



**Higher Specialist Diploma**

**Cytopathology**

**September 2024**

**Short Answer Questions**

**60 minutes**

**Attempt all Four Questions**

**Instructions to Candidates**

1. Record your candidate number and HSD discipline on the front sheet of the answer booklet.
2. Record your candidate number, the question number and the page number in the spaces provided on the answer sheets.
3. Begin each new answer on a new page.
4. Each question is worth 25 marks.

1. You are asked by your colleague to explain the morphological features of a small cell carcinoma of the lung and the immunocytochemical panel that would support the diagnosis. How would you respond?
2. A clinician has contacted you about a new test they heard about at a conference. They are not sure of all the details except that it gives a 100% accuracy for diagnosing malignancy in respiratory pathology samples. What actions would you do investigate this and how would you report back to the clinician?
3. You have been given the responsibility to presenting to management ways in which a laboratory can demonstrate the quality of its service. Describe the ways in which the quality of service can be demonstrated.
4. A junior colleague has asked you to outline what happens at MDTs. Explain with the reasons the cases that should be discussed at cytology / colposcopy MDTs.



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**Essay Paper**

**120 minutes**

**Attempt 2 out of 5 Questions**

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2. Record your candidate number, the question number and the page number in the spaces provided on the answer sheets.
3. Begin each new answer on a new page.
4. Each question is worth 100 marks.

1. Discuss the range and role of new technologies on the delivery of cytology services in the 21<sup>st</sup> century.
2. Evaluate the use of immunocytochemistry and molecular techniques as an aid in reporting of diagnostic cytopathology samples.
3. Discuss the clinical utility of differential cell counts for bronchoalveolar (BAL) samples.
4. Discuss, with reasons, whether the current criteria used to monitor performance of cervical screening laboratories in the UK fit for purpose.
5. Describe the advantages and disadvantages of implementing strict sample acceptance criteria within a cervical screening programme.



## **Higher Specialist Diploma**

### **Cytopathology**

**September 2024**

### **Case Studies**

**120 minutes**

**Attempt all Case Studies**

### **Instructions to Candidates**

1. Record your candidate number and HSD discipline on the front sheet of the answer booklet.
2. Record your candidate number, the question number and the page number in the spaces provided on the answer sheets
3. Begin **each new case study** on a new page.
4. Each question is worth 100 marks.
5. For these case study questions you are strongly advised to answer the questions as they arise during the case study to avoid later information impacting adversely on your answers to the earlier questions by presuming an “outcome”.

### Seen Case Study

1.

A 59 year old female attends an A/E department complaining of shortness of breath. She is found to have a left sided pleural effusion. A highly blood stained fluid is tapped and sent for cytological and microbiological analysis. No further clinical information is available on the submitted form. Cells from the fluid can be seen below:

