



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

Diploma of Expert Practice in Histological Dissection

Examination 2021

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. You have been asked to write an SOP to ensure correct specimen identification is maintained throughout the whole specimen dissection process. What would you include to enable this to happen? (6 marks)
- b. Explain why a histopathology specimen is so important in healthcare. (4 marks)

Reflective Practice

- c. What is reflection? (3 marks)
- d. Using a diagram, show the process of reflective practice and how outcomes are put into effect. (7 marks)

Q2. General Principles of Specimen Dissection

- a. Using examples explain why a clinical history description on the specimen request form is important. (7 marks)
- b. Why is it important to demonstrate whether residual tissue has been retained or not, and how might you do it? (3 marks)
- c. Give two examples where residual tissue should not be retained at dissection, and explain why? (4 marks)
- d. When performing specimen dissection, what steps do you take to prevent the carryover of specimens? (6 marks)

Q3. Surgical Procedures

- a. Describe the surgical procedures that are commonly available to a clinician diagnosing and treating:
 - i. Prostate disease (10 marks)
 - ii. Melanoma of the skin (10 marks)

Q4. Pathological Processes

Infarction

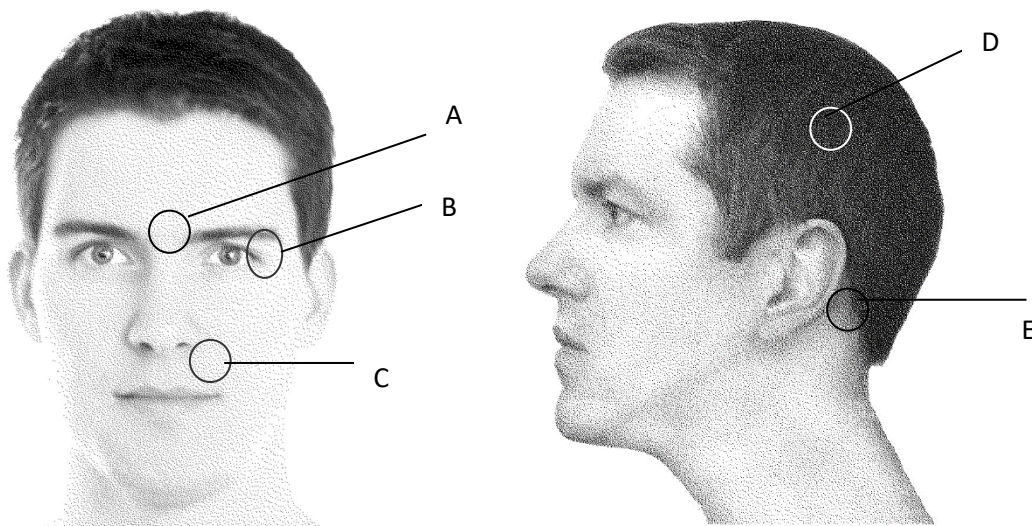
- a. Define infarction. (1 mark)
- b. Using examples of three different organs, state the different mechanisms through which this may occur. (3 marks – One per site with the mechanism)
- c. Describe the macroscopic appearance of an infarct. (6 marks)
- d. Give two examples of factors that may influence the development of an infarct. (2 marks)

