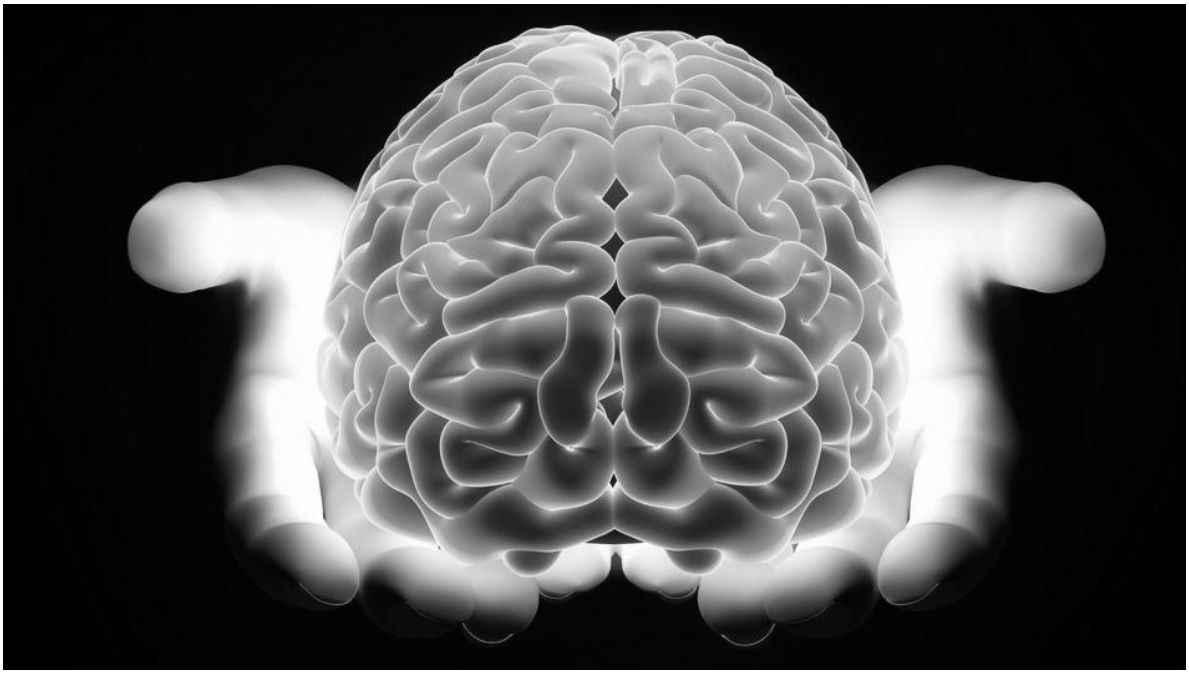
Bismillahir Rahmanir Rahim

QUESTION BANK

For

The 2nd Year MBBS Students Of DMC



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Anatomy

Brain & Eyeball

Batch: K-70

Full Marks: 35 Time: 50 minutes

Answer any five questions. Give the diagram as far as applicable.

1.. Define & classify neurons with examples. Give the structure of blood brain barrier

2. Draw & label the transverse section of midbrain at the level of superior colliculus. Describe the pathway of C.S.F.

3. Write down the origin, course and termination of pyramidal tract. What is artery of Cerebral hemorrhage?

4. Write short notes on :

a) How spinal cord is kept in position in vertebral coloumn.

b) How basal nuclei control voluntary movement?

5. Name the ocular muscles with the nerve supply. Trace the visual pathway.

6. Explain anatomically:

a) How spinal cord is kept in position in vertibral coloumn.

b) How basal nuclei control voluntary movement

Batch: K-69

1. What are the supporting cells of central nervous system?draw and label the blood-brain barrier and blood-CSF barrier. Give the myelination of a nerve fibre.

2. Trace the pain pathway from periphery to central nervous system. Explain why segmental arteries supply the spinal cord.
3. Draw and label the artery supply of the cerebral hemisphere.what are the functional area in the paracentral lobule?Mention their area number and function.
4. Draw and label the histological structure of cerebellum. Mention the functions of different subdivision of cerebellum.
5. Draw and label the section midbrain at the level of superior colliculi?Name the modification of piamater.
6. Write short notes on-

   (1)Internal capsule (2) Limbic system

Batch: K-67

1. Draw and label the different functional areas of the superolateral surface of the cerebral cortex. What will happen, if Broca's motor speech area is damaged? 5+2
2. Write down the process of myelination of a peripheral nerve. Mention the importance of myelination. 5+2
3. How cerebellum is divided into different parts based on physiological and functional criteria? Give the functions of the different parts. Mention the artery supply of the cerebellum.
4. Name the nuclei of the thalamus. Write down the functions of the thalamus. 3+4
5. Draw and label the section of the spinal cord at mid-thoracic level. Write down the contents of the arachnoid space of the spinal cord. 5+2
6. Short note on. i) Structure of a neuron, ii) Piamater 4+3

Batch: K-66

1. Describe the process of development of neural tube. Give its derivatives. 5+2 7
2. Write down the artery supply of spinal cord. Mention the supports of spinal cord. 5+2
3. Draw and level the transverse section of midbrain at the level of superior colliculus.
4. Classify Neuroglia. Mention the functions of different types of Neuroglia. 3+4
5. Write down the structure and function of cornea Mention the functions of intra ocular muscles. 3+4=7
6. Write about the effect of lesion of :
   i) Sensory Speech area
   ii) Lower motor neuron
   iii) Prefrontal area.

Batch: K-65

1. Draw & label the transverse section of the midbrain at the level of the superior colliculus.
2. Describe the arterial supply, functional areas with their functions & clinical importance occipital lobe.
3. State the origin, course, termination & functions of the lateral spinothalamic tract. Mention what will happen if this tract is injured.
4. Name five functions of cerebellum. Write down the arterial supply of the cerebellum.
5. Write short notes on:
   a) Basal ganglia b) CSF

Head & Neck

Batch: K-71

Answer any five questions. Give the diagram as far as applicable.

