



The Royal College of Pathologists
Pathology: the science behind the cure

Diploma of Expert Practice in Histological Dissection

Examination 2019

Paper 1

Mandatory modules short-answer questions

120 minutes

1. Attempt **all** questions
2. Questions may be answered in any order
3. Each question is worth a total of 20 marks
4. You must transfer your answers directly into the answer booklet
5. Begin each new answer on a new page

The question paper is not to be removed from the examination room

Q1. Clinical Governance

- a. Define the meaning of Duty of Candour. (2 marks)

- b. What guiding principles should you include in policies and procedures to ensure you are meeting the requirements of Duty of Candour? (6 marks)

- c. Define RIDDOR. (1 mark)

- d. Under what circumstances would you need to report under RIDDOR in the department? (3 marks)

- e. Using a diagram, show how an audit cycle is constructed and how outcomes are measured and put into effect. (8 marks)

Q2. General Principles of Specimen Dissection

- a. What are the principles behind the gross examination of a histology specimen? (8 marks)

- b. Give an example of a specimen dissection where you use a diagram to aid your macro description of the specimen process. Draw such a diagram.
(1 mark for the name of specimen and six marks for the diagram)

- c. Briefly explain the five main purposes of RCPATH Tissue Pathways. (5 marks)

Q3. Surgical Procedures

- a. Define the following surgical key terms and give an example of where such procedures are applied in good clinical practice:
- i. Incisional biopsy (3 marks)
 - ii. Excisional biopsy (3 marks)
 - iii. Punch biopsy (3 marks)
 - iv. Wide local excision (3 marks)
- b. What are the clinical reasons / indications for performing the following gynaecological surgical procedures?
- i. Cervical biopsy (2 marks)
 - ii. LLETZ (2 marks)
 - iii. Myomectomy (2 marks)
 - iv. Hysteroscopic biopsy (2 marks)

Q4. Pathological Processes

- a. What factors may pre-dispose an individual to the development of venous thrombosis? (8 marks)
- b. Describe the microscopic appearance of a thrombus. (1 mark)
- c. What are the potential outcomes of formation of a thrombus? (5 marks)
- d. Describe the differences between benign and malignant neoplasms. (6 marks)

Q5. Anatomical Nomenclature

- a. Draw a detailed anatomical diagram of a testis labelling the main features. (7 marks)
- b. Define the following anatomical terms. (2 marks each)
- i. Cephalic
 - ii. Philtrum
 - iii. Sagittal plane
 - iv. Inner canthus
- c. Give the anatomical relationship of the following: (1 mark each)
- i. Humerus to the ulna
 - ii. Bladder to uterus
 - iii. Hypothalamus to pituitary gland
 - iv. Fibula to the tibia
 - v. Trachea in relation to thyroid



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Paper 2

Optional modules short-answer questions

120 minutes

1. Attempt 6 from 11 questions
2. Each question is worth 20 marks
3. You must transfer your answers directly into the answer booklet
4. Begin each new answer on a new page
5. Questions can be answered in any order

This question paper is not to be removed from the examination room.

Q1. Endocrine

A 45 year male presents to the accident and emergency department with severe abdominal pain that radiates to his back, nausea and vomiting.

- a. Draw and label a diagram of the pancreas indicating the key anatomical parts and include the position of the associated organs. (6 marks)
- b. The patient's blood results show a raised amylase and acute pancreatitis is diagnosed. Give three causes of acute pancreatitis. (3 marks)
- c. How is a needle biopsy of the pancreas normally performed? (3 marks)
- d. Diseases of the endocrine organs are often due to autoimmune disorders. Briefly describe two autoimmune mechanisms that can cause disease in any of the endocrine organs and the resulting macroscopic appearances that result. (8 marks)

Q2. Skin

- a. What is meant by the following terms in relation to skin / dermatopathology? (2 marks each)
 - i. Preauricular
 - ii. Acral
 - iii. Lentiginous
 - iv. Sentinel node
- b. Describe the conditions that may increase the risk of developing squamous carcinoma of the skin. (6 marks)
- c. Compare and contrast the two following autoimmune conditions in respect of clinical, histological and immunofluorescence features. (6 marks)
 - i. Bullous Pemphigoid
 - ii. Pemphigus

Q3. Breast

You receive a unilateral breast reduction specimen with clinical information: "Asymmetrical breasts. Cosmetic reduction for symmetrisation performed. No previous cancer. No clinical abnormality".

