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SECTION "B"

PAPER : HUMAN ANATOMY

DEPARTMENT Bs RADIOLOGY

SECOND SEMESTER

1 What is the major features of intercranial Fossa of the skull.

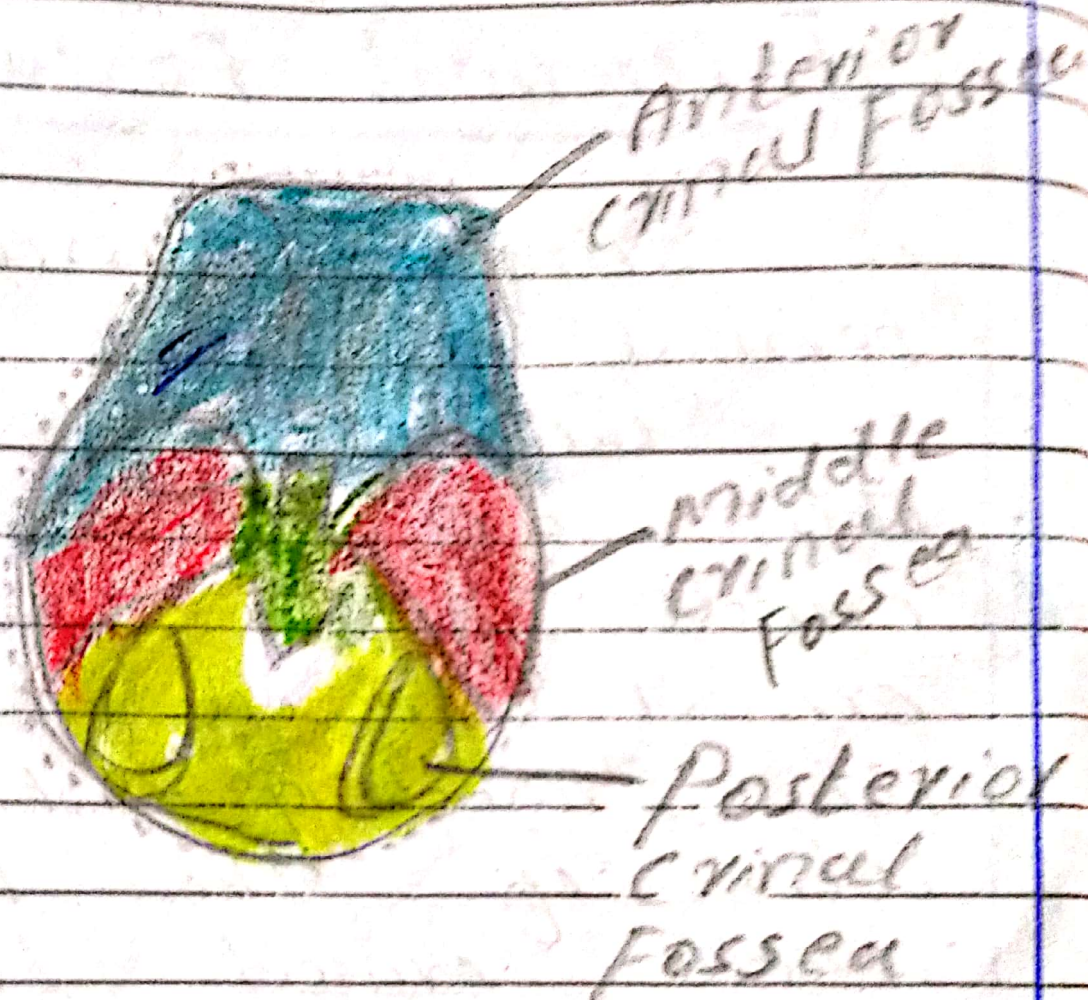
Intercranial Fossae

A cranial Fossae is formed by the floor of the cranial cavity there are three distinct cranial Fossae. Anterior cranial Fossae housing the projecting frontal lobes of the brain. middle cranial Fossae. 2 paired bone frontal and temporal. 3 unpaired bone Ethmoid, sphenoid, and occipital.

Intercranial Fossae Superior view

cranial cavity is divided into three

Anterior crinal Fossa
Middle crinal Fossa
Posterior crinal Fossa



Anterior Clinoid Fossa

- The posterior boundary of the anterior clinoid fossa is made by the lesser wing of the sphenoid.
- Laterally, the lesser wings meet the greater wing and the frontal bone at the pterion.
- Medially, lesser wings of the sphenoid is projected back as the anterior clinoid process.
- In front of anterior clinoid process the base of the lesser wings is perforated by the optic canal.

