

**Corrected type of module Animal biology II**

**Single choice questionnaire : choose the correct answer**

**1 point for each correct answer**

**1. What is the primary aim of spermatogenesis? 1 point**

- a) Formation of ova
- b) Production of spermatozoa**
- c) Development of genital organs
- d) Maintenance of testosterone levels

**2. Where are spermatogonia found within the testes? 1 point**

- a) Seminiferous tubules**
- b) Epididymis
- c) Straight tubules
- d) Leydig cells

**3. What is the role of Sertoli cells in spermatogenesis? 1 point**

- a) Producing spermatozoa
- b) Producing testosterone
- c) Producing hormones
- d) Supporting and nourishing germ cells**

**4. What characterizes spermiogenesis? 1 point**

- a) Cell division
- b) Spermatozoa formation**
- c) Hormone production
- d) Oocyte maturation

**5. What is the role of the acrosome in the spermatozoon? 1 point**

- a) Storing mitochondria
- b) Assisting in penetrating the ovum**
- c) Storing genetic material
- d) Producing digestive enzymes

**6. What is the main difference between spermatogenesis and oogenesis? 1 point**

- a) Spermatogenesis produces ova, while oogenesis produces spermatozoa.
- b) Spermatogenesis begins at puberty, while oogenesis begins at week 12 of embryonic development.
- c) Spermatogenesis produces four functional cells, while oogenesis produces one functional cell.**
- d) Spermatogenesis occurs in the ovaries, while oogenesis occurs in the testes.

**7. How are primary oocytes initially arrested in their development? 1 point**

- a) In prophase of meiosis I**
- b) In metaphase of meiosis I
- c) In anaphase of meiosis I
- d) In telophase of meiosis I

**8. What triggers the resumption of meiosis I in the primary oocyte? 1 point**

- a) Surge in follicle stimulating hormone (FSH)
- b) Surge in luteinising hormone (LH)**
- c) Release of progesterone
- d) Release of estrogen

**9. What is the fate of the polar bodies formed during oogenesis? 1 point**

- a) They function as spermatozoa.
- b) They degenerate soon after division.**
- c) They become functional ova.
- d) They fuse with the secondary oocyte.

**10. What happens to the corpus luteum if fertilization does not occur? 1 point**

- a) It degenerates and becomes the corpus albicans.
- b) It continues to produce estrogen and progesterone.
- c) It develops into the fetus.
- d) It remains intact within the ovary.

**11. What is capacitation?**

- a) The process by which the ovum is expelled from the follicle
- b) The final maturation step of the spermatozoa in the female genital tract
- c) The release of enzymes from the egg's cortical granules
- d) The fusion of the sperm and egg membranes

**12. Where does fertilization typically occur? 1 point**

- a) Uterus
- b) Cervix
- c) Ampulla of the uterine tube
- d) Ovary

**13. What triggers the acrosome reaction in spermatozoa? 1 point**

- a) Release of progesterone
- b) Contact with the cumulus cells
- c) Binding to the zona pellucida
- d) Fusion with the egg membrane

**14. What is the purpose of the cortical reaction? 1 point**

- a) To release enzymes that break down the zona pellucida
- b) To prevent further sperm from binding to the egg
- c) To activate the sperm's acrosome
- d) To align paternal and maternal chromosomes

**15. How is the sex of the embryo determined? 1 point**

- a) By the number of chromosomes in the egg
- b) By the number of chromosomes in the sperm
- c) By the presence of cortical granules in the egg
- d) By the presence of mitochondria in the sperm

**16. What is cleavage? 1 point**

- a) The attachment of the blastocyst to the uterine wall
- b) The process by which the blastocyst loses the zona pellucida
- c) Rapid mitotic division of the zygote without an increase in size
- d) Formation of the blastocoel within the blastocyst

**17. What is the morula?**

- a) The outer cell mass of the blastocyst
- b) The cavity formed within the blastocyst
- c) A stage in embryonic development characterized by compaction of cells
- d) The blastomeres in the middle of the blastocyst

**18. When does the morula become a blastocyst? 1 point**

- a) Around 12 hours after fertilization
- b) After implantation into the uterine wall
- c) Approximately 4 days after fertilization
- d) Once the zona pellucida is lost

**19. What triggers changes in the trophoblast and endometrium for implantation? 1 point**

- a) Attachment of the blastocyst to the endometrial epithelium
- b) Formation of the blastocoel
- c) Loss of the zona pellucida
- d) Fusion of the sperm and egg membranes

**20. How are dizygotic twins formed? 1 point**

- a) By the splitting of a single zygote
- b) From two separate blastocysts fertilized by different sperm
- c) From the splitting of a blastocyst
- d) By the incomplete division of a blastocyst