Metastasis

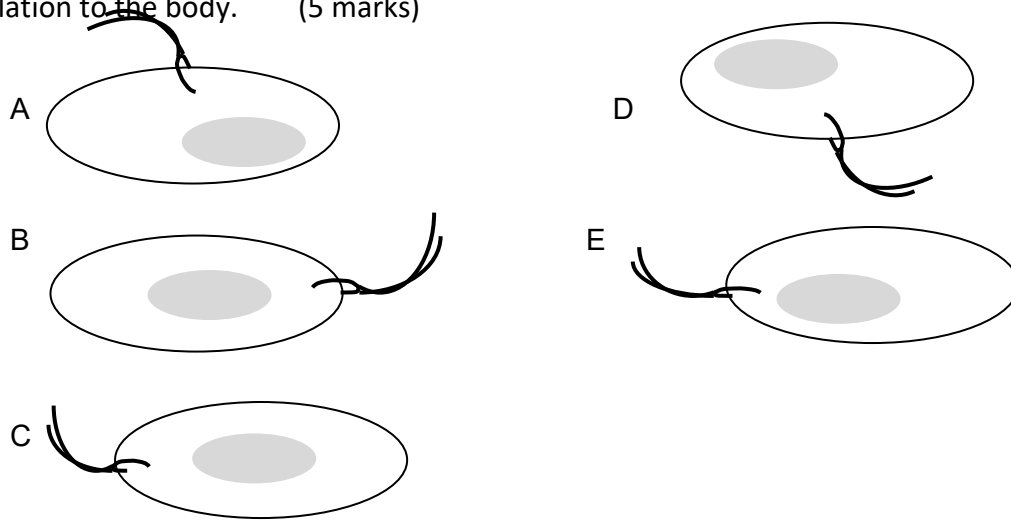
- e. Describe, with examples of tumour types, the different routes tumours use to metastasis to distant sites. (6 marks)
- f. Give examples of microscopic features that are assessed to determine whether a tumour is likely to metastasise. (2 marks)

Q5. Anatomical Nomenclature

- a. Using anatomical nomenclature, give the site of each of the lesions A-E as indicated on the diagram below. (5 marks)



- b. The following diagrams represent each of the lesions as they appeared at each site, on the body shown above, give the anatomical position of the orientation suture in relation to the body. (5 marks)



- c. Briefly define the following anatomical terms:

(3 marks – ½ mark for each definition)

- i. Brachial
- ii. Philtrum
- iii. Fistula
- iv. Meatus
- v. Fossa
- vi. Caudal

- d. Draw a detailed anatomical diagram of the stomach labelling the main features.

(7 marks)



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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. Define primary hyperparathyroidism. (2 marks)
- b. What is secondary hyperparathyroidism? (2 marks)
- c. Discuss the issues of intra-operative frozen sections and the role of the laboratory in the management of patients with parathyroid disease. (8 marks)

You received a right hemi-thyroidectomy submitted with the clinical history of 'Thy3f nodule' on the request form.

- d. Describe how you would deal with this specimen at the dissection bench, explaining your reasoning for block selection. (8 marks)

Q2. Skin

- a. Describe the clinical features of basal cell carcinoma. (5 marks)
- b. Describe the clinical features of squamous cell carcinoma. (5 marks)
- c. What data items from the RCPATH data sets should be recorded macroscopically at the dissection bench when handling a sentinel lymph node for malignant melanoma. (4 marks)
- d. Compare and contrast seborrhoeic keratosis and actinic keratosis. (6 marks)

Q3. Breast

- a. Describe the anatomy, structure and histology of the normal female breast. (8 marks)
- b. Describe how the structure of the breast changes with (2 marks)
 - i. Age
 - ii. Pregnancy
- c. Choose **two** benign breast lesions and describe their:
 - i. Clinical presentation
 - ii. Macroscopic appearance
 - iii. Microscopic appearance

(Five marks for each lesion)

Q4. Osteoarticular and Soft Tissue

You receive a femoral head, with clinical details of severe osteoarthritis.

- a. What are the macroscopic features associated with osteoarthritis? (4 marks)
- b. How would you sample this specimen? (1 mark)
- c. What post dissection considerations would you consider before processing this specimen? (2 marks)

You receive a hallux with a clinical history of gout.

- d. What is a hallux? (1 mark)
- e. What are gouty tophi? (2 marks)
- f. What are the macroscopic features of gout? (1 mark)
- g. What special tissue processing requirements may be used to preserve the focus of gout and why? (3 marks)
- h. Write short notes on the anatomical location and macroscopic features of the following pathological conditions including their anatomical location and macroscopic features. (3 marks each)
 - i. Glomus tumour
 - ii. Neurofibroma