Three Crinal Fossae

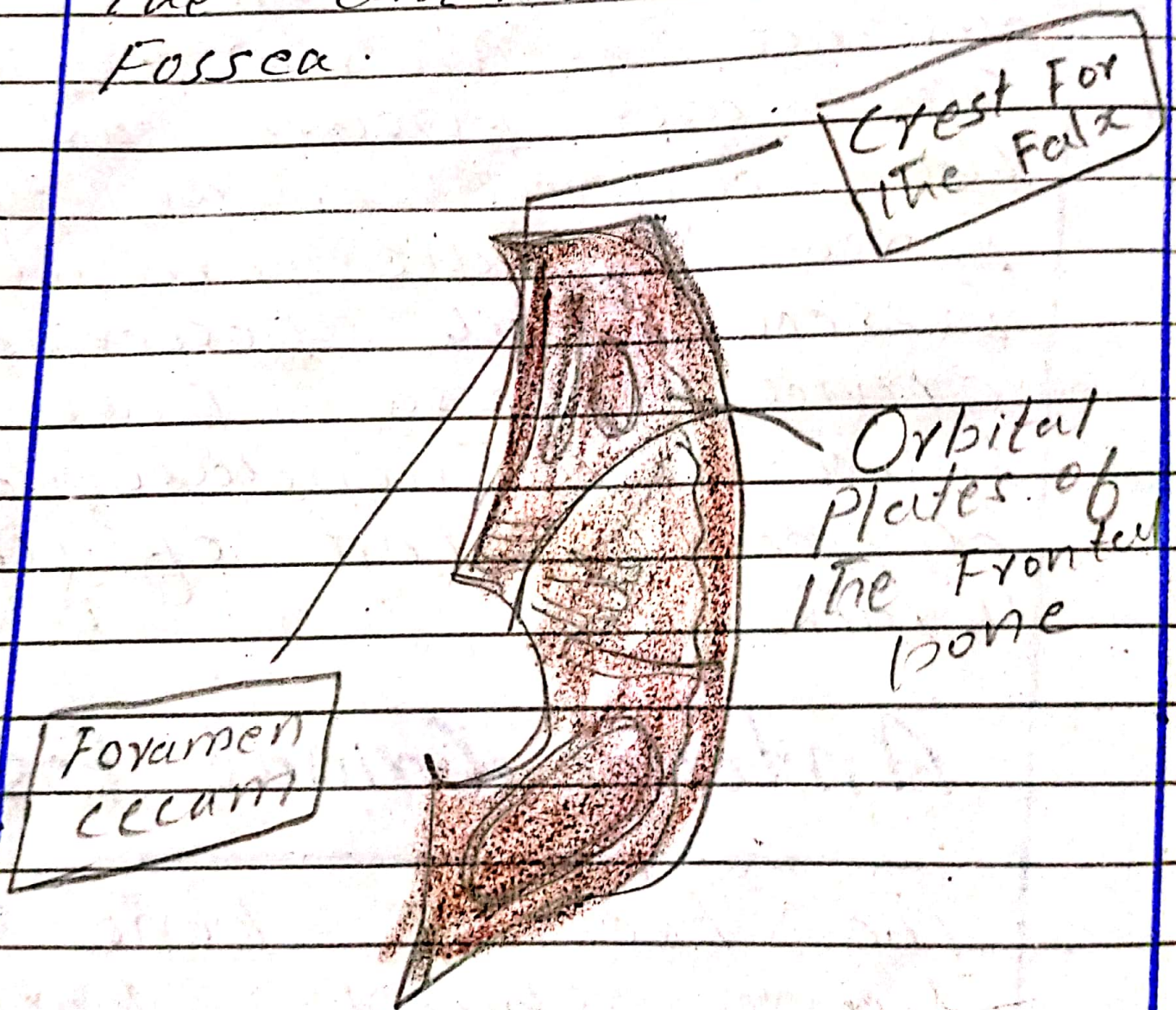
The Anterior crinal fossae the floor of the crinal cavity is divided into three distinct depression. They are known as the anterior crinal fossae, middle crinal fossae and Posterior crinal fossae. Each fossae accommodate a different part of the brain.

