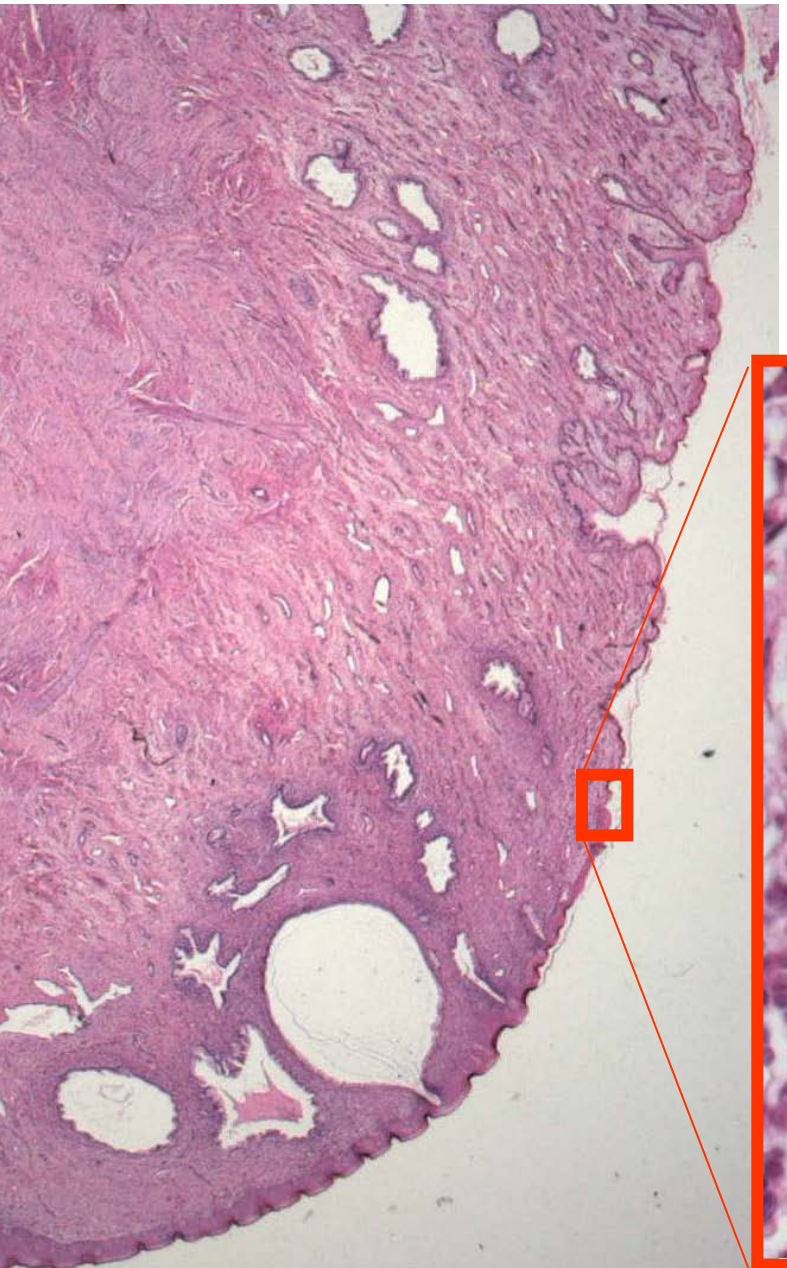
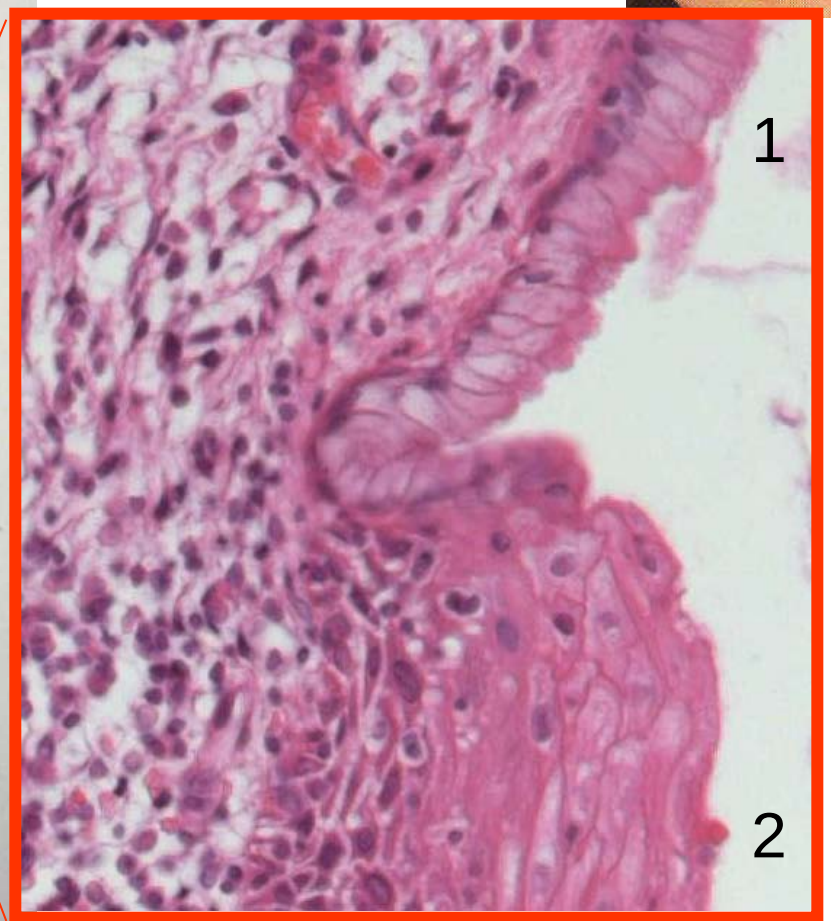
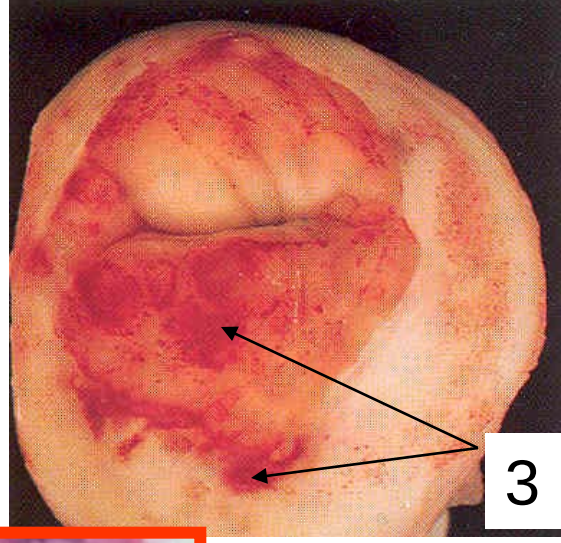
Station number 10, anatomy and physiology
Short answers station

