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GENERAL EMBRYOLOGY

Gametogene

- 1) The normal diploid chromosome number in the human somatic cell is:
- A - 46 autosomes + 2 sex chromosomes, which must be identical.
 - B - 46 autosomes + 2 sex chromosomes, which may be the same or different.
 - C - 44 autosomes + 2 sex chromosomes, which must be identical.
 - D - 45 autosomes + a male or female sex chromosome.
 - ☒ E - 44 autosomes + 2 sex chromosomes, which may be the same or different.
- 2) All these cells contain 46 chromosomes, EXCEPT:
- A - Oogonium.
 - B - Spermatogonium.
 - C - Primary oocyte.
 - D - Primary spermatocyte.
 - ☒ E - Spermatid.
- 3) All these cells contain 23 chromosomes, EXCEPT:
- A - Mature ovum.
 - B - Secondary spermatocyte.
 - C - Spermatid.
 - ☒ D - Oogonium.
 - E - Spermatozoon.
- 4) Which of the cells listed below does not have the corresponding chromosome number:
- | | | |
|---|-------|----|
| A - Spermatogonium | ----- | 46 |
| B - Spermatid | ----- | 23 |
| C - Oogonium | ----- | 46 |
| D - Primary spermatocyte | ----- | 46 |
| ☒ E - Secondary oocyte | ----- | 46 |
- 5) The normal haploid chromosome number of the human is:
- A - 22 autosomes + 2 identical sex chromosomes.
 - B - 22 autosomes + 2 different sex chromosomes
 - C - 23 autosomes + 2 different sex chromosomes
 - D - 23 autosomes + a male or female sex chromosome.
 - ☒ E - 22 autosomes + a male or female sex chromosome.

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6) The chromosomal formula of the 1st polar body is:

- ☒ A- 22 autosomes + 1 sex chromosome.
- B- 22 autosomes + 2 sex chromosomes.
- C- 23 autosomes + 1 sex chromosome.
- D- 23 autosomes + 2 sex chromosomes.
- E- It has no chromosomes.

7) Differentiation of the primordial germ cells in the male begins at:

- A- 3rd month of intrauterine life.
- B- 9th month of intrauterine life.
- C- Birth.
- ☒ D- Puberty.
- E- None of the above.

8) The time required for a spermatogonium to become a mature sperm is:

- A- Two days.
- B- Ten days.
- C- 50 days.
- ☒ D- 61-65 days.
- E- 73-75 days.

9) Which of following cells are not capable of some sort of cell division and hence of increasing the number of male germ cells (spermatozoa):

- A- Spermatogonia.
- B- Primary spermatocyte.
- C- Secondary spermatocyte.
- ☒ D- Spermatid.
- E- All of the above can undergo cell division.

10) The spermatozoon is usually viable within the female genital tract for up to:

- A- One hour.
- B- Twelve hours.
- ☒ C- Two days.
- D- Four days.
- ☒ E- Seven days.

11) All are true regarding spermiogenesis, EXCEPT:

- A- The nucleus contains half the number of chromosomes.
- B- Golgi zone becomes the acrosome.
- C- Mitochondria form bulk of middle piece.
- D- Centriole forms axial filament.
- ☒ E- Cytoplasm forms the head of sperm.

12) Spermiogenesis involves all the following, EXCEPT:

- A- Formation of the acrosome.
- B- Formation of the tail.
- C- Shedding of most of the cytoplasm.
- D- Condensation of the nucleus.
- ~~E- Golgi material forms a flagellum.~~

13) Abnormal sperms may be any of the following, EXCEPT:

- A- Giant. ~~545~~
- B- Dwarf. ~~60~~
- C- Two heads.
- D- Two tails.
- ~~E- No head.~~

14) Sperms undergo which of the following changes before they start the process of fertilization:

- A- Capacitation.
- B- Acrosomal reaction.
- C- Loose their tails.
- D- All of the above.
- ~~E- a and b only.~~

15) The chromosomal formula of the normal human secondary oocyte is:

- A- 44 autosomes and 2 X chromosomes.
- B- 45 autosomes and 1 X chromosome.
- C- 22 autosomes and 1 Y chromosome.
- ~~D- 22 autosomes and 1 X chromosome.~~
- E- 44 autosomes and 2 X chromosomes.