Anterior Crinal Fossae

The Frontal bone turns sharply back to form a large part of the roof of the orbit, this part of the bone is therefore called the orbital plate of the frontal bone.

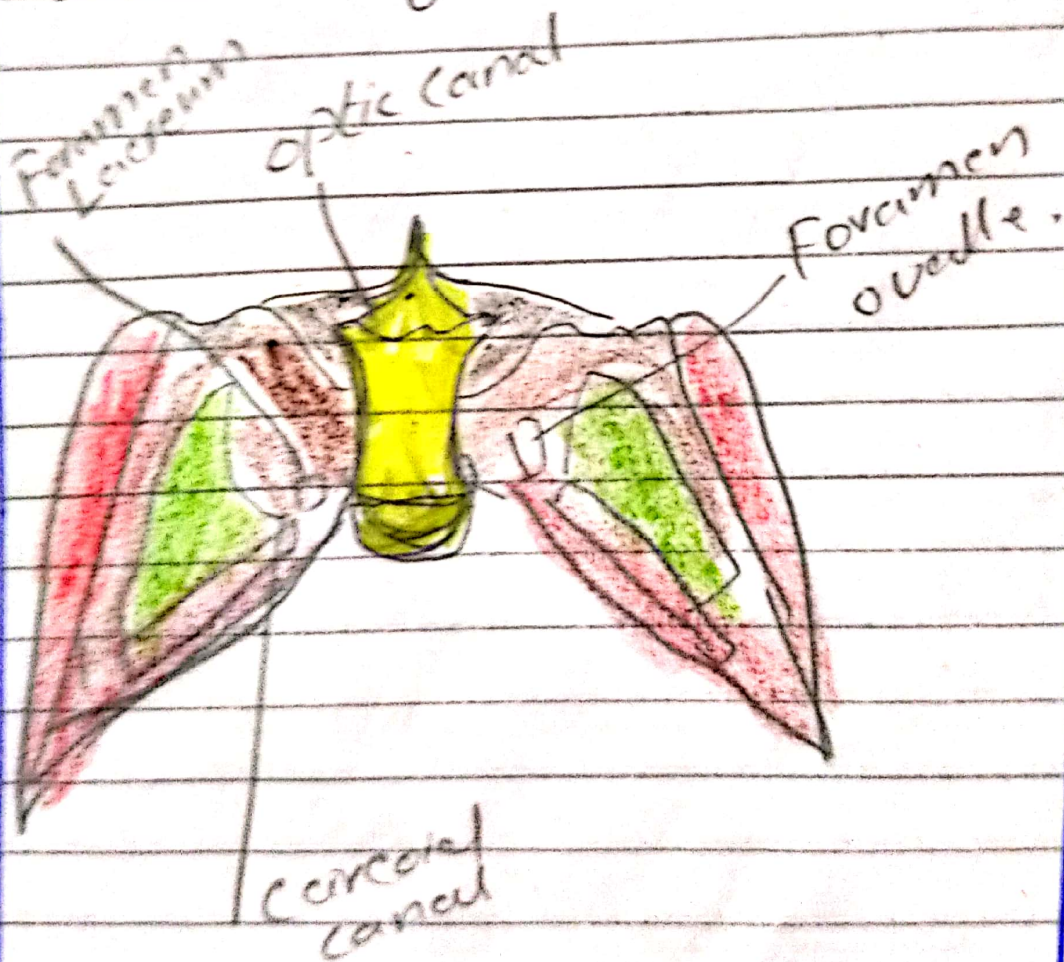
which is the largest contributor to the anterior fossa.

- The Frontal bone Lobe of the brain occupies the anterior cranial Fossa.