B Portio vaginalis uteri

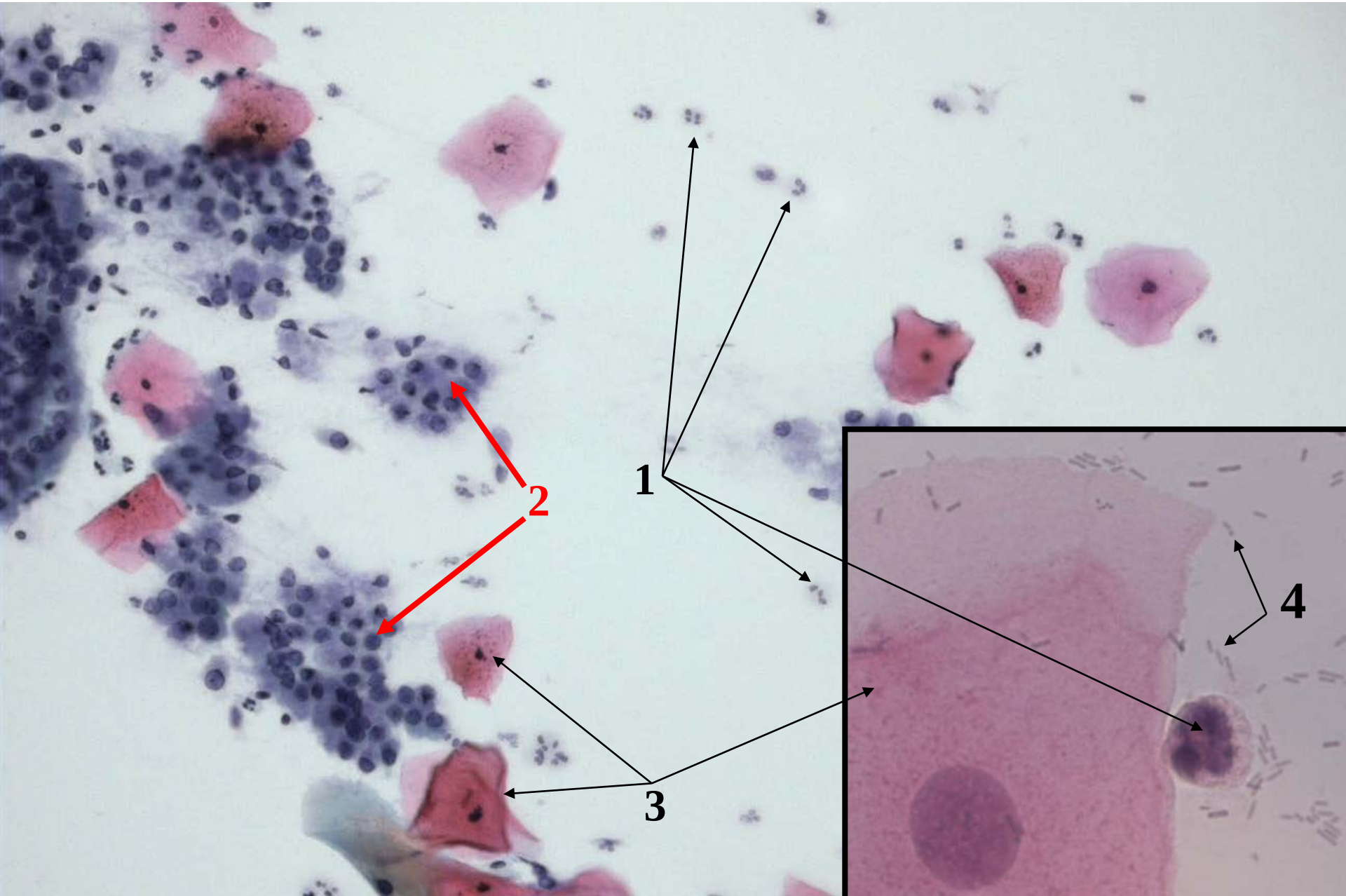






C

Cervical smear, Papanicolaou



Student ID Number:…….

Station number 10 - Anatomy and Physiology
Slide Show – Short Answer
Remember to fill in your student ID on top right of this paper

You are presented with three questions A, B and C, two of which are connected to slides (B and C) in a Power Point presentation.

A. Gonadotropin (LH and FSH) levels during a woman's life

Below are several statements. Which are true and which are false? (Encircle the correct statements)

During childhood there

- is no follicle activation	True	False
- is virtually no ovarial estrogen production	True	False
- are no secondary follicles	True	False
- is no ovulation	True	False

During menopause

- estrogen production drops due to few follicles	True	False
- estrogen levels are too low to inhibit FSH/LH secretion	True	False
- estrogen production increases due to high FSH/LH levels	True	False
- estrogen production drops due to inhibition by FSH/LH	True	False
- post-menopausal symptoms are caused by too high estrogen levels	True	False

B. Portio (see slide, B)

1. Type of epithelium ……..……
2. Type of epithelium……
3. Why are these areas bright red? ……

……

C. Cervical smear at high magnification (see slide, C)

1. Name of cell type…….……
2. Name of cell type……...……..……
3. Name of cell type.....……..……
4. What kind of structure are the arrows pointing at? Give name and function

……

Examiner's sheet (avkrysningsskjema for eksaminator= den som retter skjemaet)

Student ID number: …….

Examiner ID: ……

Station number 10 - Anatomy and Physiology
Slide Show

You are presented with 3 questions and 2 slides in a Power Point presentation.

[The column "Max" has no function other than acting as a help when calculating the total score.]

			Score	Achieved
During childhood there				
- is no follicle activation	~~True~~	**False**	1	
- is virtually no ovarial estrogen production	**True**	~~False~~	1	
- are no secondary follicles	~~True~~	**False**	1	
- is no ovulation	**True**	~~False~~	1	
During menopause				
- estrogen production drops due to few follicles	**True**	~~False~~	1	
- estrogen levels are too low to inhibit FSH/LH secretion	**True**	~~False~~	1	
- estrogen production increases due to high FSH/LH levels	~~True~~	**False**	1	
- estrogen production drops due to inhibition by FSH/LH	~~True~~	**False**	1	
- post-menopausal symptoms are caused by too high estrogen levels	~~True~~	**False**	1	
B				
1. Cervical columnar epithelium			2	
2. Vaginal stratified squamous epithelium			2	
3. The red areas are covered with columnar epithelium that appears redder because it is thinner.			3	
C				
1. Granulocytes (a leucocyte type)			2	
2. Cervical columnar epithelial cells			2	
3. Vaginal squamous epithelial cells			2	
4. Lactobacillus, a Gram positive rod, producing lactic acid			2	