1. Draw and label the layers of the scalp. Why fourth layer of the scalp is called dangerous area of the scalp? How the veins of the face communicate with venous sinuses? 2+3+2
2. Give an account of the facial nerve mentioning the origin, course and supply. Write the characteristics features of skin of the face. 5+2
3. Explain anatomically:
   i) Why paranasal air sinuses open into the nasal cavity? 2
   ii) The importance of relations of artery supply of the thyroid gland with the neighboring nerves. 3
   iii) Why parotid swelling is painful? 2
4. Describe the interior of the cavity of the larynx. Give the nerve supply of the larynx. 4+3
5. Give an account of the lymphatic drainage of tongue. What are the peculiarities of lymphatic drainage of the tongue? 5+2
6. Write down the arterial supply of the palatine tonsil. Draw and label the artery supply of lateral wall of the nose. State the importance of pyriform fossa. 2+3+2

Batch: K-70

1. Describe the different layers of scalp.Draw & label thecutaneous nerve supply of the face. What is black eye?
2. Name the muscles of tongue.Give their nerve supply.Give the effect of the lesion of the hypoglossal nerve on tongue.
3. Give an account of boundaries & contents of middle ear cavity.Name the structures forming the tonsillar bed.What is Waldeyer,s ring?

4. Write down the nucleus ,functional component & supply of facial nerve.Mention the effect of the lesion of facial nerve at the level of stylomastoid foramen.
5. Describe the interior of the larynx with diagram. Draw & level the artery supply of the lateral wall of nose.
6. Write short notes on

   a) Location, boundaries & importance of piriform fossa.

   b) Otic ganglion.

Batch: K-68

1. Give an account of layer of scalp. Mention its nerve supply. What is black eye?
2. Draw and label the transverse section of neck at the level of 6th cervical vertebrae. Give the origin, course and areas of supply of vertebral artery.
3. Give an account of boundary of middle ear cavity. Mention the structure, function and development of tympanic membrane.
4. Write down the nucleus, functional components and supply of facial nerve. Mention the effects of lesion of facial nerve at the level of stylomastoid foramen.
5. Describe the interior of larynx with diagram. Mention the lining epithelium and nerve supply of larynx.
6. Write short notes on : a) Auditory tube b) Otic ganglion.

Batch: K-67

1. Draw and label the transverse section of the neck at the level of sixth cervical vertebra. Write down the lymphatic drainage of the tongue. 4+ 3
2. Draw and label the sensory innervation of the face. Mention the effects of lesion of the facial nerve. 4+3

3. Give the formation, type, movements and muscles responsible for movements of the temporomandibular joint. Mention the importance of the pterion. 5+2
4. Describe the lateral of the nose with the diagram. Draw and label the artery supply of the lateral wall of the nose. What is epistaxis?
5 Name the extrinsic and intrinsic muscles of the pharynx with their nerve supply. Mention the formation and importance of Waldeyer's lymphatic ring. Name the sources of artery supply of palatine tonsil.
6. Write short note on: i) location, boundary and importance of the piriform fossa, ii) ciliary ganglion. 4-3

Batch: K-66

1. Write down the steps of dissection of the scalp. Which area of the scalp is clinically important and why? 3+4
2. Draw and label the sensory supply of the face. What is the danger area of the face? 5 +2
3. Write down the nerve supply of the tongue on its developmental background. Mention the effects of the lesion of the hypoglosssal nerve. 5+2
4. Give the content and boundary of middle ear cavity. Why otitis media is common in children. 5+2
5. Name extrinsic and intrinsic muscles of the pharynx with their nerve supply. Mention the clinical importance of the piriform fossa.
6. Write short notes on the following: 4+3
   a. Course and area of supply of the oculomotor nerve.
   b. Ciliary ganglion.

Anatomy: 3rd Term

Batch: K-71

Full marks: 70 **Time: 2 hr 40 min**

Answer any five questions from each group.

Group-A

1. Draw and label a developing neural tube showing its different parts. Mention the derivatives of each part of neural tube. Explain why failure of closure of anterior neuropore leads to anencephaly. 2+3+2
2. Describe the process of formation of face. Explain the nerve supply of the tongue on the developmental background. 4+3
3. Draw and label the histological structure of adrenal cortex showing the arrangements of cells in its different layers. Give the characteristic features of a serous acinus and mucous acinus. 4+3
4. Name the cells of epidermis with their location, function and characteristic features, What is Nissl bodies? Mention its function. 5+1+1
5. Define receptor. Name the non encapsulated receptors with their location and function. 2+5
6. Write briefly
   i) Wallerian degeneration

Group-B

1. Draw and label the sensory nerve supply of the face. How does the cavernous sinus communicate with the other sinuses and with the extra cranial veins? 3+4
2. Describe the features of the lateral wall of the nasal cavity. What is Waldeyer's ring and how it is formed? Name the muscles of the pharynx. 3+2+2
3. Give the location and arterial supply of the palatine tonsil. Write down the clinical importance of the retropharyngeal space. Explain why auditory tube opens into nasopharynx? 2+ 2+3
4. Draw and label the section of the pons at the level of the facial colliculi. Give the formation and function of the blood brain barrier.
5. Draw and label the layers of the eyeball. Write down the formation, circulation and function of CSF. 3+4

6. Trace the pathway of posterior spimocerebellar tract with function. Draw and label the circle of Willis. 5+2

Batch: K-69

Group-A

1. Write down the sources of development of different components of tongue. Explain its nerve supply on developmental background.What is tongue tie? (4+2+1)
2. Give in a tabulated form the muscular & skeletal derivatives of pharyngeal arches with their innervations.Explain anatomically how oblique facial cleft may occur during development of face.
3. Draw & label the histological structure of: (4+3)
   a. Different zones of adrenal gland.
   b. Different parts of CVS
4. Give the differences between thick & thin skin. Give the structure & functions of dermis. Name the appendages of skin. (3+3+1)
5. Name the supporting cells of nervous system with their types & functions. 7
6. Write briefly on:
   a. Locations & structures of mucous acini& serous acini. 4
   b. Hypothalamo-hypophysial portal system. 3

Group-B

1. Give the locations, extracranial connections ,relations & clinical importances of caverous sinus.Name the anastomoting arteries of Little's area. (5+2)
2. Give the formation, nerve supply & functions of soft palate. Name the contents of middle air cavity. (5+2)
3. Give the location & nerve supply of palatine tonsil. State the importance of pyriform fossa. Mention the extensions & contents of cranial & spinal subarachnoid space. (2+2+3)

4. Give the origin, course,termination,functions & effects of lesion of pyramidal tract. What is motor unit? (5+2)
5. Draw & label the transverse section of mid brain at the level of superior colliculus. Name the parts of basal ganglia. (5+2)
6. write short note on: (4+3)
   a. Reticular formation. b. Nucleus of vagus nerve.