16) The ovum is surrounded by a non-cellular, secreted layer known as the:

- A- Corona radiata.
- B- Theca folliculi.
- ~~C- Zona pellucida.~~
- D- Cumulus oophorus.
- E- Stratum granulosum.

17) The zona pellucida is:

- A- The surface covering of the testis.
- B- A clear area on the head of the sperm.
- C- The surface covering of the ovary.
- ~~D- A membrane that surrounds the ovum.~~
- E- A membrane that surrounds the Graafian follicle.

18) The zona pellucida is produced by activity of:

- A- The ovum itself.
- B- The follicular cells.
- C- Theca interna.
- ☒ D- a and b only.
- E- None of the above.

Female cycles

19) Ovulation (the release of an oocyte from Graafian follicle):

- A- Is accompanied by a fall in basal temperature.
- ☒ B- Is accompanied by pain in some women.
- C- Is accompanied by completion of the second meiotic division.
- D- Is facilitated by progesterone.
- E- Occurs twenty days after the start of menstruation.

20) Completing of the second meiotic division of the ovum occurs:

- A- Before ovulation.
- B- At ovulation.
- C- 24 hours before ovulation.
- D- 24 hours after ovulation.
- ☒ E- On fertilization.

21) After discharge from the follicle, the ovum remains viable for approximately:

- A- One hour.
- B- Two hours,
- C- Five hours.
- ☒ D- 12- 24 hours.
- E- One week.

22) When the secondary oocyte is ovulated, it is surrounded by:

- A- Theca interna.
- B- Zona pellucida.
- C- Corona radiata.
- D- All of the above
- ☒ E- B and C only.

23) The corpus luteum starts to regress after _____ days if fertilization did not occur:

- A- 6.
- B- 9-12.
- C- 16-20.
- D- 20-25.
- E- 30.

24) The corpus luteum of pregnancy remains active until:

- ☒ A- 4th month.
- B- End of pregnancy.
- C- 24 hours after birth of the child.
- D- End of the lactation period.
- E- Implantation is completed.

25) The corpus luteum of pregnancy secretes:

- ☒ A- Progesterone only till the end of 4th month of pregnancy.
- B- Progesterone only throughout pregnancy.
- C- Estrogen only till the end of 4th month of pregnancy.
- D- Estrogen only throughout pregnancy.
- ☒ E- Both progesterone and estrogen.

26) Progesterone is necessary for the maintenance of pregnancy. It is produced by:

- A- Pituitary gland.
- ☒ B- Corpus luteum.
- C- Endometrial glands.
- D- Placenta.
- ☒ E- B and D.

27) Estrogen is secreted by:

- A- Corpus albicans.
- B- Corpus luteum.
- C- Extraembryonic mesoderm.
- ☒ D- Theca interna cells.
- ☒ E- B and D only.

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28) Contraceptive pills act by:

- A- Killing the fertilized ovum.
- B- Killing the sperms.
- C- Having a testosterone-like action.
- ☒ D- Suppressing follicle maturation.
- E- Stopping menstrual flow.

29) The follicular phase of the ovarian cycle is under control of:

- ☒ A- Pituitary FSH.
- B- Luteinizing hormone.
- C- Corpus luteum.
- D- Progesterone.
- E- None of the above.

30) During the progestational (secretory) phase of the menstrual cycle:

- A- The follicle matures.
- B- Glands constrict.
- ☒ C- Arteries become tortuous.
- D- Level of progesterone drops.
- E- Endometrium is thin.

Fertilization

31) Fertilization results in:

- A- Restoration of chromosome number.
- B- Prevention of further sperm penetration.
- C- Extrusion of the second polar body.
- D- Initiation of cleavage.
- ☒ E- All of the above.

32) Only One sperm can penetrate the oocyte membrane because of:

- ☒ A- The zona reaction.
- B- The corona reaction.
- C- Hyaluronidase action.
- D- Negative chemotaxis.
- E- Formation of the second polar body.

33) The normal site of fertilization is:

- A- Narrowest part of uterine tube.
- ☒ B- Ampullary part of uterine tube.
- C- Cervix of uterus.
- D- Fundus of uterus.
- E- On surface of ovary.