Total score: _____ Max. 24 points

Station equipment

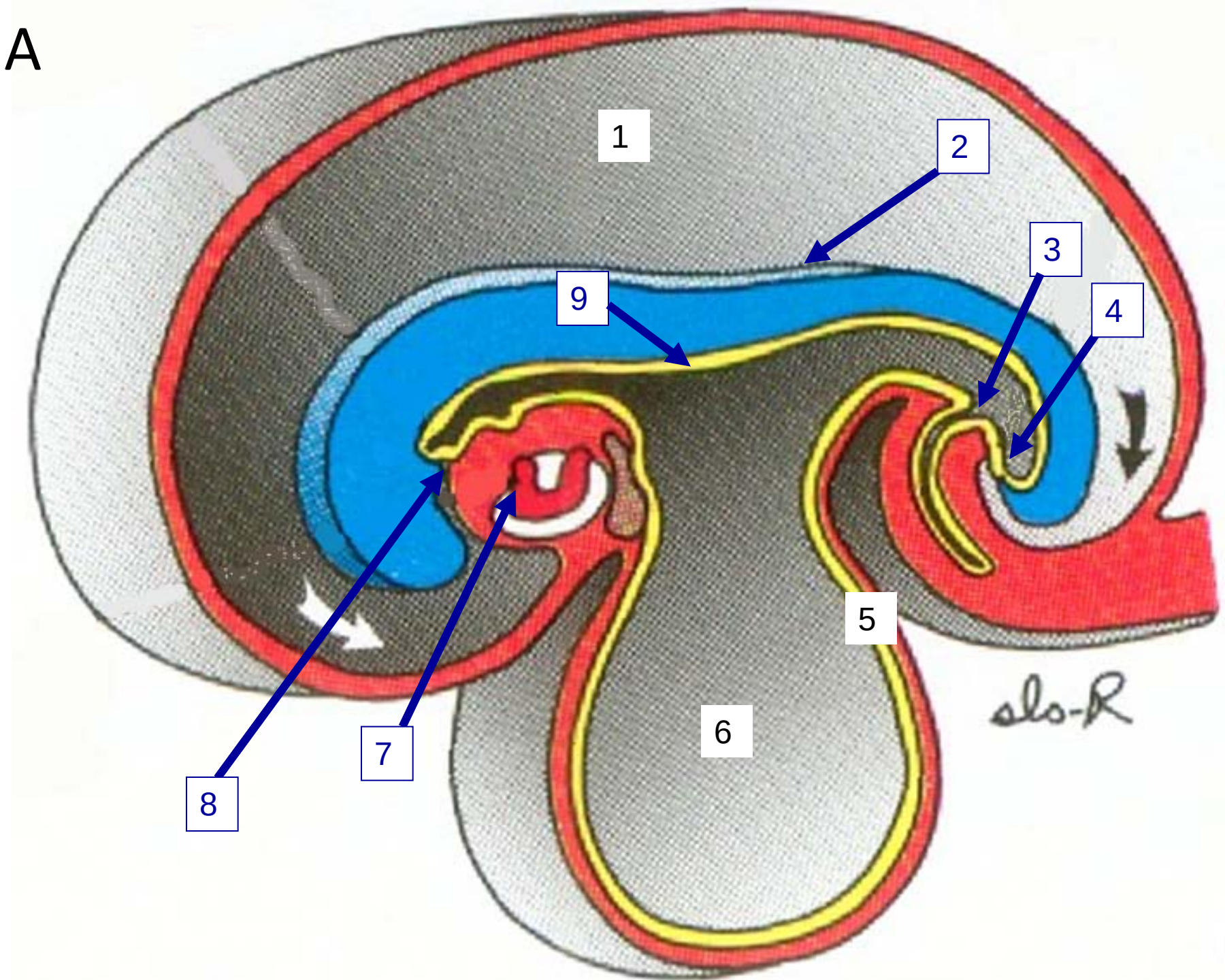
PC

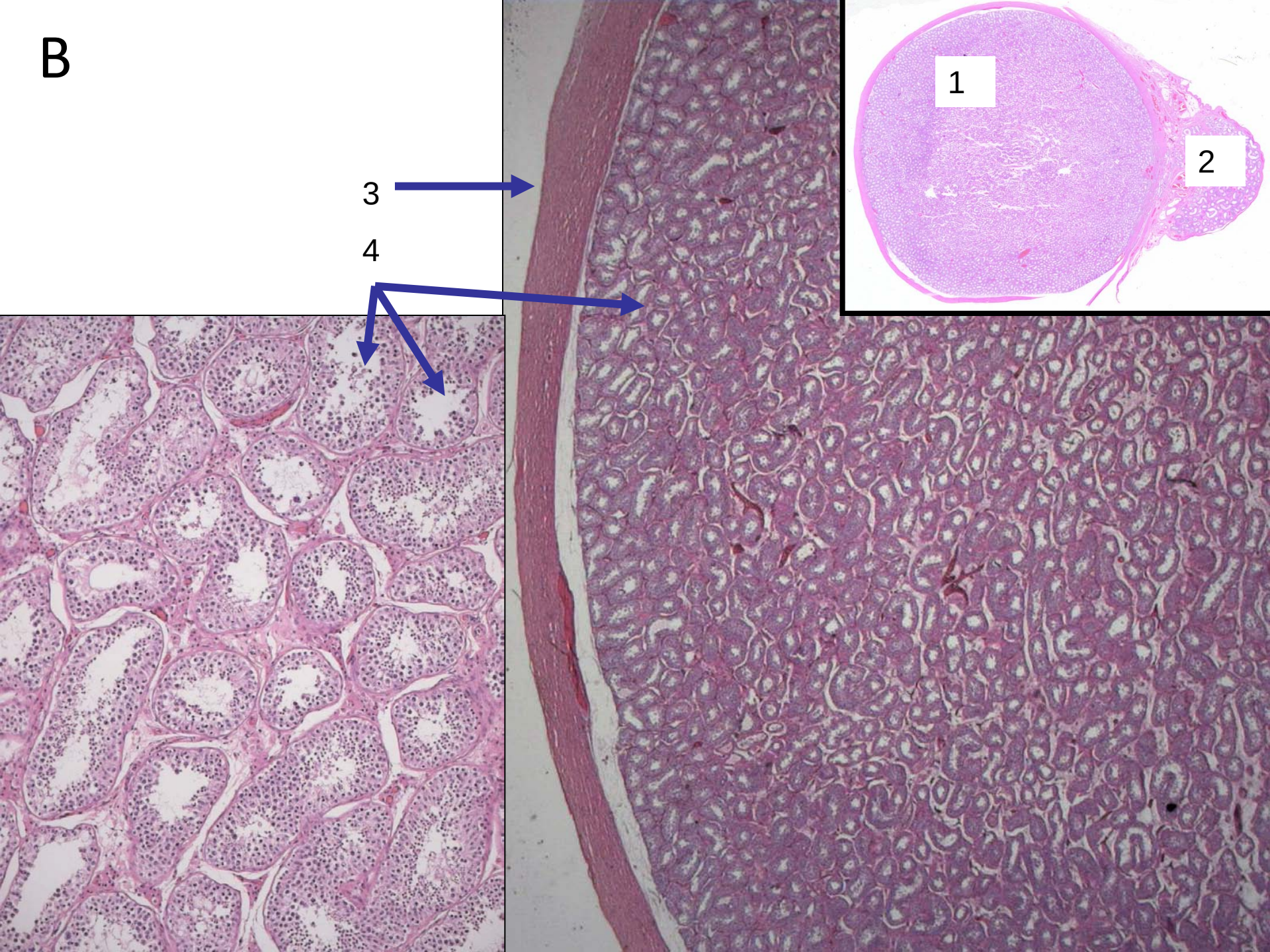
Pencil

Eraser

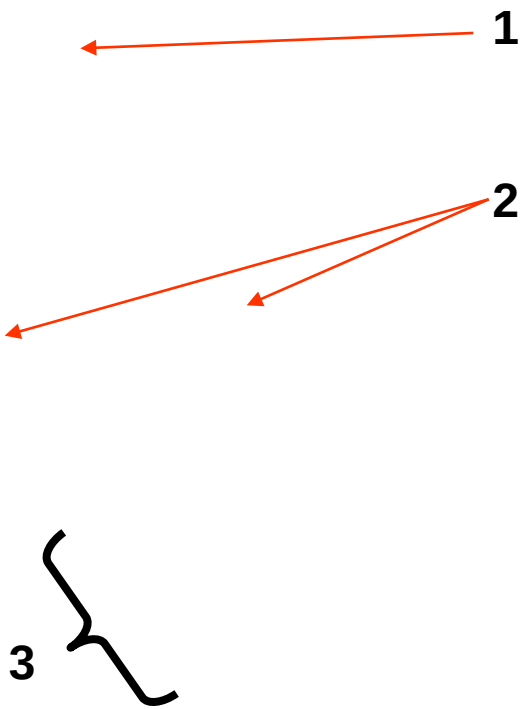
Slide Show

Station number 11, anatomy and physiology
Short answers station


A
1
2
3
4
5
6
7
8
9
slo-R


B
3
4
1
2

C



Student ID Number:…….

Station number 11 - Anatomy and Physiology
Slide Show – Short Answer

Remember to fill in your student ID on top right of this paper

You are presented with three slides (A, B and C) in a Power Point presentation.
The questions are numbered according to the numbers on the slides.

A. Early embryo.

Structure or location of development	Best matching number on the figure
Amniotic cavity	
Yolk sack	
The heart tube	
The origin of the primordial germ cells	
Future opening of the mouth	
Future anus	
Upper ventral part of the urinary bladder	
Skin surface	
Intestinal epithelium	

B.

1. Name of organ……
2. Name of organ……

What are the main functions of the organ in 2?……

……

3. **Name** and **embryological origin** of the layer covering most of the surface of this organ? [NB: The arrow points to the location. The layer itself is not visible on this image.]

……

4. Name structures and main physiological function……

.....

C.

1. Name cell type……
2. Name cell type……
3. Cells containing brown-black dots

- Name: ……
- Main physiological function: ……
- Chemical composition of the dots:……

Examiner's sheet (avkrysningsskjema for eksaminator= den som retter skjemaet)

Student ID number: …….

Examiner ID: ……

Station number 11 - Anatomy and Physiology

Slide Show

You are presented with 3 slides (A, B, C) in a Power Point presentation.
The questions are numbered according to the numbers on the slides.

<table>
<tr><th></th><th>Score</th><th>Achieved</th></tr>
<tr><td>A.
