

Final-Term Assignment/Paper (spring -020)

Human Anatomy-II

BS Radiology Sec-A 2nd Semester)

Instructor: Dr. M.Jaffar

Time: 6-hours (9am-3pm)

Max

Marks: 50

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Q1. Write anterior compartment of thigh and posterior compartment of leg muscles with origin, insertion and action. (10)

Answer :

ANTERIOR COMPART OF THIGHS:

Quadriceps femoris.

RECTUS FEMORIS :

- **Origin** - inferior iliac spine, margin of acetabulum.
- **Insertion** - patella and tibial tuberosity via the patellar ligament.
- **Action** - extends knee, flexes thigh.
 - Vastus lateralis
 - Vastus medialis
 - Vastus intermedius
- **Origin** - femur

Insertion - medial tibia

- **Action** - flex, abduct, lat rotate thigh ; weak knee flexor.

ILIOPSOAS:

- **Origin** - ilia, sacrum, lumbar vertebrae.
- **Insertion** - lesser trochanter
- **Action** - flexor of thigh innervation - femoral nerve.

. SUPERFICIAL POSTERIOR COMPARTMENT :

. **Triceps surae**

GASTROCNEMIUS (2 heads)

- **Origin** - medial and lateral condyles of femur.

- **Insertion** - posterior calcaneus via Achilles tendon.

SOLEUS :

- **Origin** - tibia and fibula
- **Insertion** - same as above
- **Action of both** - plantar flex foot

PLANTARIS :

- **Origin** - posterior femur
- **Insertion** - same as above
- **Action** - plantar flex foot, weak knee flexion
- **All innervated** by the tibial nerve.

Q2. Define the following (10).

(a) Endocrine gland

- Endocrine glands are ductless glands of the endocrine system that secrete their products, hormones, directly into the blood. The major glands of the endocrine system includes the pineal gland, pituitary gland, pancreas, ovaries, testes, thyroid gland, parathyroid gland, hypothalamus and adrenal glands.

The hypothalamus and pituitary glands are neuroendocrine organs

(b) Exocrine gland

- Exocrine gland are glands that secrete substances on to an epithelial surface by the way of a duct.

Examples:

Examples of Exocrine gland include sweat, salivary mammary, ceruminous, lacrimal, sebaceous, prostate and musous.

Exocrine glands are one of two types of glands in the human body.

(c) Thalamus

➤ **POSITION :**

- It is located above the brain stem and between the cerebral cortex and mid-brain.

➤ **FUNCTION :**

- It carries sensory information from the body to cerebrum and the limbic system.

(d) femoral triangle

- femoral triangle is an anatomical region of the upper third of the thigh. It is a subfacial space which appears as a triangular depression below the inguinal ligament when the thigh is flexed, abducted and laterally rotated.

➤ **STRUCTURE:**

- The femoral triangle is bounded.
. Superiorly (also known as the base) by the inguinal ligament.

- . Medially by the medial border of the adductor longus muscle.
- . Laterally by the medial border of the sartorius muscle.

Q3. Write the Extraocular muscles. Enlist both voluntary and involuntary. (10)

Answer :

EXTRAOCULAR MUSCLES :

- The extraocular muscles are located within the orbit, but are extrinsic and separate from the eyeball itself. They act to control the movements of the eyeball and the superior eyelid.
- The extraocular muscles are the six muscles that control movement of the eye and one muscle that controls eyelid elevation. The actions of the six muscles responsible for eye movement depend on the position of the eye at the time of muscle contraction.

Voluntary Muscles

- Superior rectus
- Inferior rectus
- Medial rectus
- Lateral rectus
- Superior oblique
- Inferior oblique
- Levator palpebrae superiors.

INVOLUNTARY MUSCLES :

- Superior tarsal or muller's muscles
- Inferior tarsal muscle.

Q4. Describe the arches of foot and functions of arches. (10)

Answer :

ARCHES OF FOOT:

- Bones of the foot are arranged to form three strong arches.

Arches are fully developed by age are 12 or 13.

- two longitudinal
- one transverse

FUNCTIONS OF ARCHES :

- Arches help the foot support and distribute the weight of the body and provide leverage during walking.

Q5. Write a note on cerebrum, its lobes and functions. (10)

Answer :

CEREBRUM:

Structure :

- It is divided into two halves called cerebral hemisphere.
- They communicate via corpus collosum.
- Cerebral cortex is the outer region cerebrum.

LOBES OF CEREBRUM:

1.FRONTAL LOBE:

- > **Most** anterior portion of the cerebrum "central sulcus" separate frontal and parietal lobe.
- > Controls motor function, personality and speech.
- > Like center of reasoning, planning, some parts of speech, movement, emotions problem solving.
- .> Also called motor cortex.

2.PARIETAL LOBE :

- > The most superior portion of the cerebrum.
- > Receives and interprets nerve impulses from sensory receptors and interprets language.
- > Receives sensory input from the skin. (touch, pressure, temperature and pain)
- >Also called sensory cortex.

3.OCCIPITAL LOBE :

The most posterior portion of the cerebrum (back of the head)

- Receives input from the eyes and controls vision.
- > Also called as visual cortex.

4.TEMPORAL LOBE :

The left and right lateral portion of the cerebrum (on the sides of your head above your ears)

- Controls hearing and smell.
- Also called auditory cortex.

FUNCTIONS OF CEREBRUM :

- It helps in movement.
- It controls speech.

- It is responsible for sensory processing.
- It determines the intelligence of the being.