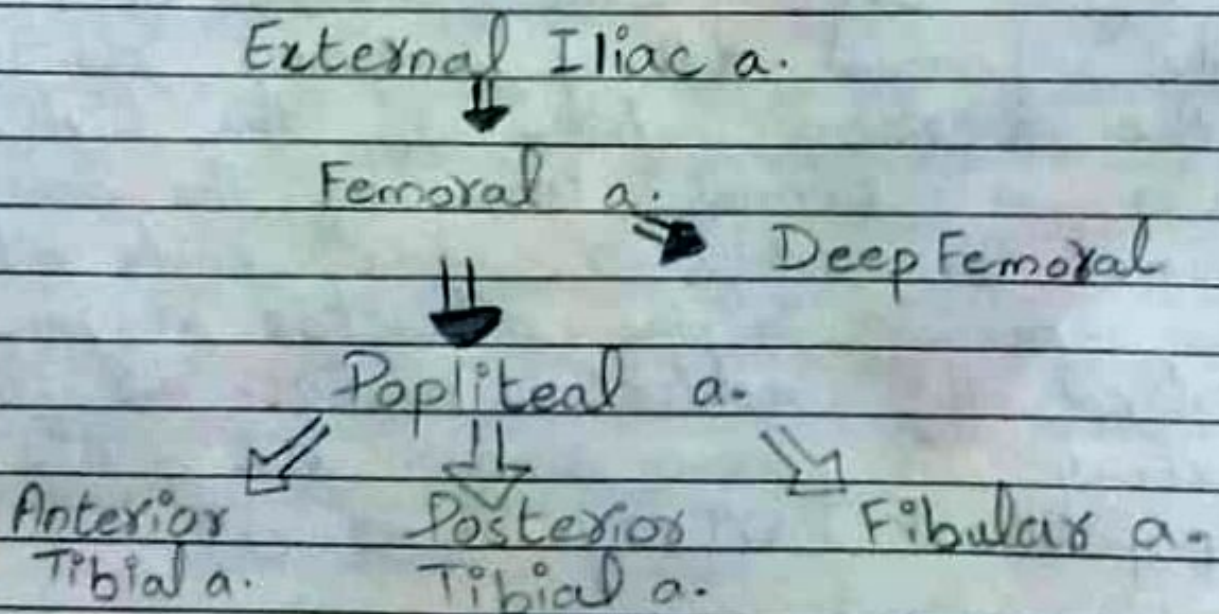


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DPT : 2nd Semester
Subject : Anatomy-II Lab

Write down a comprehensive note on blood supply and venous return of lower limb.

LOWER LIMB BLOOD Supply.



The arterial supply of the lower limbs originates from the ^{external} iliac artery. The common femoral artery

(2)

is the direct continuation of the external iliac artery, beginning at the level of the inguinal ligament.

"IN THE THIGH AND GLUTEAL REGION" FEMORAL ARTERY:-

The main artery of lower limb is the femoral artery. In the femoral triangle, the profunda femoris artery from the posterolateral aspect of the femoral artery.

After exiting the femoral triangle, the femoral artery continues down the anterior surface of the thigh, via a tunnel known as the adductor canal. The adductor canal ends at an opening in the adductor magnus, called the adductor hiatus. The femoral artery is now known as the popliteal artery.

POPLITEAL ARTERY:-

The popliteal artery descends down the posterior thigh, giving rise to genicular branches that supply to the knee joint.

(3)

•) **Posterior Tibial artery:-**

continues inferiorly along the surface of the deep posterior leg muscles (such as tibialis posterior). It enters the sole of the foot via the tarsal tunnel, accompanying the tibial nerve.

•) **Anterior Tibial artery:-**

It passes anteriorly between the tibia and fibula, through a gap in the interosseous membrane. It then moves inferiorly down the leg.

•) **Fibular Artery:-**

Descends posteriorly to the fibula, within the posterior compartment of the leg. It gives rise to perforating branches, which penetrates the intermuscular septum to supply muscles in the lateral compartment of the leg.

IN FOOT:-

•) Arterial supply to the foot is delivered via two arteries:-

⇒ Dorsalis pedis.

⇒ Posterior tibia.

VENOUS RETURN OF THE LOWER LIMB.

-) The veins of the lower limb drain deoxygenated blood and return it to the heart. They can be divided into two groups - deep and superficial:-

