Diploma of Expert Practice in Histological Dissection

Examination 2025

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

Q1. Clinical Governance

a. Explain the impact that the ISO 15189:2022 standards have had on specimen dissection practices. (6 marks)

b. Describe the key components of a clinical audit in specimen dissection. (6 marks)

c. Explain how the process of reflecting on your personal dissection practice experiences and events within specimen dissection has helped your own practice. (8 marks)

Q2. General Principles of Specimen Dissection

a. Describe the criteria that would you need to include when developing a local policy on specimen acceptance for histological dissection. (4 marks)

b. Giving examples, what precautions are in place in the laboratory to deal with high risk specimens. (7 marks)

c. Describe, using **three** specific examples from specimen type Categories B and/or C, the importance of the clinical history in determining block selection at the dissection bench. (9 marks)

Q3. Surgical Procedures

a. Describe the surgical procedures commonly available to diagnose and treat benign and malignant conditions of the kidney, renal pelvis and ureter. What are the clinical reasons / indications for performing these procedures? (10 marks)

b. List six different endoscopic surgical procedures and state the specific areas of the body under investigation by each (6 marks)

c. Briefly describe the advantages of using an endoscopic procedure as a method of investigation. (4 marks)

Q4. Pathological Processes

a. Give a brief description and an example of each of the following types of necrosis:
   i. Liquefaction necrosis
   ii. Caseous necrosis

(3 marks each)

b. Briefly describe the underlying pathological processes of acute appendicitis. (4 marks)

c. Describe the differences between benign and malignant neoplasms. (8 marks)

d. How might benign tumours cause symptoms? (2 marks)

Q5.Anatomical Nomenclature

a. Draw a detailed anatomical diagram of the stomach labelling the key features. (7 marks)

b. Define the following anatomical terms: (Two marks each)
   i. Cephalic:
   ii. Philtrum
   iii. Sagittal plane
   iv. Inner canthus

c. Give the anatomical relationship of the following: (1 mark each)
   i. Caecum to small bowel
   ii. Fibula to the tibia
   iii. Hypothalamus to pituitary gland
   iv. Bladder to the uterus
   v. Trachea 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

Q1. Endocrine

a. How is a needle biopsy of the pancreas normally performed? (3 marks)

b. Name two pathological conditions that are diagnosed by pancreatic biopsy and briefly describe their microscopic appearances. (6 marks)

c. Briefly describe the pathological mechanism responsible for the development of Graves' disease. (2 marks)

d. Give an account of how you would handle, describe and sample a total thyroidectomy specimen removed for Graves' disease. Include descriptions of the typical macroscopic appearances you would expect to encounter. (9 marks)

Q2. Skin

You receive a skin ellipse with a pigmented lesion with a clinical diagnosis of malignant melanoma.

a. What information would you include in your macroscopic description. (5 marks)

b. Name three diagnoses that may be mistaken clinically as melanoma. (3 marks)

A small punch biopsy is received from a patient with suspected dermatitis herpetiformis (DH).

c. Describe the clinical and pathological features of this condition. (6 marks)

d. The following cells/structures are found in the skin. State their location and function. (6 marks)

i. Melanocyte
ii. Langerhans cell
iii. Meissner Corpuscle

Q3.Breast

You are the BMS on cut up for breast specimens. After returning from a break, you notice a bag at specimen reception containing a single request form and three pots. The request form is labelled with patient A's details:

- Pot 1 is labelled with patient A's details and contains a left major duct excision specimen.
- Pot 2 is labelled with patient B's details and described as "deep margin left breast"
- Pot 3 is labelled with patient A's details and described as "sentinel node x 2, left axilla"

a. Describe the immediate steps you would take to address this potential mislabelling error. (4 marks)

b. Outline the indications for major duct excision. How might the patient have presented clinically? (3 marks)

