past paper

Embryology

(FINAL EXAM)

(إِنَّا كُلَّ شَيْءٍ خَلَقْنَاهُ بِقَدَرٍ)

(وَفِي أَنْفُسِكُمْ أَفَلا تُبْصِرُونَ)

(لَقَدْ خَلَقْنَا الإنسان في أَحْسَنِ تَقْوِيمٍ)

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Fertilization

1- The Fallopian tubes transport which of the following to the uterus:

A- primary oocyte

B- sperm

c- secondary oocyte

d- fertilized ova

e- (c and d)

answer: E

2- Which of the following are properties of the isthmus of the fallopian tube:

A- wide, thick and straight

b- narrow, straight and thin walled

C- narrow , tortuous, and thick walled

D- narrow , straight and thick walled

Answer: d

3- ZP3 proteins are found in the :

A- membrane of the sperm

B- in the zona pellucida

C- in cell membrane of the oocyte

D- in the Corona Radiata

Answer is: B

4- The fusion of the Oocyte and Sperm Cell Membranes is accomplished at:

A- acrosomal reaction

B- Capacitation

C- Penetration of the Corona Radiata

D- at time of ovulation

answer :A

5- The ova in the fallopian tube is propelled to the uterus by which of the following:

A- peristalsis of smooth muscles in the mucosa.

B- movement of flagella found in the ova itself.

C- movement of cilia that are found on columnar epithelial cells lining the fallopian tube.

D- (A+C)

Answer: D

6- The hormone that stimulates ovulation of the cumulus Oophorus is:

A- Estrogen

B- FSH

C- LH

D- Progesterone

E- A+D

Answer: C

7- Which of the following will help the cumulus Oophorus to break free(ovulate) out of the ovary:

A- Digestion of collagen around the follicle

B- fimbrae of the infundibulum will extract them from the ovary.

C- muscle contractions in the ovarian wall.

D- (A+C)

E- All of the above

Answer: D

8- What occurs when egg and sperm fuse?

a) Differentiation

b) Development

c) Fertilization

d) Cleavage

Answer : C

9- The initial step during fertilization is _____

A- Fusion of the Oocyte and Sperm Cell Membranes.

B- Penetration of the Zona Pellucida

C- Penetration of the Corona Radiata

D- None of the above

Answer : C

10 - Fertilization of sperm and ovum takes place in :

A- Ampulla of oviduct

B- Isthmus of oviduct

C- Fimbriae of oviduct

D- Uterus

Answer: A

11 - In the absence of acrosome the sperm cannot :

a) Penetrate into egg

b) Get energy

c) Get food

d) Swim

Answer : A

12 - If a menstrual cycle of a female was 30 days, at what day will the ovulation occur:

A-day 14

B-day15

C-day10

D-day 28

Answer: B

13- Fertilization occurs in?

A. The interstitial part of uterine tube. O

B. Ovaries.

C. The ampulla of the uterine tube.

D. Uterus.

E. The isthmus of uterine tube.

Answer: C

14- The second polar bodies appear?

A. During implantation.

B. During ovulation.

C. During fertilization.

D. During the transformation of the primary follicle into secondary follicle.

E. During transformation of the secondary follicle into Graafian follicle.

Answer: C

15- At ovulation, which one of the followings breaks free from the ovaries?

A- Theca externa

B- Theca interna

C- All granulosa cells

D- Cumulus oophorus

E- The whole graafian follicle

Answer: D

16- All of the following are results of fertilization except:

A- Resumption of the second meiotic division

B- Metabolic activation of the egg

C- Determination of the sex

D- The first polar body appears

E- Diploid number of chromosomes

Answer: D

17- Which one of the following prevents Polyspermy?

A. Zona pellucida.

B. Granulosa cells.

C. Theca externa.

D. Theca interna.

E. Corona radiata

Answer: A

Menstrual cycle

1 - Which of the following secrets estrogen :

A- primary follicle

B- secondary follicle

C- graafian follicle

D - corpus luteum

E - all of the above

Answer : E

2- All of these structure remain attached to the wall of the rupture follicle after ovulation except :

A - Corona radiata

B - Granulosa cells

C - The cells of theca interna

D - zona pellucida

E - A & D

Answer: E

3- The first week of human development is characterized by formation of the:

A - trophoblast

B - blastocyst

C - inner cell mass

D - all of the above

Answer : D

4- A Secondary oocyte (arrested in metaphase stage of meiosis II), covered with corona radiata and zona pellucida and in company with first polar body (arrested in metaphase stage of meiosis II) can be seen at?

A. Ovulation.

B. Implantation.

C. Fertilization

D. Lateral folding of the embryo.

E. Cephalocaudal folding.

Answer: A

5- Which one of the following implants in the endometrium of the uterus?

A. Zygote.

B. The structure that has secondary yolk sac.

C. Two cell stage.

D. Morula.

E. The structure that has amniotic cavity and blastocystic cavity.

Answer: E

6- Menstrual cycle, choose the wrong statement.

