

# Test 1

## Questions

### Questions 1–6

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*Directions:* Each group of questions below consists of five lettered headings followed by a list of numbered questions. For each numbered question select the one heading that is most closely related to it. Each heading may be used once, more than once, or not at all.

**Questions 1–3 concern the following:**

- A  MCHC
- B  lymphocytes
- C  HbA1c
- D  INR
- E  thrombocytes

**Select, from A to E, which one of the above:**

- Q1** may be decreased in iron deficiency anaemia
- Q2** may have an increased value in viral infections
- Q3** may have a decreased value in idiopathic thrombocytopenia purpura

**Questions 4–6 concern the following:**

- A  tachypnoea
- B  hypoxia
- C  afterload
- D  myopathy
- E  dysphasia

Select, from **A** to **E**, which one of the above is manifested by:

- Q4** muscle weakness and muscle wasting
- Q5** rapid rate of breathing
- Q6** an impairment of the language aspect of speech

**Questions 7–26**

*Directions:* For each of the questions below, ONE or MORE of the responses is (are) correct. Decide which of the responses is (are) correct. Then choose:

- A  if 1, 2 and 3 are correct
- B  if 1 and 2 only are correct
- C  if 2 and 3 only are correct
- D  if 1 only is correct
- E  if 3 only is correct

Directions summarised				
A	B	C	D	E
1, 2, 3	1, 2 only	2, 3 only	1 only	3 only

**Q7** Drugs that may cause plasma sodium electrolyte disturbances include:

- 1  prednisolone
- 2  salbutamol
- 3  propranolol

**Q8** Conditions that may give rise to muscular or joint pain include:

- 1  Paget's disease
- 2  neuropathy
- 3  haemophilia

**Q9** Symptoms that may indicate neoplastic disease if unexplained include:

- 1  skin ulceration
- 2  unexplained fractures
- 3  general debility

**Q10** Possible causes of resistance to cytotoxic chemotherapy include:

- 1  increased cellular uptake
- 2  increased repair of DNA damage
- 3  poor penetration into tumour

**Q11** In Parkinson's disease the patient could be referred for services from the:

- 1  speech therapy department
- 2  physiotherapy department
- 3  pain management team

**Q12** Ultrasound scanning:

- 1  is associated with no radiation dose
- 2  may be used to define organ size and shape
- 3  can detect arterial blood flow to the organ

**Q13** Creatinine clearance:

- 1  is an index used to measure glomerular filtration rate
- 2  measurement involves a 24-hour urine collection
- 3  measurement requires 24-hour monitoring of plasma creatinine

**Q14** Patients receiving isosorbide dinitrate should be advised that:

- 1  occurrence of headaches tends to decrease with continued therapy
- 2  tablets should be discarded 8 weeks after opening the container
- 3  tablets should be stored in glass containers

**Q15** Adrenaline:

- 1  is used in cardiac arrest
- 2  administration requires monitoring of blood pressure
- 3  results in a fall in blood pressure

**Q16** Methadone:

- 1  requires multiple dosing in a day
- 2  is addictive
- 3  is an opioid agonist

**Q17** Patients receiving tamoxifen should be advised:

- 1  that hot flushes may occur
- 2  that menstrual irregularities may occur
- 3  to report sudden breathlessness and any pain in the calf

**Q18** Parenteral sodium bicarbonate:

- 1  raises blood pH
- 2  is indicated in metabolic acidosis
- 3  may be used in hypomagnesaemia

**Q19** Phytomenadione:

- 1  is a lipid-soluble analogue of vitamin K
- 2  promotes hepatic synthesis of active prothrombin
- 3  is indicated in babies at birth to prevent vitamin K deficiency bleeding

**Q20** Enoxaparin:

- 1  cannot be used at the same dose as heparin
- 2  thrombocytopenia may occur with its use
- 3  agents that affect haemostasis should be used with care

**Q21** Patients receiving oral isotretinoin should be advised:

- 1  to avoid pregnancy
- 2  to avoid wax epilation during treatment
- 3  to use a lip balm regularly

