

Maximum : 100 marks

Draw suitable diagram wherever necessary.

Answer ALL questions.

I. Essay questions :

(2 X 20 = 40)

1. Discuss the manner in which William Harvey established that “Blood circulates in the body”. What were the lacunae left, which he speculated upon?
2. Discuss the hypothalamo-hypophyseal control of Ovulation and Spermatogenesis.

II. Write short notes on :

(10 X 6 = 60)

1. Role of prostaglandins in reproductive physiology.
2. Discuss the physiological basis of modern contraceptives.
3. Comparative physiology of reproductive cycle in human and lower animals.
4. Functions and biosynthesis of thyroxine and triiodothyronine.
5. Describe the hormones influencing blood calcium levels.
6. Neuroendocrine control of puberty.
7. How does thymus differ from other lymphoid tissues?
8. Stem cell therapy.
9. Apoptosis.
10. Theories of Aging.

[KY 124]

Sub. Code: 2021

M.D. DEGREE EXAMINATION
BRANCH V – PHYSIOLOGY
HISTORY OF MEDICINE, RECENT ADVANCES IN CLINICAL
PHYSIOLOGY, ENDOCRINOLOGY AND REPRODUCTIVE SYSTEMS
Q.P. Code : 202021

Time : 3 hours
(180 Min)

Maximum : 100 marks

Answer ALL questions in the same order.

	Pages (Max.)	Time (Max.)	Marks (Max.)
I. Essay:			
1. Describe in detail how blood glucose is regulated.	6	15	10
2. Describe the process of spermatogenesis.	6	15	10
II. Short Questions:			
1. Harvey Cushing.	3	8	5
2. Hypothalmo-hypophyseal portal axis.	3	8	5
3. How does a cretin differ from pituitary dwarf?	3	8	5
4. Physiological role of prolactin.	3	8	5
5. Action of catecholamines in CVS.	3	8	5
6. Prostaglandins.	3	8	5
7. Parturition.	3	8	5
8. Oral contraceptive pills.	3	8	5
III. Reasoning Out:			
1. Glucocorticoids stimulate the breakdown of proteins in muscles and synthesis of protein in liver. Explain the significance of these effects.	4	10	5
2. Explain the physiologic basis for administering a posterior pituitary extract to induce or facilitate labour.	4	10	5
3. A patient with severe vomiting showed carpopedal spasm especially when the blood flow to the limb was restricted. Reason out.	4	10	5
4. A male athlete taking large amount of an androgenic steroid becomes sterile. Explain.	4	10	5
IV. Very Short Answers :			
1. Synthesis of thyroid hormone.	1	4	2
2. Explain synergistic effect of hormone with example.	1	4	2
3. How is the Iodine pump in thyroxine synthesis inhibited?	1	4	2
4. What are somatomedins?	1	4	2
5. Mechanism of action of lipid soluble hormones.	1	4	2
6. Cushingoid state.	1	4	2
7. Who isolated insulin in pure form?	1	4	2
8. What is Barr body?	1	4	2
9. Blood testis barrier.	1	4	2
10. Rhythm method of contraception.	1	4	2

October 2011

[KZ 124]

Sub. Code: 2021

M.D. DEGREE EXAMINATION

BRANCH V –PHYSIOLOGY

**HISTORY OF MEDICINE, RECENT ADVANCES IN CLINICAL PHYSIOLOGY,
ENDOCRINOLOGY AND REPRODUCTIVE SYSTEMS**

Q.P. Code : 202021

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

Maximum : 100 marks

Answer ALL questions in the same order.

I. Essay :

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

- | | | | |
|--|---|----|----|
| 1. Discuss the factors needed for growth. Describe the contribution of each during prenatal and postnatal development. | 6 | 15 | 10 |
| 2. Describe the role of pituitary and hypothalamus in regulation of ovarian function. | 6 | 15 | 10 |

II. Short Questions:

- | | | | |
|--|---|---|---|
| 1. Starling. | 3 | 8 | 5 |
| 2. Human chronic gonadotrophin. | 3 | 8 | 5 |
| 3. Tests of ovulation. | 3 | 8 | 5 |
| 4. Formation and functions of corpus luteum. | 3 | 8 | 5 |
| 5. Adrenogenital syndrome. | 3 | 8 | 5 |
| 6. Pancreatic polypeptide. | 3 | 8 | 5 |
| 7. Actions of estrogen. | 3 | 8 | 5 |
| 8. Functions of parathormone. | 3 | 8 | 5 |

III. Reasoning Out:

- | | | | |
|--|---|----|---|
| 1. What is testicular feminizing syndrome? What causes it? | 4 | 10 | 5 |
| 2. What is Hashimoto's thyroiditis? What is the cause of it? | 4 | 10 | 5 |
| 3. What is the physiological cause of microvascular? | 4 | 10 | 5 |
| 4. Why is dopamine preferred to treat cardiogenic shock? | 4 | 10 | 5 |

