1. A 25-year-old man developed bilateral loin pain and frank haematuria. His symptoms had started 24 hours after developing a sore throat. His blood pressure was 138/88 mmHg. Urinalysis was positive for blood (4+) and protein (2+). What is the most likely diagnosis?
   a. IgA nephropathy
   b. microscopic polyangiitis
   c. nephrolithiasis
   d. poststreptococcal glomerulonephritis
   e. septicaemia

2. A 70-year-old female is admitted 12 hours after taking an overdose of aspirin. Investigations revealed:
   - Serum sodium 138 mmol/L (137-144)
   - Serum potassium 5.9 mmol/L (3.5-4.9)
   - Serum bicarbonate 14 mmol/L (20-28)
   - Serum urea 18.1 mmol/L (2.5-7.5)
   - Serum creatinine 238 μmol/L (60-110)
   - Serum salicylate 1120 mg/L (8 mmol/L).
   What is the most appropriate treatment of this patient?
   a. Haemodialysis
   b. Haemofiltration
   c. Intravenous sodium bicarbonate.
   d. Peritoneal dialysis.
   e. Urine alkalinization.

3. Which of the following is associated with Hyperuricaemia?
   a. is usually due to an excess purine consumption
   b. occurs in association with acute lymphoblastic leukaemia
   c. in primary gout is inherited in an autosomal dominant manner
   d. can be reduced with low dose aspirin therapy
   e. can be treated with uricosuric drugs even in renal failure

4. A 67-year-old man presents with sudden onset atrial fibrillation (ventricular rate of 150/minute). His serum creatinine concentration was 250 μmol/L (70-110). What is the main factor that determines the choice of loading dose of digoxin in this patient?
   a. Absorption
   b. Apparent volume of distribution
   c. Lipid solubility
   d. Plasma half-life
   e. Renal clearance

5. The following are complications of nephrotic syndrome with the exception of
   a. acute renal failure
   b. accelerated hypertension
   c. hypocalcaemia
   d. pneumococcal infection
   e. venous thrombosis

6. Autosomal recessive conditions include:
   a. Vitamin D resistant rickets
   b. Huntington’s chorea
   c. Wilson’s disease
   d. Manic depression
   e. Turner’s syndrome

7. A 44-year-old woman with type 1 diabetes mellitus has not attended the diabetic clinic for 5 years. Her HbA1c is 10.1%. Examination shows no abnormalities. Her hemoglobin level is 9 g/dL, hematocrit is 28%, and mean corpuscular volume is 94 μm3. A blood smear shows normochromic, normocytic anaemia. Which of the following is the most likely cause?
   a. acute blood loss
   b. chronic lymphocytic leukaemia
   c. erythropoietin deficiency
   d. microangiopathic haemolysis
   e. sideroblastic anaemia

8. A 60-year-old woman is admitted with sudden onset of chest pain and is diagnosed with an acute myocardial infarction. Her acute illness is complicated by low blood pressure and poor tissue perfusion for several days. Her serum lactate becomes elevated. Her serum urea and creatinine are noted to be increasing. Day 1: Day 2: Day 3: urea (mmol/L) 8 22 30 creatinine (μmol/L) 116 140 200. Granular and hyaline casts are present on microscopic urinalysis. The renal lesion that is most likely to be present in this situation is?
   a. Acute tubular necrosis
   b. Minimal change disease
   c. Nodular glomerulosclerosis
   d. Pyelonephritis
   e. Renal vein thrombosis

9. A 25-year-old man developed bilateral loin pain and frank haematuria. His symptoms had started 24 hours after developing a sore throat. His blood pressure was 138/88 mmHg. Urinalysis was positive for blood (4+) and protein (2+). What is the most likely diagnosis?
   a. IgA nephropathy
   b. microscopic polyangiitis
   c. nephrolithiasis
   d. poststreptococcal glomerulonephritis
   e. septicaemia

10. Which of the following concerning the pH of urine is correct?
    a. is a useful indicator of the acid/base balance of the blood
    b. rises on a vegetarian diet
    c. is determined by the concentration of ammonium
    d. is lower than 5.5 in renal tubular acidosis
    e. would be above 7.0 after prolonged and severe vomiting

11. What is the most likely outcome of minimal change nephropathy at 16 years of age?
    a. a tendency to relapse
    b. full renal recovery
    c. permanent renal impairment
    d. persistent hypertension
    e. persistent proteinuria