**Q22** A patient who will be undergoing a colonoscopy is advised to:

- 1  use a topical haemorrhoid preparation before admission
- 2  take a bowel cleansing preparation
- 3  avoid solid food on previous day

**Q23** In which of the following cases is referral recommended:

- 1  a paediatric patient with a history of asthma who presents with a chest infection
- 2  a patient receiving diuretics who presents with symptoms of a heat stroke
- 3  a tourist who presents with acute diarrhoea

**Q24** Anti-infectives that are used in the triple-therapy regimens to eradicate *Helicobacter pylori* include:

- 1  metronidazole
- 2  clarithromycin
- 3  telithromycin

**Q25** In HIV infection:

- 1  accumulation of mutations associated with drug resistance may occur
- 2  drug resistance testing is not possible
- 3  monotherapy is preferred

**Q26** Diabetic ketoacidosis:

- 1  is associated with insulin deficiency
- 2  may be precipitated by a severe infection
- 3  causes retinopathy

### Questions 27–80

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*Directions:* These questions involve cases. Read the case description or patient profile and answer the questions. For questions with one or more correct answers, follow the key given with each question. For the other questions, only one answer is correct – give the corresponding answer.

**Questions 27–31 involve the following case:**

PS is hospitalised with pulmonary oedema. Patient is started on metolazone 2.5 mg daily and bumetanide 2 mg bd iv

**Q27** Signs and symptoms of pulmonary oedema include:

- 1  weight loss
- 2  dyspnoea
- 3  cough
  
- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q28** Precipitants of acute pulmonary oedema include:

- 1  hypothyroidism
- 2  excessive infusion rate
- 3  heart failure
  
- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q29** Parameters that are monitored during metolazone therapy include:

- 1  body weight
- 2  electrolytes
- 3  LFTs
  
- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q30** Metolazone and bumetanide:

- A  reduce the blood volume
- B  produce a euphoric state
- C  cause sedation
- D  control bronchospasm
- E  prevent embolisation

**Q31** When PS is stabilised, the therapeutic plan should consider:

- 1  stopping metolazone treatment
  - 2  changing bumetanide to an oral formulation
  - 3  starting co-amoxiclav
- 
- A  1, 2, 3
  - B  1, 2 only
  - C  2, 3 only
  - D  1 only
  - E  3 only

**Questions 32–38 involve the following case:**

CA is a 77-year-old patient who is admitted to hospital with infected multiple sores and who is complaining of polyuria and weakness. CA presented with reduced skin turgor, dehydration, tremor and in a confused state. CA has a past medical history of diabetes. Her general practitioner has started her the day before on ciprofloxacin 250 mg bd and fusidic acid cream bd. Diabetes was managed through dietary control and CA was not taking antidiabetic drugs. On admission, CA is started on:

glibenclamide 2.5 mg daily  
ciprofloxacin 500 mg bd  
sodium chloride 0.9% iv infusion  
haloperidol 0.5 mg bd

On admission: random blood glucose level 12 mmol/l  
blood pressure 125/78 mmHg



**Q32** Management aims for CA include:

- 1  rehydration
  - 2  control of hyperglycaemia
  - 3  management of hypertension
- 
- A  1, 2, 3
  - B  1, 2 only
  - C  2, 3 only
  - D  1 only
  - E  3 only

**Q33** Parameters that need to be monitored to assess outcomes of therapy include:

- 1  urine output
  - 2  blood glucose monitoring
  - 3  thyroid function tests
- 
- A  1, 2, 3
  - B  1, 2 only
  - C  2, 3 only
  - D  1 only
  - E  3 only

**Q34** Signs which indicate that the diabetes in CA is uncontrolled include:

- 1  infected sores
  - 2  reduced skin turgor
  - 3  tremor
- 
- A  1, 2, 3
  - B  1, 2 only
  - C  2, 3 only
  - D  1 only
  - E  3 only