<table><tr><th>Structure or location</th><th>Best matching number on the figure</th></tr><tr><td>Amniotic cavity</td><td>1</td></tr><tr><td>Yolk sack</td><td>6</td></tr><tr><td>The heart tube</td><td>7</td></tr><tr><td>The origin of the primordial germ cells</td><td>5</td></tr><tr><td>Future opening of the mouth</td><td>8</td></tr><tr><td>Future anus</td><td>4</td></tr><tr><td>Upper ventral part of the urinary bladder</td><td>3</td></tr><tr><td>Skin surface</td><td>2</td></tr><tr><td>Intestinal epithelium</td><td>9</td></tr></table></td><td>1
1
1
1
1
1
1
1
1</td><td></td></tr>
<tr><td>B
1. Testis

2. Epididymis

Fluid absorption (1), sperm maturation (1) and storage (1)

3. Tunica vaginalis (1). Develops from the peritoneum (1).

4. Tubuli seminiferi contorti. Produce sperms.</td><td>1

1

3

2

1</td><td></td></tr>
<tr><td>C
1 Sertoli cell

2 Spermatogonia

3
- Leydig cells
- Produce testosterone
- Cholesterol (acetate)</td><td>2

2

1
1
1</td><td></td></tr>
</table>

Total score: _____ Max. 24 points

Station 15 Cerebral CT

Fig 1

Fig 2

Station 15 - Paediatrics
PC station

Student´s sheet Student ID…….

Clinical information – part 1
You consult a non-febrile 8 month-old girl in the emergency room. Her head circumference at birth (term) was at the 50th percentile. These head circumferences are now available to you:

6 months	-	43 cm
7 months	-	44 cm
On admission	-	47 cm

Question 1
Plot these 3 measurements on the diagram provided.

Question 2
When taking the medical history, mention 2 clinical features that most likely had been present before admission.

…….

…….

Question 3
On physical examination, mention 3 findings expected to be present.

……..

……..

……

Supplementary information
Cerebral CT performed soon after admission is provided (figures 1 and 2).

Question 4
When interpreting the CT, mention 2 pathological findings present.

……

……

Student's ID……..