Batch: K-68

Group A

1. Give the process of formation of neural tube. Name its different parts and derivatives.
2. Write down the development of tongue. Mention its nerve supply on developmental background.
3. Draw and level the histological structures of
   i. Cerebellum
   ii. Parotid gland
4. Classify neurons with example. Mention the different types of astrocytes with their function.
5. Give the arrangement of cells in different layers of adrenal cortex with diagram. Mention the source of development of adrenal gland.
6. Write briefly on-
   i. Derivatives of optic cup
   ii. Process of myelination of peripheral nerve.

Group B

7. Name the extra ocular muscles with their nerve supply. Draw and level the sensory nerve supply of face.
8. Give the step dissection of posterior triangle of neck. Mention the content of this triangle.
9. Give an account of formation, artery supply nerve supply of the lateral wall of nose. What is epistaxis?

10. Draw and label the functional areas of frontal lobe of the cerebral hemisphere. Mention the function of motor speech area. What is astereognosis?
11. Draw and label the section of spinal cord at midthoracic level. Write the mode of artery supply of spinal cord.
12. Write short notes on:
    i. Origin,area of supply with effects of lesion of middle cerebral artery.
    ii. Palatine tonsil.

Batch: K-67

Group A

1. State the musculoskeletal derivatives of the pharyngeal arches. Name the nerve of the pharyngeal arches. 5+2
2. Give an account of the development of the anterior two third of the tongue. Explain the nerve supply of the anterior two third of the tongue on developmental background. 5+2
3. Draw and label the histological structure of the thyroid gland. Where are the aberrant thyroid tissue found? 5+2
4. Define receptor and synapse. Name the non-encapsulated receptors with their locations. 3+4
5. Draw and label a multipolar neuron. Mention the locations of different types of neurons. 3+4
6. Write briefly on: 2+2+3
    a. Astrocytes,
    b. Process of development of neural tube,
    c. Structure of serous and mucous acini.

Group B

7. Draw and label the transverse section of the midbrain at the level of the superior colliculus. Give the artery supply of the cerebellum. 5+2

8. Draw and label the different functional areas of the supero-lateral surface of the cerebral hemisphere. What is astereognosis? 5+2
9. Mention the functional division of the cerebellum with their functions. Name the ascending tracts present in the thoracic part of the spinal cord. 5+2
10. Draw and label the transverse section of the neck at the level of the 6th cervical vertebrae. Name the intrinsic and extrinsic muscles of the pharynx. 5+2
11. Write down the nucleus, functional components and area of supply of the facial nerve. What is Bell's palsy? 5+2
12. Write short notes on any two:
    i) Middle coat of the eyeball
    ii) Palatine Tonsil
    iii) Tympanic Membrane.

Batch: K-66

Group-A

1. Draw and label the process of formation of the neural tube. When does the neural tube close? Name the primary brain vesicles with their derivatives. 3+1+3
2. State the process of development of different parts of the tongue. Mention its nerve supply on developmental background. 5+2
3. Define neuron. Give the structure of the cell body of a neuron. What do you mean by chromatolysis and gliosis? 2+3+2
4. How the cells of the different zones of the adrenal cortex are arranged? Draw and label serous and mucous acini. 4+3

5. Write down the structure of the epidermis of the thick skin. Mention the location of the melanocytes and Langerhans cells in the epidermis. 5 +2
6. Write:
    1. Histological structure of lymph node.
    2. Histological structure of the cerebellum.

Group-B

7. Write-brief about the root, course, sensory and motor supply of the vagus nerve. 7
8. Describe the interior of the larynx. Mention the characteristic features and functions of the vocal cord. 4+3
9. Draw and label the section of the spinal cord at the mid-thoracic level. What is Homer's syndrome? 5+2
10. Mention the functional areas of the frontal lobe with their functions. What is sensory aphasia? 5+2
11. Draw and label the different layers of the eyeball. Mention the effect of the lesion of the right optic tract. What is macula lutea and fovea centralis? 3+2+2
12. Write short notes on: (3+4)

    i) Organ of Corti ii) Circle of Willis

Physiology

Endocrine System & Reproductive System

Batch: K-71

Full marks- 50 Time: 1 hour 30 minutes

Answer all the questions

1. Define and classify hormone. State briefly the mechanism of action of steroid hormone. 1+2+2
2. Name the hormones of pituitary gland. Name two factors that stimulate hormone secretion. What are the effects of growth hormone on carbohydrate metabolism? 2+1+2
3. Name the layers of adrenal gland with their hormones. Discuss briefly the metabolic functions of cortisol. 2+3
4. Give the mechanism of action of insulin. What are the consequences of insulin lack in our body? 2+3
5. What is the fate of ingested iodide? Discuss briefly the biosynthesis of T_3 & T_4 with diagram. 2+3
6. State the role of parathormone in calcium homeostasis. What is tetany? 3+2
7. What are the sources of female sex hormone? Write down the hormonal regulation of ovarian cycle with diagram. 1+4
8. State the role of testosterone in different stages of male reproductive system. What is spermiogenesis? 4+1
9. State the mechanism of milk ejection reflex. What is fetoplacental unit? 4+1
10. Write short notes on:
    a) Myxoedema b) Corpus Luteum 2.5+2.5

Batch: K-70

1. Classify hormone according to their location of receptors. How is the number of receptor regulated? 2+3

2. Name classical endocrine glands.Write down the effects of insulin on CHO metabolism. 2+3
3. Why is growth hormone called “Diabetogenic hormone”?What is gigantism? 3+2
4. State the effects of thyroid hormone on the cardiovascular system.Why is it called calorigenic hormone? 3+2
5. Discuss the effects of PTH on Calcium and Phosphate concentrations in the ECF. 5
6. “Cortisol is important in resisting stress & inflammation”-Explain.
7. Define puberty.State the hormonal factors that stimulate spermatogenesis. 2+3
8. Draw the diagram of gonadotropins & ovarian hormones during female sexual cycle. 4+1
9. Discuss- “Human Chorionic Gonadotropin causes persistence of the corpus luteum & prevents menstruation”. What is safe period? 3+2
10. Write short notes on- 2.5+2.5

    a) Tetany b) Milk let-down reflex.

