

Specialty Certificate in Infectious Diseases Sample Questions

Question: 1

A 65-year-old man presented with a 4-week history of generalised fatigue. He was found to have bacterial endocarditis caused by *Streptococcus bovis*. He was treated with penicillin and gentamicin. One week after starting the treatment the patient was symptomatically much improved. His appetite had returned and he no longer had fever.

What further action is most appropriate?

- A colonoscopy
- B CT scan of abdomen
- C cystoscopy
- D dental assessment
- E gastroscopy

Question: 2

A 28-year-old woman presented with symmetrical pain in her elbows, shoulders and knees, 4 weeks after starting quadruple therapy for pulmonary tuberculosis.

Investigations:

haemoglobin	116 g/L (115–165)
white cell count	$6.4 \times 10^9/L$ (4.0–11.0)
platelet count	$184 \times 10^9/L$ (150–400)
erythrocyte sedimentation rate	24 mm/1st h (<20)
antinuclear antibodies	1:40 (negative at 1:20 dilution)
rheumatoid factor	45 kIU/L (<30)

What is the most likely cause of her symptoms?

- A ethambutol arthropathy
- B isoniazid-induced systemic lupus erythematosus
- C paradoxical reaction
- D pyrazinamide arthropathy
- E rheumatoid arthritis

Question: 3

A 55-year-old woman, originally from Thailand, presented with significant weight loss and was found to have HIV infection.

Investigations:

HIV viral load	156 250 copies/mL (lower detection limit 40)
CD4 count	$285 \times 10^6/L$ (430–1690)
hepatitis B surface antigen	positive
hepatitis B pre-core antigen	negative
hepatitis B core antigen and hepatitis B surface antibody	negative
hepatitis B viral load	950 IU/mL (genotype A) (lower detection limit 250)

What is the most appropriate anti-retroviral therapy?

- A abacavir, lamivudine and efavirenz
- B abacavir, lamivudine and nevirapine
- C tenofovir, emtricitabine and efavirenz
- D tenofovir, emtricitabine and nevirapine
- E zidovudine, lamivudine and nevirapine

Question: 4

A 22-year-old woman was admitted with fever, severe myalgia and a rash 8 days after returning from a holiday in Thailand. She had not taken any antimalarial prophylaxis or had any immunisations prior to travel, and had only visited Bangkok, Phuket and Koh Samui. Four days before admission, she had seen her general practitioner, who had given her a course of amoxicillin.

On examination, her temperature was 38.4°C. There was mild erythema in the pharynx and a widespread macular rash that was becoming confluent in some areas. A few small cervical lymph nodes were palpable.

Investigations:

haemoglobin	106 g/L (115–165)
haematocrit	0.32 (0.36–0.47)
white cell count	$2.4 \times 10^9/L$ (4.0–11.0)
neutrophil count	$1.1 \times 10^9/L$ (1.5–7.0)
lymphocyte count	$0.7 \times 10^9/L$ (1.5–4.0)
eosinophil count	$0.3 \times 10^9/L$ (0.04–0.40)
platelet count	$84 \times 10^9/L$ (150–400)
blood film	no malarial parasites; a few atypical lymphocytes seen
serum total bilirubin	21 $\mu\text{mol/L}$ (1–22)
serum alanine aminotransferase	117 U/L (5–35)
serum alkaline phosphatase	143 U/L (45–105)

What is the most likely diagnosis?

- A allergic reaction to amoxicillin
- B dengue fever
- C HIV seroconversion illness
- D infectious mononucleosis due to Epstein–Barr virus
- E malaria

Question: 5

A 27-year-old woman presented with a short history of general malaise, increased frequency of passing urine and dysuria. She was attempting to conceive and was reluctant to take any antibiotic that could be harmful in pregnancy.

Which antibiotic is most appropriate?

- A cefalexin
- B ciprofloxacin
- C co-trimoxazole
- D doxycycline
- E trimethoprim

Question: 6

A 45-year-old man presented with a 6-month history of weight loss and anorexia. He had a long history of alcohol abuse. Ten years previously, he had been found to be hepatitis C antibody-positive and PCR-positive.

On examination, he appeared lean and unkempt. The liver edge was smooth and palpable three finger-breadths below the costal margin.

Investigations:

haemoglobin	102 g/L (130–180)
white cell count	$3.3 \times 10^9/L$ (4.0–11.0)
platelet count	$65 \times 10^9/L$ (150–400)
serum albumin	29 g/L (37–49)
serum alanine aminotransferase	375 U/L (5–35)
serum gamma glutamyl transferase	306 U/L (<50)
serum α -fetoprotein	503 kU/L (<10)

Which investigation is most likely to establish the diagnosis?

- A CT scan of liver
- B hepatic elastography (FibroScan[®])
- C hepatitis C viral load and genotype
- D HIV antibody test
- E hyaluronic acid assay

Question: 7

A 53-year-old woman with no previous medical history or healthcare exposure was admitted in septic shock. Her husband said that she had been pruning roses the day before and had sustained scratches in the process.

On examination, she was febrile (39.5°C), her pulse was 132 beats per minute and her blood pressure was 80/40 mmHg. Her right arm showed extensive spreading cellulitis with blistering over the hand and distal forearm. She had marked pain on all movements of the fingers and wrist.

What is the most appropriate antimicrobial treatment?

- A benzylpenicillin and clindamycin
- B benzylpenicillin and gentamicin
- C ceftriaxone and vancomycin
- D flucloxacillin and gentamicin
- E vancomycin and meropenem

Question: 8

A 33-year-old man was admitted to hospital with a 5-week history of fevers and night sweats. He had lost 3 kg in weight over the previous 2 months, and complained of anorexia, fatigue, arthralgia and intermittent non-specific macular rashes.

On examination, his temperature was 38.2°C, his pulse was 95 beats per minute and his blood pressure was 105/85 mmHg. His chest was dull to percussion over the lower lungs with reduced air entry basally. Abdominal examination revealed minor hepatosplenomegaly. He was given empirical treatment with intravenous ceftriaxone but was still intermittently febrile after 5 days.

Investigations:

haemoglobin	107 g/L (130–180)
white cell count	$18.5 \times 10^9/L$ (4.0–11.0)
neutrophil count	$15.9 \times 10^9/L$ (1.5–7.0)
platelet count	$540 \times 10^9/L$ (150–400)
serum alkaline phosphatase	125 U/L (45–105)
serum gamma glutamyl transferase	55 U/L (<50)
serum C-reactive protein	295 mg/L (<10)
chest X-ray	bilateral pleural effusions; no cardiomegaly
ultrasound scan of abdomen	hepatosplenomegaly

What is the most likely diagnosis?

- A adult Still's Disease
- B erythrovirus B19
- C familial Mediterranean fever
- D polyarteritis nodosa
- E sarcoidosis

Answers

1. Answer: A

2. Answer: D

3. Answer: C

4. Answer: B

5. Answer: A

6. Answer: A

7. Answer A

8. Answer A