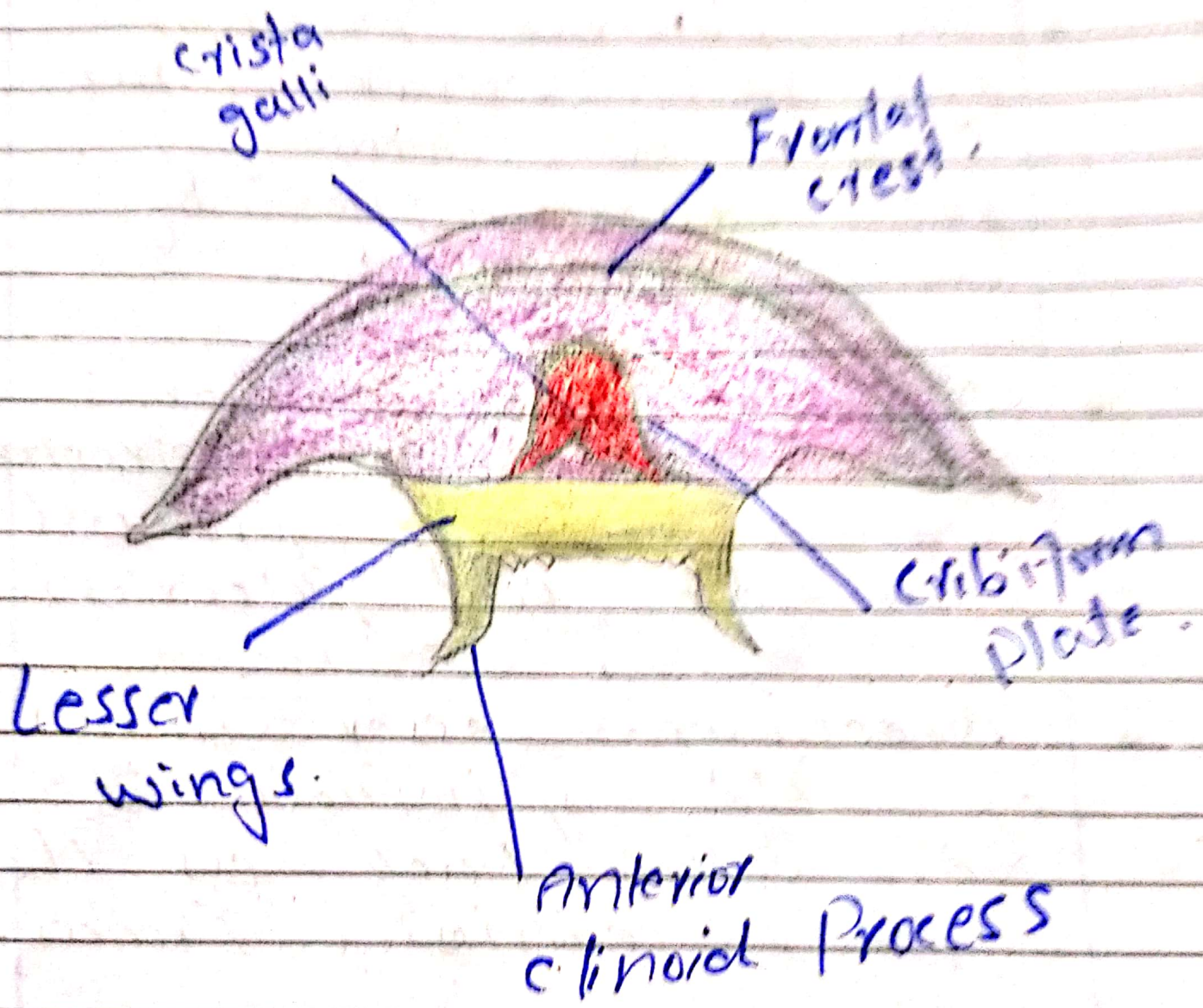
Middle Crinal Fosse

The middle crinal Fosse is a butterfly shaped depression of the skull base which is narrow in the middle and wider laterally. It houses the temporal lobes of the cerebrum.



Posterior Crinal Fosse

is a part of the crinal cavity located between the foramen magnum and tentorium cerebelli. It contains the brainstem and cerebellum. It houses the cerebellum medulla and Pons.



Q. Write a note on
Cranial Nerve.

Cranial Nerve

Definition

Cranial nerve are those nerves which arise from the brain and brain stem rather than the spinal cord. The next most cranial is the optic nerve (II) which run from the eye to the thalamus. Cranial nerves (I) to (XII) all exist from the brain stem and innervate the head neck and organs in the thorax and abdomen.

F unction:

The cranial nerve provide motor and sensory supply mainly to the neck region. The sensory supply include both general sensation such as temperature and sensation of touch and "special" sense such as taste, vision, smell, balance and hearing.

1) Smell Nerve:-

Olfactory

Nerve.

2) Optic Nerve:-

↳ optic Nerve

is also called vision nerve

3) Oculomotor Nerve:

↳ Eye

movement Nerve.

4) Trochlear Nerve:

5)

↳ component

motor

Function:

→ Assisting and turning of eye balls down ward and laterally.

Origin:

Posterior part of the mid brain.
→ opening to the skull superior orbital fissure.