34) Genetic sex of the embryo is established at the time of:

- A- Spermatogenesis.
- B- Development of gonads.
- C- Ovulation.
- ☒ D- Fertilization.
- E- Development of external genitalia.

35) Regarding fertilization, all are true, EXCEPT:

- ☒ A- It usually occurs in the uterine cavity.
- B- Results in the formation of a zygote.
- C- It results in the restoration of the diploid number of chromosomes.
- D- It results in the establishment of the chromosomal sex of the embryo.
- E- It results in the initiation of cleavage.

36) The fertilized human oocyte reaches the uterine lumen after:

- A- 6 hours.
- B- 24 hours.
- C- Two days.
- ☒ D- Three to four days.
- E- Five to ten days.

37) The first stage to reach the uterine lumen after fertilization:

- A- Zygote.
- B- Two cell stage.
- C- Four cell stage.
- ☒ D- Morula.
- E- Blastocyst.

Implantation

38) Which of the following stages in development is the one that normally implants into the uterus?

- A- Mature oocyte.
- B- Zygote.
- C- 8-cell stage.
- D- Morula.
- ☒ E- Blastocyst.

39) The usual number of days between fertilization and the commencement of implantation is:

- A- One.
- B- Three.
- ☒ C- Six.
- D- Ten.
- E- Fourteen.

40) The normal site of implantation is the:

- A- Cervix.
- ☒ B- Posterior wall of the uterus near the fundus.
- C- Lower uterine segment.
- D- Peritoneal cavity.
- E- Surface of the ovary.

41) Placenta praevia is a result of implantation of the blastocyst in the:

- A- Pelvic peritoneum.
- B- Vagina.
- C- Uterine tube.
- D- Upper part of the uterine body.
- ☒ E- Lower part of the uterine body.

42) Which of the following is not a site of ectopic pregnancy?

- A- Ovary.
- ☒ B- Lower part of the uterine body.
- C- Uterine cervix.
- D- Peritoneum.
- E- Uterine tube.

43) The following are abnormal sites of implantation, EXCEPT:

- ☒ A- Posterior wall of body of uterus.
- B- Uterine tube.
- C- Ovary.
- D- Douglas pouch.
- E- Peritoneum.

44) Regarding implantation, all of the following are true, EXCEPT:

- A- Starts at the 6th day after fertilization.
- B- Blastocyst usually implants on the anterior or posterior wall of the uterine cavity.
- C- Implantation close to internal os results in formation of placenta praevia.
- D- Implantation may abnormally occur on intestinal loop.
- ☒ E- Trophoblastic cells at abembryonic pole of the blastocyst are the first to invade the endometrium.

45) The blastocyst becomes completely embedded in the endometrium at which day in development?

- A- 6th.
- B- 7th.
- C- 8th.
- ☒ D- 9th - 10th.
- E- 14th - 16th.

Blastocyst

46) All the following statements regarding the blastocyst are true, EXCEPT:

- A- It is the stage that implants into the uterus.
- ☒ B- It is surrounded by the zona pellucida until after implantation.
- C- Its inner cell mass forms the embryo.
- ☒ D- Its outer cell mass forms the foetal part of the placenta.
- E- It implants by its embryonic pole.

☒ 47) The wall of the blastocyst is known as the trophoblast. Some of it is designed to develop into the:

- A- Decidua basalis.
- B- Prochordal plate.
- C- Ectodermal roof of the neural canal.
- ☒ D- Lining of the amniotic cavity.
- ☒ E- Extra embryonic mesoderm.

48) At 9 days, the blastocyst has all the following, EXCEPT:

- A- An early amniotic cavity.
- B- Trophoblast that differentiated into two layers.
- C- Trophoblast that is more developed at its embryonic pole.
- ☒ D- A laminar embryonic disc.
- ☒ E- A zona pellucida surrounding it.

49) The decidua that intervenes between the embryonic pole of the blastocyst and the endometrium is:

- A- Decidua parietalis.
- ☒ B- Decidua basalis.
- C- Decidua capsularis.
- D- All of the above.
- E- None of the above.