IV. Very Short Answers :

- | | | | |
|---|---|---|---|
| 1. What is the effect of hypophysectomy on uterus? | 1 | 4 | 2 |
| 2. Composition of semen. | 1 | 4 | 2 |
| 3. Actions of prolactin. | 1 | 4 | 2 |
| 4. Effect of glucocorticoids on blood cells. | 1 | 4 | 2 |
| 5. Name four substances with insulin like activity in human plasma. | 1 | 4 | 2 |
| 6. What is the function of GLUT 2? Give the major sites of Expression of GLUT 2. | 1 | 4 | 2 |
| 7. Functions of relaxin. | 1 | 4 | 2 |
| 8. Why the fetus is not rejected by mother. | 1 | 4 | 2 |
| 9. Name two factors that stimulate and two factors that inhibit rennin secretion. | 1 | 4 | 2 |
| 10. Male Pseudohermaphroditism. | 1 | 4 | 2 |

APRIL 2012

[LA 124]

Sub. Code: 2021

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

HISTORY OF MEDICINE, RECENT ADVANCES IN CLINICAL PHYSIOLOGY,
ENDOCRINOLOGY AND REPRODUCTIVE SYSTEMS

Q.P. Code : 202021

Time : 3 hours
(180 Min)

Maximum : 100 marks

Answer ALL questions in the same order.

	Pages (Max.)	Time (Max.)	Marks (Max.)
I. Essay:			
1. Discuss the dynamics of ovarian function. Add a note on tests for Ovulation.	9	15	10
2. Name the hormones secreted from adrenal cortex and discuss synthesis and action of cortisol.	9	15	10
II. Short Questions:			
1. Write about the pathophysiology of Conn's syndrome.	3	8	5
2. Discuss the role of parathormone in mineral metabolism.	3	8	5
3. Discuss about the hormonal changes that take place during Lactation.	3	8	5
4. Discuss about the significance of the gene on Y chromosome.	3	8	5
5. Write about the immunological functions of thymus.	3	8	5
6. Discuss neuroendocrine reflex.	3	8	5
7. Write about spermatogenesis.	3	8	5
8. Elaborate on the endometrial changes that take place during Menstrual cycle.	3	8	5
III. Reasoning Out:			
1. Patients with thyrotoxicosis are more responsive to iodide than normal individuals. Why?	5	10	5
2. In severe diabetes there is a negative nitrogen balance. Why?	5	10	5
3. Disturbance of ECF volume is primarily caused by disturbance of sodium balance. How?	5	10	5
4. Fertility is suppressed by hormonal oral pills. How?	5	10	5
IV. Very Short Answers :			
1. What is Testicular feminizing syndrome?	1	4	2
2. Write about the functions of acrosomes.	1	4	2
3. What is the significance of insulin glucagon molar ratio?	1	4	2
4. Name the oral hypoglycemic agents.	1	4	2
5. What are the functions of inhibin?	1	4	2
6. Name the pregnancy diagnostic tests.	1	4	2
7. What is behavioural growth?	1	4	2
8. What are the functions of prostaglandins?	1	4	2
9. What is precocious puberty?	1	4	2
10. What is permissive action?	1	4	2

[LB 124]

OCTOBER 2012

Sub. Code: 2021

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

HISTORY OF MEDICINE, RECENT ADVANCES IN CLINICAL PHYSIOLOGY,
ENDOCRINOLOGY AND REPRODUCTIVE SYSTEMS

Q.P. Code : 202021

Time : 3 hours
(180 Min)

Maximum : 100 marks

Answer ALL questions in the same order.

	Pages (Max.)	Time (Max.)	Marks (Max.)
I. Essay:			
1. Discuss the recent advances in the field of cardiac physiology.	9	15	10
2. Discuss the neuro endocrine regulation.	9	15	10
II. Short Questions:			
1. Discuss the pathophysiology of obesity.	3	8	5
2. Describe the major disease of the thyroid & their signs and Symptoms.	3	8	5
3. What is the physiological effect of somatostatin in the pancreas.	3	8	5
4. Discuss the homeostasis of ECF through endocrine control.	3	8	5
5. What is effect of glucocorticoid, growth hormone and growth factor on calcium metabolism.	3	8	5
6. Discuss the hormonal replacement therapy	3	8	5
7. Discuss the seminal analysis and clinical importance.	3	8	5
8. Name the placental hormone and its functions.	3	8	5
III. Reasoning Out:			
1. Discuss the administration of β adrenergic blocker causes dramatic remission of many of the symptoms of thyrotoxicosis.	5	10	5
2. Why children with cretinism have short stature and mental Insufficiency	5	10	5
3. "Female hypothalamus and the male hypothalamus" What are the differences between the hypothalamus of the 2 sexes and how these differences are produced ?	5	10	5
4. Discuss ketosis is more common and severe in type 1 than type 2 diabetes	5	10	5
IV. Very Short Answers :			
1. What is Wolff-Chaikoff effect?	1	4	2
2. What is aldosterone escape?	1	4	2
3. Define foetal graft	1	4	2
4. Functions of Streptokinase.	1	4	2
5. What is PTH r^P & its functions	1	4	2
6. What is the function of acrosome ?	1	4	2
7. What is Barr body?	1	4	2
8. How is Iodine pump in thyroxin synthesis inhibited?	1	4	2
9. What is cushingoid state?	1	4	2
10. Name the glucose transporters.	1	4	2