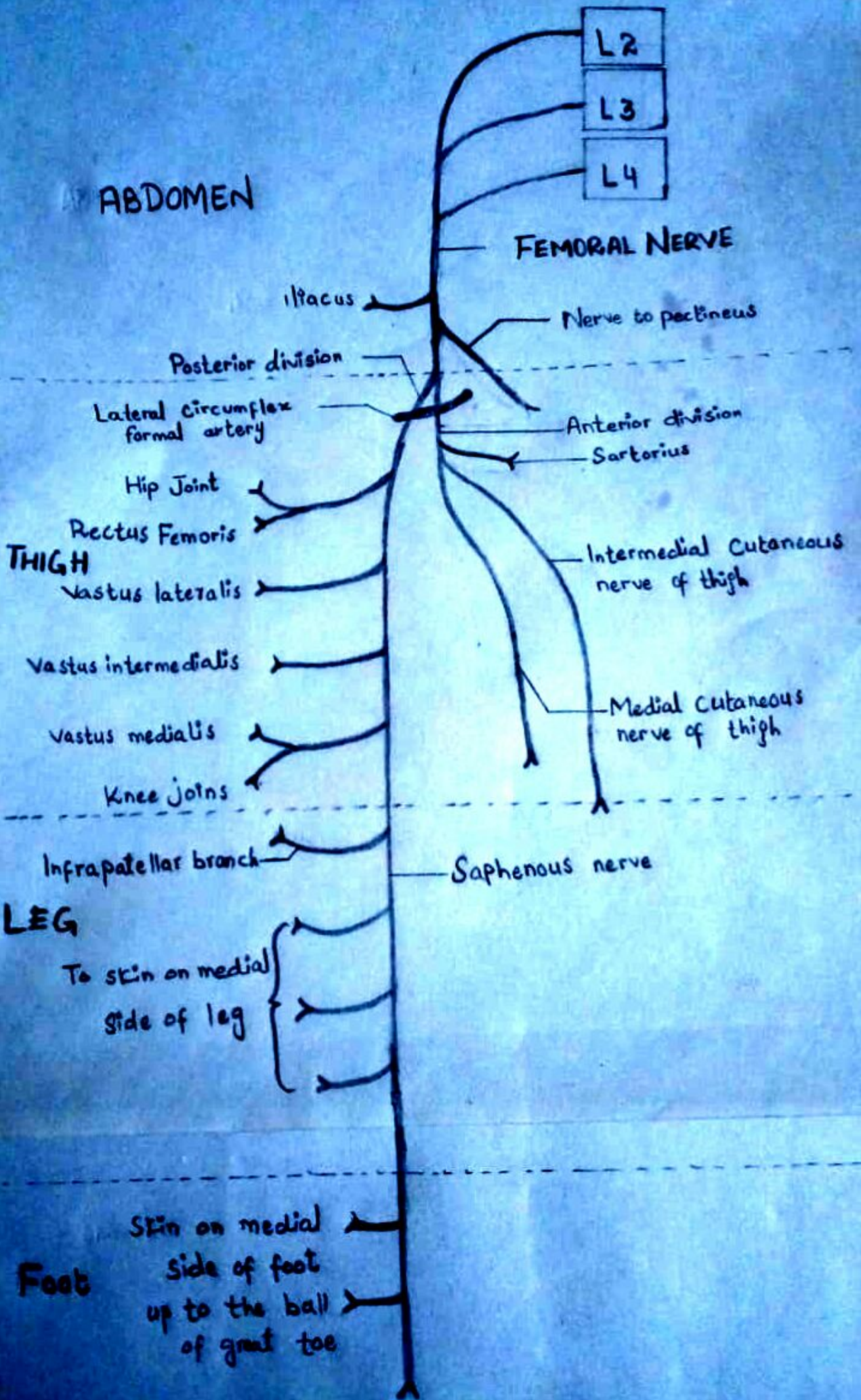
Deep veins:-

-) Deep veins are located underneath the deep fascia of the lower limb, accompanying the major arteries.
-) The deep venous drainage system of the lower limb is located beneath the deep fascia of the lower limb. As a general rule, the deep veins accompany and share the name of its major arteries in the lower limb. The artery and vein are located within the same vascular sheath - so that the arterial pulsation aid the venous return.

Q2) Describe anatomical course of femoral and sciatic nerve with the help of diagram.

FEMORAL NERVE

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ABDOMEN

L2

L3

L4

FEMORAL NERVE

Iliacus

Nerve to pectineus

Posterior division

Lateral circumflex femoral artery

Anterior division

Sartorius

Hip Joint

Rectus Femoris

THIGH

Vastus lateralis

Intermedial cutaneous nerve of thigh

Vastus intermedius

Vastus medialis

Medial cutaneous nerve of thigh

Knee joints

Infrapatellar branch

Saphenous nerve

LEG

To skin on medial side of leg

Foot

Skin on medial side of foot up to the ball of great toe

Course of Femoral nerve

The femoral nerve is the largest branch of the lumbar plexus.

The nerve descends from the lumbar plexus in the abdomen traveling down through the fibers of psoas major.

The nerve exits psoas major at the lower part of its lateral border, passing behind the iliac fossa to approximately the mid-point of the inguinal ligament of about 4cm into the thigh and splits into an anterior and posterior division.

The lateral circumflex femoral artery is straddled by both sections. The nerve enters the femoral triangle by passing beneath the inguinal ligament just lateral to the femoral artery.