A. Averages 28 days.

B. Secretory phase is under the influence of FSH.

C. In the secretory phase, spiral arterioles develop, lengthen and coil.

D. The menstruation is the external hallmark of the menstrual cycle.

E. Variations between 21 and 35 days are normal.

Answer: B

7- At the time that the morula reaches the uterus, the mucosa of the uterus is in which phase?

a- Secretory phase

b- Proliferative phase

c- Menstrual phase

d- A and B

e- A and C

Answer: A

8- Which one of the following implants in the endometrium of the uterus?

a- Two cell stage

b- The structure that has secondary yolk sac

c- The blastocys

d- Morula

e- Zygote

Answer: C

9- Menstrual cycle, choose the wrong statement .

A- Variations between 21 and 35 days are normal

B- In the luteal /secretory phase, spiral arterioles develop in length and coil.

C- Averages 28 days

D- Proliferative phase is under the influence of estrogen

E- Secretory phase is under the influence of FSH

Answer: E

Second week of development

1- The amniotic cavity develops:

A - on the tenth day

B - within the outer cell mass

c - within the inner cell mass near the cytotrophoblast

D - in extraembryonic mesoderm

E - none of the above

Answer : c

2) During the second week of development, the trophoblast differentiates into:

A - syncytiotrophoblast

B - ectoderm

C - intraembryonic mesoderm

D - yolk sac (secondary)

Answer : A

3) During the second week, the embryonic disk is composed of:

A - ectoderm

B - ectoderm and mesoderm

C - endoderm

D - epiblast and hypoblast

E - ectoderm, mesoderm and endoderm

Answer: D

5) Which layer of the bilaminar embryonic disc forms part of the lining of the amniotic cavity?

A - epiblast

B - hypoblast

C - blastocyst

D - trophoblast

E - syncytiotrophoblast

Answer : A

6- What is the final shape of the embryo by the end of the first week of development?

A. Unicellular embryo.

B. Blastocyst.

C. Late morula

D. Early morula.

E. Zygote

Ans: B

7- What is the shape of the embryo by the end of the second week of development?

A. Trilaminar disc with primitive streak on it.

B. Trilaminar disc with neural plate on it.

C. Bilaminar disc.

D. Trilaminar disc with primitive node on it.

E. Bilaminar disc with primitive streak on it

ANS: C

8- Which one of the following implants in the endometrium of the uterus? A. Zygote.

B. The structure that has secondary yolk sac.

C. Two cell stage.

D. Morula.

E. The structure that has amniotic cavity and blastocystic cavity.

ANS: E

9- Which one of the following implants in the endometrium of the uterus? a- Two cell stage

b- The structure that has secondary yolk sac

c- The blastocys

d- Morula

e- Zygote

ANS: C

3ed week of development

1-The only place where extraembryonic mesoderm traverses the chorionic cavity?

a- THE CHORIONIC plate

b- ENDODERM

c-THE CONNECTING STALK

d- THE PRIMITIVE STREAK

ANSWER:C

2-the true fact about EPIBLAST is:

a- proliferation and migration

b- is the source of all of the germ layers.

c- It proliferate forming a swilling called PRIMITIVE NODE

d- all of the above are correct

answer: D

3- the inward Movement of epiblast cells is called

a- swelling

b- invagination.

c- epithelial-to-mesenchymal transition

d- notochordal process

answer: b

4-the true statement about the notochord

a-it grows toward the Caudal end

b-it grows between the ectoderm and endoderm

c- it reaches the prechordal plate

d- (b+c)

answer: d

5-what identify the embryo's Craniocaudal axis

a- Ectoderm.

b- primitive streak

c- The notochord

d- the prechordal plate

answer: b

6 - After gastrulation has occurred, the inner layer of cells is called what?

A- the endoderm

B - the ectoderm

C - the mesoderm

D - the inner cell mass

E - the epiblast

Answer : A

7 - Gastrulation begins with the formation of the

A - primitive streak

B - primitive groove

C - notochord

D - right-left axis

Answer : B

8 - Which germ layers are present at the end of week 3 of development (day 21)?

(A) Epiblast only

(B) Epiblast and hypoblast

(C) Ectoderm and endoderm

(D) Ectoderm, mesoderm, and endoderm

(E) Epiblast, mesoderm, and hypoblast

Answer: D

9-Third week of development, choose the correct statement.

A. The primitive streak appears.

B. The hypoblast gives raise to ectoderm, mesoderm and endoderm.

C. The neural plate grows from the mesoderm.

D. The hypoblast starts to proliferate forming the primitive node.

E. The ectoderm is displaced and the endoderm is created in its place

Answer: A

10- Third week of development, choose the wrong statement.