(LC 124)

APRIL 2013

Sub. Code: 2021

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

**HISTORY OF MEDICINE, RECENT ADVANCES IN CLINICAL
PHYSIOLOGY, ENDOCRINOLOGY AND REPRODUCTIVE SYSTEMS**

Q.P. Code : 202021

Time: Three Hours

Maximum: 100 marks

I. Essay:

(2X10=20)

1. Discuss in detail about the hormones involved in calcium homeostasis
2. Discuss in detail about the secretion, functions and regulation of testosterone

II. Short Questions:

(8X5=40)

1. Write about magnetic radio immunoassay.
2. Write about the contributions of Claude Bernard.
3. Discuss about neuro endocrine reflex.
4. Discuss about the hyopsecretion of thyroid gland
5. Discuss the mechanism of action and functions of aldosterone.
6. Discuss the effect of insulin on growth.
7. Explain the hypothalamo pituitary ovarian axis.
8. Discuss the regulation and abnormalities of growth hormone secretion.

III. Reasoning Out:

(4X5=20)

1. Glucocorticoids suppress rejection in organ transplantation.
2. Women who nurse regularly have amenorrhoea for 25-30 weeks.
3. Body fitness prolongs life. Explain.
4. Oral pills- hormonal suppression of fertility

IV. Very Short Answers:

(10X2=20)

1. What are the tests for ovulation?
2. Write about testicular feminizing syndrome.
3. Define puberty.
4. Name the hormones related to cancer.
5. What is achondroplasia?
6. Name the hormones secreted by kidney and heart.
7. What is Addisonian crisis?
8. Name any two pigment abnormality conditions and the hormones related to it?
9. What are the functions of endothelins?
10. Name any two antithyroid substances that suppress thyroid secretion.

[LD 124]

OCTOBER 2013

Sub. Code: 2021

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

**HISTORY OF MEDICINE, RECENT ADVANCES IN CLINICAL PHYSIOLOGY,
ENDOCRINOLOGY AND REPRODUCTIVE SYSTEMS**

Q.P. Code : 202021

Time: Three Hours

Maximum: 100 marks

I. Essay:

(2 x 10 = 20)

1. Describe the phases of menstrual cycle. Explain various changes that occur in the uterus and ovaries during the cycle. Discuss its hormonal regulation.
2. Describe the synthesis of thyroid hormones. Explain the actions of thyroid hormones.

II. Short Questions:

(8 x 5 = 40)

1. What are the indicators of ovulation?
2. What is neuro-endocrine reflex? Explain using an example.
3. List the effects of growth hormone on metabolism.
4. List the steps involved in spermatogenesis.
5. List the contributions of Ernest Starling to Physiological sciences.
6. 2010 Nobel Prize in Physiology or Medicine was awarded for the development of *in vitro* fertilization technique. Write a short note on *in vitro* fertilization.
7. What is meant by the terms pluripotency and totipotency. Discuss the therapeutic uses of stem cells.
8. List the important discoveries of Charles Sherrington in the field of neuroscience.

III. Reasoning Out:

(4 x 5 = 20)

1. Calcium is required for muscle contraction. However, hypocalcemia results in tetany. Explain why.
2. Patients with diabetic ketoacidosis often develop hypokalemia on treatment with insulin. Explain why.
3. Patients with hyperaldosteronism DO NOT develop edema despite sodium and water retention caused by mineralocorticoids. Explain why.
4. Gonadal sex of a fetus is determined by the Y-chromosome. Explain how.

(PTO)

IV. Very Short Answers:

(10 x 2 = 20)

1. What is meant by 'permissive effect' of glucocorticoids?
2. List any four hormones secreted by the adipocytes.
3. List any four hormones that act through inositol triphosphate-mediated signal transduction.
4. Differentiate between 'Cushing's disease' and 'Cushing's syndrome'.
5. List the functions of progesterone.
6. Peter Agre won the 2003 Chemistry Nobel Prize for the discovery of aquaporins.
What is the role of aquaporins in the maintenance of water balance by the kidneys?
7. What is the role of parathyroid gland Calcium Receptors (CaR) on calcium homeostasis?
8. How does exercise help in glycemic control in patients with diabetes mellitus?
9. List any four hormones that are released in response to hypoglycemia.
10. What is the cause for hyperpigmentation of skin and mucous membranes in Addison disease?