Trophoblast and extraembryonic mesoderm

50) The Syncytiotrophoblast:

- A- Shows active cell division.
- B- Is derived from maternal tissues.
- ☒ C- Is derived from the cytotrophoblast.
- ☒ D- Is separated from the maternal blood by cytotrophoblast.
- E- Is separated from the maternal blood by endothelial cells.

51) All are true statements regarding extraembryonic mesoderm, XCEPT:

- A- It is the secondary mesoderm.
- B- It surrounds the yolk sac.
- C- Forms extraembryonic coelom.
- D- Contributes to the development of chorion.
- E- Forms the connecting stalk.

52) The chorion consists of:

- A- Cytotrophoblast.
- B- Syncytiotrophoblast.
- C- Extraembryonic mesoderm.
- D- All of the above.
- E- None of the above.

53) The splanchnopleuric extraembryonic mesoderm is in contact with:

- A- Cytotrophoblast.
- B- Syncytiotrophoblast.
- C- Yolk sac.
- D- Ectoderm.
- E- Amnion.

54) Regarding the extraembryonic somatopleure, it gives:

- A- Parietal pleura.
- B- Parietal peritoneum.
- C- Parietal pericardium.
- D- All of the above.
- E- None of the above.

55) A primary stem villus consists of:

- A- Cytotrophoblast.
- B- Cytotrophoblast and Syncytiotrophoblast.
- C- Syncytiotrophoblast.
- D- Syncytiotrophoblast and extraembryonic mesoderm.
- E- Cytotrophoblast, Syncytiotrophoblast and extraembryonic mesoderm.

56) A secondary stem villus consists of:

- A- Cytotrophoblast.
- B- Cytotrophoblast and Syncytiotrophoblast.
- C- Syncytiotrophoblast.
- D- Syncytiotrophoblast and extraembryonic mesoderm.
- E- Cytotrophoblast, Syncytiotrophoblast and extraembryonic mesoderm.

- They contain cytotrophoblast.
- They contain syncytiotrophoblast.
- They do not contain fetal blood vessels.
- ✓ - They contain a core of secondary mesoderm.
- They are found in decidua capsularis. — E

- A- Cytotrophoblast.
- B- Syncytial trophoblast.
- C- Primary mesoderm.
- D- All of the above.
- E- None of the above.

- A- Cytotrophoblast and syncytiotrophoblast only.
- B- Syncytiotrophoblast and extraembryonic mesoderm only.
- C- Cytotrophoblast and extraembryonic mesoderm.
- ✓ D- Cytotrophoblast, syncytiotrophoblast and extraembryonic mesoderm with small blood vessels.
- E- Cytotrophoblast, syncytiotrophoblast and intraembryonic mesoderm.

- A- Pericardial cavity.
- B- Peritoneal cavity.
- C- Pleural cavities.
- D- All of the above.
- ✓ E- None of the above.

6.1) All the following regarding the primitive node are correct, EXCEPT:

62) At the caudal end of the primitive streak, ectoderm and endoderm meet at the:

- A- Notochordal canal.
- B- Coelom.
- ✓ C- Cloaca membrane.
- D- All of the above.
- E-None of the above.

63) At the cranial end of the primitive streak, lies the primitive:

- A- Spot.
- ✓ B- Node.
- C- Notochord.
- D- Plate.
- E- Groove.

64) The following statements about the primitive streak are true, EXCEPT:

- ✓ A- It forms the roof of the primitive gut.
- B- Cloacal membrane lies caudal to it.
- C- Lies in the median plane of the embryonic disc.
- D- Is derived from the ectoderm.
- E- Develops near the caudal end of embryo.

65) The notochord:

- A- Develops into the spinal cord.
- B- Is derived from the roof of the yolk sac.
- C- Disappears during further development completely.
- ✓ D- Exerts an inductive influence on the surrounding tissues.
- E- Extends from the cloacal membrane to the prochordal plate.

66) The notochord:

- A- Form the bodies of the vertebrae.
- B- Is endodermal in origin.
- ✓ C- Forms the nucleus pulposus of intervertebral discs.
- D- Is found caudal to cloacal membrane.
- E- Is found cranial to oropharyngeal membrane.