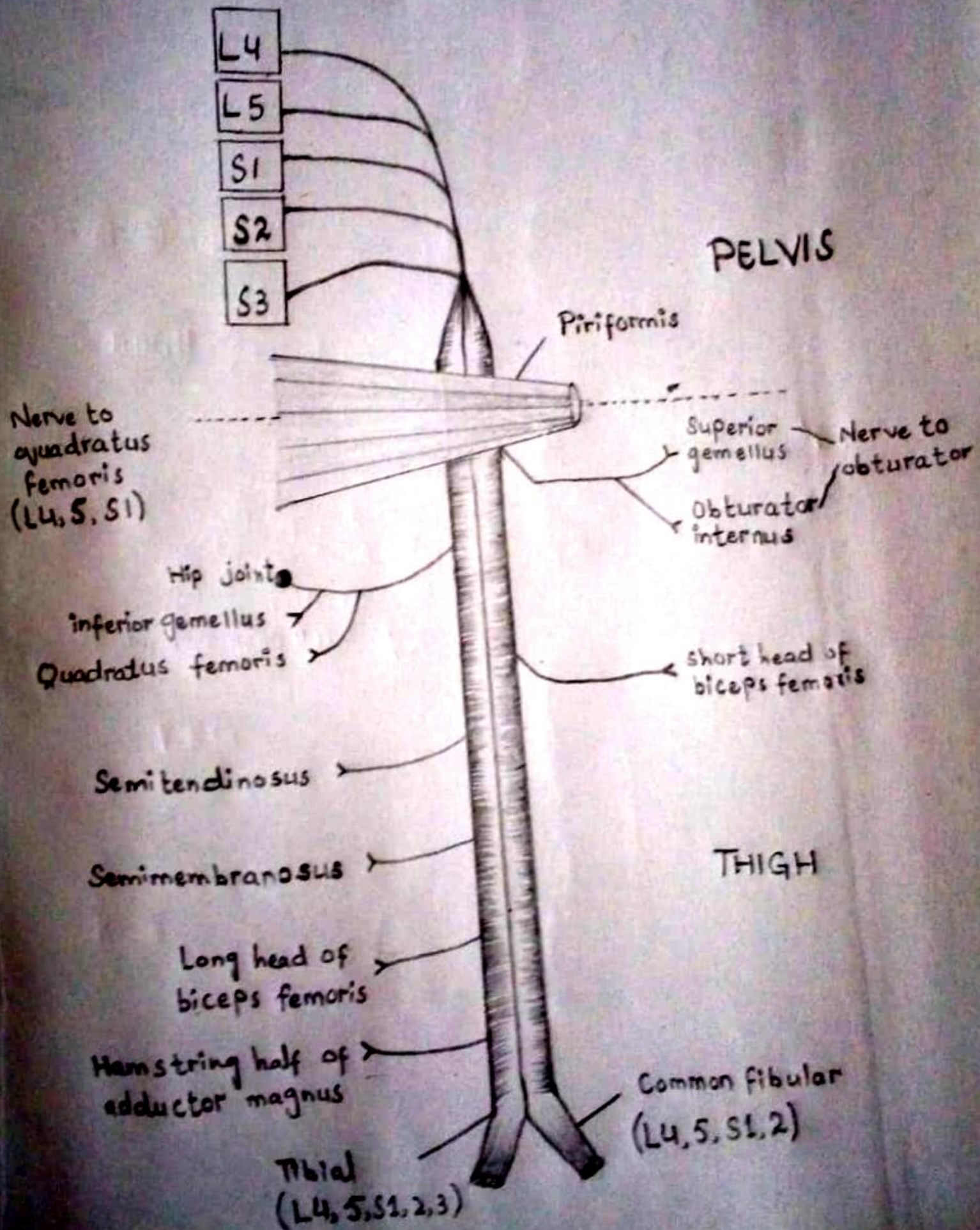
In the thigh, it lies outside the femoral sheath, gives off articular branches to the hip and knee joint.

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-) The terminal cutaneous branch of the femoral nerve is the saphenous nerve which continues with the femoral artery and vein, through the adductor canal.
-) Femoral nerve is the main nerve of anterior compartment of thigh.
-) It originates from the dorsal sections of the anterior primary rami of L₂, L₃, L₄ nerves and is the largest branch of lumbar plexus.
-) The hip joint is supplied by the nerve to the rectus femoris.
-) The anterior branch of the femoral nerve then descends to supply the sartorius (the tailor's muscles).

SCIATIC NERVE

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"Anatomical course of Sciatic Nerve"

The sciatic nerve is derived from the lumbosacral plexus. After its formation, it leaves the pelvis and enters the gluteal region via greater sciatic foramen. It emerges inferiorly to the piriformis muscle and descends in an inferolateral direction.

As the nerve moves through the gluteal region, it crosses the posterior surface of the superior gemellus, obturator internus, inferior gemellus and quadratus femoris muscles. It then enters the posterior thigh by passing deep to the long head of the biceps femoris.

Within the posterior thigh, the nerve gives rise to branches to the hamstring muscles and abductor magnus.