[LE 124]

APRIL 2014

Sub. Code: 2021

**M.D. DEGREE EXAMINATION
BRANCH V – PHYSIOLOGY
PAPER IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

Q.P. Code :202021

Time : Three hours

Maximum : 100 marks

I. Essay:

(2X10=20)

1. Describe the various actions of growth hormone in human body.
2. Describe the actions of testosterone in males.

II. Short Questions:

(8X5=40)

1. Natriuretic Hormones.
2. Functions of Prolactin.
3. Amniocentesis.
4. Claude Bernard.
5. Leptin.
6. Glucose Transporters(GLUT).
7. Actions of parathyroid hormone.
8. Relaxin.

II. Reasoning Out:

(4X5=20)

1. The cause for exophthalmos in Grave's disease.
2. In uncontrolled diabetes, plasma is often lipemic. Why?
3. Why postmenopausal women are more prone to osteoporosis?
4. Growth hormone is diabetogenic. Why?

IV. Very Short Questions:

(10X2=20)

1. What is myxoedema madness?
2. What is the action of pancreatic polypeptide?
3. What is precocious pseudopuberty?
4. What is catch-up growth?
5. What are hot-flushes?
6. What fertilization of ovum occurs in fallopian tube?
7. What is capacitation?
8. What is the effect of diet on thyroid hormones?
9. What is the action of glucagon-like polypeptide 1(GLP-1)?
10. What is 'etiocolanalone fever'?

[LF 124]

OCTOBER 2014

Sub. Code: 2021

**M.D. DEGREE EXAMINATION
BRANCH V – PHYSIOLOGY**

**PAPER IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

Q.P. Code :202021

Time : Three Hours

Maximum : 100 marks

I. Essay:

(2 x 10 = 20)

1. Discuss in detail the physiological responses of the endocrine system to stress.
2. What is lactation? How is it initiated, maintained and ejected with the help of hormones? Add a note on Gynaecomastia.

II. Short Questions:

(8 x 5 = 40)

1. Adaptation control mechanism.
2. RIA.
3. Erectile dysfunction.
4. Oral hypoglycemic agents.
5. Non dysjunction of sex chromosomes during meiosis.
6. Physiological basis of the Therapeutic uses of Cortisol.
7. Cutaneous markers in endocrine disorders.
8. Von Beckesy.

III. Reasoning Out:

(4 x 5 = 20)

1. Pituitary tumors produce Tubular vision.
2. Iodine that inhibits thyroid function under certain conditions will result in Wolff Chaikoff effect.
3. Excess glucocorticoids inhibit the inflammatory response to tissue injury.
4. Administration of Adrenaline after α_1 blocker produces only a fall in B.P.

IV. Very Short Questions:

(10 x 2 = 20)

1. Define conception.
2. Mechanism of action of Oral Contraceptive pills.
3. What is behavioural growth?
4. What is steroidogenesis?
5. C Peptide.
6. Aldosterone escape.
7. Endorphins.
8. Hormone binding proteins.
9. Insulin Glucagon Molar ratio.
10. Significance of HbA_{1c}.

[LG 124]

APRIL 2015

Sub. Code: 2021

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

**PAPER IV – HISTORY OF MEDICINE, RECENT ADVANCES IN CLINICAL
PHYSIOLOGY, ENDOCRINOLOGY AND REPRODUCTIVE SYSTEMS**

Q.P. Code : 202021

Time: Three Hours

Maximum: 100 marks

Answer ALL questions

I. Essay:

(2 x 10 = 20)

1. Write an essay on contraception in females. What is the physiological basis of lactational amenorrhea?
2. Write a detailed answer on calcium homeostasis. What is latent tetany?

II. Short Questions:

(8 x 5 = 40)

1. Banting and Best.
2. Pathophysiology of obesity.
3. Spermatogenesis.
4. Recombinant DNA technology.
5. Synthesis of thyroid hormones.
6. Types of diabetes.
7. Primary aldosteronism.
8. Ovarian changes in menstrual cycle.

III. Reasoning Out:

(4 x 5 = 20)

1. Role of exercise in diabetes mellitus.
2. Yellowish discoloration of skin in myxedema- comment.
3. Glucocorticoids in bacterial infections are dangerous – Why?
4. Why foetus is not rejected by the mother?