Q5. Cardiothoracic

- a. Briefly describe the normal anatomy of the aortic valve. (4 marks)
- b. Your laboratory receives a specimen with the clinical details of 'aortic valve replacement' and the specimen is labelled as 'aortic valve'. Discuss how you would treat such a specimen at the dissection bench. (6 marks)
- c. What are the common causes of lung bullae? (2 marks)
- d. What are the possible signs and symptoms of lung bullae? (2 marks)
- e. You receive a lung wedge from a 58-year-old male with clinical details stating bullae resected. Discuss how you would describe and block the specimen. (6 marks)

Q6. Gastrointestinal and Hepatobiliary

- a. What is the pathogenesis of diverticular disease? (3 marks)

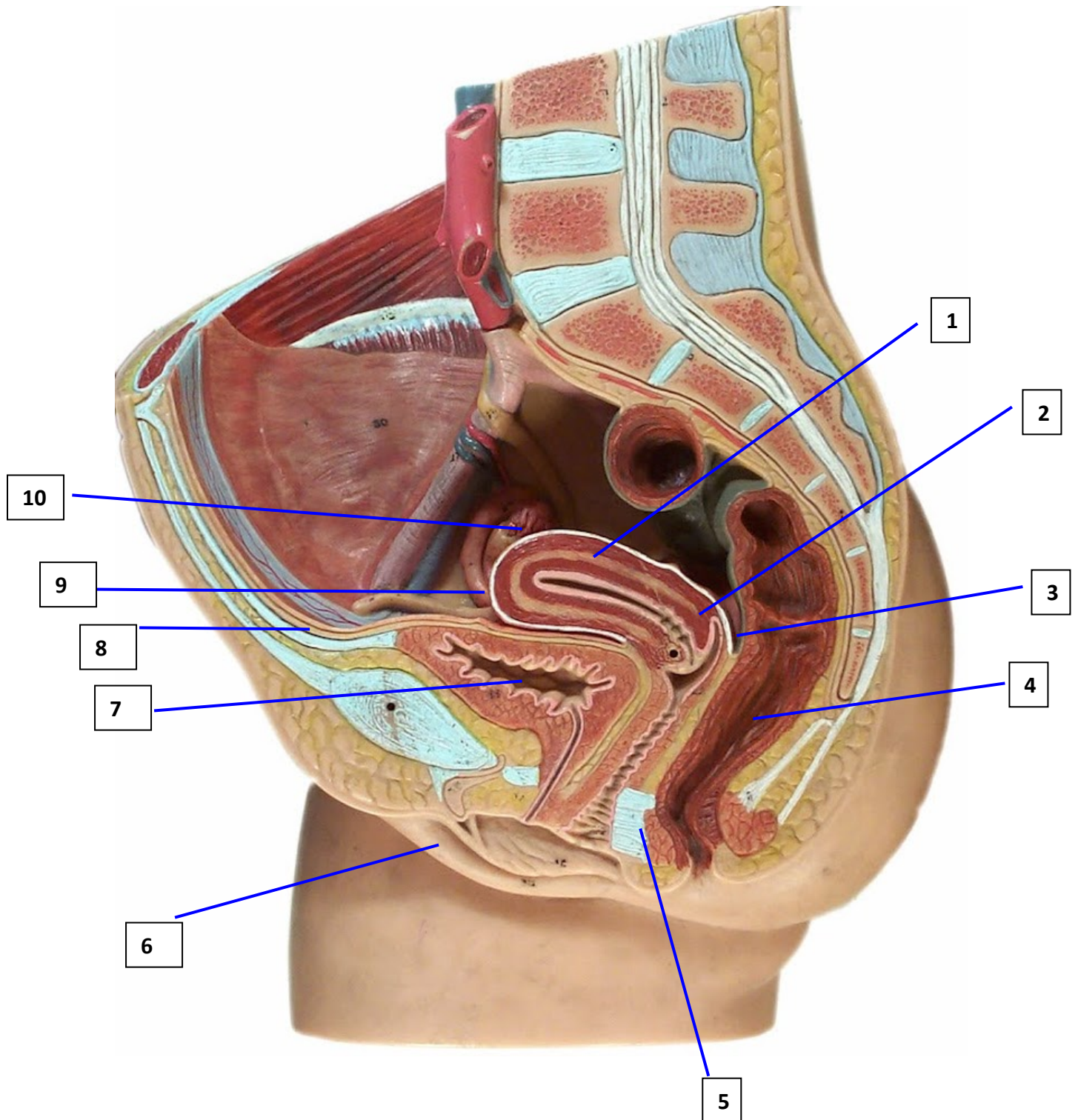
You receive a specimen request form with clinical details of Hartmann's procedure. H / O diverticular disease? Stercoral perforation.