67) Regarding the notochord all of the following statements are true, EXCEPT:

- ✓ A- Is endodermal in origin.
- B- Develops between ectoderm and endoderm.
- C- Shares in formation of the intervertebral disc.
- D- Forms the axis of the embryo during growth.
- E- Is caudal to the prochordal plate.

68) At the cranial end of the notochord, ectoderm and endoderm meet at:

- A- Cloacal membrane.
- ✓ B- Oropharyngeal membrane.
- C- Primitive node.
- D- Heart forming mesoderm
- E- Neural plate.

69) The neurenteric canal temporarily connects the:

- ✓ A- Amniotic cavity and yolk sac.
- B- Intra- and extra-embryonic coelom.
- C- Allantois and yolk sac.
- D- Allantois and amniotic cavity.
- E- Foregut and ventricular system of the brain.

Neural tube

70) The anterior neuropore (rostral) closes on which day of embryonic development?

- A- 20th.
- B- 22nd.
- ✓ C- 25th.
- D- 30th.
- E- 40th.

71) Neural plate is derived from:

- ✓ A- Ectoderm dorsal to notochord.
- B- Ectoderm on whole dorsal aspect of embryo.
- C- Endoderm.
- D- Mesoderm.
- E- Notochord.

72) Neural crest appears along the prominent margins of:

- ✓ A- Anterior neuropore.
- B- Neural fold.
- C- Notochord.
- D- Neurenteric canal.
- E- Posterior neuropore.

Intraembryonic mesoderm

73) The intraembryonic mesoderm develops in:

- A- 1st week.
- B- 2nd week.
- ✓ C- 3rd week.
- D- 4th week.
- E- 8th week.

74) Sources of intraembryonic mesoderm:

- A- Primitive streak.
- B- Primitive node.
- C- Notochord.
- ✓ D- All of the above.
- E- None of the above.

75) The intraembryonic mesoderm develops between ectoderm and endoderm, EXCEPT at area of:

- A- Cloacal membrane.
- B- Prochordal plate.
- ✓ C- Oropharyngeal membrane.
- D- Notochord.
- E- All of the above.

76) The following are the components of the intraembryonic mesoderm, EXCEPT:

- A- Sclerotome.
- B- Dermomyotome.
- ✓ C- Vitelline duct.
- D- Intermediate cell mass.
- E- Lateral plate mesoderm.

77) The following are the components of the intraembryonic mesoderm, EXCEPT:

- ✓ A- Body stalk.
- B- Sclerotome.
- C- Dermomyotome.
- D- Intermediate cell mass.
- E- Lateral plate mesoderm.

78) Segmentation is observed in the ----- mesoderm:

- ✓ A- Paraxial.
- B- Intermediate.
- C- Lateral plate.
- D- Splanchnic.
- E- Branchial.

79) The constituent cells of the somite may differentiate into all but one of the following tissues:

- A- Muscle.
- B- Dermis.
- C- Cartilage.
- ✓ D- Epidermis.
- E- Bone.

80) Somites first appear at the end of the ----- week:

- A- 2nd.
- ✓ B- 3rd.
- C- 4th.
- D- 5th.
- E- 6th.

81) Regarding somites, all of the following statements are true, EXCEPT:

- ✓ A- They develop from the lateral plate mesoderm.
- B- They differentiate into ventromedially placed sclerotome,
- C- The dorsal wall of the somite differentiates into dermomyotome.
- D- Dermotome gives rise to dermis of skin.
- E- Sclerotome gives rise to vertebral column.

Folding

82) Folding of the embryo results in all the following, EXCEPT:

- A- Oral membrane becomes ventral.
- ✓ B- Connecting stalk becomes dorsal.
- C- Foregut included in head fold.
- D- Hindgut included in tail fold.
- E- Forebrain is at the cranial end of the embryo.

Derivatives of germ layers

83) Which of the following is derived from endoderm:

- A- Blood vessels.
- B- Lymphatics.
- ✓ C- Lining epithelium of alveoli.
- D- Kidney.
- E- Spleen.

84) The following are derivatives from ectoderm, EXCEPT:

- ✓ A- Adrenal cortex.
- B- Mammary glands. ✓
- C- Enamel of teeth. ✓
- D- Hairs. ✓
- E- Lens. ✓

85) The following are derivatives from ectoderm, EXCEPT:

- A- Enamel of teeth.
- B- Adrenal medulla.
- ☒ C- Pancreas.
- D- Nervous system.
- E- Pituitary gland.