IV. Very Short Answers:

(10 x 2 = 20)

1. Aquaporins.
2. Neuropeptide Y.
3. Mullerian inhibiting factor.
4. Functions of Dihydrotestosterone.
5. Wolff Chaikoff effect.
6. List the tests of pregnancy.
7. Clinical use of streptokinase.
8. Pituitary gonadal axis in males.
9. Addisonian crisis.
10. Paracrine secretion.

[LI 124]

APRIL 2016

Sub. Code: 2021

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

**PAPER IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

Q.P. Code :202021

Time : Three Hours

Maximum : 100 Marks

I. Essay:

(2 x 10 = 20)

1. Write a detailed answer on calcium homeostasis. What is latent tetany?
2. Describe the hypothalamo pituitary ovarian axis. Add a note on tests for ovulation.

II. Short Questions:

(8 x 5 = 40)

1. Foetal placental unit.
2. E.H.Starling.
3. Pineal gland.
4. Lipid soluble hormones.
5. Stem cell therapy.
6. Somatomedins.
7. Addison's disease.
8. Thyroid function tests.

III. Reasoning Out:

(4 x 5 = 20)

1. Suppression of female ovarian cycle in nursing mothers.
2. Iodine deficiency causes goiter.
3. Polyphagia in diabetics.
4. Insulin is called hormone of abundance.

IV. Very Short Questions:

(10 x 2 = 20)

1. Insulin Glucagon ratio.
2. Sertoli cells.
3. Dihydrotestosterone.
4. Paracrine secretion.
5. Neuroendocrine reflex.
6. Prostaglandins.
7. Cushing's disease.
8. Defibrillators.
9. Aquaporins.
10. Pancreatic polypeptide.

[LJ 124]

OCTOBER 2016

Sub. Code: 2021

**M.D. DEGREE EXAMINATION
BRANCH V – PHYSIOLOGY
PAPER IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

Q.P. Code :202021

Time : Three Hours

Maximum : 100 Marks

I. Essay: (2 x 10 = 20)

1. Explain in detail the mechanism of action of hormones with suitable examples.
2. Explain the physiological changes occurring during normal pregnancy.

II. Short Questions: (8 x 5 = 40)

1. Blood Testis barrier.
2. Foetoplacental unit.
3. Hormones related to cancer.
4. Ghrelin.
5. Bioassay.
6. Metabolic Syndrome.
7. Respiratory adjustments after birth of the baby.
8. Chiari Frommel Syndrome.

III. Reasoning Out: (4 x 5 = 20)

1. Protein Bound Iodine is an index to assess Thyroid function.
2. Precocious puberty causes dwarfism.
3. Oral Contraceptive pills prevent pregnancy.
4. Perimetry indicated in Acromegaly.

IV. Very Short Questions: (10 x 2 = 20)

1. What do you mean by Physiological Anaemia of Pregnancy?
2. Why ovarian cycles are suppressed during lactation?
3. What do you mean by Acromicria?
4. What are Herring bodies?
5. What do you mean by GIFT?
6. What is the action of ENaCs?
7. Importance of Chorionic Villous Sampling.
8. Define Menopause.
9. Functions of Sertoli cells.
10. Importance of Barr Body.

[LK 124]

MAY 2017

Sub. Code: 2021

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

**PAPER IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

Q.P. Code :202021

Time : Three Hours

Maximum : 100 Marks

I. Essay:

(2 x 10 = 20)

1. What is Diabetes Insipidus (DI)? What are the different types of DI?
2. Write an essay on contraception in females. What is the physiological basis of lactational amenorrhea?

II. Short Questions:

(8 x 5 = 40)

1. Insulin receptors.
2. Hormones involved in calcium metabolism.
3. Starling and Bayliss.
4. Recombinant DNA technology.
5. Testicular counter current mechanism.
6. Types of dwarfism.
7. Cryptorchidism.
8. Puberty.

III. Reasoning Out:

(4 x 5 = 20)

1. 21 Hydroxylase deficiency causes hypovolemia.
2. Iodine deficiency causes goiter.
3. Hyperventilation aggravates carpopedal spasm.
4. Dopamine is preferred in treating cardiogenic shock.

IV. Very Short Questions:

(10 x 2 = 20)

1. Conn's syndrome.
2. Radioimmunoassay.
3. Action of adrenal androgens.
4. Role of oxytocin in males.
5. C peptide.
6. Functions of acrosomes.
7. Menopause.
8. Coronary angioplasty.
9. Hashimoto's thyroiditis.
10. Barr body.

[LL 124]

OCTOBER 2017

Sub. Code: 2021

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

**PAPER IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

Q.P. Code :202021

Time : Three Hours

Maximum : 100 Marks

I. Essay:

(2 x 10 = 20)

1. Write an essay on Thyroid dysfunction.
2. Describe in detail the Hypothalamo Hypophyseal Control.

II. Short Questions:

(8 x 5 = 40)

1. Charles Sherrington's contribution to Neurophysiology.
2. Hermaphroditism.
3. Pheochromocytoma.
4. Metabolic effects of Growth hormone.
5. Adrenogenital Syndrome.
6. Endocrine regulation of Spermatogenesis.
7. Hyperparathyroidism.
8. Glucagon.