**Q35** Pharmacist intervention with regards to therapy started on admission includes:

- 1  increase dose of ciprofloxacin
  - 2  review sodium chloride infusion
  - 3  rationale for haloperidol treatment
- 
- A  1, 2, 3
  - B  1, 2 only
  - C  2, 3 only
  - D  1 only
  - E  3 only

**Q36** As regards glibenclamide therapy:

- A  gliclazide is preferred in this patient
- B  the dose could be increased to 10 mg daily
- C  the drug is administered in the afternoon
- D  the drug reduces insulin secretion
- E  it restores beta-cell activity

**Q37** When the patient is discharged, advice includes:

- 1  consuming small, frequent regular meals
  - 2  taking glibenclamide regularly
  - 3  using fusidic acid cream daily
- 
- A  1, 2, 3
  - B  1, 2 only
  - C  2, 3 only
  - D  1 only
  - E  3 only

**Q38** Onset of hypoglycaemia in CA could be precipitated by:

- 1  missed doses of glibenclamide
- 2  excess dietary intake
- 3  skipped meals
  
- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Questions 39–41** involve the following case:

BD is a 34-year-old patient admitted with an overdose of promethazine and alcohol withdrawal symptoms. Patient has a history of alcohol abuse.

**Q39** Symptoms that could occur due to promethazine overdose include:

- 1  drowsiness
- 2  headache
- 3  blurred vision
  
- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q40** Promethazine is an:

- A  antidepressant
- B  antipsychotic
- C  antihistamine
- D  analgesic
- E  anxiolytic

**Q41** A drug that can be used in alcohol withdrawal is:

- A  beclometasone
- B  chlorphenamine
- C  lithium
- D  diazepam
- E  risperidone

**Questions 42–44 involve the following case:**

MB is a 58-year-old woman who presents with a prescription for simvastatin 10 mg daily. Her current medication is atenolol 50 mg daily. MB suffered a heart attack last year.

**Q42** MB is advised:

- 1  to report any muscle pain or weakness
  - 2  to take simvastatin at night
  - 3  to stop taking atenolol
- 
- A  1, 2, 3
  - B  1, 2 only
  - C  2, 3 only
  - D  1 only
  - E  3 only

**Q43** Side-effects to be expected with simvastatin include:

- 1  headache
- 2  nausea
- 3  abdominal pain
  
- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q44** Recommendations made to MB include:

- 1  follow moderate exercise
- 2  adopt a low-fat diet
- 3  take atenolol 2 h before simvastatin
  
- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Questions 45–47 involve the following case:**

GD is a 72-year-old female whose current medication is:  
aspirin 75 mg daily  
dipyridamole 100 mg tds  
timotol 0.5% both eyes 2 drops bd  
lactulose 20 ml daily

**Q45** Dipyridamole:

- 1  cannot be used in combination with low-dose aspirin
- 2  is used for prophylaxis of thromboembolism
- 3  may cause increased bleeding during or after surgery

- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q46** Lactulose:

- 1  dose needs to be reviewed as the maximum adult daily dose is 5 ml
- 2  should not be used for more than 5 days
- 3  is used to maintain bowel evacuation

- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q47** GD is receiving medications for:

- 1  glaucoma
- 2  diarrhoea
- 3  osteoporosis

- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Questions 48–53 involve the following case:**

SP is a 64-year-old patient who is admitted to hospital with tiredness, shortness of breath and ankle oedema. She has a medical history of congestive heart failure. SP was intolerant to enalapril owing to the development of a cough. Her medications on admission are:

- spironolactone 12.5 mg daily
- losartan 25 mg daily

**Q48** The therapeutic aims for SP are:

- 1  to control symptoms of heart failure
  - 2  to control oedema
  - 3  to control diabetes
- 
- A  1, 2, 3
  - B  1, 2 only
  - C  2, 3 only
  - D  1 only
  - E  3 only

