**Subject: Human Anatomy II**

**Instructor: Dr. Arooba.**

**Section: B**

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**BS (DT) Total marks: 50**

**Attempt the following questions. Add diagrams where needed.**

**Each carries 10 marks.**

1. What are the major features of intracranial fossae of the skull?

ANSWER:

There are 3 major fossae of the skull which are

* ANTERIOR cranial fossae

The anterior cranial fossa is a depression in the floor of the cranial base which houses the projecting frontal lobes of the brain. It is formed by the orbital plates of the frontal, the cribriform plate of the ethmoid, and the small wings and front part of the body of the sphenoid; it is limited behind by the posterior borders of the small wings of the sphenoid and by the anterior margin of the chiasmatic groove. The lesser wings of the sphenoid separate the anterior and middle fossae.

* MIDDLE cranial fossae

The middle cranial fossa, deeper than the anterior cranial fossa, is narrow medially and widens laterally to the sides of the skull. It is separated from the posterior fossa by the clivus and the petrous crest. It is bounded in front by the posterior margins of the lesser wings of the sphenoid bone, the anterior clinoid processes, and the ridge forming the anterior margin of the chiasmatic groove; behind, by the superior angles of the petrous portions of the temporal bones and the dorsum sellæ;

* POSTERIOR cranial fossae The posterior cranial fossa is part of the cranial cavity, located between the foramen magnum and tentorium cerebelli. It contains the brainstem and cerebellum. This is the most inferior of the fossae. It houses the cerebellum, medulla and pons. Anteriorly it extends to the apex of the petrous temporal. Posteriorly it is enclosed by the occipital bone. Laterally portions of the squamous temporal and mastoid part of the temporal bone form its walls.
1. Write note on the cranial nerves.

ANSWER: ( CRANIAL NERVE)

**Cranial nerves** are the [nerves](https://en.wikipedia.org/wiki/Nerve) that emerge directly from the [brain](https://en.wikipedia.org/wiki/Brain) (including the [brainstem](https://en.wikipedia.org/wiki/Brainstem)), of which there are conventionally considered twelve pairs. Cranial nerves relay information between the brain and parts of the body, primarily to and from regions of the [head and neck](https://en.wikipedia.org/wiki/Head_and_neck), including the [special senses](https://en.wikipedia.org/wiki/Special_senses) of [vision](https://en.wikipedia.org/wiki/Visual_perception), [taste](https://en.wikipedia.org/wiki/Taste), [smell](https://en.wikipedia.org/wiki/Olfaction), and [hearing](https://en.wikipedia.org/wiki/Hearing).[[1]](https://en.wikipedia.org/wiki/Cranial_nerves#cite_note-Gray's2008-1)

The cranial nerves emerge from the [central nervous system](https://en.wikipedia.org/wiki/Central_nervous_system) above the level of the first vertebrae of the [vertebral column](https://en.wikipedia.org/wiki/Vertebral_column).[[2]](https://en.wikipedia.org/wiki/Cranial_nerves#cite_note-Kandel-2) Each cranial nerve is paired and is present on both sides. There are conventionally twelve pairs of cranial nerves, which are described with [Roman numerals](https://en.wikipedia.org/wiki/Roman_numerals) I–XII. Some considered there to be thirteen pairs of cranial nerves, including [cranial nerve zero](https://en.wikipedia.org/wiki/Cranial_nerve_zero). The numbering of the cranial nerves is based on the order in which they emerge from the brain and brainstem, from front to back.[[2]](https://en.wikipedia.org/wiki/Cranial_nerves#cite_note-Kandel-2)

The [terminal nerves](https://en.wikipedia.org/wiki/Terminal_nerve) (0), [olfactory nerves](https://en.wikipedia.org/wiki/Olfactory_nerve) (I) and [optic nerves](https://en.wikipedia.org/wiki/Optic_nerve) (II) emerge from the [cerebrum](https://en.wikipedia.org/wiki/Cerebrum), and the remaining ten pairs arise from the [brainstem](https://en.wikipedia.org/wiki/Brainstem), which is the lower part of the brain.[[3]](https://en.wikipedia.org/wiki/Cranial_nerves#cite_note-Vilensky-3)

The cranial nerves are considered components of the [peripheral nervous system](https://en.wikipedia.org/wiki/Peripheral_nervous_system) (PNS),[[3]](https://en.wikipedia.org/wiki/Cranial_nerves#cite_note-Vilensky-3) although on a structural level the olfactory (I), optic (II), and trigeminal (V) nerves are more accurately considered part of the central nervous system (CNS).[[4]](https://en.wikipedia.org/wiki/Cranial_nerves#cite_note-4)

The cranial nerves are in contrast to [spinal nerves](https://en.wikipedia.org/wiki/Spinal_nerve), which emerge from segments of the [spinal cord](https://en.wikipedia.org/wiki/Spinal_cord).[[3]](https://en.wikipedia.org/wiki/Cranial_nerves#cite_note-Vilensky-3)

1. Write note on the salient features of norma frontalis and norma occipitalis of skull.

ANSWER: norma occipitalis of skull.

The bones and sutures seen in Norma Occipitalis. Prominent landmarks and reference points seen in Norma Occipitalis. Muscles and ligaments attached to bone seen in Norma Occipitalis.

· The normas Five views of the exterior of the skull are used in anatomical descriptions, each is spoken of as a norma Norma verticalis Norma frontalis Norma lateralis Norma basalis Norma occipitalis 11. Norma verticalis 12.

