



BENHA UNIVERSITY

FACULTY OF MEDICINE

ANATOMY DEPARTMENT

Course code (MED 0701)

Model answer of Anatomy examination

(Neuroanatomy , Lower limb and Special embryology)

2nd year – 2nd term

Date :8 /6 /2013

**4- Cause of each of the following anomalies :
(4 marks)**

a- Oblique facial cleft (1 mark):- -----

b-Vitelline fistula (1 mark) :- -----

c-Cryptorchidism (1 mark):- -----

d-Oesophageotracheal fistula (1 mark) :- -----

**5- The arteries supplying the internal capsule .
(2 marks)**

**6- The nuclei of origin of the facial (VII) nerve .
(2 marks)**

III-Complete the following statements using the suitable words (20 x1/2 =10 marks)

**1-The deep planter arch ends by anastomosing with
.....**

**2-The femoral ring is bounded medially by
..... and laterally by
.....**

**3- The anterior cruciate ligament is stretched in
..... ,while the posterior cruciate
ligament is stretched in**

4- The caudal part of the foregut extends from

..... to

.....

5-The buccal part of the tongue develops from

..... and

.....

6-The main pancreatic duct develops from

..... ,

..... and

.....

7-In C.N.S. : The nucleus is functionally GSE ,while the

..... nucleus is

functionally Sp.V.E. type .

8-Area 44 & 45 occupies the

.....and

of thegyrus and its function is

.....

9- Bilateral connection in auditory pathway occurs via

..... and

.....

IV- Cross matching (3 x 3 = 9 marks)

1-Match each muscle with its suitable action (6 x 1/2 =3 marks)

- | | |
|--|----------------------------------|
| A.....Gluteus medius joints | 1-Flexion of hip and knee |
| B.....Gluteus maximus extension of knee | 2-Flexion of hip and |
| C..... Rectus femoris flexion of knee | 3-Extension of hip and |
| D..... Sartorius rotation of hip | 4-Extension and lateral |
| E.....Piriformis rotation of hip | 5-Abduction and medial |
| F.....Biceps femoris rotation of hip | 6-Abduction and lateral |

2-Match each structure with the suitable words (6 x 1/2 = 3 marks)

- | | |
|--|----------------------|
| A..... Genital tubercle rotation of intestinal loop | 1- Excessive |
| B.....Paramesonephric duct develops | 2- One kidney |
| C.....Uterus didelphys majora | 3-Labia |
| D..... Congenital volvulus | 4-Clitoris |
| E.....Unilateral renal agenesis uterus | 5-Double |
| F.....Genital swellings uterus ,double vagina tube | 6- Double |
| | 7- Fallopian |

3-Match the item in column " A" with the corresponding item in column "B"

(A)

(6x1/2=3 marks)

A In transverse fissure

B Isthmus

action

C Area 43

below anterior limb of

capsule

D Straitum

EPacchionian bodies

F..... White gyrus

interpositum

(B)

1- Gustatory

2-Of valve like

3-Through and

internal

4-Ammon's horn

5-Outer limbic arc

6-Dentate gyrus

7-Olfactory

8-Velum

9-Putamen

V-M.C.Q. (1X12 = 12 marks)

1-Which of the following muscles is found in the 3rd layer of the sole:

- a- Abductor hallucis**
- b- Adductor hallucis**
- c- Flexor hallucis longus**
- d- Extensor hallucis longus**
- e- Extensor hallucis brevis**

2-Which of the following muscles separates the femoral vessels from profunda femoris

vessels :

- a- Iliopsoas**
- b- Pectineus**
- c- Adductor longus**
- d- Adductor brevis**

e- Adductor magnus

3- The skin of the big toe is supplied by :

- a- Superficial peroneal nerve
- b- Deep peroneal nerve
- c- Medial planter nerve
- d- All of the above
- e- None of the above

4-Which of the following muscles supports both longitudinal and transverse arches of the foot :

- a- Peroneus tertius
- b- Peroneus brevis
- c- Peroneus longus
- d- Tibialis anterior
- e- Tibialis posterior

5-In female ,the mesonephric tubules give rise to :

- a- Parooophron
- b- Epoophron
- c- Gartner's duct
- d- All of the above
- e- a + b only

6-Which of the following cells is endodermal in origin :

- a- Leydig cells
- b- Sertoli cells
- c- Mesothelial cells
- d- Spermatogonia
- e- None of the above