86) The following structures are derived from ectoderm, EXCEPT:

- A- Epidermis.
- ☒ B- Dermis.
- C- Hairs.
- D- Nail.
- E- Sweat glands.

87) The derivatives of the ectodermal layer include all the following, EXCEPT:

- A- Peripheral nervous system.
- B- Brain and spinal cord.
- ☒ C- Epithelium of the skin.
- D- Epithelium of the gastrointestinal tract.
- E- Sensory epithelium of ear, nose and eye.

Foetal membranes

88) All are foetal membranes, EXCEPT:

- A- Amnion.
- B- Yolk sac.
- ☒ C- Notochord.
- D- Umbilical cord.
- E- Placenta

☒ 89) In the human, the definitive yolk sac:

- A- Is derived from trophoblast.
- B- Has a wall consisting of ectoderm.
- ☒ C- Is found in the umbilical cord.
- D- May be found in the amniotic cavity.
- E- Is lined by mesoderm.

90) Secondary yolk sac cavity is lined by:

- ☒ A- Endoderm.
- B- Mesoderm.
- C- Ectoderm.
- D- All of the above.
- E- None of the above.

- 91) Amniotic sac is temporarily connected to yolk sac by:
- A- Allantois.
 - ✓ B- Neuroenteric canal.
 - C- Vitello-intestinal duct.
 - D- Breakdown of oral membrane.
 - E- Breakdown of cloacal membrane.
- 92) The average volume of the amniotic fluid during the last trimester of a normal pregnancy is approximately:
- A- 50 ml.
 - B- 250 ml.
 - ✓ C- 1000 ml.
 - D- 5 liters.
 - E- 10 liters.
- 93) The amniotic fluid is frequently sampled to examine its contained cells for normality. The cells in the amniotic fluid would have the following origin:
- A- Foetus only.
 - B- Mother only.
 - C- Mother and father.
 - ✓ D- Foetus and mother.
 - E- Mother, father and foetus.
- 94) Regarding amnion, all the following is true, EXCEPT:
- A- Amniotic cavity contains watery fluid.
 - B- It acts as a protective cushion for the baby
 - ✓ C- It prevents foetal movements.
 - D- It is a medium for excretion of urine.
 - E- It forms the bag of forewater during labor
- 95) Hydramnios:
- A- Means excessive amount of amniotic fluid.
 - B- May be due to oesophageal atresia.
 - C- May be caused by agenesis of kidney.
 - ✓ D- A and B are true.
 - E- A and C are true.
- 96) The allantois:
- A- Is derived from yolk sac.
 - B- Its proximal part is incorporated in the hindgut.
 - C- Invades the connecting stalk.
 - ✓ D- All of the above is true.
 - E- A and B only are true.

Placenta

- 97) The intervillous spaces contain:
- A- Fetal blood.
 - ✓ B- Maternal blood.
 - C- A mixture of maternal and fetal blood.
 - D- Blood with a high CO_2 content.
 - E- Blood with a low oxygen content.
- 98) The placenta is formed from the:
- A- Decidua basalis and chorion leave.
 - B- Decidua parietalis and chorion leave.
 - C- Decidua capsularis and chorion leave.
 - ✓ D- Decidua basalis and chorion frondosum.
 - E- Decidua capsularis and chorion frondosum.
- 99) The foetal part of the placenta is derived from:
- A- Chorion leave.
 - ✓ B- Chorion frondosum.
 - C- Decidua capsularis.
 - D- Decidua basalis.
 - E- Decidua parietalis.
- 100) The maternal part of the placenta is derived from:
- A- Decidua capsularis.
 - B- Decidua parietalis.
 - C- Chorion frondosum.
 - D- Chorion leave.
 - ✓ E- None of the above.
- 101) All the statements are true regarding the placenta, EXCEPT:
- A- Its foetal part is formed of chorion frondosum.
 - B- Its maternal part is formed of decidua basalis.
 - C- Its foetal surface is covered by amnion.
 - D- Its maternal surface is divided into cotyledons.
 - ✓ E- The umbilical cord is attached to its maternal surface.
- 102) By the 7th month of pregnancy, the human placenta, the maternal and foetal blood streams are:
- A- Confluent.
 - B- Separated by syncytiotrophoblast only.
 - C- Separated by foetal endothelium only.
 - ✓ D- Separated by foetal endothelium and syncytiotrophoblast.
 - E- Separated by maternal endothelium only.