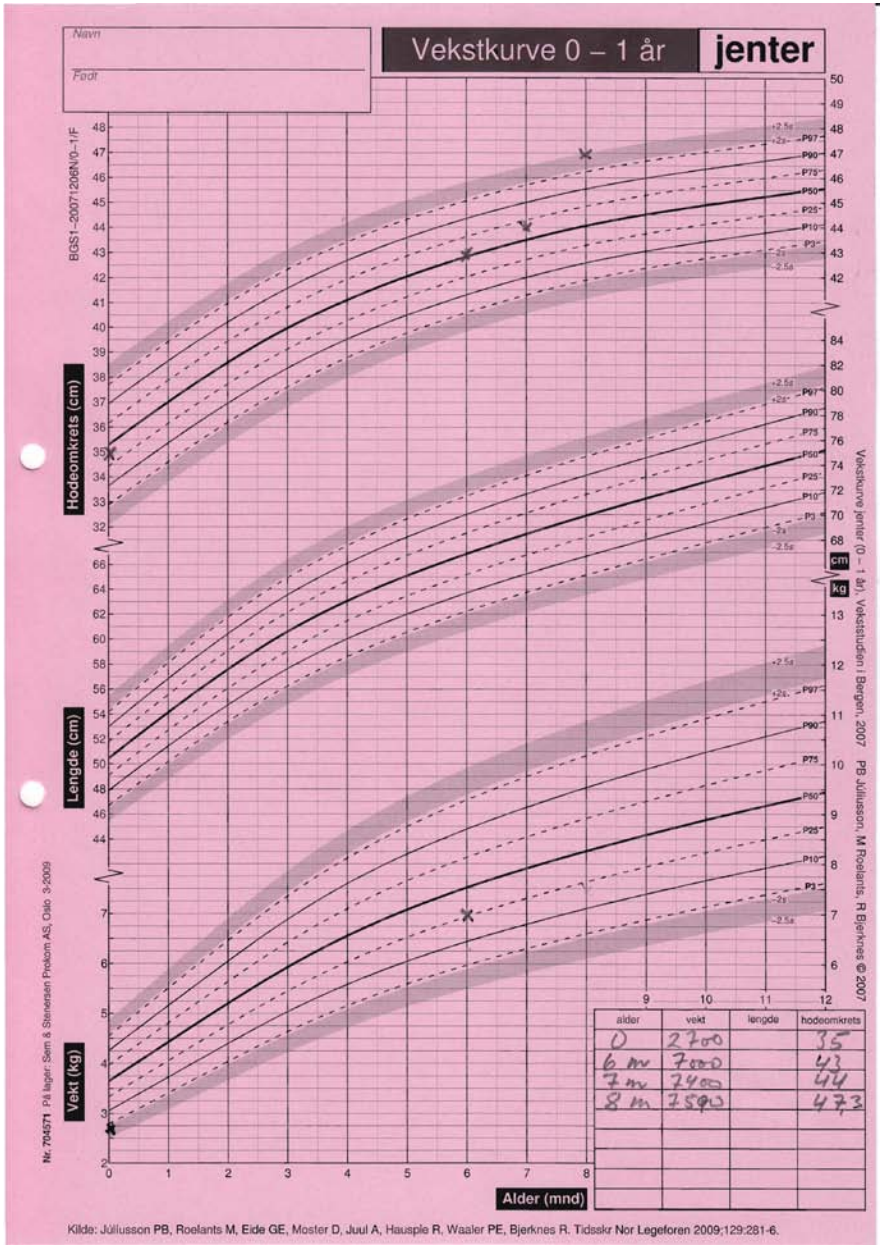
Examiner's ID …….

Station 15 – Paediatrics

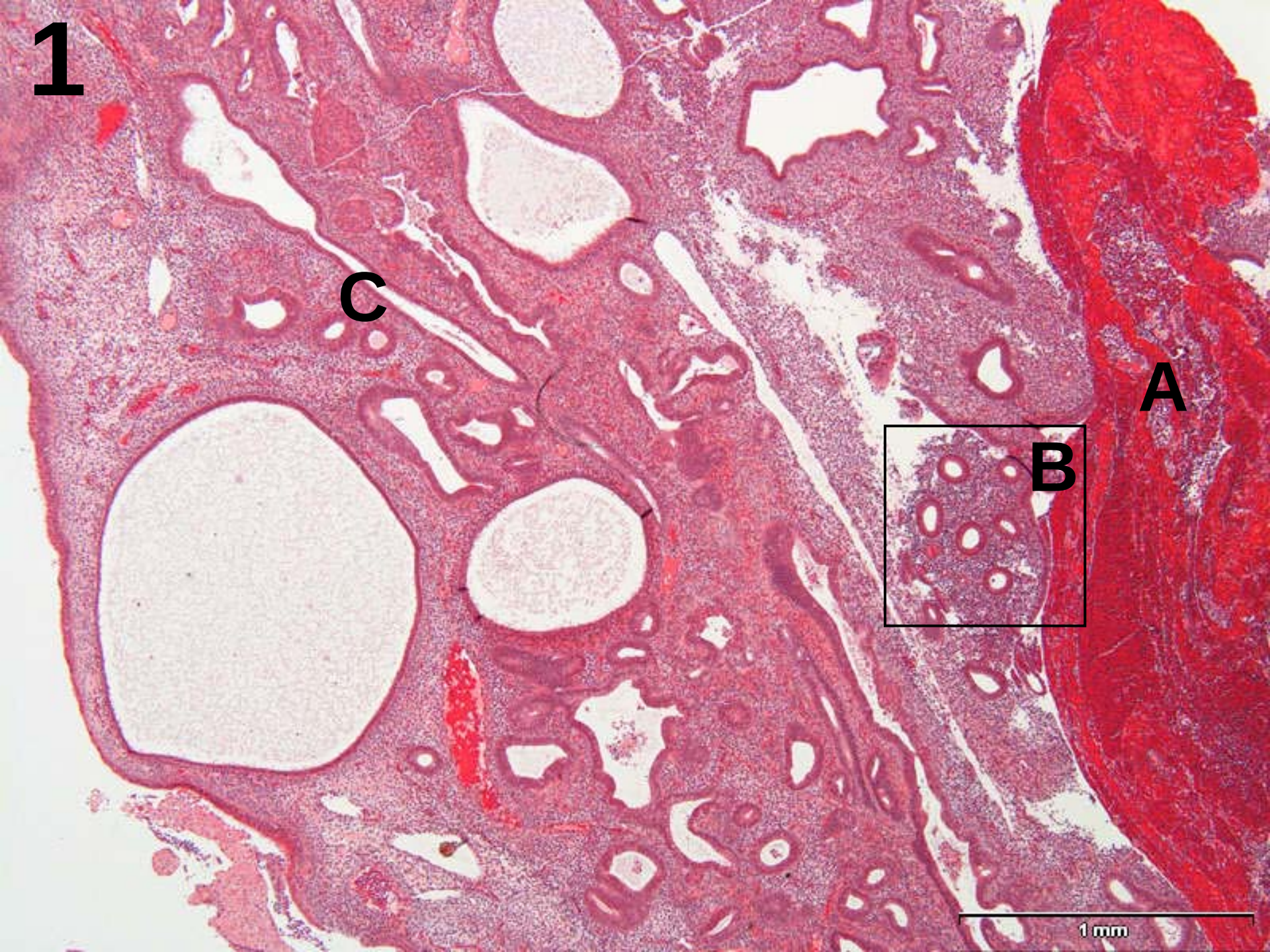
Points per item	Max. score	Score attained
Q1 Head circumference plotting • Correct (6 p) • Partly correct (3 p) • Inadequate (0 p)	**6**	
Q2 Medical history – max. 2 answers • Nausea/vomiting (4 p) • Headache/irritability (4 p) • Worse in the morning/or when lying down (4 p) • Other (e. g. delayed development, failure to thrive, lethargy) (2 p)	**8**	
Q3 Physical examination – max. 3 answers (2 p each) • Bulging fontanel (2 p) • Separation of sutures (2 p) • Dilated veins on the forehead (2 p) • "Sun-set" eye sign/ impaired vertical eye movement (2 p) • Strabismus (2 p) • Hemiplegia (2 p)	**6**	
Q4 Cerebral CT – max. 2 answers • Dilated ventricles/hydrocephalus/increased intracranial pressure (1p) • Mass/tumour (3 p) • Obliteration of the subarachnoidal spaces/midline shift (1 p)	**4**	
Total	**24**	