5) Trigeminal Nerve:

Trigeminal Nerve are three types.

- 1) Ophthalmic Nerve
- 2) Maxillary Nerve
- 3) Mandibular Nerve.

1) Ophthalmic Nerve

Its component are sensory.

→ Its function are cornea, forehead, eyelids, and nose mucus membrane of paranasal sinuses and nasal cavity.

ORIGIN:-

Anterior aspects
of pons
→ opening to the skull
superior orbital fissure

2) MAXILLARY NERVE:-

Both Sensory & motor.
Component of

FUNCTION:-

Skin of Face over
maxilla, Teeth of the upper
Jaw, Mucous membrane of
the nose, the maxillary sinuses
and plates.

ORIGIN:-

Anterior aspects
of the pons.

OPENING:-

Opening to the
Skull Foramen ovale.

3) **MANDIBULAR NERVE:-**

Both sensory & motor. Component of

FUNCTION:-


Muscles of mastication, Mylohyoid, Tensor tympani.

ORIGIN:-

Anterior aspects of the pons.

OPENING:-

Opening to the skull Foramen rotundum.

6)  **ABDUCENT NERVE:**

Component of motor.

FUNCTION:-

Lateral Rectus muscles turn eye ball laterally.

ORIGIN:-

Medulla oblongata → opening to the skull Superior orbital Fissure.

7) FACIAL NERVE:-

Component
of Both sensory and
motor.

FUNCTIONS:-

Muscle of Face, Eye
Scler, stapedius muscle, posterior
belly of digastric.

8) VESTIBULOCOCHLEAR NERVE:

Component
of sensory.

FUNCTIONS:-

- vestibular, saccule, semi-
- circular canal, position of
head.

9) GLOSSOPHARYNGEAL NERVE:-

Component
of mixed Nerve.

FUNCTIONS:-

Stylopharyngea, Muscle
Assists, swallowing e.t.c.

10)

VAGUS NERVE:-

Component of motor Nerve.

FUNCTION:-

Heart and great Thoracic Blood vessels, larynx, Trachea, Bronchi, Lungs, Liver, Kidney & Pancreas.

11)

ACCESSORY NERVE:-

Component of motor.

FUNCTION:-

Cranial root, Muscle of pharynx, Muscle of pharynx, spinal root

12)

HYPOGLOSSAL NERVE:-

Component of motor.

FUNCTION:-

Function of muscle tongue.

QNO 3 Write Note on the silent features of Norma frontalis & Norma occipitalis of skull.

Exnsi- NORMA FRONTALIS:-

DEFINITION:-

The out line of the skull viewed from the front.

EXPLANATION:-

The nerve has the same names as the foramina and each as a branch of a separate division of the trigeminal nerve, respectively the ophthalmic, maxillary and mandibular divisions. The anterior view of the skull present on infra-orbital surface with 3 excavations.

- 1) one Nasal cavity
- 2) two orbital cavity.

Six Regions:-

Normal

- Frontalis have six region.
- 1) Frontal Region
 - 2) Orbital Region
 - 3) Nasal Region
 - 4) Zygomatic Region
 - 5) Maxillary Region
 - 6) Mandibular Region.

FUNCTION:-

In human beings the Frontalis muscle only serves for facial expressions. In the eye brows, its primary function is to lift them thus opposing the orbital portion of the orbicularis especially when looking up.

NERVE:-

Facial Nerve, Temporal Branch.

ACTION:-

Raises eyebrows and wrinkles forehead.

NORMA OCCIPITALS:-

DEFINITION:-

The posterior aspect of the skull of a human being is called as Norma Occipitals.

BONY FEATURES:-

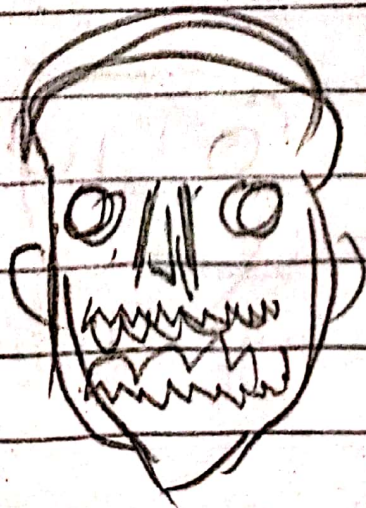
Bony features of Norma Occipitals are

following.