103) The placenta serves for the transmission of electrolytes, gases and small molecular weight metabolites. The normal human placental barrier is also permeable to:

- A- Maternal white blood cells.
- B- Maternal red blood cells.
- C- Foetal white blood cells.
- D- Foetal red blood cells.
- ✓ E- Antibody molecules.

104) The placental barrier is initially formed of all the following;

EXCEPT:

- A- Cytotrophoblastic layer.
- B- Mesodermal core of the villus.
- ✓ C- Intraembryonic mesoderm.
- D- Endothelial lining of foetal blood vessels.
- E- Syncytiotrophoblastic layer.

105) Which of the following shares in forming the late placental barrier:

- A- Cytotrophoblast.
- ✓ B- Syncytiotrophoblast.
- C- Primary mesoderm.
- D- Secondary mesoderm.
- E- All of the above.

106) Which of the following hormones secreted by the placenta:

- ✓ A- Chorionic gonadotrophins.
- B- Progesterone.
- C- Estrogen.
- D- Lactogen.
- E- Relaxin.

107) All the following hormones are produced by the placenta.

EXCEPT:

- A- Progesterone.
- B- Estrogen.
- ✓ C- Luteinizing hormone.
- D- Human placental lactogen.
- E- Chorionic gonadotrophins.

108) Chorionic gonadotrophin from during which period of pregnancy:

- A- 1st week.
- ✓ B- 2nd week.
- C- One month.
- D- Two months.
- E- Four months.

109) One of these anomalies of placenta is due to error in implantation:

- A- Battledore placenta.
- B- Accessory placenta.
- C- Bipartite placenta.
- ✓ D- Placenta praevia.
- E- Tripartite placenta.

110) Placenta praevia marginalis:

- A- Covers completely the internal os.
- B- Is far from the internal os.
- ✓ C- Covers part of the internal os.
- D- Umbilical cord is attached to its margin.
- E- None of the above.

Umbilical cord

111) Which of the following structures is not part of the umbilical cord at the 6th week:

- A- Umbilical vessels.
- B- Vitelline vessels.
- C- Intestinal loop.
- D- Extra-embryonic coelom.
- ✓ E- Ligamentum venosum.

112) The primitive umbilical cord contains the following, EXCEPT:

- A- Vitelline duct.
- B- Intestinal loop.
- C- Allantois.
- ✓ D- One umbilical artery.
- E- Extra-embryonic coelom.

113) At birth, the normal umbilical cord contains:

- A- Two umbilical veins.
- B- The vitelline duct.
- C- The ductus venosus.
- ✓ D- Two umbilical arteries.
- E- The allantois.

114) The outside of the umbilical cord is covered by:

- A- Ectoderm.
- ✓ B- The amnion.
- C- The chorion.
- D- Connective tissue.
- E- The decidua capsularis.

115) Regarding the umbilical vein:

- A- Carries blood from foetus to placenta.
- B- Carries non-oxygenated blood.
- ✓ C- Is surrounded by Wharton's jelly in the umbilical cord.
- D- Is paired in the umbilical cord.
- E- Its obliteration forms the lateral umbilical ligament.

116) The following is true regarding anomalies of the umbilical cord, EXCEPT:

- A- A long cord that may coil around neck of fetus.
- B- A short cord that may cause early placental separation.
- ✓ C- A true knot due to local accumulation of Wharton jelly.
- D- Attachment of the cord to periphery of placenta.
- E- Velamentous insertion of the cord.

Twins

117) Monozygotic twins always have identical:

- A- Hair color.
- B- Sex.
- C- Eye color.
- D- Blood groups.
- ✓ E- All of the above.

118) Dizygotic twins may:

- ✓ A- Be of different sex.
- B- Have the same blood groups.
- C- Have a common umbilical cord.
- D- Have a common amnion.
- ✓ E- A + B only.