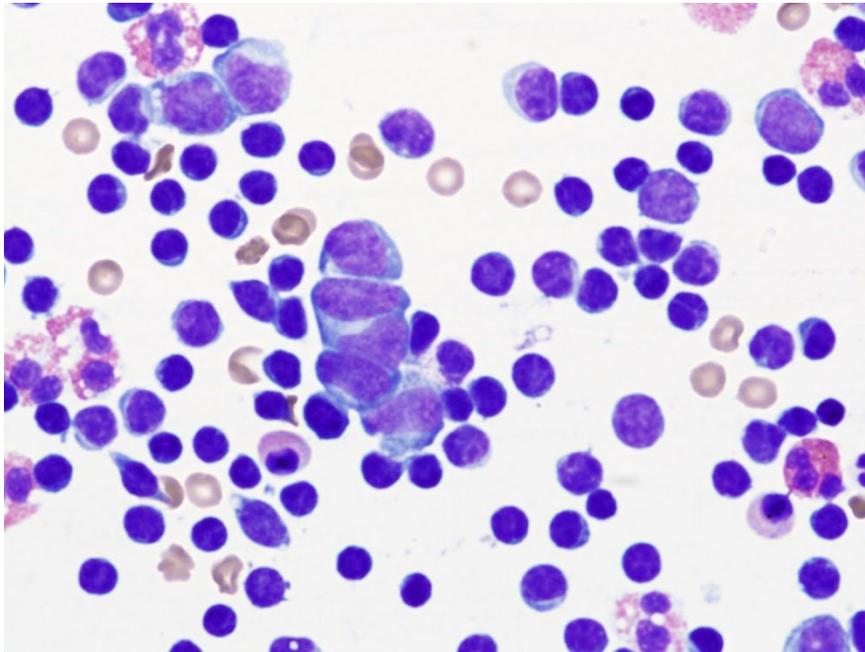


Figure 1

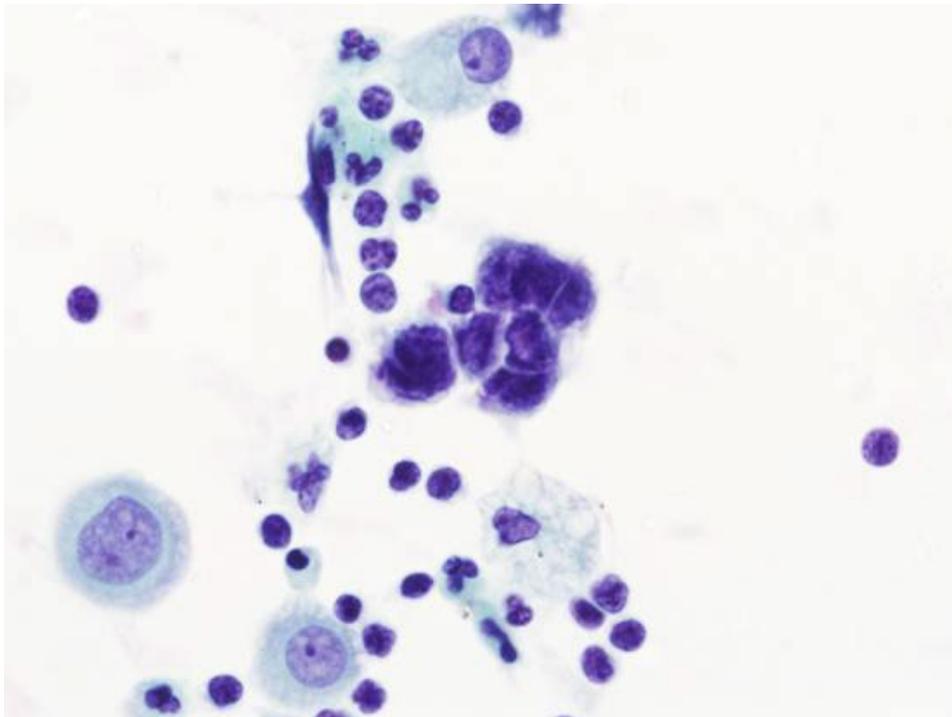


Figure 2

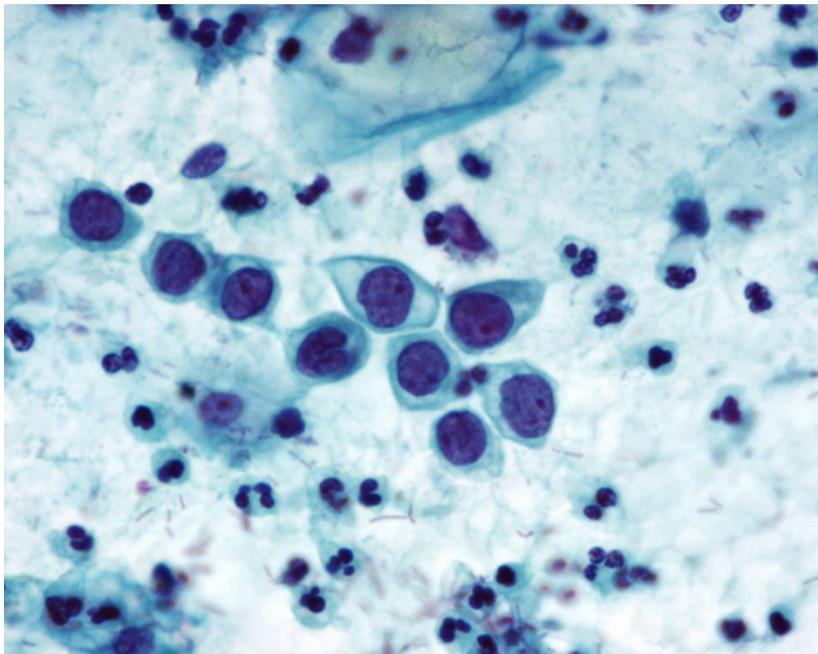
- a. Briefly describe methods in preparing blood-stained serous effusions. (10 marks)
- b. Describe the cytomorphology of the cells in the photomicrographs above. (20 marks)
- c. What are the possible differential diagnoses? (Fully qualify your answer) (20 marks)
- d. Describe how you can confirm the origin of these cells? (40 marks)
- e. What further investigation would you suggest to the clinician? (10 marks)

**Unseen Case Studies**

2.