7-The following muscles arise from the second pharyngeal arch except :

- a- Buccinator
- b- Posterior belly of digastric
- c- Temporalis
- d- Platysma
- e- Orbicularis oculi

8-The stapedius muscle is developed from the mesoderm of :

- a- Occipital somites
- b- First branchial arch
- c- Second branchial arch
- d- Third branchial arch
- e- Fourth branchial arch

9-Structures in relation to the optic chiasma. All false ,but one :

- a- Jugum sphenoidal inferiorly
- b- Lamina terminalis superiorly
- c- Origin of basal vein medially
- d- Rhomboidal space anteriorly
- e- Hypophysis laterally

10-Denticulate ligament . All true but one :

- a- About 21 processes
- b- Its base lies midway between the two spinal nerve roots
- c- At C1 :lies between vertebral artery anterior and spinal accessory posterior
- d- Each tooth projects in level with the two roots
- e- Apices of teeth are fixed to the dural sac

11-Select the false item only :

- a- Alveus floors the inferior horn of lateral ventricle
- b- Hypothalamic groove separates thalamus and epithalamus
- c- Tela choroidea roofs the 3rd ventricle
- d- Corticospinal tract passes through the thalamolenticular part of I.C.
- e- Short association fibers lie within a cerebral lobe

12-Select the false item only :

- a- All auditory fibers end in metathalamus
 - b- Basal vein arises in the Ambein cistern
 - c- Medial lemniscus overlaps the trapezoid body
 - d- Pain and temperature fibers traverse the Lissauers tract
 - e- Posterolateral fissure separates Archi . & Neocerebellum
-
-

**Good Luck
Anatomy Department**

. تنبيه هام:

- ١- امتحان الشفوي غدا الاحد ٩ / ٦ / ٢٠١٣ للطلبة من رقم ١ حتى ٢٠٠
- ٢- امتحان الشفوي الاثنين ١٠ / ٦ / ٢٠١٣ للطلبة من رقم ٢٠١ حتى آخر طالب
- ٣- يجب ارتداء البالطوالابيض عند دخول الامتحان الشفوي
- ٤- الحضور أمام المشرحة الساعة ٩ ص
- ٥- على الطلبة العشرة الاوائل في مادة التشريح في الترم الاول الحضور الى مكتب رئيس القسم لاستلام شهادة التكرم

I-Short account on :- (3 x 5 = 15 marks)

**1-Common peroneal nerve :-Course and branches .
(5 marks)**

-Course (2 marks):- each statement =1/2 mark

1-It descends downwards and laterally in the popliteal fossa close to medial border of biceps femoris .

2-It leaves the fossa close to lateral angle and crosses over the plantaris and lateral head of gastrocnemius .

3-The nerve descends behind the head of fibula and curves forwards around the neck of fibula.

4-It ends on the lateral side of the neck of fibula by dividing into deep peroneal and superficial peroneal nerves .

-Branches (3 marks):- each branch = 1/2 mark

1-Cutaneous branches : a- lateral cutaneous nerve of the calf

b-Sural communicating nerve

2-Articular branches:- a-superolateral genicular nerve

b-inferolateral genicular n. c- recurrent genicular n.

3-Terminal branches : a- superficial peroneal nerve b- deep peroneal nerve

=====
=====

**2-Middle cerebral artery (M.C.A.):- Course ,cortical
distribution and related cortical
areas. (5
marks)**

-Course (1.5 mark) . Each statement = 1/2 mark

1- It runs laterally in the stem of lateral sulcus

2- It runs backwards on the insular cortex in the floor of lateral fossa

3-It emerges between the lips of posterior ramus of the lateral sulcus for distribution on the lateral surface of cerebral hemisphere .

-Cortical distribution(1.5 marks) . Each one =1/2 mark

**1- Most of the lateral surface except the occipital lobe and one
- finger breadth of the lateral surface of the frontal and
parietal lobe close to the median longitudinal fissure. 2-**

Lateral part of orbital surface of the frontal lobe .

3-Temporal lobe and uncus

-Related cortical areas :- (2 marks) .Each =1/2 mark

1-Motor and sensory areas except for leg ,foot and perineum

2-Speech area

3-Motor eye -field area

4-Auditory area

3- Development of male urethra .

