1. Discuss critically the advantages and disadvantages of CT scanning over the invasive autopsy.

2. A man is found dead with several bullet wounds of his head. It is believed that he had been shot by an assailant using a revolver.
   (a) Regarding the bullet wounds, what observations should the pathologist record at autopsy?
   (b) Comment on the estimation of range of fire.
   (c) What features would indicate the direction of fire?

3. Write short notes on:
   (a) Post-mortem drug redistribution.
   (b) Complications of chronic intra-venous drug use.
   (c) Cyanide poisoning.

4. A 7-month old infant is found by its mother in its cot in an unresponsive state. In hospital retinal haemorrhages are noted. The infant dies a few hours later.
   (a) Prior to autopsy a skeletal survey is performed. What features of this would raise the suspicion of non-accidental injury?
   (b) Discuss the relevance and causes of retinal haemorrhages in an infant.

5. Following a physical altercation in a public house, a 20 year old male is found in a deeply unconscious state in the rear car park. An emergency CT scan revealed the presence of acute subdural haemorrhage, brain swelling and skull fracturing. He died in the intensive care unit at the hospital 24 hours after admission. By reference to the pattern of injuries and other observations that might be made at the post-mortem examination, how would you attempt to differentiate between the following as the principle mechanism of injury:
   (a) A heavy fall
   (b) A blow to the head with a blunt weapon
   (c) Stamping to the face

6. A 45 year old female with longstanding insulin dependent Type 1 diabetes mellitus, was found dead lying in bed by a concerned relative, who had not had contact from the deceased for several days. Discuss how the autopsy, supported by additional investigations, could inform the Coroner as to whether, or not, her death was likely to have been the result of an acute metabolic disturbance due to loss of diabetic control.