III. Reasoning Out:

(4 x 5 = 20)

1. Glucocorticoids excess may lead to Osteoporosis.
2. Infertility in Cryptorchidism.
3. Cutaneous pigmentation and diffuse skin tanning in Addison's disease.
4. What is Aldosterone escape? Give Reason.

IV. Very Short Questions:

(10 x 2 = 20)

1. Electromyography.
2. Anti-inflammatory and anti-allergic effects of Glucocorticoids.
3. Catecholamines.
4. C – Peptide.
5. Involutional Osteoporosis.
6. Leptin.
7. Calcitonin.
8. Nephrogenic Diabetes Insipidus.
9. LH (Luteinising Hormone) Surge.
10. Artificial kidney.

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

**PAPER IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

Q.P. Code :202021

Time : Three Hours

Maximum : 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. Discuss in detail of hormonal regulation of blood glucose level. Add a note on effects of hyperglycemia.
2. Discuss the dynamics of ovarian function. Add a note on pregnancy tests.

II. Short notes:

(10 x 5 = 50)

1. Pineal gland.
2. Circadian rhythm.
3. J.Paintal.
4. Claud Bernard.
5. Extra corporeal membrane oxygenation (ECMO).
6. Stem cell therapy.
7. Formation and function of corpus luteum.
8. Neuroendocrine reflexes.
9. Pathophysiology of ageing.
10. Heat shock proteins.

III. Reasoning Out:

(4 x 5 = 20)

1. Oral pills- hormonal suppression of fertility.
2. Hypocalcaemia results in tetany. Explain.
3. Gonadal sex of a fetus is determined by the Y-chromosome. Explain.
4. The cause for exophthalmos in Grave's disease.

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

**PAPER IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

Q.P. Code: 202021

Time : Three Hours

Maximum : 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. a) Describe the main calcium pools in the body.
b) Explain how plasma calcium Concentration is controlled?
c) Describe the consequences of abnormal calcium control.
2. a) Describe the stages of labour.
b) Explain the mechanism responsible for Parturition.
c) Describe the causes for infertility.

II. Short notes:

(10 x 5 = 50)

1. Regulation of glucocorticoid secretion.
2. Graves disease.
3. Regulation of prolactin secretion.
4. Sports anaemia.
5. Insulin glucagon molar ratio.
6. Addisonian crisis.
7. Regulation of Growth hormone secretion.
8. Sex chromatin.
9. FG.Banting and Charles H Best's contribution to medicine.
10. Wolff-Chaikoff effect.

III. Reasoning Out:

(4 x 5 = 20)

1. Growth hormone has 'Acute Insulin' metabolic effects.
2. Sulfonyl ureas have a therapeutic role only in type2 Diabetes.
3. Mini pills' do not effectively inhibit ovulation like combination pills.
4. Administration of Thiocyanate causes inhibition of iodide trapping Mechanism.

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

**PAPER IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

Q.P. Code: 202021

Time : Three Hours

Maximum : 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. Discuss in detail about the neuro - endocrine control of menstrual cycle.
Add a note on effects of menopause.
2. Discuss in detail about calcium homeostasis. What is latent tetany?

II. Short notes:

(10 x 5 = 50)

1. Tests for ovulation.
2. Pathophysiology of obesity.
3. Growth inhibitors.
4. In-vitro fertilization.
5. Patch clamp technique.
6. B.K. Anand.
7. Camillo Golgi.
8. Glucose transporters.
9. Hypogonadism in males.
10. Feto-placental unit.

III. Reasoning Out:

(4 x 5 = 20)

1. Role of exercise in diabetes mellitus.
2. Postmenopausal women are more prone to osteoporosis. Explain.
3. Patients with hyperaldosteronism do not develop oedema despite sodium and water retention caused by mineralocorticoids.
4. Explain the administration of β adrenergic blockers in thyrotoxicosis.

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

**PAPER IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

Q.P. Code: 202021

Time : Three Hours

Maximum : 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. a) Describe how insulin secretion is regulated.
b) Explain the metabolic actions of Insulin.
c) Describe the problems caused by abnormal carbohydrate and fat metabolism due to insulin deficiency.
2. a) Explain the major neural and hormonal changes during stress response.
b) What are the specific and nonspecific actions of stressors on the body?