- a. Explain how you would prepare, handle, describe and sample this specimen. (8 marks)

On dissection of the specimen, a well circumscribed 12mm solid lesion is identified.

- b. Describe the typical macroscopic features of each type of lesion within the differential diagnosis. (8 marks)
- c. What action would you take? (4 marks)

Q4. Osteoarticular and Soft Tissue

- a. Draw a labelled diagram of the posterior aspect of a right femur. (6 marks)

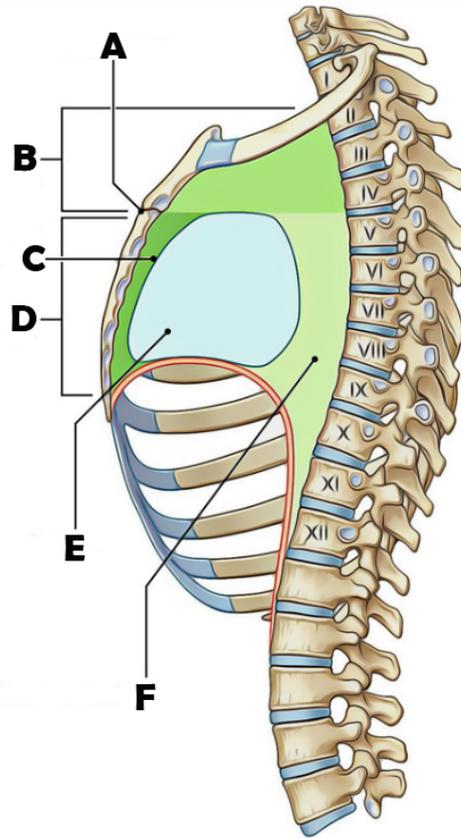
A femoral head specimen is received in the laboratory with clinical history 'AVN'.

- b. What does AVN stand for? (1 mark)
- c. Briefly discuss the aetiology presentation and pathological process of AVN. (5 marks)
- d. Describe how you would handle this specimen at the dissection bench. (8 marks)

Q5. Cardiothoracic

a. Identify the areas designated A to F in the given diagram.

(6 marks)



b. In which area shown on diagram would you expect to find the following?

- i. Tracheal bronchial lymph nodes
- ii. Thoracic duct lymph nodes

(One mark each)

You receive a fresh specimen labelled 'Mediastinal lymph node'. Clinical details on request form say 'Enlarged lymph node? Cause'.

c. Give **five** possible causes for mediastinal lymphadenopathy.

(5 marks)

d. Describe how you would handle this specimen at dissection including any additional sampling requirements or further investigations which may be necessary.

(7 marks)

Q6. Gastrointestinal and Hepatobiliary

You encounter a specimen of a resection for small bowel ischaemia.

- a. Describe the macroscopic and microscopic appearances that you might expect to see. (5 marks)
- b. Describe the handling, dissection and block selection in this type of specimen. (4 marks)
- c. Describe two possible causes of ischaemia of the small bowel. (2 marks)
- d. Define Meckel's diverticulum, including its anatomy. (4 marks)
- e. You receive a Meckel's diverticulum attached to a section of small bowel into the lab. Describe how you would dissect this specimen explaining why you would take each block. (5 marks)

Q7. Gynaecological

- a. What do you understand about the term 'endometrial hyperplasia'? (3 marks)
- b. What are the risk factors for endometrial hyperplasia? (3 marks)

