Subject	
Topic	**GAMETOGENESIS**
Name of student	
Date	
Seminar group	

THEORY

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PRACTICAL PART

Exercise 1. Study a microscopic preparation of mammalian ovary, carefully draw and describe all types of developing follicles

Exercise 2. Using microscopic preparations and your own knowledge, consider the differences (structural, functional, etc.) between the eggs of mammals, birds, and amphibians. Complete the table. The first line is filled in as an example.

	mammals	birds	amphibians
size	microscopic	visible by eye - cm	visible by eye - mm

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Exercise 3. Study a preparation of mammalian testicles, carefully draw and describe. Focus on the individual stages of cell development inside the seminiferous tubules.

Exercise 4. Observe sperm of various animal species under microscope. Draw and describe the observations.

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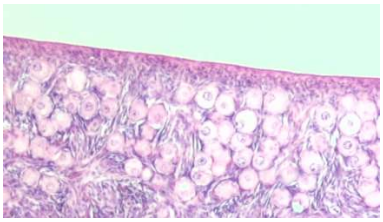
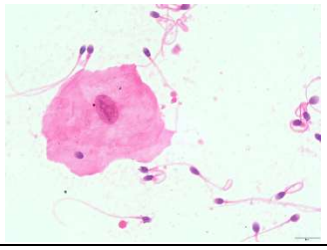
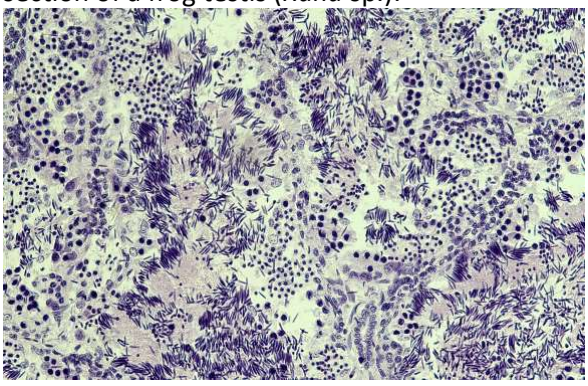
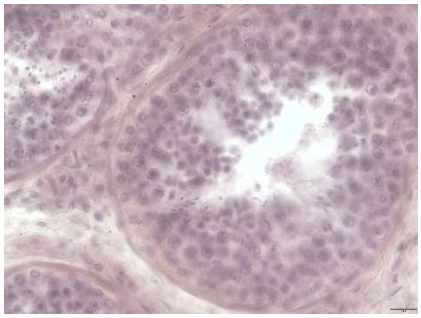
Exercise 5. Complete the following test (in case of options a), b), c), d), only one answer is correct)

1. Which statement regarding spermatogenesis and oogenesis is true: a) Neither oogenesis nor spermatogenesis produce polar bodies b) Both oogenesis and spermatogenesis produce polar bodies c) Both oogenesis and spermatogenesis only produce gametes capable of fertilization. d) Oogenesis produces larger gametes than spermatogenesis	2. Provide 3 differences between spermatogenesis and oogenesis: a) ….. b) ….. c) …..
3. What kind of membranes/envelopes/shells can protect the eggs of different animals, give 3 examples: a) ….. b) ….. c) …..	4. *Zona pellucida* is formed by the activity of: a) Only follicular cells b) Only oocyte c) Follicular cells and oocyte d) Connective tissue surrounding the follicle
5. In the picture, across section of the cortex of a mammalian ovary is shown. What type of follicles is prominent in the image?  a) Primordial follicles b) Secondary follicles c) Tertiary follicles d) Antral follicles	6. In the picture, a smear of human sperm is captured, and... a) Sertoli cell b) Oocyte c) Leukocyte d) Flat epithelial cell from the ducts of reproductive tract 
7. Take into account the seasonal cycle of spermatogenesis in amphibians and estimate which season corresponds to the image of a section of a frog testis (*Rana* sp.):  Answer: ……¨	8. The testes of vertebrates consist of two compartments: 1. interstitial/intertubular tissue; 2. germinative/spermatogenic tissue. Determine which compartment(s) are shown in the photograph.  Answer: …..

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9.+10. Examine the photograph of the ovary of a frog (*Rana* sp.). Match the letters to the terms. What type of eggs do you observe (consider the amount and distribution of yolk within the egg)?

1) yolk granules
2) oocyte nucleus with nucleoli
3) connective tissue
4) follicular cells

Answer: .....

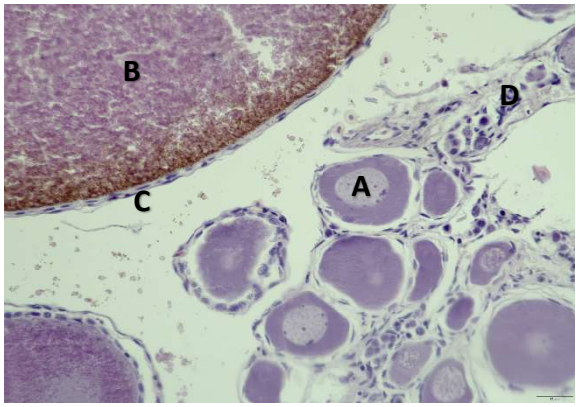

Figure sources:
Nejezchlebová H. 2003.

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