Batch: K-69

1. Define hormone. State briefly the adenyl cyclase-cAMP 2nd messenger system.
2. Mention the functions of insulin . Describe the consequences of insulin lack in our body.
3. Name the layers of adrenal gland with their hormones. Discuss the metabolic factions of cortisol.
4. Write down the functions of calcium in our body. How is serum calcium level maintained?
5. State the functions of thyroid hormone. What is cretinism?
6. write short note on : a) dwarfism b) cushing syndrome

7. Define puberty. What do you mean by sex determination and sex differentiations?
8. what is ovulation? List the hormones acting in different stages of breast development.
9. Name the hormonal factors that regulate spermatogenesis. State the role of testosterone in different stages of male reproductive system.
10. Write shorts notes on:

    a) hormonal regulation of uterine cycle. b) placental hormones

Batch: K-68

1. Define hormone. State briefly the adenyl cyclase - cAMP 2nd messenger system. (3+2)
2. Name the hormones of anterior pituitary glands. List two factors that stimulate growth hormone secretion. What are the effects of growth hormone on carbohydrate metabolism? (2+2+2)
3. What is the fatal ingested iodide? Discuss briefly the biosynthesis of T_3 and T_4, with figure. (1+4)
4. Enumerate the mineral corticoid and gluco corticoids. How is aldosterone secretion regulated? (2+3)
5. How is target cell receptor activator activated by insulin? What are the effects of insulin on fat metabolism? (2.5+2.5)
6. Give the distribution of calcium in our body. Give an outline of calcium homeostasis in ECF. (2+3)
7. Write short notes on: (2.5+2.5)

    a) Dwarfism and Cretinism b) Cushing's Syndrome
8. What are the sources of sex hormone? Describe spermatogenesis along with their hormonal control. (1+4)
9. What are ictoplacental unit? State the mechanism of milk ejection reflex. (1+4)

10. Write short notes on: (2.5+2.5)

    a) Menstrual Cycle b) Placental hormones

Batch: K-67

1. Classify hormones according to chemical nature with example. State briefly the adenyl cyclase cAMP 2nd messenger system. (3+2)
2. Name the hormones of anterior pituitary gland with their target tissues. Discuss briefly the features of hyper secretion of growth hormone. (2+3)
3. State the steps of biosynthesis of thyroid hormones with diagram.What is cretinism? (3+2)
4. Enumerate the factors and conditions that increase insulin secretion. State the consequence of hyperglycemia. (1+4)
5. Mention the distribution of calcium in plasma. How is calcium homeostasis maintained.
6. Name the hormones of adrenal gland. Discuss the anti-inflammatory effects of cortisol.
7. How is aldosterone secretion regulated? Discuss the renal and circulatory effect of aldosterone.
8. What are the hormonal factors that stimulate spermatogenesis? State the role of testosterone in changes of male reproductive system.
9. Define ovulation. How does ovulation occur? What is anovulatory cycle?
10. Write short note (any two)
    a. Cushing Syndrome
    b. Sex determination and differentiation
    c. Hormonal methods of contraception

Batch: K-66

1. Describe briefly the mechanism of action of hormone. (5)
2. List the hormones of pituitary glands with their cells of origin. State the metabolic effects of growth hormone. (2+3)
3. State the steps of bio synthesis of thyroid hormones with diagram. What is goiter? (4+1)
4. How is aldosterone secretion regulated? Why aldosterone is called the lifesaving hormone? (3+2)
5. State the role of parathormone in serum Ca^{2+} metabolism. What is tetani? (3+2)
6. Write short notes on: (2.5+2.5)

a. Hyperglycemia b) Cushing Syndrome

7. What do you mean by sex determination & sex differentiation? Describe the hormonal regulation of spermatogenesis. (2+3)
8. Describe the menstrual cycle with hormonal changes. List the hormones acting on breast in different stages. (3+2)
9. Name the placental hormone. How does oral Contraceptive pill act? (2+3)
10. Write short notes on: (2.5+2.5) a) Puberty b) Ovulation

Nervous System & Special Senses

Batch: K-71

Full marks- 50 Time: 1 hour 30 minutes

Answer all questions

1. Classify synapse. Discuss the mechanism of neurotransmission through a synapse. 2+3
2. What is “labeled line” principle? Write down the differences between

graded potential and action potential. 2+3

3. Define reflex action. Name the properties of reflex action. Discuss any two of them. 1+2+2
4. Define muscle tone. Classify neurotransmitters according to their functions. 2+3
5. Write down the functions and effects of lesion of each functional parts of cerebellum. What do you mean by turn on and turn off signal of cerebellum? 3+2
6. What is the role of hypothalamus in the body temperature regulation in hot climate? What is "set point"? 4+1
7. Trace the pathway of corticospinal tract. What is Brown Sequared syndrome? 4+1
8. Name the receptors of special senses. Write ab out the auditory pathway.
9. What is dark adaptation and light adaptation? State the rhodopsin-retinal visual cycle. 2+3
10. Write short notes on: 2.5+2.5
    a) Functions of basal ganglia b) Accommodation reaction

Batch: K-70

1. Name the major levels of central nervous system and give the functions of any two of them. 1+2+2
2. Mention the changes that takes place in Wallarian degeneration. How does regeneration take place in a nerve fiber? 2.5+2.5
3. Classify sensory receptors. Trace the fine touch pathway from periphery to center. 2+3
4. Define reflex & reflex arc. What are the components & significances of knee jerk? 2+3
5. Define muscle tone. Classify neurotransmitters according to their functions. 2+3
6. Give the role of cerebellum in controlling voluntary movement. Name the abnormalities due to cerebellar lesion. 3+2
7. State the vegetative functions of hypothalamus. State the mechanism of temperature conyrol in cold climate. 2+3

8. Name the receptors of special senses. Mention two hearing tests with interpretation. 1+4
9. How does the rhodopsin decompose by light energy? Mention the changes of accommodation reaction. 2+3
10. Write short notes on-

    a) Functions of limbic system b) Synaptic transmission.