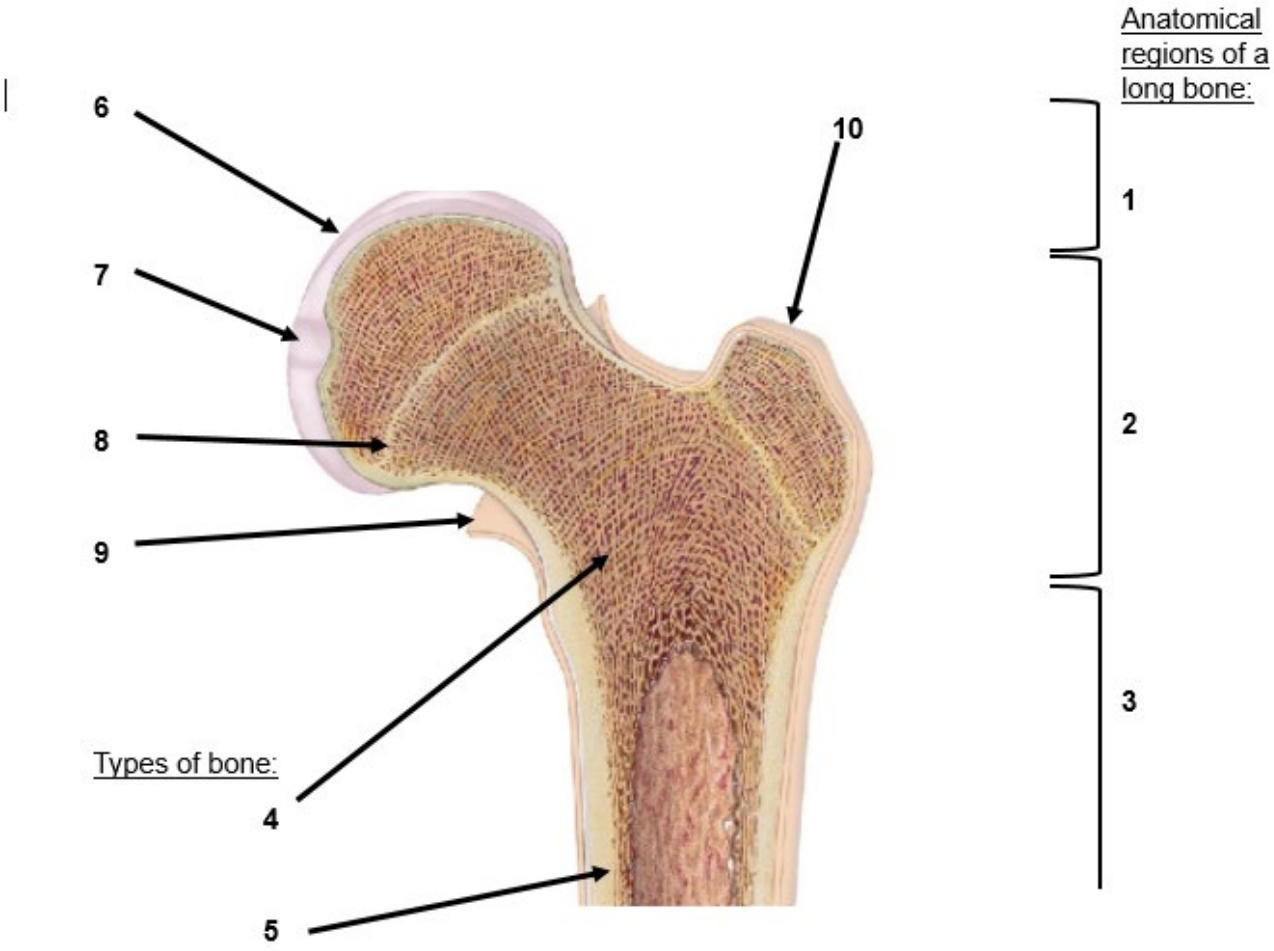
c. Describe with reasons your approach to macroscopic examination, dissection and block selection of a major duct excision. (4 marks)

d. Explain the rationale for performing sentinel node biopsy in patients with breast carcinoma. Describe how you would prepare a sentinel node biopsy for histological processing. (6 marks)

e. Briefly outline the definition and clinical implications of the following terms in a pathology report for a sentinel node biopsy. (1 mark each)
   i. Isolated tumour cells
   ii. Micrometastasis
   iii. Macrometastasis