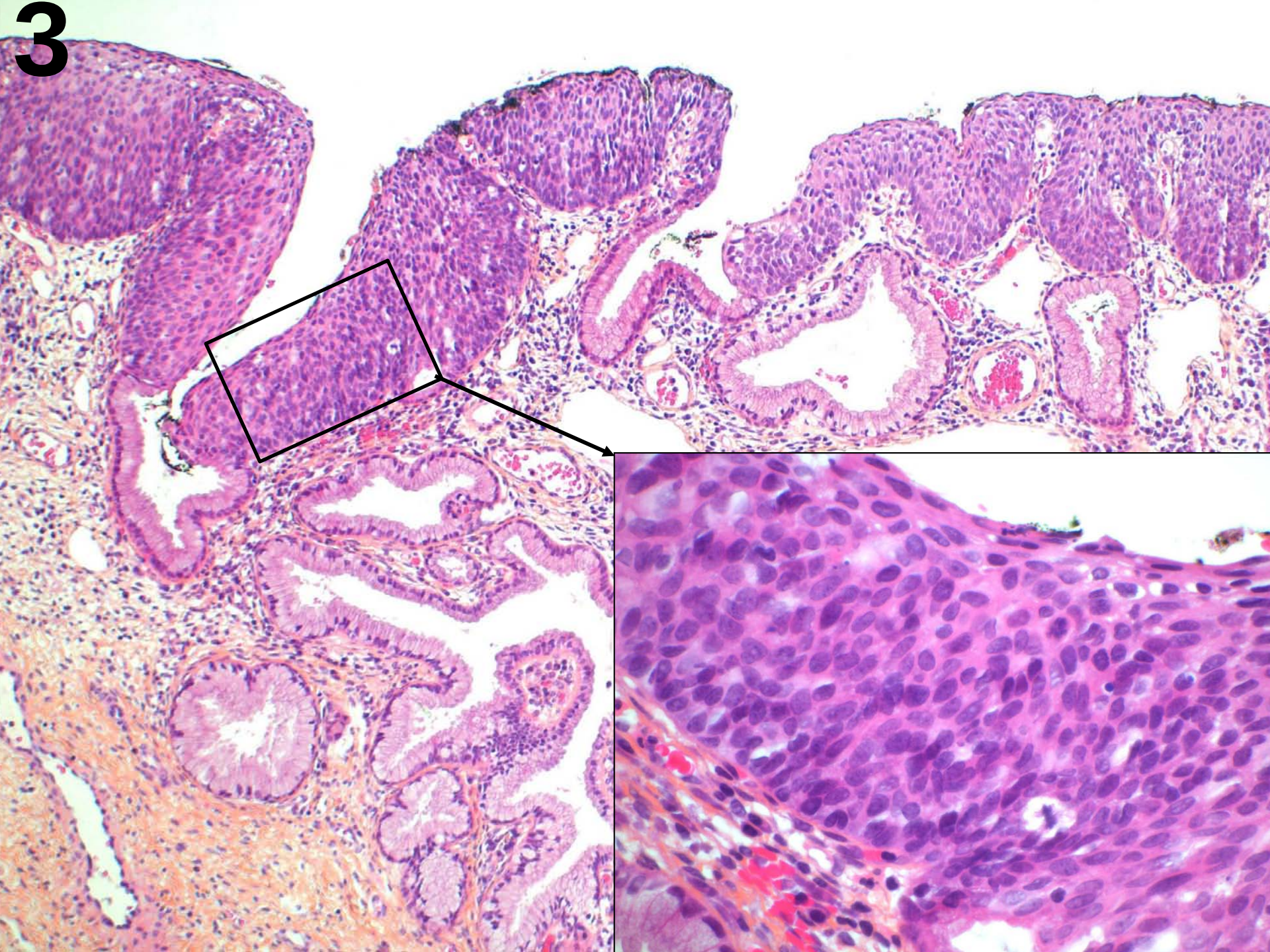
Max. score 24 p

Examiner's sheet Station 15: Correct head circumference diagram



Station number 16, pathological anatomy
Short answers station


1
C
A
B
1 mm


3

Student ID Number: …….

Station 16 - Pathological anatomy - Short answers station

Remember to fill in your student ID on top right of this paper

You are presented with three micrographs from histopathological sections.
You are asked to answer all questions below.

Uterine pathology

1. The micrograph represents curettage material, with a blood clot in A, a fragment of normal endometrial glands in B, and a pathological area in C.

1.1. Describe and name the endometrial growth disturbance seen in C:

.....

1.2. Which consequences may this growth disturbance have for the patient?

…….

1.3. What is the treatment? ....……

2. The micrograph is from the uterine cavity. Magnification of pathological area is shown in insert.

2.1. Describe and name the endometrial growth disturbance seen .....

.....

2.2. Which consequences may this growth disturbance have for the patient?

…….

2.3.What is the treatment?.....

Cervical pathology

3. The micrograph is from the uterine cervix.

3.1. What is this area of the cervix called? .....

3.2 Describe and classify the epithelial growth disturbance seen (magnification in insert:

.....

Examiner's sheet

Student ID number: …….

Examiner ID: ……

Station 16 - Pathological anatomy
Short answers station

	Correct answer gives	Achieved points
Question 1		
1.1 Describe and name the growth disturbance: Dilated, enlarged glands, increased stroma: 2 points Simple hyperplasia, hyperplasia: 2 points	4	
1.2 Consequences: Bleeding disturbancies:1 point Few, low risk of progression to cancer: 2 points	2	
1.3 Treatment: progesterone tablets or gestagen IUD, or no treatment: 2points	2	
Question 2		
2.1. Describe and name the growth disturbance: Crowded glands, cribriform, morula.: 2 points Complex hyperplasia with atypia: 2 points (only hyperplasia: 1 points, only complex: 1 point)	**4**	
2.2. Consequences: may develop into cancer, hysterectomy: 2 points	**2**	
2.3. Treatment: hysterectomy: 2 points (If progesterone and close surveillance is mentioned: 2 points)	**2**	
Question 3		
3.1. Transformation zone	**2**	
3.2. Describe changes: increased proliferation, reduced maturation, mitoses: 2 points CIN 3: 2 points (CIN 3 must be mentioned to give any points).	**6**	
Total	**24**	

Student ID Number: …….

Station number 17 - Pathological anatomy
Short answers station

Remember to fill in your student ID on top right of this paper

You are asked to answer all questions below.