**Q49** Spironolactone:

- 1  reduces symptoms and mortality
  - 2  dose may be increased to 25 mg daily
  - 3  is an aldosterone antagonist
- 
- A  1, 2, 3
  - B  1, 2 only
  - C  2, 3 only
  - D  1 only
  - E  3 only

**Q50** Monitoring required because of spironolactone treatment involves:

- 1  serum creatinine
- 2  serum potassium
- 3  thyroid function
  
- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q51** Losartan:

- 1  is an angiotensin-II receptor antagonist
- 2  exhibits a lower incidence of cough as a side-effect compared with enalapril
- 3  dose may be increased to 50 mg daily
  
- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q52** Digoxin is used in patients with heart failure:

- 1  because it decreases myocardial intracellular ionic calcium
- 2  when there is atrial fibrillation
- 3  because it exerts a positive inotropic effect
  
- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only



**Q53** Parameters to be monitored when digoxin therapy is started:

- 1  plasma digoxin concentration
- 2  plasma potassium measurement
- 3  plasma sodium measurement
  
- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Questions 54–57** involve the following case:

LB is a 55-year-old male patient who developed vesicles unilaterally around his waist. LB complained of a stabbing irritation in the area. LB is prescribed aciclovir 800 mg five times daily for 5 days.

**Q54** The likely diagnosis for LB is:

- A  prickly heat
- B  herpes zoster infection
- C  herpes labialis infection
- D  cytomegalovirus infection
- E  hepatitis B infection

**Q55** Patient should be advised:

- 1  to take doses at regular intervals
- 2  to avoid exposure to sunlight
- 3  to wash hands thoroughly after drug administration

- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q56** Side-effects that may be expected include:

- 1  headache
- 2  nausea
- 3  diarrhoea

- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q57** Adjuvant therapy that may be used for LB include(s):

- 1  calamine lotion
- 2  amitriptyline
- 3  ergotamine

- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Questions 58–63 involve the following case:**

AD is a 39-year-old female with bacterial endocarditis. She is started on gentamicin 80 mg iv twice daily and penicillin G iv 1.8 g every 6 h.

**Q58** Penicillin G is:

- A  phenoxymethylpenicillin
- B  benzylpenicillin
- C  penicillin V
- D  piperacillin
- E  pivmecillinam

**Q59** Penicillin G is available in 600 mg vials. How many vials are required for each dose?

- A  0.5
- B  1
- C  2
- D  3
- E  30

**Q60** Penicillin G:

- 1  is bacteriostatic
- 2  is bactericidal
- 3  can be given as an intramuscular injection

- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q61** Gentamicin:

- 1  has a broad spectrum of activity
  - 2  is contraindicated in hepatic impairment
  - 3  therapy may be changed to oral administration when the patient is stabilised
- 
- A  1, 2, 3
  - B  1, 2 only
  - C  2, 3 only
  - D  1 only
  - E  3 only

Patient developed a rash and started complaining of generalised itch after the administration of the drugs.

**Q62** A possible reason for these symptoms is:

- 1  allergy to gentamicin
  - 2  allergy to penicillin G
  - 3  development of heat rash
- 
- A  1, 2, 3
  - B  1, 2 only
  - C  2, 3 only
  - D  1 only
  - E  3 only

**Q63** Manifestations of bacterial endocarditis include:

- 1  prolonged fever
- 2  embolic phenomena
- 3  renal failure

- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Questions 64–74 involve the following case:**

JZ is a 78-year-old obese male who is diagnosed with an acute attack of gout.

PMH hypertension, heart failure

DH enalapril tablets 5 mg daily  
 atenolol tablets 100 mg daily  
 bendroflumethiazide tablets 5 mg daily  
 aspirin ec tablets 75 mg daily

He is started on colchicine tablets 500 µg twice daily for six days.