A- The epiblast gives raise to ectoderm, mesoderm and endoderm

B- The notochord appears above the ectoderm

C- The primitive streak appears

D- The hypoblast is displaced and the endoderm is created in its place

E- The epiblast starts to proliferate forming the primitive node
ANSWER: B

Derivatives of the ectodermal

1-how does the the neuroectoderm leave the crest of the neuroectoderm

a-diffusion

b-active migration and displacement

C-osmosis

d- a and b

answer: B

2-kill cells in the anterior midline of the germ disc, producing a deficiency of the midline in craniofacial structures and resulting in:

A-holoprosencephaly.

B-death of the embryo

c-cancer

d-prevent implantation

answer: A

3-The first pair of somites arises in the:

A-tail of the embryo

B-in the spinal cord

c-in the yolk sac

d-occipital region of

answer: d

4-which of the following form THE MYOTOME

a-Cells at the dorsomedial portion

of the somite

b-Cells at the dorsolateral portion of the

somite

c-ventral and medial walls of the somite

answer: a

5-The central nervous system forms in the sequence:

A- norochord to neural plate to neural tube

B - neural tube to neural plate to neural groove

C - neural plate to neural groove to neural tube

D - neural plate to neural crest to neural zone

Answer : c

6 - The ganglia of the autonomic nervous system are derived from:

A - ectoderm

B - endoderm

C - both

D – neither

Answer: A

7 - Identify the correct association(s):

A - basal plate - sensory neurons

B - The alar plate - motor neurons

C - neural crest - the ganglia

D - None of the above

Answer : c

8- Closure of the cranial neuropore occurs at day:

A - 27

B - 23

C - 20

D - 25

Answer : D

9- Closure of the posterior neuropore occurs at day:

A - 27

B - 23

C - 20

D - 25

Answer : A

10 - Intermediate mesoderm will give rise to the :

(A) neural tube

(B) heart

(C) kidneys and gonads

(D) somites

(E) notochord

Answer : C

11 -The two layers of lateral mesoderm are called:

a) Endoderm; Mesoderm

b) Primary; Secondary

c) Somatopleuric; Splanchnopleuric

d) Epiblast; Hypoblast

Answer : C

12 - Which of the following is true about the intermediate mesoderm :

A - It gives off extensor muscles of the vertebral column

B - It gives off limb and body wall

C - It gives off Urine performing tubule

D - It gives off part of internal genitalia in males and femals

E - C & D

Answer : E

13.The somites, choose the wrong statement.

A. The ventral and medial walls of the somite form nucleus pulposus.

B. There dorsolateral portion forms limb and body wall musculature.

C. The dorsomedial portion of the somite forms the myotome.

D. About 10 somites vanish when the tail of the embryo is lost.

E. The occipital and the last five to seven coccygeal somites later disappear.

Answer : A

14- The wall of the gut tube is made of:

A. Medial mesoderm.

B. Endoderm only.

C. Parietal layer of lateral mesoderm and endoderm.

D. Visceral layer of lateral mesoderm and endoderm.

E. Intermediate mesoderm.

Answer :D

15- The intraembryonic Coelom is formed when large cavities develop in the:

A. Intermediate mesoderm.

B. Medial mesoderm.

C . Extraembryonic mesoderm.

D. Yolk sac and amnion.

E. Lateral mesoderm

Answer : E

16- Cells forming the ventral and medial walls of the somite, collectively known as?

A. Myotome.

B. Notochord.

C. Ectoderm.

D. Sclerotome.

E. Dermatome

Answer : D

17- The midgut remains in communication with the yolk sac through:

A. Chorion.

B. Amnion.

C. Umbilical veins.

D. The vitelline duct.

E. Umbilical cord.

Answer: D

18- Which one of the following is an endodermal derivative?

A. Neural crest.

B. Somites.

C . Peripheral nervous system.

D. Neural tube.

E. The gastrointestinal tract.

Answer: E

19- Which one of the following implants in the endometrium of the uterus?

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C. Two cell stage.

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20- At the time that the morula reaches the uterus, the mucosa of the uterus is in which phase?

a- Secretory phase

b- Proliferative phase

c- Menstrual phase

d- A and B

e- A and C

ANS: A

21- Which one of the following implants in the endometrium of the uterus?

a- Two cell stage

b- The structure that has secondary yolk sac

c- The blastocys

d- Morula

e- Zygote

ANS: C

23- In general, which one of the following is not produced by the ectodermal germ layer?

A- The peripheral nervous system

B- The central nervous

C- Neural crest

D- The sensory epithelium of the ear, nose and eye

E- The reticular stroma of the thymus

ANS: E

24- Cysts duct joins the …… duct to form the common bile duct.

A- Right hepatic duct

B- Left hepatic duct

C- Pancreatic duct

D- Hepatopancreatic duct

E- Common hepatic duct

ANS: E

25- The myotome is derived from?

A- Ventral portion of the somite

B- Dorsal epithelium of the somite

C- Dorsolateral portion of the somite

D- Both dorsolateral and dorsomedial portions of the somite

E- Dorsomedial portion of the somite

ANS: E