



Institute of
Biomedical Science



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

Diploma of Expert Practice in Histological Dissection

Examination 2023

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

According to the document Guidance on the disposal of pregnancy remains following pregnancy loss or termination HTA 2015.

- a. What information should be provided to a woman in the event of a miscarriage regarding pregnancy remains not exceeding 24 weeks? (4 marks)
- b. What records should be kept regarding disposal of pregnancy remains by the hospital? (2 marks)
- c. What steps should be in place if a woman wishes to dispose of her own pregnancy remains? (4 marks)
- d. List any five of the seven principles General Data Protection Legislation. (5 marks)
- e. What is a personal data breach? (3 marks)
- f. Who should personal data breaches be reported to? (2 marks)

Q2. General Principles of Specimen Dissection

- a. What are the RCPATH tissue pathways, and what is their purpose. (4 marks)
- b. The Tissue pathways have a number of recommendations for a laboratory, that should be met for a general level of acceptable practice. What are they? (5 marks)
- c. Give definition and macroscopic appearance of the following medical terminology. (2 marks each)
 - i. BXO
 - ii. EMR
 - iii. BCC
- d. What are the principles behind the gross examination of a histology specimen? (5 marks)

Q3. Surgical Procedures

- a. Describe the surgical procedures commonly available to diagnose and treat benign and malignant conditions of the bladder. What are the clinical reasons / indications for performing these procedures? (10 marks)
- b. Identify the key artefacts that can be created during surgical procedures on tissues taken for histological examinations. (5 marks)
- c. Explain the necessary measures you would take or employ during histological dissection to minimise the impact of these artefacts on the subsequent stained histological section. (5 marks)

Q4. Pathological Processes

Changes in Cell Growth and Differentiation

- a. Define and give two examples of **hypoplasia**. (3 marks)
- b. Define and give two examples of **hyperplasia**. (3 marks)
- c. Define giving examples from two sites in the body **metaplasia** and describe the underlying causes and cell types involved. (6 marks)

Chronic Inflammation

- d. Briefly describe the microscopic features of conventional (non-granulomatous) chronic inflammation. (2 marks)
- e. Briefly describe the microscopic features of granulomatous inflammation. (2 marks)
- f. Give four examples of conditions where granulomatous inflammation occurs. (4 marks)

Q5. Anatomical Nomenclature

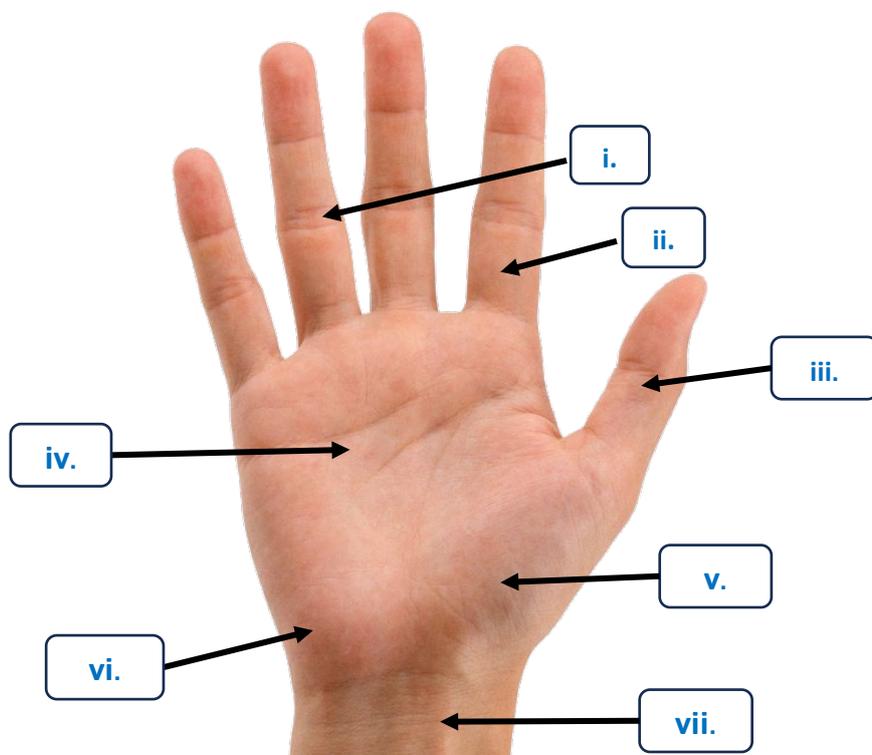
- a. Explain how the following anatomical planes divide the body? (1 mark each)
 - i. Sagittal plane
 - ii. Frontal / coronal plane
 - iii. Transverse plane
- b. Draw the intestinal tract in the frontal plane and label the main anatomical features. (5 marks)

...continued on next page

c. What is the anatomical relationship of the following organs and structures to each other?
(1 mark each)

- i. Pyloric antrum to pyloric sphincter
- ii. Anal column to pectinate line
- iii. Vesicouterine pouch to rectouterine pouch
- iv. Falciform ligament to right lower lobe lung
- v. Jejunum to appendix

d. Identify the anatomical landmarks on the photograph of a right hand in the palmar view.
(1 mark each)





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

Diploma of Expert Practice in Histological Dissection

Examination 2023

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. What is the function of parathyroid glands? (4 marks)
- b. List the two unique cell types found in a parathyroid gland? (2 marks)

You receive a parathyroid specimen with the clinical details 'histopathology please'.