1. What do you know about the muscles of hip and knee?

## ANSWER: Muscles of the hip

In human anatomy, the muscles of the hip joint are those muscles that cause movement in the hip. Most modern anatomists define 17 of these muscles, although some additional muscles may sometimes be considered. These are often divided into four groups according to their orientation around the hip joint: the gluteal group; the lateral rotator group; the adductor group; and the iliopsoas group.

knee

In humans and other primates, the knee joins the thigh with the leg and consists of two joints: one between the femur and tibia, and one between the femur and patella. It is the largest joint in the human body. The knee is a modified hinge joint, which permits flexion and extension as well as slight internal and external rotation. The knee is vulnerable to injury and to the development of osteoarthritis.

1. Write a comprehensive note on the femoral triangle.

ANSWER:( FEMORAL TRIANGLE)

1. [2.](https://image.slidesharecdn.com/femoraltriangle-180421093722/95/femoral-triangle-2-638.jpg?cb=1524303525) FEMORAL TRIANGLE • Femoral Triangle is a triangular depression on the very front of the upper one-third of the thigh below the inguinal ligament. • Its apex is pointed downward.
2. [3.](https://image.slidesharecdn.com/femoraltriangle-180421093722/95/femoral-triangle-3-638.jpg?cb=1524303525) FEMORAL TRIANGLE • The femoral triangle is a hollow area in the anterior thigh. • Large neurovascular structures pass through this area, and can be accessed relatively easily. • Thus, it is an area of both anatomical and clinical importanc
3. [4.](https://image.slidesharecdn.com/femoraltriangle-180421093722/95/femoral-triangle-4-638.jpg?cb=1524303525) BOUNDARIES OF THE FEMORAL TRIANGLE • Base: Inguinal ligament. • Apex: It’s created by the meeting point of the medial edges of adductor longs and sartorius. • Floor: It’s gutter-shaped and muscular. • From lateral to medial side it’s created by these muscles: – Iliacus. – Psoas major (tendon). – Pectineus. – Adductor longus. • Roof: The Roof of a Femoral Triangle is created by the fascia lata having saphenous opening.
4. [5.](https://image.slidesharecdn.com/femoraltriangle-180421093722/95/femoral-triangle-5-638.jpg?cb=1524303525) FEMORAL TRIANGLE • Borders • As this area is a triangle, it has three borders: • Superior border – Formed by the inguinal ligament, a ligament that runs from the anterior superior iliac spine to the pubic tubercle. • Lateral border – Formed by the medial border of the sartorius muscle. • Medial border – Formed by the medial border of the adductor longus muscle. The rest of this muscle forms part o
5. [6.](https://image.slidesharecdn.com/femoraltriangle-180421093722/95/femoral-triangle-6-638.jpg?cb=1524303525) FEMORAL TRIANGLE • The superficial fascia overlying the roof includes: – Superficial branches of the femoral artery and accompanying veins, – Upper part of great saphenous vein, – Superficial inguinal lymph nodes, – Femoral branch of the genitofemoral nerve, and – Branches of ilioinguinal nerve. • The inguinal ligament acts as a flexor retinaculum, supporting the contents of the femoral triangle during flexion at the hip.
6. [7.](https://image.slidesharecdn.com/femoraltriangle-180421093722/95/femoral-triangle-7-638.jpg?cb=1524303525) CONTENTS OF THE FEMORAL TRIANGLE • The primary contents of the Femoral Triangle are as follows: –Femoral artery and its branches. –Femoral vein and its tributaries. Femoral sheath –Femoral nerve. –Deep inguinal lymph nodes. –Lateral cutaneous nerve of the thigh. • In addition to above structures, Femoral Triangle also includes: – Femoral branch of the genitofemoral nerve. – Fibrofatty

f the floor of the triangle.

 [8.](https://image.slidesharecdn.com/femoraltriangle-180421093722/95/femoral-triangle-8-638.jpg?cb=1524303525) Contents of THE FEMORAL TRIANGLE • The femoral triangle contains some of the major neurovascular structures of the lower limb. • Its contents (lateral to medial) are: – Femoral nerve – Innervates the anterior compartment of the thigh, and provides sensory branches for the leg and foot. – Femoral artery – Responsible for the majority of the arterial supply to the lower limb. – Femoral vein – The great saphenous vein drains into the femoral vein within the triangle. – Femoral canal – A structure which contains deep lymph nodes and vessels. • The femoral artery, vein and canal are contained within a fascial compartment – known as the femoral sheath.

1. [9.](https://image.slidesharecdn.com/femoraltriangle-180421093722/95/femoral-triangle-10-638.jpg?cb=1524303525) FEMORAL ARTERY AND ITS BRANCHES • The femoral artery traverses the Femoral
2. [11.](https://image.slidesharecdn.com/femoraltriangle-180421093722/95/femoral-triangle-12-638.jpg?cb=1524303525) FEMORAL VEIN AND ITS BRANCHES • The femoral vein accompanies the femoral artery. • The vein is posterior to the femoral artery in the apex and medial to it at the base of the Femoral Triangle. • It gets the great saphenous vein and profunda femoris vein and veins corresponding to the superficial branches of femoral artery.

[12.](https://image.slidesharecdn.com/femoraltriangle-180421093722/95/femoral-triangle-13-638.jpg?cb=1524303525) FEMORAL NERVE • The femoral nerve is located lateral to the femoral artery, outside the femoral sheath, in the groove between the iliacus and the psoas major. • About 2.5 cm below the inguinal ligament it divides into anterior and posterior sections which enclose lateral circumflex femoral artery between them. • The anterior section produces 2 cutaneous branches- intermediate and medial cutaneous nerves of the thigh. – The medial cutaneous branch accompanies the lateral side of the artery; at the apex of the triangle it crosses the front of the artery from lateral to medial side. • The posterior section gives rise to cutaneous nerve, the saphenous nerve. It goes downward along the lateral side of the artery