- 1) External occipital Protuberance
- 2) Inion
- 3) External occipital crests
- 4) Highest nuchal line
- 5) Superior nuchal line
- 6) Inferior nuchal line
- 7) Mastoid notch
- 8) Mastoid process
- 9) Mastoid foramen.

FUNCTION:-

The occipital muscle is innervated by the facial Nerve and its function is to move the scalp back. These muscle receives blood from the occipital artery. Its function is to move the eyes brows and scalp up and back the wrinkles the forehead which are facial movements often used to make facial expressions when you are shocked / surprised.



14th occipital.

Q No 4: what do you know about the muscles of hip & knee joints?

Ans:- Muscle of hip Joints:-

The movement that can be carried out at the hip joints are listed below. along with the principal muscles responsible for each action. Flexion - iliopsoas, rectus femoris, Sartorius, Pectineus. e.t.c.

DIVISION:-

The hip muscles are divided into three basic groups on the basis of their location.

- 1) Anterior muscle (Front side)
- 2) Posterior (Back)
- 3) Middle / Medial (inside muscle).

→ ANTERIOR MUSCLE:

→ Flex thigh

at hip

→ Extend leg at knee.

i) QUADRICEPS FEMORIS:-

Rectus Fem-

- movis.

ORIGIN:-

Anterior inferior iliac spine, margin of acetabulum.

INSERTION:-

Patella and tibial tuberosity via the patellar ligament

ACTION:-

Extend knees Flexes

thigh.

- vastus lateralis
- vastus medialis
- vastus intermedius.

ii) SARTORIUS:

ORIGIN:-

Anterior superior iliac spine.

INSERTION:-

medial tibia.

ACTION:-

Flex abduct, late rotate
thigh, week knee Flexor.

→ **POSTERIOR MUSCLE:-**

→ Extend thigh

→ Flexes leg.

i) **BICEPS FEMORIS (2-heads)**

ORIGIN:-

ischial tuberosity
distal femur.

INSERTION:-

lateral tibia,
head fibula.

- Semi tendinosus
- Semi membranous

MUSCLE OF KNEE JOINT:

INTRODUCTION

The quadriceps femoris, vastus lateralis, vastus medius and vastus intermedius crosses the knee via the patella and act extends the leg. The hamstring muscles (semitendinosus, semimembranosus and biceps femoris) flex the knee and extend the hip.

FUNCTIONS:-

The muscles of the knee include the quadriceps, hamstrings and the muscles of the calf. These muscles work in a group to flex, extend and stabilize the knee joint. These motions of the knee allow the body to perform such important movements as walking, running, kicking and jumping etc.

DIVISION:-

There are two types of the muscle

- a) Quadriceps
- b) hamstrings.