A 55-year-old HPV positive attended her GP for a routine cervical smear. Figure 1 shows typical cells throughout this sample. Based on the cytology report, she was referred for colposcopic examination. Colposcopic examination was satisfactory and suggested CIN. Punch biopsies were taken from three, seven and 10 o'clock. The punch biopsies were reported as negative.

- a. Study Figure 1 below and write a comprehensive report based on the morphology demonstrated in the cervical smear. (30 marks)

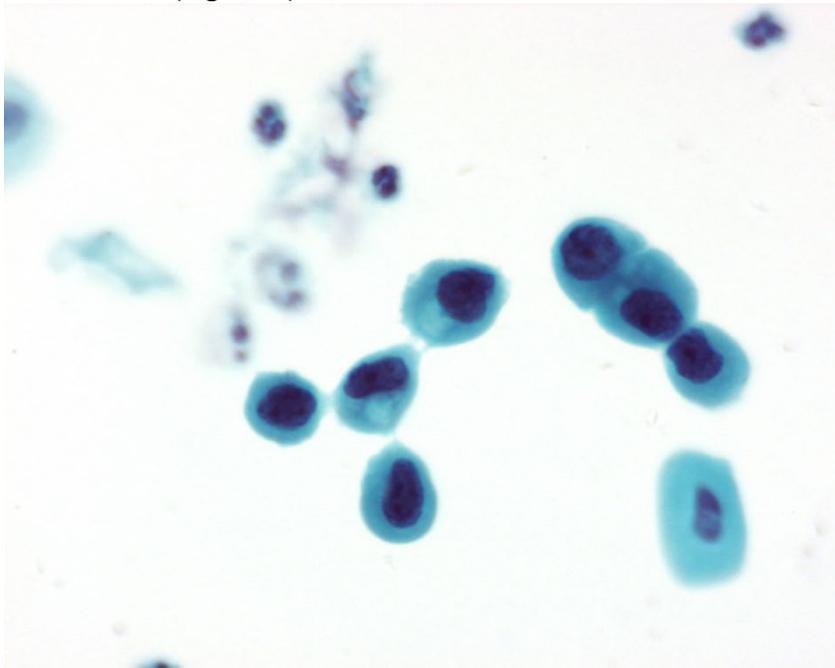


**Figure 1**

- b. Discuss appropriate follow up of the patient in view of the negative punch biopsy and colposcopic findings. (30 marks)

A loop biopsy was performed which showed sheets of small carcinoma cells arranged in Indian file which were positive for CK7 and ER but negative for CK20, vimentin, CEA, WT1 and TTF1. The findings suggested metastatic carcinoma to the cervix. The patient developed a pleural

effusion which was tapped and 20mL of pale straw- coloured fluid was sent for cytological examination (Figure 2).