- c. Give three differential diagnoses of this specimen. (3 marks)
- d. How would you handle, describe and dissect this specimen? (5 marks)
- e. How is a needle biopsy of the pancreas normally performed? (3 marks)
- f. The patient's blood results show a raised amylase and acute pancreatitis is diagnosed. Give three causes of acute pancreatitis. (3 marks)

Q2. Skin

- a. Define the following words and terms. (2 marks each)
- Acral
 - Plantar
 - Alar
 - Helix
 - Nasolabial crease
- b. Describe the nature of a specimen received with the suspected clinical diagnosis of Pagets disease of the nipple. What would be the additional investigations you would request at the dissection bench for the investigation of such a condition? (5 marks)
- c. You receive a wedge biopsy of the ear, see below, suture superior. Describe the two possible ways this specimen could be dissected. (5 marks)



Q3. Breast

- a. A 36-year-old female presents to her GP with a 11mm, well circumscribed, mobile, palpable mass in her left breast.

Describe the patient pathway for investigation of this lesion to include management of the diagnostic and operative specimens and likely differential diagnoses. (15 marks)

- b. You receive a breast specimen with the clinical details of gynaecomastia. Write notes on the clinical presentation of this condition, and specimen handling to include macroscopic appearances and block selection. (5 marks)

Q4. Osteoarticular and Soft Tissue

- a. Draw a simple labelled diagram of a hip joint in anterior coronal view, to include important structures and tissues (6 marks)

- b. You receive a Left Femoral head for pathological fracture. Discuss how you would assess and handle the specimen, including comparison of additional tests and procedures required before tissue processing? (8 marks)

- c. What is osteomalacia and what is its treatment? (2 marks)

- d. How does the process for histological examination of metabolic bone disease differ to that of pathological fractures? (4 marks)

Q5. Cardiothoracic

- a. Your laboratory receives a wedge biopsy of lung with the clinical details 'Sarcoidosis' You are asked to provide an information sheet using the headings below, to assist training colleagues in understanding the clinico-pathological aspects of this disease.

i. What is the most common gender and age presentation of this disease? (1 mark)

ii. What is this disease categorised as? (1 mark)

iii. Which racial group is affected most commonly by this disease? (1 mark)

iv. How does sarcoidosis affect the heart? (2 marks)

v. What are the histological features of sarcoidosis? (5 marks)

- b. Explain the steps you would take when describing and sampling this specimen. (10 marks)

Q6. Gastrointestinal and Hepatobiliary

- a. Give six different examples of polyps that are found in the gastrointestinal tract. (3 marks)

- b. Define and describe the following medical abbreviations which relate to gastrointestinal polypoid lesions that may be seen on histopathology request forms. (Two marks each)
 - i. PJP
 - ii. TVA
 - iii. FAP

- c. Describe your approach to handling, dissection, and block selection of GI polyp samples encountered in histopathology. (6 marks)

- d. You receive a gallbladder with the clinical history 'polyps'. You carry out usual checks on patient details. How would you describe and dissect this specimen? (5 marks)

Q7. Gynaecological

You receive a TAHBSO specimen. The clinical information provided is "known endometriosis".

- a. Define endometriosis. (1 mark)

- b. What anatomical features can be used to orientate the specimen? (2 marks)

- c. List the macroscopic features that may be associated with this specimen. (3 marks)

- d. Describe how you would handle and sample this specimen. (8 marks)

You are presented with a distended fallopian tube for assessment and dissection. The clinical details read "? Ectopic pregnancy".

- e. Describe how you would assess, handle and sample this specimen. (6 marks)

Q8. Genitourinary

Vasectomy

You are alerted by a BMS that a cassette is missing that contained a sample from a right vas deferens.

- a. Briefly describe what action would you take? (2 marks)
- b. Give a summary of what you would include in an SOP for handling this type of specimen, explaining your reasoning. (5 marks)

Hydronephrosis and Adult Polycystic Kidney Disease (APCKD)

For hydronephrosis and adult polycystic kidney disease,

- c. Define each condition and their underlying cause(s). (5 marks)
- d. Compare and contrast the macroscopic and microscopic findings of both conditions. (8 marks)

Q9. Haematolymphoid

- a. Give **THREE** specific sites from which bone marrow samples can be taken from and discuss the clinical factors which may influence the choice of site. (6 marks)
- b. Describe the methods you would use to handle bone marrow trephine specimens in the laboratory? (4 marks)
- c. What are the potential consequences of not dealing with bone marrow trephine specimens appropriately before processing? (4 marks)
- d. Give two examples of benign or pre-malignant diseases which may be investigated by bone marrow trephine sampling. (1 mark)
- e. What are the microscopic features that are detailed in a bone marrow trephine histopathology report? (5 marks)