**Q64** Gout:

- A  may be due to excessive production of uric acid
- B  may be due to increased renal elimination of uric acid
- C  results in the deposition of crystals of xanthine in the joints
- D  is characterised by excessive calcium deposited in the joints
- E  is the result of hypouricaemia

**Q65** Gout may be precipitated in JZ by:

- 1  heart failure
- 2  bendroflumethiazide
- 3  excessive consumption of meat in the diet

- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q66** Gout:

- 1  presents as a painful condition in the big toe
- 2  onset is insidious
- 3  recurrence is rare
  
- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q67** Diagnosis of gout:

- 1  is based on clinical signs
- 2  requires confirmation of urate crystals in the synovial fluid of affected joint
- 3  requires a positive ESR level
  
- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q68** Non-pharmacological measures for JZ include:

- 1  resting the affected joint
- 2  maintaining a high fluid intake
- 3  maintaining a high calcium intake
  
- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q69** Colchicine:

- 1  reduces the inflammatory reaction to urate crystals
- 2  provides dramatic relief from acute attacks of gout
- 3  is also used in rheumatoid arthritis
  
- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q70** Colchicine:

- 1  should be used when there is a contraindication to NSAIDs
- 2  is more toxic than NSAIDs
- 3  occurrence of diarrhoea and vomiting are used as an index to review therapy
  
- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q71** Alternatives to colchicine in the management of gout include:

- 1  indometacin
- 2  diclofenac
- 3  aspirin
  
- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q72** To prevent further attacks, JZ should be advised to:

- 1  lose weight
  - 2  follow a diet low in purines
  - 3  keep taking colchicine on a long-term basis
- 
- A  1, 2, 3
  - B  1, 2 only
  - C  2, 3 only
  - D  1 only
  - E  3 only

**Q73** Allopurinol:

- 1  should be started 2–3 weeks after the acute attack has subsided
  - 2  reduces urate production
  - 3  is given once daily
- 
- A  1, 2, 3
  - B  1, 2 only
  - C  2, 3 only
  - D  1 only
  - E  3 only

**Q74** Uricosuric agents:

- 1  can be used instead of allopurinol
  - 2  are ineffective in patients with impaired renal function
  - 3  increase renal urate excretion
- 
- A  1, 2, 3
  - B  1, 2 only
  - C  2, 3 only
  - D  1 only
  - E  3 only



**Questions 75–80 involve the following case:**

HG is a 71-year-old female with a history of Sjögren's syndrome. She presents with complaints of dry eyes and dry mouth.

At the time the patient was on aspirin 150 mg daily, dipyridamole 25 mg tds, glimepiride 1 mg daily and atenolol 100 mg daily. Recently hypothyroidism was diagnosed and she was started on thyroxine 50 µg daily. During a recent follow up, her diabetologist added metformin 500 mg daily because her blood glucose level was 13.8 mmol/l. She was also started on simvastatin 10 mg nocte.

Her ESR is 109 mm/h and she has a positive rheumatoid factor.

Methylcellulose eye drops to be used as required are recommended to HG.

**Q75** In view of the recent amendments to her treatment, HG should be advised to:

- 1  take thyroxine tablet in the morning
- 2  take metformin tablet with food
- 3  take dipyridamole tablets before food

- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q76** Hypothyroidism:

- 1  may have an insidious onset in the elderly
- 2  may cause dry eyes
- 3  may induce hypoglycaemia

- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q77** Drugs that could significantly interact with thyroxine include:

- 1  warfarin
- 2  simvastatin
- 3  ranitidine

- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q78** Caution should be undertaken when starting thyroxine in:

- 1  elderly patients
- 2  diabetics
- 3  patients with cardiovascular disorders

- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q79** Side-effects associated with thyroxine include:

- 1  diarrhoea
- 2  anginal pain
- 3  bradycardia
  
- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

**Q80** Total thyroid hormones:

- 1  concentration in plasma changes with alterations in the amount of thyroxine-binding globulin in plasma
- 2  concentration is used as the main diagnostic marker for hypothyroidism
- 3  act as antibodies to thyroglobulin
  
- A  1, 2, 3
- B  1, 2 only
- C  2, 3 only
- D  1 only
- E  3 only