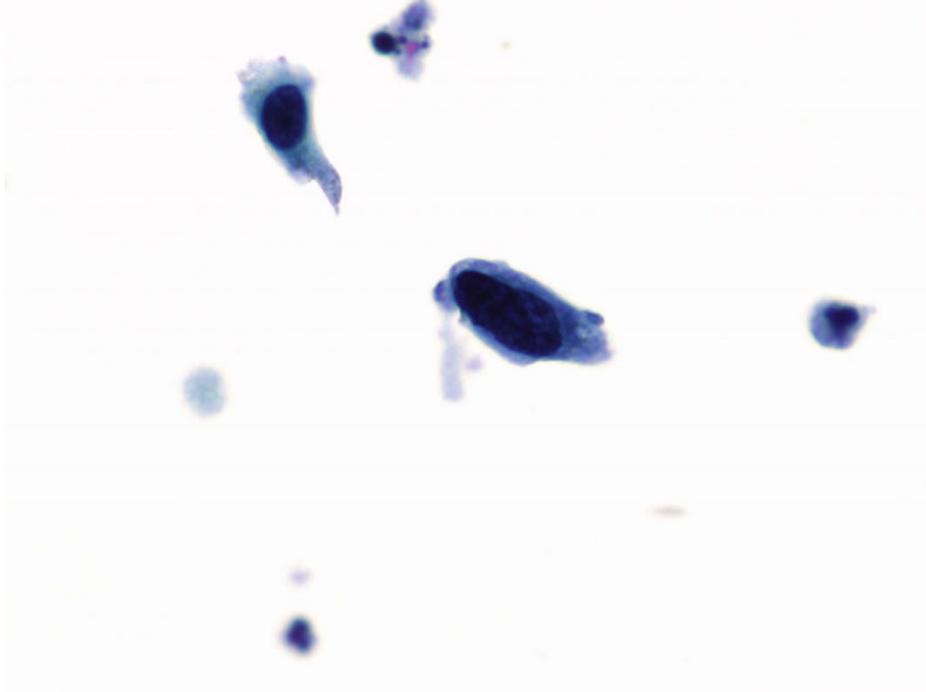
**Figure 2**

- c. Study Figure 2 and report on the morphology demonstrated. Based on the information provided by the cervical smear, loop biopsy report and pleural fluid, provide a detailed discussion of the results and suggest a final diagnosis for discussion at the MDT meeting. (40 marks)

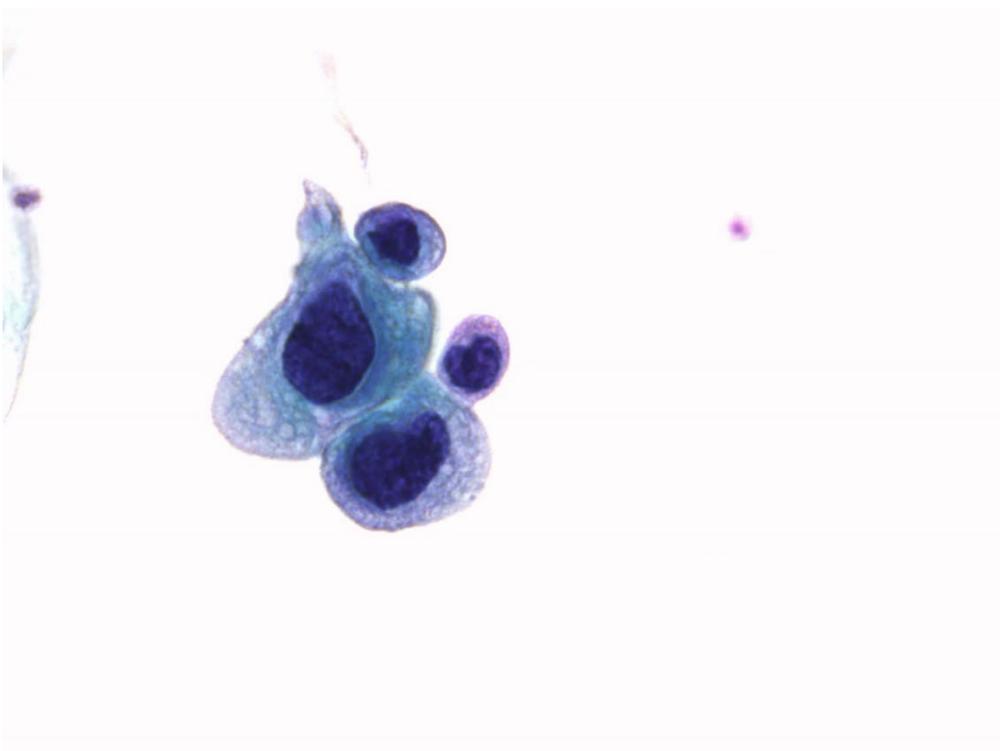
**See next page for Question 3.**

3.

A 49-year-old male who was a long-term smoker presented with frequency and haematuria. The patient was asked to submit urine samples for cytological analysis. The patient later had cystoscopy and biopsies were taken. Cells from this sample are shown in the photomicrographs below:



**Figure 1**



**Figure 2**

- a. Describe the cytomorphology of the cells and give your diagnosis. (25 marks)
- b. Comment on different subtypes of bladder tumours. (15 marks)
- c. Describe the different treatment regimes that can be used for the treatment for bladder tumours. (15 marks)
- d. Discuss the clinical indication for urine cytology. (20 marks)
- e. Discuss reasons for false-negative urine cytology. (25 marks)