

**Final-Term Assignment/Paper (spring -020)**

**Human Anatomy-II**

**BS Radiology Sec-A 2<sup>nd</sup> 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)

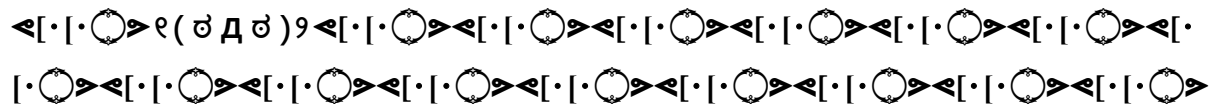
Q2. Define the following (10).

- (a) Endocrine gland
- (b) Exocrine gland
- (c) Thalamus
- (d) femoral triangle

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

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

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



 **STARTING THE NAME OF ALLAH**

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**Department: B'S RADIOLOGY**

**Exam: Final Term**

**2<sup>nd</sup> Semester: Section A**

**Date: 24:06:2020**

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Q No1:

Ans: **ANTERIOR COMPARTMENT OF THIGH**

**MUSCAL:**

The muscles in the anterior compartment of the thigh are innervated by the femoral nerve (L2-L4), and as a general rule, act to extend the leg at the knee joint. There are three major muscles in the anterior thigh – the pectineus, sartorius and quadriceps femoris. In addition to these, the end of the iliopsoas muscle passes into the anterior compartment.

Sartorius

Origin: Anterior superior iliac spine

Insertion: Medial side of superior tibia, via pes anserinus

Action: flex thigh at hip & flex leg at knee

Rectus femoris

Origin- anterior inferior iliac spine, margin of acetabulum

Insertion. patella and tibial tuberosity via the patellar ligament

Action- extends knee, flexes thigh

Quadriceps femoris also called the quadriceps extensor, quadriceps or quads) is a large muscle group that includes the four prevailing muscles on the front of the thigh.

Origin. Combined rectus femoris and vastus muscles

Insertion. Tibial tuberosity

Actions. Knee extension; Hip flexion (Rectus femoris only)

Posterior compartment of the leg muscle  
In the lower leg there are 4 compartments, the anterior (A), lateral (L), deep posterior (DP) and superficial posterior (SP).

Muscle. gastrocnemius

Origin. medial and lateral condyles of femur

Insertion. Calcaneum

Action. plantar flexes (flexes) foot; flexes knee

Muscle. plantaris

Origin. lateral supracondylar ridge of femur

Insertion. calcaneum

Action. plantar flexes foot; flexes knee

Muscle. soleus

Origin. shafts of tibia and fibula

Insertion. calcaneum

Action. with gastrocnemius, a powerful plantar flexor of ankle;

main propulsive force in walking and running.

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Q No2:

Ans: **ENDOCRINE GLAND:**

A gland that secretes a substance (a hormone) into the bloodstream. The endocrine glands are "glands of internal secretion." They include the hypothalamus, pituitary gland, pineal gland, thyroid, parathyroid glands, etc.

**EXOCRINE GLAND:** A gland that secretes a substance out through a duct. The exocrine glands include the salivary glands, sweat glands and glands with in the gastrointestinal tract. The exocrine glands are the "glands of external secretion."

Thalamus .is a large egg-shaped mass of grey matter present in diencephalon, a part

of the forebrain. Thalamus is involved in sensory as well as motor functions of the brain.. It is the part of the brain where the sensory information from all over the body converge and are then sent to various areas of the cortex.

femoral triangle. is a hollow region located in the super-medial part of the anterior thigh. It is an easily acessable area through which multiple neurovascular structures pass through. It is also known as "scarpa's triangle" and "femoral ttrigone.

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Q No3:

Ans: Extraocular muscles (EOM) are responsible for controlling the movements of the eyeball and upper eyelid. These muscles are also known as the extrinsic eye muscles, distinguishing them from intrinsic

eye muscles which are responsible for controlling the movement of the iris.

Involuntary muscle.

i. Four Recti .Superior, Inferior, Medial and Lateral

ii. Two Obliques - Superior & Inferior

iii. Elevator of upper eyelid -Levator palpebrae superiors

Involuntary Muscles:

i. Superior tarsal muscle. Deeper part of levator palpebrae superioris

ii. Inferior Inferior tarsal muscle

iii. Orbicularis muscle

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Q No4:

Ans: . **ARCHES OF THE FOOT:**

The arche of the foot formed by the tarsal and metatarsal bones, strengthened by ligaments and tendons, allow the foot to

support the weight of the body in the erect posture with the least weight.

Functions of arches :

A). It causes distribution of body weight in foot. Weight transmitted to foot half to calcaneus and half part to heads of five metatarsals. Then anterior part divides weight into six equal parts two for great toe and one each for second to fifth metatarsal heads.

B). Segmented lever formed by small bones helps in propulsive action.

C). Concave plantar aspect protect vessels and nerves of foot.

D). Arches make foot pliable on uneven ground





Q No5:

Ans: **CEREBRUM:**

The cerebrum makes up a large portion of the brain. It is what people refer to when they describe someone as left- or right-brained. The cerebrum is home to many smaller structures that regulate numerous core functions in the entirety of the human body. The outer layer of the cerebrum, the cerebral cortex, is referred to as “the hub of thought” and is integral to cognitive function. Two hemispheres make up the whole of the cerebrum, the left, and right hemisphere. The two regions are connected by the corpus callosum. Cerebral Lobes  
Aside from the left and right hemispheres, the cerebrum can be categorized into four

distinct lobes: the frontal, parietal, temporal and occipital lobes.

Lobes and it's function

Frontal lobe

**FUNCTION:**

Control of voluntary movement, involved in attention, short term memory tasks, motivation, planning

Parietal lobe

**FUNCTION:**

Integrates proprioceptive and mechanoreceptive stimuli, involved in language processing

Occipital lobe

**FUNCTION:**

Center for visual processing

Temporal lobe

FUNCTION:

Decoding sensory input into derived meanings for retention of visual memory and language comprehension

Insular lobe

FUNCTION:

Processing and integration of taste sensation, visceral and pain sensation and vestibular functions

Limbic lobe

FUNCTION:

Modulation of emotions, modulation of visceral and autonomic functions, learning, memory.



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