- b. What is the cause of a stercoral perforation? (1 mark)
- c. What macroscopic features may be associated with a stercoral perforation in a background of diverticular disease, that could help confirm this diagnosis? (8 marks)
- d. How would you sample this specimen? (6 marks)
- e. In relationship to the GI tract what is the aetiology of an intussusception? (2 marks)

Q7. Gynaecological

a. Below is a sagittal view of the female pelvis, identify the features labelled.

(5 marks - ½ mark for each feature identified)



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You receive a vulval biopsy from a 65 year old lady measuring 22 mm in maximum dimension stating the following clinical details - **?LS ?VIN / grade**

- b. What clinical terms do the abbreviations LS and VIN relate to? (1 mark)
- c. Explain the difference between LS and VIN and why it is important to diagnose them from a patient management perspective. Why is grade relevant in VIN? (8 marks)
- d. Describe how you would dissect and handle the specimen at the bench prior to processing. (6 marks)

Q8. Genitourinary

- a. Draw the prostate in sagittal view, identifying the main zones and relevant anatomical features. (6 marks)
- b. Compare and contrast different sampling techniques of the prostate in the investigation of cancer. (8 marks)
- c. Describe how you would assess, handle and dissect a cryptorchid testis. (6 marks)

Q9. Haematolymphoid

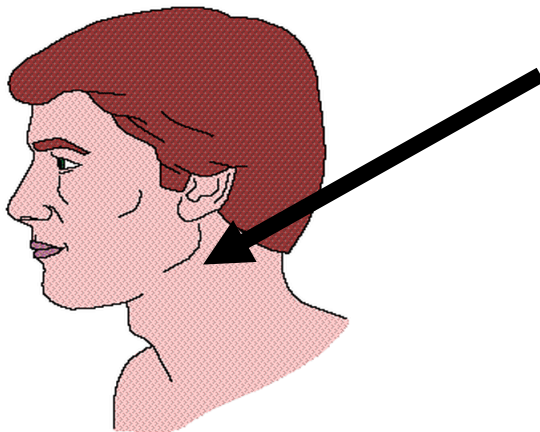
- a. Name **two** sites of the body that are drained by **each** of the following lymph nodes (½ mark for each site - 4 marks in total)
 - i. Supratrochlear nodes
 - ii. Inguinal nodes
 - iii. Axillary nodes
 - iv. Cervical nodes
- b. Where would you find Peyer's patches and what is their function? (4 marks)
- c. Give four examples of the causes of moderately enlarged spleen. (4 marks)
- d. You receive a moderately enlarged, fresh spleen into the laboratory with no clinical history. What steps should you take before dissecting the specimen? (8 marks)

Q10. Neuromuscular

- a. Compare and contrast the differences between skeletal and smooth muscle fibres. (8 marks)
- b. List the tinctorial and histochemical techniques used in routine muscle biopsy investigation and give the reasons for their use. (12 marks)

Q11. Head and Neck

A 35-year-old man presents to the ENT surgeons complaining that he has a lump in his neck. The mass is located as shown by the tip of the arrow on the diagram below.



- a. Head and neck surgeons use defined 'levels' to localise lesions. Describe the level of the lesion indicated by the arrow. (1 mark)
- b. List the macroscopic and microscopic appearances that you might expect to see in a surgical resection for sialadenitis. (6 marks)

A 48-year female presents to a one stop head and neck clinic with a mass in her parotid gland.

- c. How may this be investigated within the one stop clinic setting? (5 marks)
- d. Describe the handling, dissection and block selection of a parotid gland resected for a benign neoplasm. (8 marks)