You receive the hysterectomy specimen, shown below, from a 48 year old female with the clinical details-

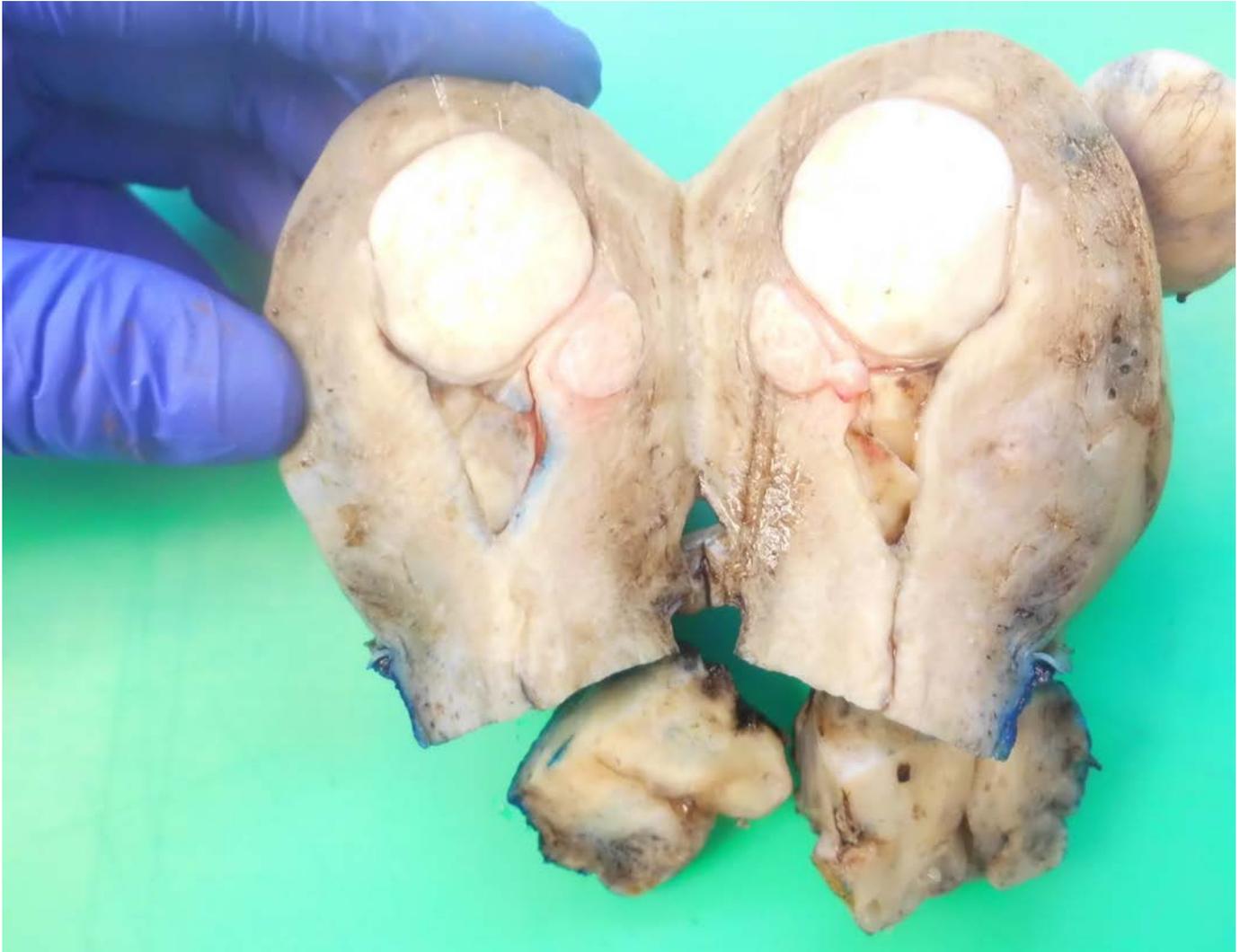
'Menorrhagia and endometrial hyperplasia on previous biopsy'

- c. What is menorrhagia? (1 mark)

On slicing, in the sagittal plane, you are presented with the following cut surface.

