

Pregnancy and Embryonic Development – MCQs with Explanations

1. Finger-like projections formed on trophoblast after implantation are called:

- (a) Fimbriae
- (b) Chorionic villi
- (c) Blastomeres
- (d) Alveoli

Answer: (b) Chorionic villi

Explanation: After implantation, the trophoblast develops finger-like projections called chorionic villi that help in attachment and exchange of materials between mother and foetus.

2. Placenta is formed by the interaction of:

- (a) Ovary and uterus
- (b) Chorionic villi and uterine tissue
- (c) Endometrium and myometrium
- (d) Foetus and cervix

Answer: (b) Chorionic villi and uterine tissue

Explanation: Placenta develops from the chorionic villi of the embryo and the uterine tissue of the mother.

3. Placenta acts as a:

- (a) Digestive organ
- (b) Respiratory organ only
- (c) Endocrine tissue
- (d) Excretory organ only

Answer: (c) Endocrine tissue

Explanation: Placenta functions as an endocrine gland by secreting hormones such as hCG, hPL, estrogen and progesterone.

4. Placenta helps in the transport of:

- (a) Oxygen and nutrients
- (b) Carbon dioxide and wastes
- (c) Hormones
- (d) All of these

Answer: (d) All of these

Explanation: Placenta facilitates the exchange of oxygen, nutrients, hormones, carbon dioxide and metabolic wastes between mother and foetus.

5. Placenta is connected to embryo through the:

- (a) Fallopian tube
- (b) Cervix
- (c) Umbilical cord
- (d) Vagina

Answer: (c) Umbilical cord

Explanation: The umbilical cord connects the developing foetus to the placenta and transports blood between them.

6. Which hormone is secreted by placenta?

- (a) Insulin
- (b) hCG
- (c) Adrenaline
- (d) Glucagon

Answer: (b) hCG

Explanation: Human Chorionic Gonadotropin (hCG) is secreted by the placenta and helps maintain pregnancy.

7. hPL stands for:

- (a) Human pituitary lactogen
- (b) Human placental lactogen
- (c) Human pregnancy lutein
- (d) Human placental lutein

Answer: (b) Human placental lactogen

Explanation: hPL is a hormone secreted by the placenta that supports foetal growth and maternal metabolism.

8. Relaxin is secreted during pregnancy by the:

- (a) Thyroid gland
- (b) Placenta only
- (c) Ovary
- (d) Pituitary gland

Answer: (c) Ovary

Explanation: Relaxin is secreted mainly by the corpus luteum of the ovary during pregnancy and helps relax pelvic ligaments.

9. Which hormones are produced only during pregnancy?

- (a) Thyroxine and cortisol
- (b) hCG, hPL and relaxin
- (c) Estrogen and progesterone
- (d) FSH and LH

Answer: (b) hCG, hPL and relaxin

Explanation: These hormones are specifically associated with pregnancy and play important roles in maintaining it.

10. The outer germ layer formed after implantation is:

- (a) Mesoderm
- (b) Endoderm
- (c) Ectoderm
- (d) Trophoblast

Answer: (c) Ectoderm

Explanation: The ectoderm is the outermost germ layer and gives rise to the nervous system and skin.

11. The inner germ layer is called:

- (a) Mesoderm
- (b) Endoderm
- (c) Ectoderm
- (d) Blastoderm

Answer: (b) Endoderm

Explanation: The endoderm is the innermost germ layer and forms the lining of the digestive and respiratory tracts.

12. The middle germ layer is:

- (a) Mesoderm
- (b) Endoderm
- (c) Ectoderm
- (d) Trophoblast

Answer: (a) Mesoderm

Explanation: The mesoderm forms muscles, bones, blood vessels and connective tissues.

13. Stem cells are present in the:

- (a) Placenta
- (b) Umbilical cord

- (c) Inner cell mass
- (d) Endometrium

Answer: (c) Inner cell mass

Explanation: The inner cell mass of the blastocyst contains pluripotent stem cells that can differentiate into various tissues.

14. Human pregnancy normally lasts for about:

- (a) 3 months
- (b) 6 months
- (c) 9 months
- (d) 12 months

Answer: (c) 9 months

Explanation: Human gestation lasts approximately 280 days or 40 weeks, which is about nine months.

15. After one month of pregnancy, the embryo develops:

- (a) Limbs
- (b) Heart
- (c) Hair
- (d) Eyelashes

Answer: (b) Heart

Explanation: By the end of the first month, the embryonic heart is formed and starts beating.