Batch: K-69

1. Enumerate the properties of nerve fibers. Mention the mechanism of transmission of impulse through myelinated nerve fiber.
2. Draw and classify synapse. How is an inhibitory impulse transmitted through the synapse?
3. Define and classify reflex action with example. Name the properties of reflex action. Discuss any two of them.
4. Name the ascending tracts. Mention the sensations that pass through the antero-lateral system. Trace the pathway of fine touch sensation from periphery to centre.
5. Write down the error control mechanism of cerebellum in voluntary movement. What is past pointing?
6. Mention the vegetative functions of hypothalamus. Write down the effects of lesion of basal ganglia.
7. Give the pathway of light reflex. What are the changes occur during accommodation reaction?
8. Give the normal range of body temperature. What is set point? How is body temperature maintained in hot temperature?
9. Name the receptors of special senses. Discuss the auditory pathway.
10. Write short notes on:

    a) Refractive errors b) Brown Sequard Syndrome

Batch: K-67

1. Classify nerve fibre according to conduction velocity and diameter. Mention the changes in Wallerian degeneration.
2. Classify receptors. What are EPSP and IPSP?
3. Draw and level reflex arch. Discuss any two properties of reflex.
4. What is labeled line principle? Mention the sensation that pass through anterolateral system. Trace the pathway of pain sensation from periphery to centre.
5. State the role of Cerebellum in controlling voluntary movement. What is dysdiadochokinesia?
6. What do you mean by release phenomenon? Discuss the effect of hemi section of spinal cord below the level of section in lumbar region.
7. Mention the vegetative function of hypothalamus. Write down the effect of lesion of basal ganglia.
8. Trace the visual pathway. What are the changes occur during accumulation reaction.
9. Give the range of normal body temperature. How is body temperature maintained in hot environment. What is set point?
10. Write short notes on (any two)

    a) Synapse b) Light Reflex c) Refractive errors

Physiology: 3rd Term

Batch: K-71

Full marks-70 Time: 2 hours 40 minutes

Answer any seven questions from each group

Group-A

1. Name the classical endocrine glands. State the mechanism of action of C-AMP second messenger system.
2. Name the cells & hormones of the anterior pituitary gland. State the physiological action of growth hormone.
3. Write down the metabolic function of thyroid hormone. Differentiate between pituitary dwarf & cretinism.
4. Mention the mechanism of action of insulin. Describe the consequences of hyperglycemia.
5. Name the forms of calcium present in plasma. State the role of Parathormone on calcium homeostasis. What is tetany.
6. What are the source of sex hormones? What do you mean by sex determination & sex differentiation.
7. List the hormones acting on breast at different stages. Describe briefly the functions of Oestrogen & progesterone on uterus.
8. Write short notes on: a) Life saving hormones b) Puberty

Group B

9. Enumerate the properties of nerve fibre. How is an inhibitory impulse transmitted through the synapse?
10. Write down the classification of sensory preceptor. Explain any two properties of receptor.
11. Mention the sensations that pass through the anterolateral system. Trace the pathway of fine touch sensation from periphery to centre.
12. Write down the error control mechanism of cerebellum in voluntary

movement. What is past pointing?

13. Trace the accommodation reaction. pathway. What is Argyll-Robertson pupil?
14. Give the range of normal body temperature. How is heat lost from the body?
15. Mention the modalities of taste sensation. How is taste Sensation transmitted from periphery to centre?
16. Write short notes on: i) Knee jerk ii) Rods & cones

Batch: K-70

Group-A

1. Define hormone. Write down the mechanism of action of steroid hormone. 1.5+3.5
2. Name the posterior pituitary hormones. How is ADH increases water permeability of kidney tubules? 2+3
3. Mention the steps of biosynthesis of thyroid hormones with a diagram. How can you differentiate cretinism from pituitary dwarfism? 3+2
4. Name the diabetogenic hormones. What are the consequences of insulin lack in our body? 2+3
5. What is Trousseau's sign? How is serum calcium level regulated?
6. What do you mean by sex determination & sex differenciation? Name the sex hormones & primary sex organ of male and female. 3+2
7. What is LH surge? Outline the hormonal regulation of ovulation.
8. Write short notes on-

   a) Cortisol excess b) Mammogenesis. 2.5+2.5

Group-B

1. Give the classification of nerve fiber according to its diameter and conduction velocity. What are the changes that occur in the cell body during retrograde degeneration? 2.5+2.5
2. Define and classify sensory receptors. What is receptor potential? 3+2
3. Draw and label a reflex arc. Mention the properties of reflex and describe any two of them. 2+3
4. Name the ascending tracts of spinal cord. Trace the pathway of pain from periphery to centre. 2+3
5. Write down the error control mechanism of cerebellum in voluntary movement. What is past pointing? 4+1
6. What is the role of hypothalamus in the body temperature regulation in hot climate? What is set point? 4+1
7. Name the receptors of special senses. State the mechanism of hearing. 2+3
8. Write short notes on-

   a) Muscle spindle b) Light reflex.

Batch: K-69

Group: A

1. Name classical endocrine glands. State the mechanism of hormones that act on the genetic machinery of the cell. (1+4)
2. Name the cells & hormones of the anterior pituitary gland. State the physiological actions of growth hormone. (3+2)

3. Name the hormones of adrenal gland according to layers. What do you mean by aldosterone escape? (3+2)
4. What are the consequences of insulin lack in our body? Give the mechanism of action of insulin. (3+2)
5. What is hypocalcaemic tetany? How is serum Ca++ level regulated?
6. Define ovulation.Show in a diagram the hormonal control of menstrual cycle. (2+3)
7. What are the sources of sex hormones? State the process of spermatogenesis with their hormonal control. (2+3)
8. Write short note on: a.cortisol excess. b.Myxoedema.