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Please note- the cervix has been amputated in the transverse plane for fixation purposes and the anterior aspect of the specimen is marked with blue ink.



- d. Describe what you see. (5 marks)
- e. Describe what blocks you would take at the dissection bench and why? (8 marks)

Q8. Genitourinary

You receive an orchidectomy specimen with the clinical details 'painful testis removed at time of hernia repair'.

- a. Describe the handling, dissection and block selection in this type of specimen. (8 marks)

The pathologist reports a diagnosis 'granulomatous orchitis'.

- b. What might potentially be the underlying causes? (2 marks)

- c. What would you expect to see microscopically? (2 marks)

- d. Briefly describe each of the following: (2 marks each)

- i. Follicular cystitis
- ii. Trigone
- iii. Xanthogranulomatous pyelonephritis
- iv. Seminal vesicles

Q9. Haemopoietic

- a. Draw a diagram of a lymph node. Describe the anatomical structure and microscopic features, relating the structural and cellular components to their function. (9 marks)

- b. What are the clinical reasons for carrying out lymph node excisions from the following sites? (1 mark each)

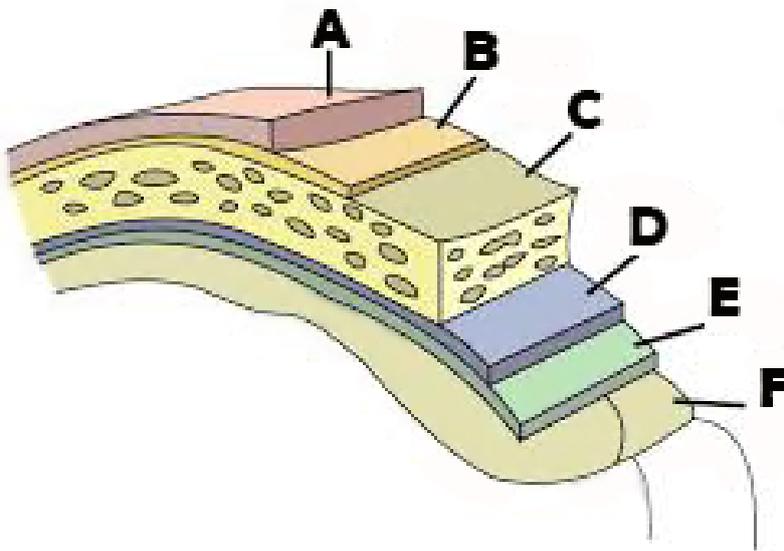
- i. Cervical/neck nodes
- ii. Supraclavicular
- iii. Axillary
- iv. Inguinal
- v. Thoracic

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- c. Describe the possible macroscopic features of a lymph node submitted for examination in the following diseases (1 mark each)
- Tuberculosis
 - Metastatic carcinoma
 - Metastatic melanoma
- d. How would you deal with a fresh lymph node, submitted for examination for suspected tuberculosis? (3 marks)

Q10. Neuromuscular

- a. List the tinctorial and histochemical techniques used in routine muscle biopsy investigation and give the reasons for their use. (10 marks)
- b. Describe the function of the following areas of the brain and brainstem. (1 mark each)
- Frontal lobe
 - Temporal lobe
 - Medulla
 - Cerebellum
- c. Identify the structures labelled A to F on the following diagram of the meninges : (1 mark each)



Q11. Head and Neck

- a. Describe, with the aid of a diagram, the anatomical position of the major salivary glands (10 marks)

- b. Describe the handling, dissection and block selection of a submandibular gland resected for a benign neoplasm. (6 marks)

- c. What is sialadenitis and what possible causes are there for this condition? (2 marks)

- d. What is a ranula and what is the cause of this condition? (2 marks)