16. By the end of second month, the foetus develops:

- (a) Teeth
- (b) Heartbeat only
- (c) Limbs and digits
- (d) Eyelashes

Answer: (c) Limbs and digits

Explanation: By eight weeks, the embryo develops limbs and fingers/toes, and is called a foetus.

17. Most major organ systems are formed by the end of:

- (a) 4 weeks
- (b) 8 weeks
- (c) 12 weeks
- (d) 30 weeks

Answer: (c) 12 weeks

Explanation: By the end of the first trimester (12 weeks), most major organ systems have developed.

18. First movements of foetus are usually observed during the:

- (a) First month
- (b) Third month
- (c) Fifth month
- (d) Ninth month

Answer: (c) Fifth month

Explanation: Foetal movements, called quickening, are generally felt by the mother during the fifth month.

19. By the end of second trimester, the body of foetus is covered with:

- (a) Scales
- (b) Thick hair
- (c) Fine hair
- (d) Nails only

Answer: (c) Fine hair

Explanation: The foetus develops a covering of fine hair called lanugo by the end of the second trimester.

20. At the end of nine months, the foetus is:

- (a) Partially developed
- (b) Ready for fertilisation
- (c) Ready for delivery
- (d) Ready for implantation

Answer: (c) Ready for delivery

Explanation: At full term (about 40 weeks), the foetus is fully developed and prepared for birth.

Pregnancy and Embryonic Development – Short Answer Questions with Answers

1. What are chorionic villi?

Finger-like projections formed by the trophoblast after implantation.

2. From which structure do chorionic villi develop?

The trophoblast.

3. How is the placenta formed?

By the interaction of chorionic villi and uterine tissue.

4. What is the placenta?

A temporary organ that connects the developing foetus with the mother.

5. Name the connection between the placenta and the foetus.

Umbilical cord.

6. What is the function of the umbilical cord?

It connects the foetus to the placenta and transports blood between them.

7. **Why is the placenta called an endocrine tissue?**

Because it secretes hormones.

8. **Name any two hormones secreted by the placenta.**

hCG and hPL.

9. **What is hCG?**

Human Chorionic Gonadotropin, a hormone secreted by the placenta.

10. **What is hPL?**

Human Placental Lactogen, a hormone secreted by the placenta.

11. **What is the function of the placenta?**

It facilitates exchange of nutrients, gases, wastes and hormones between mother and foetus.

12. **What substances are transported from mother to foetus through the placenta?**

Oxygen and nutrients.

13. **What substances are transported from foetus to mother through the placenta?**

Carbon dioxide and metabolic wastes.

14. **What is relaxin?**

A hormone produced during pregnancy that helps relax pelvic ligaments.

15. **Which hormones are produced only during pregnancy?**

hCG, hPL and relaxin.

16. **What are germ layers?**
Primary layers of cells that give rise to different tissues and organs.
17. **Name the three primary germ layers.**
Ectoderm, Mesoderm and Endoderm.
18. **What is the outermost germ layer called?**
Ectoderm.
19. **What is the middle germ layer called?**
Mesoderm.
20. **What is the innermost germ layer called?**
Endoderm.
21. **What is the inner cell mass?**
A group of cells inside the blastocyst that forms the embryo.
22. **Where are stem cells present in the blastocyst?**
In the inner cell mass.
23. **What are stem cells?**
Undifferentiated cells that can develop into various cell types.
24. **What is the normal duration of human pregnancy?**
About 9 months or 280 days.
25. **What develops in the embryo by the end of the first month?**
The heart.
26. **What develops in the foetus by the end of the second month?**
Limbs and digits.
27. **When is the embryo called a foetus?**

After the development of major body structures, around the end of the second month.

28. **By the end of which month are most major organ systems formed?**

By the end of the third month.

29. **During which month are the first foetal movements observed?**

During the fifth month.

30. **What is quickening?**

The first noticeable movement of the foetus felt by the mother.

31. **What covers the body of the foetus by the end of the second trimester?**

Fine hair.

32. **What is lanugo?**

The fine hair covering the body of the foetus.

33. **What is meant by gestation period?**

The duration of pregnancy from fertilisation to birth.

34. **What happens at the end of nine months of pregnancy?**

The foetus becomes fully developed and ready for birth.

35. **When is a foetus considered ready for delivery?**

At the end of the gestation period, about nine months after conception.