Group-B

9. Classify nerve fibers according to their conduction velocity & diameter. Mention the changes in Wallerian degeneration. (3+2)
10. Draw & label a reflex arc of knee jerk. Compare the features of upper mator & lower motor neuron lesion. (2+3)
11. Classify receptors. What is EPSP & IPSP? (3+2)
12. Name the descending tracts of spinal cord.Describe in brief the pathway of pyramidal tract. (2+3)
13. Write down the error control mechanism of cerebellum in voluntary movement. What is past pointing? (4+1)
14. What is light reflex? Give the pathway of light reflex. (1+4)
15. Mention the sites of detection of shell temperature. How is body temperature is maintained in hot environment? (1+4)
16. Write short note on: 2.5+2.5

    a. Functions of limbic system b. Structure of a synapse

Batch: K-68

Group-A

1. Classify hormones according to chemical nature with example. State briefly the adenyl cyclase-cAMP second messenger system.
2. Write down the biosynthesis of T3 & T4.What is cretinism? (3+2)
3. How is aldosterone secretion regulated? What is aldosterone escape? (3+2)
4. Enumerate the factors & conditions that increase insulin secretion. How does insulin decrease the blood glucose level?
5. State the role of parathormone in calcium homeostasis. What is tetany? (3+2)
6. What do you mean by sex determination & sex differentiation? Describe the hormonal regulation of spermatogenesis.
7. What are the sources of female sex hormone? Show in diagram the hormonal regulation of menstrual cycle. (2+3)
8. Write short notes on (any two):
   a. Placental hormone
   b. Hormonal methods of contraception
   c. Acromegaly & Myxoedema

Group-B

1. Classify nerve fiber according to conduction velocity & diameter. What are the effect of hemisection of spinal cord. (2+3)
2. Draw & label the reflex arc of knee jerk.Compare the features of upper motor & lower motor neuron lesion. (2+3)
3. Write down the functions of each part of cerebellum.What is cerebro-cerebellar feedback mechanism? (2+3)
4. Mention the Vegetative functions of hypothalamus. Write down the effect of lesion of basal ganglia. (3+2)

5. Mention the normal range of body temperature. How is body temperature maintained in hot environment? (1+4)
6. Name the receptors of special senses.Mention two hearing test with explanation. (1+4)
7. How does rhodopsin decompose by light energy? What are changes of accommodation ? (2+3)
8. Write short note on(any two): (2.5+2.5)

   a. EPSP & IPSP b. Refractive error c. Reticular Formation

Batch: K-67

Group A

1. Mention the locations of hormone receptor with example. State the mechanism of action of steroid hormone with diagram.
2. Name the hormones of hypothalamus. Discuss briefly the functions of posterior pituitary hormones
3. State the steps of biosynthesis of thyroid hormones with diagram. What is myxoedema?
4. How is aldosterone secretion regulated? Discuss the renal and circulatory effects of aldosterone.
5. Name the factors that increase insulin secretion. Discuss the consequences of hyperglycemia.
6. What are the hormonal factors that stimulate spermatogenesis? State the role of testosterone in different stages of male reproduction system.
7. Draw and label plasma concentration of gonadotropins and ovarian hormones during female sexual cycle. What is ovulation?
8. Write short notes on:
   i) Hypersecretion of growth hormone
   ii) Calcium homeostasis

Group-B

9. What is labeled line principle? Name the ascending tracts of spinal cord. Trace the pathway of pain sensation from periphery to center.
10. What are EPSP & IPSP? How is impulse transmitted through the neuromuscular junction?
11. What do you mean by release phenomenon? Draw and label the reflex are of knee jerk.
12. Draw and label the basic neural circuit of the cerebellar abnormalitics.
13. Enumerate the parts of limbic system. What are the functions of the basal ganglia?
14. What are dark adaptation and light adaptation? Discuss rhodosin-retinal visual cycle.
15. Give the normal range of body temperature. What is set point? How body temperature is maintained in hot environment?
16. Write short notes on:
    a) Wallerian degeneration b) Hearing tests

Biochemistry

Clinical biochemistry & Endocrinology

Batch: K-71

All questions carry equal marks. Answer the following questions.

1. What is photometry? State the law of light absorption. What is S.I unit?
2. Compare the biochemical features of different types of jaundice.
3. Name the cardiac markers. State the kinetic behavior of cardiac markers following myocardial ischemia.
4. Enumerate the pancreatic hormones. Mention the metabolic derangements in diabetes mellitus.
5. Enumerates the laboratory hazard. Write about biohazards.
6. Define IFG and IGT. State the importance of pre-diabetes and HbA1C.
7. What are the biochemical parameters to assess thyroid status? Interpret the result in hyper and hypo state of thyroid.
8. Write short note on: a) Lipid profile b) Proteinuria

Batch: K-70

1. Name the commonly performed liver function tests? Compare the biochemical Features in different types of jaundice.
2. What are the measures should be taken before collection of a specimen in a laboratory? Writes on biological laboratory hazard?
3. Define photometry. Write down the Beer's law & lambert's law of cretinism.
5. Enumerate the pancreatic hormones. Mention the metabolic dearangements in Diabetis mellitus.
6. Name the cardiac markers. State the kinetic behavior of cardiac markers following myocardial ischemia.

7. What are the hormones released from adrenal gland? Define Cushing Syndrome and Cushing disease.
8. Write short notes on: (Any two)

   a) Quality control b) OGTT c) Lipid profile

Batch: K-69

1. Define Accuracy, Precision, Specificity and Sensitivity. Mention the component of Quality control with their criteria.
2. What changes occur in blood sample if processing is delayed? How haemolysis of blood sample can be prevented?
3. What do you mean by lipid profile? Give its component with normal value. Write short notes on dyslipidaemia.
4. Name the thyroid function tests. Differentiate hyperthyroidism and hypothyroidism by laboratory findings.
5. Name the hormones which increase blood glucose level. Mention the difference between Diabetes Mellitus and Diabetes lnsipidus.
6. Enumerate the liver function tests. Mention the laboratory findings of hemolytic, hepatocellular and obstructive jaundice.
7. What is photometry? Enumerate the laws of light absorption. Define optical density.
8. Write short note on- (Any two):

   a) Cardiac markers b) OGTT c) Laboratory hazards.

Batch: K-68

1. What are the commonly performed liver function tests? Compare the biological features in different types of jaundice.
2. Define accuracy, precision, specificity and sensitivity. Mention biological hazards in clinical laboratory.
3. What are the component of lipid profile? Mention their normal value. Write 5 causes of hyperlipidaemia.