12. Which of the following concerning renal blood flow is true?
    a. is 40% of the cardiac output at rest
    b. can be measured using the Fick principle
    c. is higher in the medulla than the cortex
    d. is increased when renal nerves are stimulated
    e. is decreased in response to hypoxia

13. What is the most likely outcome of minimal change nephropathy at 16 years of age?
    a. a tendency to relapse
    b. full renal recovery
    c. permanent renal impairment
    d. persistent hypertension
    e. persistent proteinuria

14. Which of the following concerning renal blood flow is true?
    a. is 40% of the cardiac output at rest
    b. can be measured using the Fick principle
    c. is higher in the medulla than the cortex
    d. is increased when renal nerves are stimulated
    e. is decreased in response to hypoxia

15. What is the most likely outcome of minimal change nephropathy at 16 years of age?
    a. a tendency to relapse
    b. full renal recovery
    c. permanent renal impairment
    d. persistent hypertension
    e. persistent proteinuria
13. A 2 week old male child is brought to casualty by his concerned parents with diarrhoea and vomiting. He is the first child of a young couple. Examination reveals few features besides obvious dehydration. He is noted to have a penile length of 3.5 cms. Which of the following is the most appropriate initial treatment for this patient?
   a. Cow’s milk allergy is the most likely diagnosis
   b. gluten enteropathy should be excluded
   c. Requires urgent treatment with oral steroids
   d. Requires urgent treatment with IV normal saline
   e. Rota virus gastroenteritis is the most likely diagnosis

14. Which one of the following statements regarding renal function is correct?
   a. The daily solute excretion will lie between 75 and 300 mosmol
   b. The permeability of the distal nephron to water increases in the presence of vasopressin
   c. The rate of ammonium excretion in urine is inversely related to the rate of urinary hydrogen ion excretion
   d. A ten minute period of hyperventilation will normally be expected to lead to an increased rate of bicarbonate excretion in urine
   e. Sodium reabsorption in the tubules is mainly controlled by aldosterone

15. Which of the following are true of chronic renal failure in childhood?
   a. is unlikely to be due to chronic pyelonephritis unless there is a clear history of an acute attack
   b. if accompanied by renal osteodystrophy is likely to be associated with severe hypertension
   c. is an unusual sequel of acute post streptococcal glomerulonephritis
   d. is the most common sequel to the nephrotic syndrome
   e. is likely to be benefited by administration of corticosteroids

16. Acute renal failure may be distinguished from chronic renal failure by which of the following?
   a. an increased urinary Na excretion
   b. left ventricular hypertrophy on the ECG
   c. hypophosphataemia
   d. renal size on ultrasound scan
   e. hyperkalaemia

17. Which one of the following statements is correct?
   a. adult polycystic renal disease is inherited as an autosomal recessive trait
   b. reflux nephropathy is inherited as an autosomal recessive trait
   c. nephrogenic diabetes insipidus is inherited as an autosomal dominant trait
   d. Alport’s syndrome affects females more severely than males
   e. medullary sponge kidney is typically not inherited but is a congenital condition.

18. Metastatic calcification in chronic renal failure:
   a. unaffected by time on CAPD
   b. rapidly reversed in all sites after parathyroidectomy
   c. characteristically caused by calcium oxalate deposition
   d. increased prevalence with time on haemodialysis
   e. decreased by Vitamin D

19. A 33 year old male is receiving regular haemodialysis is noted to have a plasma potassium of 6.9 mmol/L (3.5-4.9) before a dialysis session. Although normally his potassium is less than 5.5 mmol/L. Which food combination from the dietary history would be most likely to cause the high potassium concentration?
   a. Cereal, toast, biscuits.
   b. Filter coffee, tea, boiled potatoes.
   c. Milk, butter, plain yoghurt
   d. Milk, ham, chicken.
   e. Tomato, potato crisps, banana.

20. Which of the following features would be expected in acute tubular necrosis?
   a. Proteinuria on urinalysis
   b. Red cell casts on urinalysis
   c. Urine plasma osmolality ratio is more than 1:1
   d. Urinary sodium concentration greater than 30 mmol/l
   e. Creatinine clearance would be expected to be normal 1 year after the initial insult.