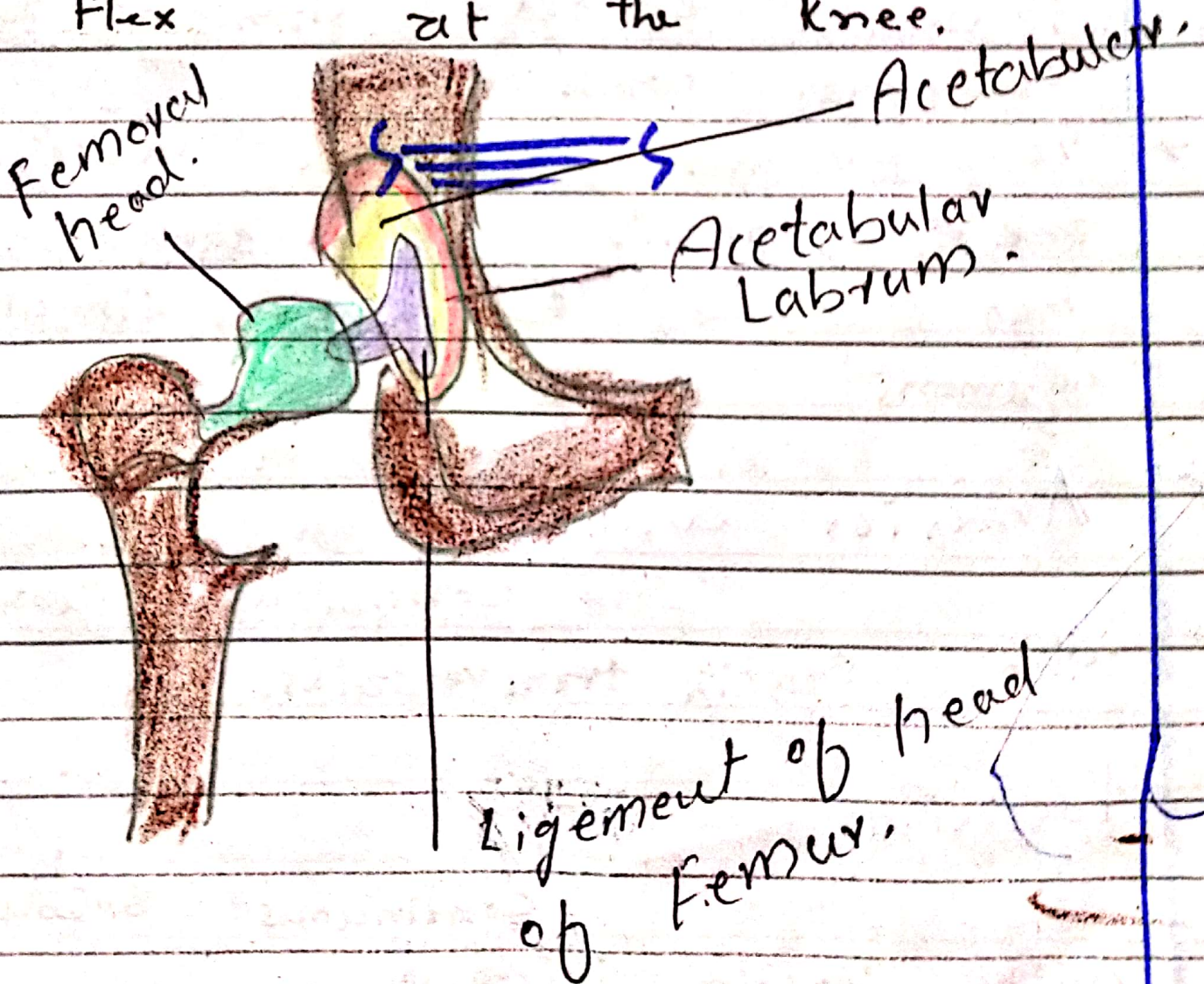
A) QUADRICEPS MUSCLE:-

Collectively the quadriceps muscle group act as the main extensors of the leg at the knee joints. The rectus femoris muscle also act at the thigh at the hip joint and can simultaneously extend the knee whilst also flexing the hip.

B) HAMSTRINGS MUSCLE:-

The muscles in the posterior compartment of the thigh are collectively known as the hamstrings.

they consist of the biceps femoris semitendinosus and semi membraneous which form prominent tendons medially and laterally at the back of the knee. As the group these muscles act to extend at the hip and flex at the knee.



Q5

write
note

a
on

Comprehensive
Femoral Triangle

Ans

FEMORAL TRIANGLE:

FEMORAL SHEATH:

Downwards

Protrusion into thigh of the
facial envelope lining the
abdominal walls

→ It surrounds femoral vessels
and lymphatic for about 1
inch below the lingual linguinal
ligament

Anterior wall:-

Continuous above

with fascia transversalis.

Posterior wall:-

Continuous Below

with fascia ilica.

- 3-compartments (divided by
fibrous septum.

Lateral

↳ Femoral artery occupies it.

Intermedial

Femoral vein occupies it.

Medial

occupied by lymph vessels.

FEMORAL CANAL:-

Small medial compartment occupied by lymph vessels.

→ 0.5 inches long.

→ upper opening is called as femoral ring.

→ it contains fatty.

- connective tissue

- All efferent lymph vessels

From deep inguinal lymph node

→ one deep inguinal lymph node

- potentially weak area in the abdomen.

Femoral Triangle:-

Triangular shaped

depressed area.

- Situated in the upper part of medial aspect of thigh just below the inguinal ligament.

Boundaries:

- Superiorly:

inguinal ligament

- Laterally:

Sartorius

- Medially:

Adductor longus.

- Floor:

Gutter shaped from lateral to medial by iliopsoas, pectineus and Adductor longus.

- Roof:

Skin & Fascia thigh.

CONTENTS OF THE FEMORAL TRIANGLE-

- Terminal part of femoral nerve and its branches
- Femoral sheath
- Femoral artery & branches
- Femoral vein & branches
- Deep inguinal lymph node.



Femoral
Nerve

Femoral
Cannal

Great
Sapientous
vein

Femoral
sheath