The uterine cervix and screening

1.1. Name the most common Human Papilloma Virus (HPV)-subtypes found in squamous cell carcinomas of the uterine cervix.

.....

1.2. The HPV-subtypes are classified according to their risk for causing malignancies. How would you classify the HPV-subtypes mainly found in genital warts:

.....

1.3. Name two of the most common HPV-subtypes found in genital warts:

.....

Ovarian tumours:

2.1. Name the three main types of neoplasias originating in the ovary and give one example from each group:

a…… : _____

b……..: _____

c……..: _____

Testicular pathology:

3.1: What is cryptorchidism?

……..

3.2. Which treatment is appropriate and why?

…….

…….

Examiner's sheet (avkrysningsskjema for eksaminator= den som retter skjemaet)

Student ID number: …….

Examiner ID: ……

Station number 17 - Pathological anatomy

Short answers station	**Correct answer gives points**	**Achieved points**
Question 1		
1.1. Common HPV in cervical cancer: 16 (16 must be mentioned to achieve any points.) In addition: 2 points for any of the following: 31, 33, 18, 52, 51, 58	**1** **2**	
1.2. Low risk HPV	1	
1.3. HPV 6 and 11	2	
Question 2		
2.1. (2 points per answer, maximum 3x4. No points for tumours if connected to wrong group) a. Sex-cord- stromal: Fibromas, granulosa cell-tumour b. Epithelial: cystadenomas, carcinomas: serous, mucinous, endometroid, clear cell, Brenner c. Germinal cell tumours: teratoma, seminoma/dysgerminoma	**12**	
Question 3		
3.1.Cryptorchidism = maldescens of testicle	**1**	
3.2. Surgical correction Increased risk of infertility Increased risk of testicular cancer	**1** **2** **2**	
Total	**24**	

Student ID number: .....

Station number 19
Short answer

Fill in your student ID in the top right-hand corner of this page

Pelvic organ prolapse

1. What are the risk factors for pelvic organ prolapse?

   ……

   …….

   …….

   …….

2. Name at least three types of pelvic organ prolapse

   ……..

   …….

   ……..

   …….

3. Which are the (two) most common symptoms of pelvic organ prolapse?

   ……..

   …….

   ……..

4. How can pelvic organ prolapse be treated?

   ……..

   …….

   ……..

Examiner's sheet

Student ID number: .....

Examiner ID…….

Station number 19 - Gynaecology
Short answer

	Score given
1. What are the risk factors for pelvic organ prolapse? High age (2) High parity (2) Complicated delivery (high birth weight, instrumental vaginal delivery) (2) Overweight (2)	
2. Types of pelvic organ prolapse Cystocele (2) Rectocele (1) Uterus prolapse (1) Enterocele (1)	
3. Which are the (two) most common symptoms of pelvic organ prolapse? Vaginal bulge (2) Symptoms of heaviness (2) Urinary symptoms (1)	
4. How can POP be treated? Pelvic floor muscle training (2) Pessary (2) Surgery (2)	
Total:	

Maximum score 24

Student ID number: .....

Station number 20
Short answer

Fill in your student ID in the top right-hand corner of this page

Cancer corpus uteri

1. Which are the primary cancers that may develop in the corpus uteri?

.....

.....

.....

2. Which is the most common?

.....

3. Which are the most important risk factors for the most important cancer of the corpus uteri?

.....

.....

.....

4. Which is the most important symptom?

.....

5. You are a general practitioner and you suspect your patient to have cancer corpus uteri. What would be your first choice diagnostic procedure?

.....

Examiner's sheet

Student ID number: .....

Examiner ID…….

Station number 20- Gynaecology
Short answer

	Score given
1. Which are the primary cancers that may develop in the corpus uteri? Endometrial carcinoma (3 p) Sarcoma uteri (2 p) Choriocarcinoma (1 p)	
2. Which is the most common? Endometrial carcinoma /cancer (4 p)	
3. Which are the most important risk factors for the most important cancer of the corpus uteri? (Max. three of answers below, total score 6 p) High age (2) Obesity (2) Estrogen treatment without concomitant use of progesterone (2) Low parity (2) Treatment with tamoxifen (2) Diabetes mellitus (2)	
4. Which is the most important symptom? Postmenopausal bleeding (4 p) (Perimenopausal irregular bleeding: 1 point)	
5. You are a general practitioner and you suspect your patient to have cancer corpus uteri. What would be your first choice diagnostic procedure? Endometrial biopsy (pipelleprøve) (4 p)	

Maximum score 24 **Total _____**

Student ID number: .....

Station number 21
Short answer

Fill in your student ID in the top right-hand corner of this page

Hypertension in pregnancy

1. Name the types of hypertensive disorders in pregnancy.

……

……

……

……

2. Which clinical symptoms and signs of preeclampsia are important to recognise?

…….

…….

…….

3. a) What may be the cause of foetal growth restriction (IUGR) in pregnancies with preeclampsia?

…….

…….

b) Is there any variant of preeclampsia where IUGR is particularly frequent?

……..

4. Which clinical findings/observations (except for ultrasound) would make you think that the foetus is growth restricted?

……

Student ID number: .....

Examiner ID…….

Examiner's sheet
Station number 21 – Obstetrics Short answer

	Score given
Question 1 Types of hypertensive disorders	
Preeclampsia: **2 points** Gestational hypertension: **1 point** Chronic hypertension: **2 points** Preeclampsia superimposed on chronic hypertension: **1 point** **Preeclampsia and chronic hypertension mentioned*:*** **4 points.** **If preeclampsia and chronic hypertension are not mentioned: 0 points. All correct: 6 points**	
Question 2, symptoms of preeclampsia	
Rapidly increasing blood pressure, headache, pain and rightward tenderness in the epigastrium: Max. **3 points** Visual disturbance, irritability or hyperreflexia: **1 point** General malaise, nausea or other GI-symptoms: **1 point** Rapidly increasing oedemas or proteinuria: **1 point.** **Max. score 6 points**	
Question 3: IUGR	
a: Because preeclampsia may be associated with placental insufficiency (reduced placental function): **3 points** b: In early onset types of preeclampsia: **3 points**	
Question 4, observation	
Bending off of the symphysis-fundal height: **4 points** Clinically (visually and by palpation) small abdomen according to weeks of pregnancy: **1 point** Reduced foetal movements: **1 point**	
Sum:	

Maximum score 24

Student ID Number:…….

Station number 22 - Anatomy and Physiology
Short Answer Questions
Remember to fill in your student ID on top right of this paper

Please answer all questions below. The answers may be in keyword form, and should not exceed the space allotted by the dotted lines.

