1. In a large, unmatched case–control study in Nigeria of the association between use of insecticide-treated bed nets (ITNs) and risk of malaria, the odds of use of ITNs in ‘cases’ were 1:8, while the odds in ‘controls’ were 1:3.

What is the most accurate statement about the study?

- [ ] A for each case, the control was selected so that they would be the same age and sex
- [ ] B one in eight cases got malaria
- [ ] C one in three controls used an ITN
- [ ] D the cases were those people who used an ITN
- [x] E the study gives evidence of a negative association between the use of an ITN and malaria
2. A 35-year-old Iraqi man was found to have an enlarged liver on routine clinical examination. He did not complain of any symptoms.

On examination, he was not jaundiced and his temperature was 37.0°C.

Investigations:

- serum total bilirubin: 15 µmol/L (1–22)
- serum alanine aminotransferase: 30 U/L (5–35)
- serum alkaline phosphatase: 325 U/L (45–105)
- CT scan of liver: see image

What is the most appropriate test to confirm the diagnosis?

- A amoebic antibody test
- B Fasciola hepatica antibody test
- C hepatitis B serology
- D HIV test
- E hydatid antibody test
3. A 30-year-old man living in rural South Africa presented with a 3-month history of anorexia, weight loss and abdominal distension.

On examination, his liver was palpable 2 cm below the costal margin and there was evidence of ascites.

Investigations:

- Serum total bilirubin: 15 µmol/L (1–22)
- Serum alanine aminotransferase: 30 U/L (5–35)
- Serum alkaline phosphatase: 300 U/L (45–105)
- Ultrasound scan of liver: Homogeneous mass 7 cm in diameter

What is the most likely diagnosis?

- [ ] A amoebic liver abscess
- [ ] B cholangiocarcinoma
- [ ] C Fasciola hepatica infection
- [x] D hepatocellular carcinoma
- [ ] E hydatid cyst
Parasitology Questions

4. Identify this parasite (size 140 µm) (2 marks)
   How is this infection most commonly acquired? (1 mark)

   Answer: Fasciola hepatica or Fasciolopsis buski (will accept F. gigantica)
   By ingesting contaminated water plants
5. To control HIV infection in a rural community in a developing country, what three public health measures may be used to help achieve maximum effectiveness and impact? (6 marks)

For each of these measures, describe why they are effective in preventing the spread of HIV. (14 marks)

Answer: Answer key

The short notes answer might discuss three of the following interventions:

- syndromic treatment of sexually transmitted disease (STD): how clinical trials have shown efficacy in HIV prevention
- provision of free condoms in STD clinics: how this may be achieved and what evidence there is for effectiveness
- health advice concerning the mode of HIV transmission: the best way to provide this
- male circumcision: how this may be achieved and what evidence there is for effectiveness
- provision of antiretroviral therapy: what evidence there is for effectiveness