4. Draw and label the basis parts of a photoelectric colorimeter. State the principles of colorimetry.
5. What do you means by signal transduction, 1st messenger and 2nd messenger? Enumerate the indication and interpretation of OGTT.
6. What are the measures should be taken before collection of a specimen in a laboratory? Give the mechanism of action of heparin and EDTA.
7. Enumerate the thyroid function tests with interpretations. Write down the clinical features of hypothyroidism.
8. Write short notes on:

   a) Diabetes Insipidus b) Tumour marker

Batch: K-67

1. Define quality control. How can you assure it? What is conversion factor?
2. Write down the name of the hormones released from adrenal cortex. Define Cushing Syndrome and Cushing disease.
3. Name the pancreatic hormones. Write down the mechanism of insulin. Compare the different features of DM and DI.
4. Enumerate thyroid function tests with interpretations. Write down the clinical features of hypothyroidism.
5. What are the measures taken before collection of a blood sample? Name the common anticoagulants used in the clinical laboratory. Give the mechanism of action of Heparin & EDTA.
6. What are the commonly performed liver function tests? Compare the biochemical features in different types of jaundice.
7. What do you mean by normal and reference value? Write a brief on OGTT.
8. Write short notes on:

   a) Lipid profile b) Cellular communication

Batch: K-66

1. What do you mean by cellular communication? How steroid hormones act? Write down the name of 5 hormones that act through 2^{nd} messenger.
2. Write down the name of the hormones released from adrenal cortex. Enumerate the functions of parathyroid hormone.
3. Name the pancreatic hormones. Write down the functions of insulin.
4. Enumerate the Thyroid function test with the interpretation of hormones.
5. What are the measures taken to prevent haemolysis during blood collection? Name the common anticoagulant used in the clinical laboratory. Give the mechanism of action of Heparin.
6. Enumerate the biochemical parameters to assay the liver function test.
7. Write down the principles of photometry. Write in short about biological hazard.
8. Write short notes on:

   a) Quality Control b) Aldosterone escape

Molecular Biology & Genetics

Batch: K-71

1. Write down the chemistry of nucleoside & nucleotide. Give the function of nucleotide.
2. Write the Watson Crick model of DNA. Mention the importance of salvage pathway of purine.
3. Define gene, genome, allele & karyotype. What do you mean by gene expression.
4. Define primary transcript. State the post transcriptional modification

of primary transcript.

5. Define & classify mutation. Give the consequences of different point mutation.
6. Write the components for translation. Mention the different type of post transportational modification.
7. Define PCR. Write down the steps of PCR. Give the uses of PCR in medicine.
8. Short Notes :(any two)
   a) Cell Cycle b) Replication fork & Okazaki fragment c) tRNA

Batch: K-70

1. Name the raw materials required for purine biosynthesis. Enumerate the name of purine & pyrimidine nucleotides. What do you mean by salvage pathway of purine?
2. Define the cell cycle. Write down the Watson Crick model of DNA structure.
3. What is reverse transcript? Differentiate between replication & transcription.
4. Define genome,allele,trait & karyotype. Name the Mendelian disorder with its example.
5. Define & classify mutation. Which property of genetic code support silent mutation?
6. What is wobble hypothesis? Write the components for translation. Describe the

   different types of post translation modification.
7. What is recombinant DNA? Write down the steps of biological cloning.
8. Write short note : (Any two)
   a) Metaphase chromosome
   b) DNA library
   c) Gene expression.

Batch: K-69

1. Mention the sources of atoms for purine synthesis. Give the differences between DNA & RNA.
2. Write the organization of DNA in chromosome. Give 5 function of nucleotide.
3. Define gene, genome & genetic code. Differentiate replication from transcription.
4. Define karyotype? Classify genetic disorder.
5. Define & classify mutation with example.
6. State the requirements for protein synthesis. Describe the post translational modification.
7. What is recombinant DNA ? Mention the steps of biological cloning.
8. Short note(any two)
   a) Cell cycle
   b) Restriction endoneuclease
   c) Genomic library

Batch: K-67

1. Define nucleoside & nucleotide. Give the functions of nucleotide.
2. Define gene, genome, & genetic code. Write down the properties of genetic code.
3. Write the component required for translation. What are the post translational modifications, write with example.
4. What is central dogma? Write down the differences between replication & transcription.
5. Draw & label a t-RNA? Write about post transcriptional modification.

6. Define and classify mutation. Name some mutagens.
7. What is PCR? Write about the procedure of PCR. in brief.
8. Write short notes i) Okazaki fragments ii) vector

Batch: K-66

1. Describe the organization of DNA into chromosome.
2. Define genetic code. Give the characteristics of genetic code.
3. Name the raw materials required for translation. What are the post translational modifications, write with example.
4. What is replication? Describe a replication fork.
5. Draw & label a t-RNA? Write about post transcriptional modification.
6. Define and classify mutation. What are the effects of Mutation.
7. What is PCR? Write about the procedure of PCR jn brief.
8. Write short notes on i) Karyotype ii) Nucleotide.

Biochemistry 3rd Term

Batch: K-71

Group-A

1. Define photometry. Draw and label the basic parts of a photoelectric colorimeter. What is conversion factor?
2. What is biological hazard? What precautions will you take during collection of blood for analysis?
3. What are the metabolic alterations seen in diabetes mellitus? Write the WHO criteria for laboratory diagnosis of DM after OGTT.

4. Write down the important components of lipid profile with their reference ranges. What is Dyslipidemia? List some causes of it.
5. What are the biochemical tests done in blood to assess renal function? Which test is more specific among them and why? What is plasma clearance?
6. Define & classify jaundice. Compare the biochemical features in different types of / jaundice.
7. Enumerate thyroid function tests with interpretations. What is cretinism?
8. Write short notes on : a) Non-functional plasma enzyme b) HbA1C

Group- B

9. Define nucleoside, nucleotide & nucleic acid. Compare DNA & RNA.
10. How is DNA organized in to chromosome? What is cell cycle? Draw and label a cell cycle.
11. Define genetic code & codon. Write the characteristics of genetic code. What is point mutation.
12. Define replication. Enumerate the raw materials for replication. What are Okazaki fragments?
13. What is primary transcript? How it gets modification to become mature m-RNA after synthesis.
14. Define recombinant DNA technology. Mention the steps of biological cloning. What is restriction enzyme?
15. What is translation? Mention different post translational modifications with specific example.
16. Write short notes on: a) Mutagens b) Genotype & Phenotype

Batch: K-70

Group-A

1. What is photometry? Enumerate the laws of light absorption. Draw the basic part Of photoelectric colorimeter.
2. Name the common serum electrolytes with there reference ranges.Write about The hormonal regulation of serum potassium. Mention the consequences of Hyperkalemia.