(5 marks)

1-Prostatic urethra : (2 marks)

a- upper half of prostatic urethra develops from vesicourethral canal (endodermal in origin) b-lower half of prostatic urethra develops from absorption of 2 mesonephric ducts (mesodermal in origin)

2-Membranous urethra : - (1 mark)

-develops from pelvic part of the definitive Urogenital sinus

3-Spongy urethra :-(2 marks) develops from two sources

a-Most of penile urethra as far as the glans penis arises from phallic part of definitive urogenital sinus (endodermal in origin)

b-glandular urethra develops from the ectoderm covering the glans (ectodermal in origin)

=====
=====

II-Mention (14 marks)

1-Sites of perforating veins in the lower limb.

(2 marks)

a-Three perforating veins above the medial malleolus connecting the great saphenous vein with deep veins in the posterior compartment (1/2 mark)

b- A perforating vein at the tibial tuberosity connecting the great saphenous vein with the veins of the calf (1/2 mark)

c-A perforating vein at the knee joint connecting the great saphenous vein with the popliteal vein (1/2 mark)

**d- A perforating vein at the adductor canal connecting the great saphenous vein with the femoral vein
(1/2 mark)**

**2- Attachment of deltoid ligament .
(2 marks)**

-It triangular in shape .

a-Its apex is attached to the tip of medial malleolus (1/2 mark)

b- Its base is attached to the following structures from anterior to posterior (any 3 = 1.5 marks)

Tuberosity of navicular bone

-Spring ligament

-Neck of talus

-Sustentaculum tali

-Body of talus

**3- Areas and regions drained by superficial inguinal lymph nodes .
(2 marks)**

a-Lower limb wall

b- lower part of anterior abdominal

c- Gluteal region

d- perineum

(Each point = 1/2 mark)

**4- Cause of each of the following anomalies :
(4 marks)**

a- Oblique facial cleft (1 mark):- It is due to failure of the maxillary process to unite with the lateral nasal process

b-Vitelline fistula (1 mark) :- It is due to failure of obliteration of vitello-intestinal duct

c- Cryptorchidism (1 mark):- It is due to decreased production of androgen

d-Oesophageotracheal fistula (1 mark) :- It is due to incomplete fusion of the two laryngotracheal ridges.

**5- The arteries supplying the internal capsule .
(2 marks)**

A-Deep part of internal capsule : (1 mark)

All part of I.C. receives blood supply from middle cerebral artery . A small posterior part of posterior limb is supplied by posterior choroidal artery

B-Superficial part of internal capsule : (1 mark . Any two)

- Anterior limb : by anterior cerebral artery
- Genu : by posterior communicating artery
- Posterior limb : by anterior and posterior choroidal arteries

**6- The nuclei of origin of the facial(VII) nerve .
(2 marks)**

a-Motor nucleus lies in the lower part of the pons (1/2 mark)

b- Superior salivary nucleus is a parasympathetic nucleus which lies in the lower part of the pons (1/2 mark)

c- Nucleus solitarius lies in the the medulla oblongata (1/2 mark)

d- Spinal nucleus of trigeminal in the medulla oblongata (1/2 mark)

III-Complete the following statements using the suitable words (20 x1/2 =10 marks)

1-The deep planter arch ends by anastomosing with dorsalis pedis artery

2-The femoral ring is bounded medially by lacunar ligament and laterally by femoral vein

3- The anterior cruciate ligament is stretched in extension ,while the posterior cruciate ligament is stretched in flexion

4- The caudal part of the foregut extends from laryngeotracheal diverticulum to the liver bud

5-The buccal part of the tongue develops from two lateral lingual swelling and tuberculum impar .

6-The main pancreatic duct develops from the distal part of dorsal pancreatic bud , anastomotic duct and proximal part of ventral pancreatic bud

7-In C.N.S.: The occulomotor (trochlear , abducent ,hypoglossal or spinal nucleus of accessory) nucleus is functionally GSE ,while the ambigius (or motor nucleus of trigeminal or motor nucleus of facial n.) nucleus is functionally Sp.V.E. type .