Q4.Osteoarticular and Soft Tissue

a. Name the areas of the proximal femur as indicated with numbers on the diagram below. (5 marks)



b. A femoral head specimen is received in the laboratory with clinical history of avascular necrosis. Briefly discuss the aetiology of avascular necrosis and the expected macroscopic appearances this specimen. (6 marks)

c. Your receive a large lipoma from the thigh 95 x 85 x 50mm. Discuss your management of the specimen from receipt to include specimen dissection and block taking. (6 marks)

d. What features may raise concerns for malignancy and what action would you take? (3 marks)

Q5.Cardiothoracic

a. What do the following abbreviations stand for? (1 mark each)
   i. VATS
   ii. CVA
   iii. BAL
   iv. GGO
   v. PE

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

b. Describe how you would handle this specimen at dissection including any additional sampling requirements or further investigations which may be necessary. (6 marks)

Pulmonary hypertension (PH) results in an increase in blood pressure in the pulmonary vasculature.

c. How does PH usually present itself? (2 marks)

d. What causes the increase in blood pressure? (2 marks)

e. 'Stiff Heart Syndrome' is the colloquial name for what form of heart disease? (1 mark)

f. What effect does restrictive cardiomyopathy have on the heart and how does it most frequently manifest itself clinically? (4 marks)

Q6.Gastrointestinal and Hepatobiliary

a. Briefly describe the causes and common complications of a mucocele in
   i. appendix and
   ii. gallbladder.

(8 marks, 4 marks for each)

b. Describe the macroscopic appearances you would expect to see for:
   i. appendix mucocele
   ii. gallbladder mucocele

(4 marks, 2 marks for each specimen)

c. Give an example of a congenital (true) diverticulum and an acquired (false) diverticulum. (2 marks)

d. Discuss the potential complications of both examples of diverticulum you have stated in your answer to c. (6 marks - 3 marks each)

Q7.Gynaecological

You receive a singleton placenta from a spontaneous pre-term delivery at 29+6 weeks. Clinical details include a query about possible chorioamnionitis.

a. Define the term chorioamnionitis and describe two macroscopic features that could indicate this. (3 marks)

b. Discuss how you would handle this specimen with regards to description, dissection and block taking protocol. (7 marks)

You receive a specimen of bilateral salpingo-oopherectomy with the clinical information prophylactic fallopian tubes and ovaries for BRCA 1 mutation.

c. What is the clinical reason for carrying out this surgical procedure? (2 marks)

d. Discuss how you would handle this specimen with regards to description, dissection and block taking protocol. (8 marks)

Q8.Genitourinary

The following orchidectomy specimen is received in the laboratory:

a. What is the likely reason for submission and describe the aetiology and pathophysiology of such specimens? (6 marks)

b. How would you handle the specimen and what would you expect to see macroscopically? (8 marks)

c. Briefly describe each of the following: (2 marks each)
   i. Xanthogranulomatous pyelonephritis
   ii. Vasitis nodosa
   iii. Nephrogenic adenoma

Q9.Haematolymphoid

a. Describe the structure of a lymph node and its key anatomical structures. (6 marks)

b. List the different lymph node specimens that are received in the laboratory. Describe the clinical reasons for receiving these specimens and discuss how they are processed in the laboratory. (14 marks)

Q10. Neuromuscular

a. Describe the parts of the pituitary gland, the types of cells within them and their function. (6 marks)

b. Discuss the procedure for handling a pituitary adenoma specimen including the further investigations that may be required to assess the lesion fully. (6 marks)

c. Describe the location and function of the following areas of the brain and brainstem. (Two marks each)

i. Occipital lobe
ii. Hypothalamus
iii. Hippocampus
iv. Thalamus

Q11. Head and Neck

a. Give a definition of each the following: (Two marks each)
   i. Rhinitis
   ii. Sinusitis
   iii. Inflammatory Nasal Polyps:

b. You receive a nasal polyp specimen in the laboratory. Describe the histological and macroscopic appearance and how you would sample this specimen. (6 marks)

c. A 50 year old male has a clinical history of an abnormal area in a slightly enlarged right tonsil. The tonsil was removed and sent to the laboratory. Describe the handling, dissection and block selection of this specimen. (8 marks)