

Exam 30.11.2018

Max 50 points, you need to get 25 points to pass the exam (25p = grade 1)

Mark your name and student ID to the each answer sheet.

You can also answer in Finnish or mixed Finnish/English if needed.

D. Explain shortly following terminology (1p each, total 8):

- a. Mesenchyme
- b. Embryology
- c. Epiblast
- d. Teratogen
- e. Homeobox genes
- f. Embryonic period
- g. Fetal period
- h. Meiosis and mitosis

A short answer for following questions is enough:

1. From developmental point of view, what is the main difference between vasculogenesis and angiogenesis? (2p)
2. What is ectopic pregnancy and give an example of it (2p)
3. Explain shortly the trophoblast development/differentiation, why it is important for developing embryo? (2p)
4. Explain the main activities and developmental stages during the first week of human development (4p)
zona pellucida
5. What happens during gastrulation and what are the key steps in it? When does it happens during human development? (4p)
6. What happens during neurulation and what are the key steps in it? When does it happens? (4p)
22-28
7. Explain the origin of neural crest cells, their migration and give three (3) examples of cells/tissue development these cells contribute? (4p)
Bmp, Fgf Snail, Foxd3 Slug ka
krom
8. Explain assisted reproductive technology. Give 3 examples of methods developed/used in it? (4p)
alin

9. Your friend tells you that she is pregnant and she asks some advice from you regarding the importance of vitamins for the pregnancy. Give her one example of a beneficial and one example of a more harmful vitamin she should take/avoid during pregnancy and explain shortly why (4p).

A bit wider questions but still reasonable short answers are fine:

10. Pick-up "your favorite organ/tissue" and explain shortly which embryonic layers contribute to the development of this organ. What time point of the embryonic or fetal period is critical for the development of this organ/tissue? Name one teratogen that can disturb the development of this organ/tissue and explain shortly why? (6p)

lateraali → lantio, raajat, rintalasta, lapaluut, soliruu

11. We had quite many "hot topics" discussed during the course or you maybe noticed some additional ones while searching information for your group work. Introduce one "hot topic" and explain why it is important, what is known, what is the critical time point during the development for this and why this topic has been recently discussed? (6p)