

EMBRYO TH/ WEEK 11 DR. BEDA REVIEW ANSWERS FOR THE MARATHON SENT ON 20th JUNE 2017

1.a) C- Amniotic Sac

D- Chorion

b) Oligohydramnions, Polyhydramnions

2.a) neural tube, neural crest

b) B- Chordomas, C- Sacrococcygeal teratoma

3.a) A- limb bud, B- somites

b) C- genetic absence of the color pigment

D- hyperkeratinization

4.a) A- milk line

It obliterates except in the chest region where the mammary gland develops

b) Polythelia

5. a) Merkel's cells, Melanocytes, Cells of Langerhans

b) Apocrine, Eccrine

6.a) D- Ventral Rami of spinal nerves

E- Hypomere

b) Erector Spinae, multifidus, Splenius muscles

7.a) Ischaemia of the upper limb

Loss of sensation of the upper limb

Loss of motor innervation to the upper limb

b) Meningocele, Myelomeningocele, Syringomyelia

8.a) A- frontal air sinus

B- crista galli

b) mandibular branch of trigeminal nerve, Accessory meningeal Artery

9.a) A- ligamentum flavum

B- Posterior longitudinal ligament

b) Sclerotome part of paraxial mesoderm

c) Spinal nerves, Radicular arteries

10. A- efferent motor neuron - multipolar

B- Bipolar neuron- Interneuron

C- afferent sensory neuron - Unipolar

11.a) A- lumbar vertebrae

B- cervical vertebrae (atlas)

b) Sympathetic nerve plexus

c) apical ligament of dens

12.a) A- Skull bone

B- dura mater

b) C- cerebral cortex- gray matter

D- superior sagittal sinus with venous blood and reabsorbed csf from arachnoid granulations

13.a) A- Pectoralis major muscle

C- loose areolar tissue surrounding the nipple

b) In lactating mammary gland it's well developed while in a non-lactating mammary gland it isn't well developed

c) 4th Intercostal Space

14.a) A- 12-18 months, B- 9 months

b) C- frontonasal prominence

D- mandibular prominence

15.a) A- anencephaly coupled with acrania

C- Cranial bifida cystica

b) B- Coronal suture (bilateral premature closure) - brachydactyly

D- coronal suture (unilateral premature closure) -

plegiocephaly

16.a) G- optic chiasma

H- sphenoidal air sinus

b) E- superior orbital fissure

F- foramen rotundum

17.a) C- Mandibular branch of trigeminal nerve

D- dorsal rami of cervical spinal nerves

b) occipital lymph nodes posteriorly, parotid lymph nodes anteriorly

18.a)A- retromandibular vein

B- posterior auricular vein

b) C- internal jugular vein

D- subclavian vein

19.a)A- Confluence of Sinuses

B- sphenoparietal sinus

b) meningeal branches of Vagus nerve

c) Ascending Meningeal artery

20.a) Form the blood brain barrier

Provide nourishment to brain tissue

b) pyramidal cells, cerebral cortex(layers 3 and 5)

21. a) meningeal coverings, cornu medullaris, cauda equina, lumbar and cervical enlargements enlargements; cervical and lumbosacral, filum terminale

b)- continuation with brainstem

- spinal nerves

- denticulate ligaments

c)- 1 anterior spinal artery from vertebral arteries supplying the anterior two thirds of the spinal cord

- 2 posterior spinal arteries from vertebral arteries supplying the posterior third of the spinal cord

- Radicular arteries derived from segmental vessels

* Cervical Region- Ascending cervical from inferior thyroid

Deep cervical from costocervical trunk

* Thoracic Region- posterior intercostal arteries

* Lumbar Region- lumbar arteries

* Sacral Region- lateral sacral arteries from internal pudendal

- The largest artery is the Artery of Adamkiewicz/ Arteri Radicularis Magna found in the Lumbar Region

d) Venous drainage distribution is like that of the arteries and is generally emptied into the epidural venous plexus . There's one large vein Vena radicularis Magna. Epidural venous plexus consists of 2 or more anterior and posterior longitudinal venous channels interconnected at many levels from clivus to sacrum.

The plexus also has connection at each intervertebral space with external vertebral venous plexus.

e) 3months (iut)- coccygeal

6months (iut)- S2

At birth- L3

Puberty- L2

Adult- L1/L2 junction

f) illustrate ascending and descending tracts. Remember to include fasciculus cuneatus.

g) Cranial 1/ 3 of neural tube

Pseudostratified columnar epithelia undergoes proliferation and cells differentiate to neuroblasts forming mantle layer. They send out their dendrites forming a marginal layer of white mater. The gray mater is divided by sulcus limitans to alar and basal plates. Basal plates are separated by floor plate, alar plates separated by roof plate. Alar plates form dorsal sensory horns. Basal plates form ventral motor horns. The initial proliferating epithelia remains centrally placed forming CSF secreting ependymal cells.

Anomalies; Spina Bifida Occulta

Spina Bifida Cystica and its varieties

Rachischisis, Myeloschisis