8-Area 44 & 45 occupies the pars opercularis and pars triagularis of the inferior frontal gyrus and its function is motor speech area (control muscles of speech)

9- Bilateral connection in auditory pathway occurs via trapezoid body and commissure of inferior colliculus (or commissure of lateral lemniscus or acoustic stria)

IV- Cross matching (3 x 3 = 9 marks)

1-Match each muscle with its suitable action (6 x 1/2 =3 marks)

A...(5).....Gluteus medius
knee joints
B...(4).....Gluteus maximus
extension of knee
C...(2)..... Rectus femoris
and flexion of knee
D...(1)..... Sartorius
lateral rotation of hip
E...(6).....Piriformis
medial rotation of hip
F...(3).....Biceps femoris
lateral rotation of hip

1-Flexion of hip and
2-Flexion of hip and
3-Extension of hip
4-Extension and
5-Abduction and
6-Abduction and

2-Match each structure with the suitable words
(6 x 1/2 = 3 marks)

A...(4)..... Genital tubercle
rotation of intestinal loop
B...(7).....Paramesonephric duct
develops
C...(6).....Uterus didelphys
D...(1)..... Congenital volvulus
E...(2).....Unilateral renal agenesis
F...(3).....Genital swellings
uterus ,double vagina

1- Excessive
2- One kidney
3-Labia majora
4-Clitoris
5-Double uterus
6- Double
7- Fallopian

tube

3-Match the item in column " A" with the corresponding item in column "B"

(B)

(B)

(6x1/2=3 marks)

A ...(8)..... In transverse fissure

1- Gustatory

B ...(5)..... Isthmus

2-Of valve like

action

C ...(1)..... Area 43

3-Through and

below anterior limb of

internal

capsule

D ...(3)..... Straitum

4-Ammon's horn

E ... (2).....Pacchionian bodies

5-Outer limbic arc

F....(4)..... White gyrus

interpositum

6-Dentate gyrus

7-Olfactory

8-Velum

9-Putamen

V-M.C.Q. (1X12 = 12 marks)

1-Which of the following muscles is found in the 3rd layer of the sole:

- f- Abductor hallucis
- g- Adductor hallucis**
- h- Flexor hallucis longus
- i- Extensor hallucis longus
- j- Extensor hallucis brevis

2-Which of the following muscles separates the femoral vessels from profunda femoris

vessels :

- f- Iliopsoas
- g- Pectineus
- h- Adductor longus**
- i- Adductor brevis
- j- Adductor magnus

3- The skin of the big toe is supplied by :

- f- Superficial peroneal nerve
- g- Deep peroneal nerve
- h- Medial planter nerve
- i- All of the above**
- j- None of the above

4-Which of the following muscles supports both longitudinal and transverse arches of the foot :

- f- Peroneus tertius
- g- Peroneus brevis
- h- Peroneus longus**

- i- Tibialis anterior
- j- Tibialis posterior

5-In female ,the mesonephric tubules give rise :

- f- Parooophron
- g- Epoophron
- h- Gartner's duct
- i- All of the above
- j- a + b only**

6-Which of the following cells is endodermal in origin :

- f- Leydig cells
- g- Sertoli cells
- h- Mesothelial cells
- i- Spermatogonia**
- j- None of the above

7-The following muscles arise from the second pharyngeal arch except :

- f- Buccinator
- g- Posterior belly of digastric
- h- Temporalis**
- i- Platysma
- j- Orbicularis oculi

8-The stapedius muscle is developed from the mesoderm of :

- f- Occipital somites
- g- First branchial arch
- h- Second branchial arch**
- i- Third branchial arch
- j- Fourth branchial arch

9-Structures in relation to the optic chiasma. All false ,but one :

- f- Jugum sphenoidal inferiorly
- g- Lamina terminalis superiorly**
- h- Origin of basal vein medially
- i- Rhomboidal space anteriorly
- j- Hypophysis laterally

10-Denticulate ligament . All true but one :

- f- About 21 processes
- g- Its base lies midway between the two spinal nerve roots
- h- At C1 :lies between vertebral artery anterior and spinal accessory posterior
- i- Each tooth projects in level with the two roots**
- j- Apices of teeth are fixed to the dural sac

11-Select the false item only :

- f- Alveus floors the inferior horn of lateral ventricle
- g- Hypothalamic groove separates thalamus and epithalamus**
- h- Tela choroidea roofs the 3rd ventricle
- i- Corticospinal tract passes through the thalamolenticular part of I.C.
- j- Short association fibers lie within a cerebral lobe

12-Select the false item only :

- f- All auditory fibers end in metathalamus
- g- Basal vein arises in the Ambein cistern**
- h- Medial lemniscus overlaps the trapezoid body
- i- Pain and temperature fibers traverse the Lissauers tract
- j- Posterolateral fissure separates Archi . & Neocerebellum

**Good Luck
Anatomy Department**