EXAMPLE OF QUESTIONS FOR THE DATA INTERPRETATION PAPER

(For student handbook 2000)

QUESTION A

A 55 year old Maintenance Engineer is referred to Accident & Emergency by his GP. He has a three to four day history of general malaise, sweating, anorexia, mild diarrhoea on three or four occasions, right-sided chest pain, a cough moderately productive of whitish-yellow sputum, and increasing breathlessness so that he can no longer climb stairs. His wife remarks that he has lost all his energy and in the last 24 hours has been somewhat confused. He was previously well but is a heavy smoker. On examination he is pale and sweaty, slightly drowsy, has a temperature of 38.9°C, regular pulse of 95 bpm, BP 140/95 mm Hg, has crackles over the right mid-zone and both bases, and mild myalgia, otherwise there is little else to find. The previous day he was started on amoxycillin 500 mg tds by his GP, but with no effect so far. Investigations were carried out.

INVESTIGATION	**RESULT**
Arterial blood gases on air	[H+] 38nmol/1 pO_2 8.0 kP_a pCO_2 6.0 kP_a Bicarbonate23 mmol/1
Plasma urea & electrolytes	Sodium 122 mmol/1 Potassium 4.9 mmol/1 Urea 3.5 mmol/1 Creatinine 110 µmol/1
Full blood count	Hb 14.5 g/dl WBC 19.3 x 10^9/1 neutrophilia
Liver function tests	Albumin 38 g/dl Total bilirubin 25 µmol/1 (NR 3-20) Alk Phos 100 IU/1 (NR 30-120) AST 68 IU/1 (NR 10-50) GGT 75 IU/1 (NR 5-55)
Chest radiograph	[Picture of chest radiograph with mid- and lower-zone shadowing]

Questions

Q1. *The pCO_2 indicates that he is hypocapnic* ***T/F***

Q2. *His liver function tests are diagnostic of obstructive jaundice* ***T/F***

The patient is placed on nasal oxygen and IV saline and is admitted to the acute medical ward. Blood cultures are taken and a sputum sample sent to microbiology. Clotted blood is sent to Virology for serological testing. He is started on IV cefuroxime 1.5 g tds and erythromycin 500 mg qds and improves slowly over the next 5 days.

After 48 hours the following are reported:

INVESTIGATION	RESULT
Blood cultures	No growth
Sputum culture	++ Viridans streptococci
Blood bacterial/viral serology: antibody titres	***Mycoplasma*** CFT 1 in 8 ***Chlamydia*** group antigen < 1 in 8 ***Legionella*** RMAT 1 in 16 Influenza A virus 1 in 16

Q3. *The sputum culture indicates a likely bacterial cause of pneumonia* ***T/F***

Infection with *Legionella pneumophila* is confirmed:

Appropriate actions with regard to the patient's further management and investigations include:

Q4. *Take water samples from his workplace if he works with water cooling towers* ***T/F***
Q5. *Place him in a negative pressure isolation room* ***T/F***

QUESTION B

A 23 year old unemployed man is referred to the Haematology outpatients after a 10-week history of tiredness, weight loss and recent night sweats, and swelling in the neck. On examination he is pale and has firm, painless cervical lymphadenopathy and a palpable spleen, otherwise there is little to find. Investigations were carried out:

INVESTIGATION	**RESULT**
Full blood count	Hb 10.3 g/dl Film – normochromic normocytic anaemia WBC 17.5 x 10^9/1 lymphocytosis ESR 58 mm/h
Liver function tests	Albumin 31 g/l Total bilirubin 14 μmol/1 (NR 3-20) Alk Phos 220 IU/1 (NR 30-120) AST 38 IU/1 (NR 10-50) GGT 50 IU/1 (NR 5-55)
HIV antibody test	Negative
CT Chest & abdomen	[Picture of CT with hilar and abdominal lymphadenopathy and an enlarged spleen]
Lymph node biopsy: Histopathology finding	Reed-Sternberg cells seen
Bone marrow biopsy and aspirate	Histopathology is normal

Questions

Q1.	*A likely diagnosis is Hodgkin's lymphoma*	***T/F***
Q2.	*The anaemia is due to concurrent folate deficiency*	***T/F***
Q3.	*The CT scan indicates that the patient has advanced disease*	***T/F***
Q4.	*The full blood count indicates that an immediate blood transfusion is required*	***T/F***
Q5.	*The raised peripheral blood white cell count is probably due to myeloblasts*	***T/F***

QUESTION C

A 44- year old woman, previously diagnosed as having systemic lupus erythematosus, was referred to hospital by her GP following a recent history of excessive fatigue and headaches. On examination the joints were normal but the liver was enlarged by 4 cm below the costal margin at the lacteral rectus border. The consultant physician suspected renal failure and ordered several investigations:

INVESTIGATION	**RESULT**
Full blood count:	
haemoglobin	115 g/l (11.5 g/dl)
white blood cell count	2.9 x 10^9/l
platelets	90 x 10^9/l
ESR	78 mm/h
Plasma creatinine	380 μmol/l
Creatinine clearance	15 ml/min
Urine microscopy	++protein, + red cells Granular casts

Questions

A. *The patient has renal failure* T/F
B. *The results indicate a nephritis* T/F
C. *The treatment of choice is corticosteroid therapy* T/F
D. *The presence of granular casts in the urine suggests renal tubular disease* T/F
E. *A renal biopsy would be important in confirming the diagnosis* T/F