Q10. Neuromuscular

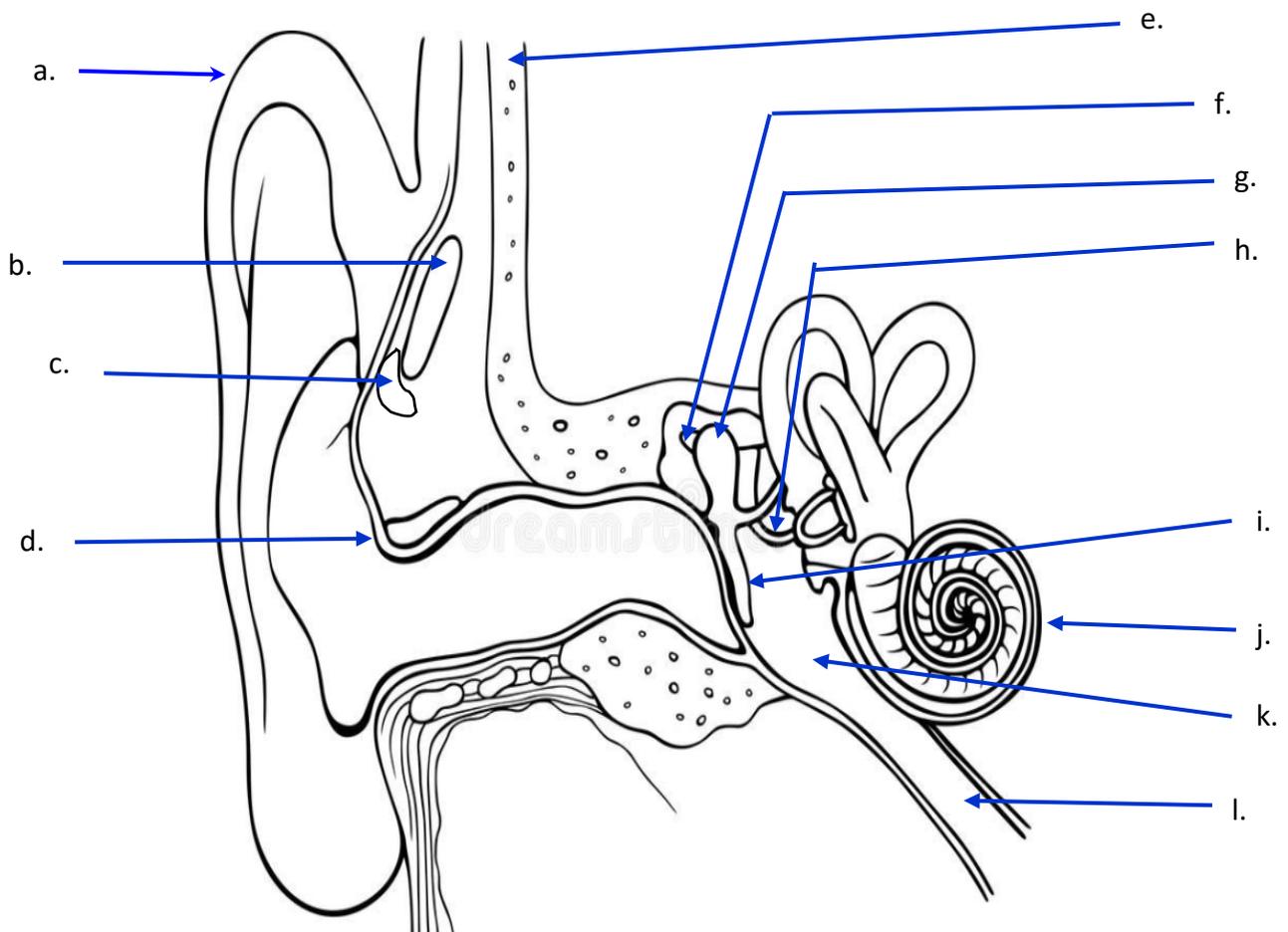
- a. Describe the anatomy of a human peripheral nerve. (4 marks)

- b. Name two benign neoplasms that can derive from nerves and describe their macroscopic and microscopic main features. (8 marks)

- c. What stains would you use for assessment of a peripheral nerve biopsy and why? (8 marks)

Q11. Head and Neck

- a. Identify the labelled features on the following drawing of the inner ear. (6 marks – 0.5 marks for each feature)



.....Continued on next page

- b. Write **short** notes on each of the following specimen types, including relevant macroscopic features, and how you would normally dissect such specimens
(Two marks for each)
- i. Cholesteatoma
 - ii. Otitis media
 - iii. Nasal polyp
 - iv. Thyroglossal cyst
- c. Define the anterior triangle of neck including superior, medial and lateral borders, as well as its subdivisions. (6 marks)