II. Short notes:

(10 x 5 = 50)

1. Regulation of Aldosterone secretion.
2. Calcitriol.
3. Hypothalamo pituitary testicular axis.
4. What are the 3 regimens of contraceptive pills and describe their actions?
5. Functions of Human Chorionic Gonadotropin.
6. Melatonin.
7. Bernardo Alberto Houssay's contribution to physiology.
8. Orexigenic factors.
9. Regulation of thyroid secretion.
10. Somatomedins.

III. Reasoning Out:

(4 x 5 = 20)

1. The excitability of nerve and muscle is increased by a fall in plasma Ca^{2+} .
2. Secondary oocyte completes the 2nd meiotic division only if it is fertilized.
3. Attention deficit hyperactivity disorder is common in individuals with thyroid hormone resistance.
4. Polyspermy is prevented by a change in membrane potential of ovum.

[LQ 124]

**AUGUST 2020
(MAY 2020 SESSION)**

Sub. Code: 2021

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

**PAPER IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

Q.P. Code: 202021

Time : Three Hours

Maximum : 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. Define a hormone. Classify and describe the mechanism of action of each class.
2. Describe the role of hormones in the development and functioning of mammary gland (a) during pregnancy and (b) Lactation

II. Short notes:

(10 x 5 = 50)

1. Sexual differentiation
2. Clinical use of streptokinase.
3. Role of clinical physiologists in the management of non-communicable diseases.
4. Actions of testosterone in adult male
5. W.Einthoven
6. Echocardiography
7. Biological clock
8. Vasectomy and no scalpel vasectomy
9. Prostaglandins
10. Bio-synthesis and functions of thyroid hormones

III. Reasoning Out:

(4 x 5 = 20)

1. Why is dopamine preferred to treat cardiogenic shock
2. What is Hashimoto's thyroiditis? What is the cause of it?
3. Disturbance of ECF volume is primarily caused by disturbance of sodium balance. How?
4. Why children with cretinism have short stature and mental Insufficiency

[LS 124]

**NOVEMBER 2020
(OCTOBER 2020 SESSION)**

Sub. Code: 2021

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

**PAPER IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

Q.P. Code: 202021

Time : Three Hours

Maximum : 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. Discuss the recent advances in the field of cardiac physiology and add a note on angioplasty.
2. Describe the role of hormones in the development and functioning of mammary gland (a) during pregnancy and (b) Lactation

II. Short notes:

(10 x 5 = 50)

1. Discuss hormonal replacement therapy
2. Discuss semen analysis and clinical importance.
3. Role of clinical physiologists in the management of non-communicable diseases.
4. Actions of testosterone in adult male
5. Ivan Pavlov
6. Capsule endoscopy
7. Biological clock
8. Role of yoga in life style modification
9. Prostaglandins
10. Bio-synthesis and functions of thyroid hormones

III. Reasoning Out:

(4 x 5 = 20)

1. In severe diabetes there is a negative nitrogen balance. Why?
2. What is Hashimoto's thyroiditis? What is the cause of it?
3. Body fitness prolongs life. Explain.
4. Why children with cretinism have short stature and mental insufficiency.

[MD 0721]

**JULY 2021
(MAY 2021 SESSION)**

Sub. Code: 2021

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

**PAPER IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

Q.P. Code: 202021

Time : Three Hours

Maximum : 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. Write an essay on glucose homeostasis. Add a note on incretins.
2. Discuss in detail about the secretion, functions and regulation of Testosterone.

II. Short notes:

(10 x 5 = 50)

1. Permissive action of hormones.
2. Role of parathormone in calcium homeostasis.
3. Synthesis of Thyroid hormones.
4. G-Proteins.
5. Menopause.
6. Purkinje.
7. Recent advances in various contraceptive methods.
8. Hormonal control of lactation.
9. Stem cell therapy.
10. Chromosomal aberrations.

III. Reasoning Out:

(4 x 5 = 20)

1. Acidosis and dehydration in diabetes mellitus.
2. Cutaneous pigmentation in Addison's disease.
3. Hyperprolactinaemia is a cause for infertility. Reason out.
4. A cretin is different from a pituitary dwarf. Reason out.

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

[MD 1121]

**NOVEMBER 2021
(OCTOBER 2021 SESSION)**

Sub. Code: 2021

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

**PAPER IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

Q.P. Code: 202021

Time : Three Hours

Maximum : 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. Write an essay on mechanisms of action of hormones on their target cells.
2. Discuss in detail the Hypothalamo-Pituitary-Ovarian axis.

II. Short notes:

(10 x 5 = 50)

1. Sex determination.
2. Biosynthesis of Thyroid hormones.
3. Physiology of growth.
4. Testosterone.
5. Adrenogenital syndrome.
6. Catecholamines.
7. (a) Einthoven (b) Claude Bernard
8. Fetoplacental unit.
9. Recent advances in the treatment of Diabetes mellitus.
10. Turner's syndrome.

