



The Royal College of **Pathologists**

Pathology: the science behind the cure

FRCPath Part 2 examination

Medical Microbiology – First Written paper

Candidates must answer EITHER Question 1 OR Question 2 in Section A and THREE questions from Section B

Each question is equally weighted and is marked out of 25.

Candidates are advised to spend approximately 45 minutes on each question.

You must **NOT** remove this question paper from the examination hall, nor copy any question and remove it from the examination hall.

Time allowed - THREE HOURS

Section A

Please answer **either** Question 1 **or** Question 2

1. You have been asked to review the possibility of replacing traditional laboratory methods with first line molecular testing for the detection of enteric pathogens (including Norovirus and bacterial pathogens). Write a briefing paper for the hospital infection control committee about your proposal. Your answer should include:
 - A discussion of the potential advantages and disadvantages of this approach
 - A summary of any resource implications
 - Identification of key stakeholders
 - Your recommendations for implementation

2. Write a position paper to inform the senior management team of a 500-bed general acute hospital about the issue of carbapenemase-producing enterobacteriaceae (CPE), which is currently receiving much public health attention in the UK. The senior management team includes clinical and non-clinical members and the hospital includes paediatric services, accident and emergency, and obstetrics and gynaecology.

You should include the following in the position paper.

- Background information about the microbiology of these organisms, and their clinical relevance
- Compare and contrast clinical and epidemiological aspects of *Escherichia coli* producing an extended spectrum beta-lactamase (ESBL) with *Klebsiella pneumoniae* producing a carbapenemase (CPE)
- The laboratory detection methods for detecting carbapenemase-producing *K. pneumoniae* from clinical specimens, and the impact of these organisms on in-patient Infection Prevention and Control (IPC) practice.

Section B - Short notes questions

Please answer **THREE** of the following questions:

1. Write short notes on three of the following:
 - a) Decontamination of neurosurgical instruments
 - b) Decontamination of flexible endoscopes
 - c) Rinse water testing for endoscopy
 - d) Commissioning an operating theatre

2. Write short notes on three of the following:
 - a) The prevention of ventilator-associated pneumonia
 - b) The prevention of catheter-associated urinary tract infection
 - c) The prevention of *Clostridium difficile* infection
 - d) The prevention of surgical site infection

3. Write short notes on three of the following:
 - a) Histoplasmosis
 - b) Cryptococcosis
 - c) Mucormycosis
 - d) Phaeohyphomycosis

4. Write short notes on three of the following:
 - a) Bacteriuria in pregnancy
 - b) Bacterial prostatitis
 - c) Prophylaxis against urinary tract infection
 - d) Urinary candidiasis