



Higher Specialist Diploma

Virology

Examination – September 2022

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. Your department has recently employed a graduate trainee who had previously been working in a Lighthouse Laboratory. Outline a tutorial to explain to them the role of serology in routine diagnostic virology.
2. Staff in reception ask your advice regarding a blood sample which has arrived in your laboratory with the request “raised LFTs, ? hepatitis”. Which tests would be selected and why?
3. Describe what you would include in a tutorial for band 5 biomedical scientists about reviewing NEQAS reports for serological assays.
4. You arrive in the laboratory to the news that the LIMS system is currently unavailable. How do you respond?



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Essay Paper

120 minutes

Attempt 2 out of 5 questions

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1. Record your candidate number and HSD discipline on the front sheet of the answer booklet
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3. Begin each new answer on a new page
4. Each question is worth 100 marks

1. Critically discuss the clinical aspects, epidemiology and laboratory identification of adenoviruses.
2. Provide a detailed explanation and rationale of the steps involved in investigation of a possible case of Hepatitis C infection, giving the rationale for each test.
3. Discuss how the virology laboratory should respond to the changing epidemiology of Respiratory Syncytial Virus infection.
4. Write a business case for the development of an on-call service for the detection and response to novel and emerging viral pathogens within your organisation.
5. Syndromic rapid multiplex PCR platforms and Point of Care Testing (POCT) account for an increasing proportion of diagnostic tests performed in the UK. Critically discuss the use of these platforms or tests in diagnostic virology, both in Near Patient Testing settings, and as rapid tests in conventional laboratories.



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Case studies

120 minutes

Attempt all case studies

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1. Record your candidate number and HSD discipline on the front sheet of the answer booklet
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3. Begin each new case study on a new page
4. Each question is worth 100 marks

SEEN CASE STUDY

1.

CD is a 34-year-old male who has a history of recent travel to USA and West Africa and who presents to his general practitioner with symptoms of:

Pyrexia, headache, myalgia, lethargy and lymphadenopathy.

- a. Which viruses would you suspect as possible causes of these symptoms? Justify your answers. (15 marks)
- b. Explain the samples that should be collected and the tests that should be carried out to investigate the viruses you have identified in question a. (20 marks)

He returns home to await the laboratory test results. Two days later he goes to Accident and Emergency with large vesicular lesions on his face and the palms of his hands. It is clinically suspected to be Monkeypox.

- c. Discuss the procedure in terms of patient management, treatment and laboratory investigation of a case of monkeypox. (50 marks)
- d. What is the patient's prognosis? (15 marks)

UNSEEN CASE STUDIES

2.

AB is a 45-year-old female renal transplant patient. She was seropositive for CMV pre-transplant and was matched with a seropositive donor.

- a. Which samples should be collected for post-transplant screening and how often should this occur? Justify your answers. (25 marks)
- b. Discuss the tests that would be conducted for routine screening. (25 marks)
- c. During routine screening, CMV was detected in the patient's blood and urine samples. Discuss how this would be investigated, treated and managed. (50 marks)

3.

FG is a 10 year old boy who has presented with acute infectious hepatitis. He is immunocompetent and otherwise healthy.

- a. Identify, with reasons, the possible viral causes for this. (30 marks)

- b. Describe, with reasons the samples should be collected to assist in the investigations of these symptoms. (30 marks)

- c. Discuss the laboratory investigations that should be undertaken and the follow-up actions if these investigations return positive results. (40 marks)