III. Reasoning Out:

(4 x 5 = 20)

1. Hyperestrinism in liver failure.
2. Lugol's iodine is given before thyroid surgery. Reason out.
3. Breast feeding mothers have amenorrhoea. Reason out.
4. Acetone breath in a patient with known history of Diabetes Mellitus.

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

[MD 0522]

MAY 2022

Sub. Code: 2021

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

**PAPER IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

Q.P. Code: 202021

Time : Three Hours

Maximum : 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. Describe the actions and regulation of Glucocorticoids.
2. Describe the synthesis and actions of estrogen. Explain the negative and positive feedback effects of estrogens on anterior pituitary and hypothalamus.

II. Short notes:

(10 x 5 = 50)

1. Paracrine system.
2. Failure to reject the “Fetal Graft” by the mother.
3. Synthesis of thyroid hormones.
4. Luteal phase of ovarian cycle.
5. René Laennec.
6. Metabolic syndrome.
7. Control of prolactin secretion.
8. Calcitonin.
9. Pineal gland.
10. Insulin –Glucagon molar ratio.

III. Reasoning Out:

(4 x 5 = 20)

1. Somatic cell nuclear transfer (SCNT) clones are genetically not strictly identical.
2. Skeletal muscles during exercise are independent on Insulin for their Glucose uptake.
3. Carpopedal spasm in hyperparathyroidism is due to hyper excitability of nerve and muscle fibers.
4. Excess oxygen therapy in premature infants can lead to blindness.

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

[MD 1022]

OCTOBER 2022

Sub. Code: 2021

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

**PAPER IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

Q.P. Code: 202021

Time : Three Hours

Maximum : 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. Discuss in detail about the neuro – endocrine control of menstrual cycle. Add a note on effects of menopause.
2. Discuss in detail about calcium homeostasis. What is latent tetany?

II. Short notes:

(10 x 5 = 50)

1. Metabolic syndrome.
2. Actions of testosterone in adult male.
3. Feto – placental unit.
4. Selective secretion.
5. Insulin – Glucagon Molar ratios.
6. Leptin.
7. Synthesis of thyroid hormones.
8. Somatomedins.
9. E.H. Starling.
10. Genetic counselling.

III. Reasoning Out:

(4 x 5 = 20)

1. Why fertilization occurs in uterine tubes?
2. Hyperestrinism in liver failure.
3. Lugol's iodine may be given before Thyroidectomy.
4. Acetone breath in patient in Diabetes Mellitus.

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

[MD 0723]

**JULY 2023
(MAY 2023 EXAM SESSION)**

Sub. Code: 2021

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

**PAPER IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

Q.P. Code: 202021

Time : Three Hours

Maximum : 100 Marks

I. Essay Questions: (2 x 15 = 30)

1. Explain in detail about Spermatogenesis. Add a note on sperm capacitation and its clinical implication.
2. Discuss in detail about the Glucose Homeostasis and its clinical importance.

II. Short notes: (10 x 5 = 50)

1. Ovulation indicators.
2. Various methods of female contraception.
3. A.S. Paintal.
4. Counter regulatory hormones.
5. Puberty.
6. Neuroendocrine reflex.
7. Fight and flight response.
8. Cushing's syndrome.
9. Esophageal manometry.
10. Obesity and its adversity.

III. Reasoning Out: (4 x 5 = 20)

1. What type of Knee jerk is seen in Hypothyroidism? - Reason out.
2. Light affects the circadian rhythm. Reason out.
3. Amenorrhea during lactation. Why?
4. Physiological anemia in pregnancy. Reason out.

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

[MD 1223]

**DECEMBER 2023
(OCTOBER 2023 EXAM SESSION)**

Sub. Code: 2021

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

**PAPER IV – HISTORY OF MEDICINE, RECENT ADVANCES IN
CLINICAL PHYSIOLOGY, ENDOCRINOLOGY AND
REPRODUCTIVE SYSTEMS**

Q.P. Code: 202021

Time : Three Hours

Maximum : 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. Describe the role of Various Hormones in Glucose Homeostasis. Add a note on discoverers of Insulin.
2. Discuss in the Functions, organization of Placenta and its role in Mother and Fetus as a Barrier.

II. Short notes:

(10 x 5 = 50)

1. Infertility.
2. Obesity and its adversity.
3. Cretinism.
4. Physiological changes during Pregnancy.
5. Somatostatin.
6. Counter Regulatory Hormones.
7. Mittelschmerz.
8. Inhibin.
9. C-peptide.
10. Sexual differentiation.

III. Reasoning Out:

(4 x 5 = 20)

1. Menstrual blood does not clot. Why?
2. Pituitary apoplexy. Reason out.
3. Endothelium is a major endocrine gland. Reason out.
4. Corpus cancer syndrome. Reason out.