3. What is plasma clearance? Write about the biochemical tests done to assess kidney functions.
4. Enumerate different types of cellular communication. Write a brief note on Anticoagulant.
5. What do you mean by lipid profile? State the kinetic behavior of cardiac markers Following myocardial ischemia?
6. Mention the procedure of OGTT with its interpretation. What is conversion factor?
7. Compare the biochemical features in different types of jaundice. What is tetany?
8. Short notes: a) Laboratory hazards b) Calcium homeostasis

Group- B

9. What is nucleoside, nucleotide & nucleic acid? Write in brief about the structural Organization of DNA in chromosome.
10. What is genetic code and codon? Mention the properties of gnetic code.
11. Enumerate the raw materials for translation. Write a brief about post translation Modification with examples.
12. Classify genetic disorders. What is karyotype? Give the Karyotype of normal male, Normal female, Turner's syndrome & Down syndrome.
13. What is PCR? Mention the steps and importance of PCR.
14. What is transcription & reverse transcription? Give the difference between Replication & transcription.
15. Define & classify mutation. Write the consequence of different point mutation.
16. Short notes:

    a) t-RNA b) Cell cycle

Batch: K-67

Group-A

1. What is nucleoside, nucleotide & nucleic acid? Write in brief about the structural organization of DNA in chromosome.
2. Write down the difference between Replication and Transcription.
3. Enumerate the different types of RNA with their functions.
4. What are the characteristics of the genetic code? What are the components required for translation?
5. What is PCR? Write a brief note on the mechanism of PCR. State its two importances?
6. What is Karyotyping? Classify the chromosomal disorders with example.
7. What is mutation? Give the types and effects of mutation.
8. Write short notes on (any two):
   a) Cell cycle
   b) DNA Polymerase
   c) Replication Fork

Group-B

9. State the 'Laws of light absorption'. Draw and label the basic parts of a photoelectric colorimeter.
10. What do you mean by neurotransmitter, 1st and 2nd messenger? Enumerate the metabolic cause of acidosis.
11. How will you evaluate patient of hypothyroidism biochemically? What is Cretinism?
12. Name the ideal anticoagulant & justify it. What are the special measures will you take to assay blood gas of a blood sample?

13. Write the Blood Glucose level according to WHO (in normal individual, IGT & diabetic patient).Enumerate the indication & interpretation of OGTT.
14. Define proteinuria and microproteinuria. Name the biochemical tests of blood to assay the kidney function test.
15. What are the components of Lipid Profile? Mention their normal reference value .Write 5 causes of secondary dislipidemia.
16. Write short notes on: a) Quality Control b) Laboratory Hazard

Batch: K-66

Group A

1. Draw and label the Watson-Crick model of DNA. Write down the functions of nucleotide.
2. Enumerate the enzymes required for replication. Write the difference between replication & transcription.
3. What are the raw materials for protein synthesis? Write about posttranslational modifications.
4. Define and classify mutation. What do you mean by mutagens, name them.
5. What is PCR? Write about its mechanism and importance.
6. Define gene, genome and genetic code. Write down the characteristics of genetic code.
7. What is central dogma? Write about posttranscriptional modifications.
8. Write short note on: a) Cell cycle b) Vector

Group B

1. What are the common laboratory hazards. How can you prevent the biological hazards in the laboratory?

2. What do you mean by signal transduction, 1st messenger and 2nd messenger? Write down the name of 5 hormones that act through 2 messenger.
3. Name the thyroid hormones. How you investigate a case of hypothyroidism?
4. What measures are taken before collection of a blood sample? Name the common anticoagulants used in the clinical laboratory. Give the mechanism of action of EDTA.
5. Enumerate the liver function tests.
6. Define proteinuria and microalbuminuria. Name the biochemical tests of blood to assay the renal function.
7. Name the pancreatic hormones. Write the mechanism of action and functions of insulin.
8. Write short notes on: 1. OGTT 2. Quality control

Batch: K-65

Group-A

1. What are the raw materials for protein synthesis? Write about posttranslational modification.
2. Enumerate the enzymes required for replication. Write the difference between replication & transcription.
3. Define & classify vector. Write down the characteristics of an ideal vector.
4. What is PCR. write the differences between PCR & biological cloning.
5. What Is genetic code? Write down the characteristics of genetic code.
6. What are the differences DNA&RNA? Draw the Watson & Crick model of DNA.
7. What is mutation? Give the types & effects of mutation.

8. Write short note on: a) Cell cycle b) DNA polymerase

Group-B

1. Define the neurotransmitter, 1st messenger and 2nd messenger? Write down the name of 5 hormones that act through 2nd messenger.
2. Write down the name of the hormones released from anterior pituitary.
3. Name the pancreatic hormones. Write about glucose homeostasis.
4. Write down the causes of hypothyroidism. How can you investigate a patient with hypothyroidism?
3. What are the measures taken before collection of a blood sample?
4. Name the common anticoagulants used in the clinical laboratory. Give the mechanim of action of EDTA & NaF.
6. What is non-functional plasma enzyme? Enumerate the enzymatic changes in myocardial infarction.
7. Enumerate the biochemical tests to assay renal function.
8. Write short notes on:
   a) Quality Control
   b) Non ketotic hyperosmolar diabetic coma.

Needs deep thinking

“We created man out of the extract of clay, then We made him into a drop of life-germ (zygote= spermatozoa + oocyte), then We placed it in a safe depository (uterus), then We made this drop into a clot (embryo), then We made the clot into a lump (somites), then We made the lump into bones (ossification), then We clothed the bones with flesh (muscle formation), and then We caused it to grow into another creation (fetus). Thus Most Blessed is Allah SWT, the Best of all those that create. Thereafter you are destined to die, and then on the Day of Resurrection you shall certainly be raised up”.

Al-Qur’an, Surah Mu’minun, Verses: 12-16

“ O man! What has deceived you about your generous Lord (Allah SWT), Who created you, shaped you, and made you well-proportioned and set you in whatever form He pleased? No indeed; (the fact is that) you deny the Reckoning (Qiyamah) , declaring it a lie; you do so the while there are watchers (angels) over you; noble scribes (Kiraman Katibeen) , who know what you do. Surely the virtuous shall be in Bliss (Heaven), and the wicked shall be in the Blazing Fire (Hell)”.

Al-Qur’an, Surah Infitar, Verses: 6-14

Dhaka Medical College