1. At what location in the female genital tract is the ovum usually fertilised?

……

2. How long after ovulation does the fertilised ovum get implanted in the uterine mucosa?

……

3. Which structures in the adult female derive from paramesonephric (Müllerian) ducts?

……

4. List some simple ways of monitoring the estrous cycle

……

……

……

5. Which organ or structure is the main site of estrogen and progesterone production in the

- first trimester?……

- second trimester?……

- last trimester? ……

6. Which structures do you expect to find in a cross-section of the spermatic cord (funiculus spermaticus) just above the scrotum (i.e. outside of the abdominal cavity)?

……

……

Examiner's sheet (avkrysningsskjema for eksaminator= den som retter skjemaet)

Student ID number: …….

Examiner ID: ……

Station number 1 - Anatomy and Physiology

Short answer questions

Please answer all questions below. The answers may be in keyword form, and should not exceed the space allotted by the dotted lines.

	Score	Achieved
1. Fertilisation usually takes place in the ampulla of the oviduct or in the abdominal cavity.	2	
2. Implantation occurs at 5.5 - 6 days after ovulation.	2	
3. Paramesonephros gives rise to the uterine tubes, uterus and upper part of the vagina.	2	
4. - The cervical mucus is viscous except during ovulation when it becomes non-viscous so that spermatozoa can penetrate - The body temperature rises half a degree or so after ovulation - The exfoliation of vaginal epithelial cells is largest at the time of ovulation - Vaginal smear (Papanicolaou-staining): during the follicular phase the superficial cells accumulate glycogen and become strongly eosinophilic with pyknotic nuclei, and in the luteal phase the cells become more basophilic and are exfoliated in clusters	2 2 2 1	
5. Corpus luteum is the main site in the first trimester Placenta is the main producer in the two last trimesters	2 2	
6. The students should list the following: - Ductus deferens - Plexus pampiniformis (v. testicularis) - A. testicularis - Plexus testicularis (autonomic nerves) - M. cremaster [A. and v. cremasterica, n. genitofemoralis ramus genitalis, fascia spermatica externa, n. ilioinguinalis, fascia spermatica interna]	2 1 1 1 2	
Total		

Max. 24 points

Student ID number: .....

Station number 23
Short answer

Fill in your student ID in the top right-hand corner of this page

Diabetes in pregnancy:

1. Classify diabetes in pregnancy.

……..

……..

……

……..

2. Describe the oral glucose tolerance test.

……..

……..

……..

3. What are the main indications for testing for gestational diabetes?

……..

……..

……..

……..

4. Which complications are increased in women with diabetes in pregnancy?

……..

……..

……..

……..

……..

Student ID number: .....

Examiner ID…….

Examiner's sheet

Station number 23 - Obstetrics
Short answer

	Score given
1 Classification of diabetes in pregnancy Pregestational diabetes, two types *and* gestational diabetes: **6 points** Pregestational diabetesand gestational diabetes: **4 points** Pregestational diabetes: two types: type1 and type 2: **2 points**	
2 Glukose tolerance test Intake of a certain amount (75 g) of glucose-containing drink after overnight fasting, with measurement of blood glucose just before and 2 hours after intake of the glucose load: **6 points** **(75 g not needed for 6 points)** **Student must know the procedure to achieve points.** **If exact time interval is not given: 3 points.**	
3 Indications for testing Diabetes in close family: **1 point** Previous gestational diabetes: **1 point** Overweight (BMI>27-30kg/m^2): **1 point** Maternal age (> 36-38y): **1 point** Immigrants, especially from Asia: **1 point** Glucosuria (1 or 2 times): **1 point**	
4 Complications Preeclampsia/hypertension: **2 points** Large foetus (macrosomia): **1 point** Foetal death: **1 point** Delivery complications and Caesarean section: **1 point** Neonatal hypoglycaemia: **1 point**	
Total:	

Maximum score 24

Student ID Number:……..

Station number 24

A 6 year-old boy arrives in the emergency room. His mother reports that he has had weight loss over the previous few weeks. He has also been tired and thirsty the last 2-3 days, and with increased frequency of urination. He has been confused over several hours prior to arrival. One hour before admittance he started vomiting.
On examination, he is tachycardic, hypotensive, and with slow, deep respirations. You find poor capillary refill and altered mental status.

Give short answers to the questions below:

1) What is the most likely diagnosis?

2) Which analyses (except for clinical examination) would you take?

3) How would you treat the patient?

Examiner's sheet (avkrysningsskjema for eksaminator= den som retter skjemaet)

Student ID number: …….

Examiner ID: ……

Station 24

Paediatrics

Diabetic ketoacidosis

	Score attained
1) What is the most likely diagnosis? Diabetic ketoacidosis (9 points)	
2) Which analyses (except for clinical examination) would you take? • serum glucose, close monitoring **(2 points)** • acidemia (pH, CO2), close monitoring **(2 points)** • electrolytes, close monitoring **(2 points)** • HbA1C **(1 point)**	
3) How would you treat the patient? Fluid rehydration **(3 points)** Insulin **(3 points)** May require control of breathing **(2 points)**	
Total	

Max. Score 24.

Student ID Number:……..

Station number 25

You are a general practitioner.

A mother brings her previously healthy 5 year-old son into your clinic because he has been limping and complaining of left leg and knee pain for a week. He has experienced no recent trauma. On examination there are no swellings, misalignments, or weakness in the lower extremities, but he claims of diffuse tenderness of the lower extremities. You find hepatosplenomegaly and petechiae on his chest. He is pale. His temperature is 37.9°C.

A

What are the next steps in your examination?

……

……

B

Which diagnosis would you suspect?

……

C

What is the treatment for this diagnosis?

……

Examiner's sheet (avkrysningsskjema for eksaminator= den som retter skjemaet)

Student ID number: …….

Examiner ID: ……

Station number 25 Paediatrics

Acute lymphatic leukaemia

	Score attained
A **What are the next steps in your examination?** **(2 points each correct answer below)** 1) Haematology with complete blood count and platelets **(4 points)** 2) Blood test for infection **(2 points)** 3) Peripheral blood smear **and/or** bone marrow puncture **(2 points)** 4) Radiologic examination of chest, skeleton, ultrasound abdomen of joints of the lower extremity (knee/hip) **(2 points)**	
B Which diagnosis would you suspect? **Only one diagnosis gives points. If acute leukaemia suggested =10 points. If acute leukaemia is not suggested but one of the others is, only 3 points may be earned.** Acute leukaemia **(10 points)** Infection **(3 points)** Other cancer (e.g. osteosarcoma/Ewing sarcoma) **(3 points)** Systemic rheumatic disease **(3 points)** Arthritis/osteomyelitis **(3 points)**	
What is the treatment plan for this condition? If leukaemia/cancer: chemotherapy **(4 points)** If rheumatism: Nothing specific. Alternatively, ASA, non-steroid anti-inflammatory agent for arthritis, obs. intestinal bleeding. Steroids, alternatively followed by cyclophosphamide may be relevant. For post streptococcal arthritis, alt. antibiotics. **(4 points)** If infection: antibiotics **(4 points)** (or also analgetics)	

Maximum score given: 24