- 119) Fraternal (dizygotic twins) may arise by:
- ✓ A- Simultaneous fertilization of two ova.
 - B- Division of a single fertilized ovum.
 - C- Duplication of the embryoblast.
 - D- Duplication of the primitive streak.
 - E- All of the above mechanisms.
- 120) Regarding the twins all are true, EXCEPT:
- A- They may be monozygotic or dizygotic.
 - B- Monozygotic twins always have identical sex and blood group.
 - C- Dizygotic twins may have identical sex and blood group.
 - D- Monozygotic twins may have double placenta.
 - ✓ E- Conjoint twins are dizygotic twins.
- 121) Identical twins fused at their sacral regions are called:
- A- Thoracopagus.
 - B- Craniopagus.
 - ✓ C- Pygopagus.
 - D- Meromelia.
 - E- Amelia.

Chromosomal anomalies

- 122) Drugs will produce the greater teratogenic effect during the following period of pregnancy:
- A- On the day of conception.
 - ✓ B- During the 1st 10-12 weeks of pregnancy.
 - C- Between the 20th to 25th week of pregnancy.
 - D- Between the 25th to 30th week of pregnancy.
 - E- At the terminal stage of pregnancy.
- 123) All are true regarding the chromosomes and related abnormalities, EXCEPT:
- A- Human somatic cells have 46 chromosomes. ✓
 - B- In Down's syndrome there is trisomy of autosome No. 21. ✓
 - ✓ C- In Klinefelter's syndrome the patient is a sterile female (44+XXY).
 - D- In Turner's syndrome the patient is a female whose somatic cells have 45 chromosomes.
 - E- In triple X syndrome the female has an extra X chromosome. ✓

124) In mongolism, the chromosomal formula may be:

- A- 44+XY.
- B- 44+XX.
- ☒ C- 45+XY.
- D- 46+XY.
- E- 46+XX.

mongolism = 45 - xy

125) In Turner's syndrome, the chromosomal formula is:

- ☒ A- 44 + XO.
- B- 46+XO.
- C- 45+XO.
- D- 46+XX.
- E- 46+XXY.

44 + XO

126) In Klinefelter's syndrome, the chromosomal formula is:

- A- 44 + XXX.
- ☒ B- 44+XXY.
- C- 44-XO.
- D- 45+XO.
- E- 45 + XX.Y.

44 - XXY

127) The period of gestation is:

- ☒ A- 280 days.
- B- 300 days.
- C- 36 weeks.
- D- 360 days.
- E- 38 weeks.

128) The embryo is called a foetus after the:

- A- 3rd week.
- ☒ B- 8th week.
- C- 12th week.
- D- 16th week.
- E- 28th week.

embryo period

GENERAL EMBRYOLOGY

KEY

1	E		33	B		65	D		97	B	
2	E		34	D		66	C		98	D	
3	D		35	A		67	A		99	B	
4	E		36	D		68	B		100	E	
5	E		37	D		69	A		101	E	
6	A		38	E		70	C		102	D	
7	D		39	C		71	A		103	E	
8	D		40	B		72	B		104	C	
9	D		41	E		73	C		105	B	
10	E		42	B		74	D		106	A	
11	E		43	A		75	C		107	C	
12	E		44	E		76	C		108	B	
13	E		45	D		77	A		109	D	
14	E		46	B		78	A		110	C	
15	D		47	E		79	D		111	E	
16	C		48	E		80	B		112	D	
17	D		49	B		81	A		113	D	
18	D		50	C		82	B		114	B	
19	B		51	A		83	C		115	C	
20	E		52	D		84	A		116	C	
21	D		53	C		85	C		117	E	
22	E		54	E		86	B		118	E	
23	B		55	B		87	D		119	A	
24	A		56	E		88	C		120	E	
25	E		57	D		89	C		121	C	
26	E		58	D		90	A		122	B	
27	E		59	D		91	B		123	C	
28	D		60	E		92	C		124	C	
29	A		61	D		93	D		125	A	
30	C		62	C		94	C		126	B	
31	E		63	B		95	D		127	A	
32	A		64	A		96	D		128	B	