21. In which of the following circumstances would the treatment of anaemia with erythropoietin still be expected to be effective?
   a. Aluminium toxicity
   b. Folate deficiency
   c. Hyperkalaemia
   d. Infection
   e. Iron deficiency

22. A 66 year old man has developed chronic renal failure with a serum urea of 60 mmol/L and creatinine of 650 micromol/L. Auscultation of the chest reveals a friction rub over the cardiac apex. He is most likely to have a pericarditis that is termed?
   a. Constrictive
   b. Fibrinous
   c. Hemorrhagic
   d. Purulent
   e. Serous

23. Which of the following is characteristic of Bartter’s Syndrome?
   a. Secondary hyperaldosteronism
   b. Hyperkalaemia
   c. Metabolic acidosis
   d. Reduced renal concentrating ability
   e. Diarrhoea

24. Which of the following is NOT a recognised cause of acute tubular necrosis?
   a. Rhabdomyolysis
   b. Paracetamol poisoning
   c. Hypovolaemia
   d. Hypertension
   e. Corticosteroid therapy

25. A 49 year old woman has been an inpatient for the past 10 days for treatment of a bronchopneumonia. She has developed the onset of chills, fever, and skin rash over the past two days. A peripheral blood film reveals eosinophilia. On urinalysis she has ++ proteinuria. There is no past history of renal disease. Her hemoglobin A1C is normal. These findings would most strongly suggest which of the following diagnoses?
   a. Acute serum sickness
   b. Acute tubular necrosis
   c. Drug induced interstitial nephritis
26. Oliguria more likely to be due to prerenal failure than intrinsic renal failure if:
   a. urine free of red blood cells or casts
   b. urine:plasma urea ratio <3
   c. urine osmolality <350 mOsm/l
   d. in the presence of hypertension, raised JVP and good peripheral circulation
   e. urinary sodium >10mM

27. A 30 year old man had a blood pressure of 150/100 mmHg. Clinical examination was normal. Which one of the following would suggest secondary hypertension?
   a. 24 hour urinary protein excretion of 1.6g (<0.2)
   b. A Creatinine clearance of 90 mL/min (70-140)
   c. Left ventricular hypertrophy criteria on the ECG
   d. The presence of arteriovenous nipping on fundoscopy.
   e. Serum potassium of 3.9 mmol/L (3.5-4.9)

28. Which of the following statements regarding idiopathic membranous nephropathy is correct?
   a. It characteristically presents in the second decade of life.
   b. Progression to endstage renal failure is rapid.
   c. immune complex deposits are typically seen in the glomerular mesangium.
   d. Males are twice as commonly affected as females.
   e. The nephritic syndrome is a characteristic presentation.

29. In asymptomatic chronic renal failure:
   a. there is increase in tubular excretion of urate
   b. serum ionised [calcium] is normal
   c. serum [phosphate] characteristically increased before GFR falls to 30ml/min
   d. increase serum [alkaline phosphotase] mainly due to liver isoenzyme
   e. decrease in blood pressure accompanied by increase in extracellular fluid

30. Antineutrophilic cytoplasmic autoantibodies:
   a. positive only in Wegener’s syndrome associated with renal disease
   b. cause neutropenia in SLE
   c. present in inflammatory bowel disease
   d. increased in systemic lupus erythematosus
   e. ANCA positive glomerulonephritis characteristically causes nephrotic syndrome

31. In chronic untreated renal failure which of the following findings is characteristic?
   a. Metabolic alkalosis
   b. Hypokalaemia
   c. Hyperosmolar dehydration
   d. Hypercalcaemia
   e. Hypercalcinuria

32. A 46 year old woman develops nephrotic syndrome and is awaiting further tests to establish the underlying aetiology. In which circumstance would corticosteroids be most effective in reversing the nephrotic syndrome?
   a. Membranous nephropathy
   b. Minimal change disease
   c. Primary amyloidosis
   d. Renal vein thrombosis
   e. Mesangial IgA disease

33. Which of the following is true concerning a 68 year old male with type 2 diabetes diagnosed with type IV renal tubal acidosis?
   a. Aminoaciduria would be expected.
   b. Fludrocortisone treatment is effective
   c. Increased Glomerular filtration rate is expected.
   d. Increased urinary bicarbonate would be expected.
   e. Normal renal handling of K+ and H+

34. Which of the following is least likely with the HLA complex?
   a. Class I products recognised by CD8
   b. Class II products used to activate CD4
   c. polymorphism in Class I genes, but not Class II
   d. multiple sclerosis associated with HLA DR2
   e. ANCA positive glomerulonephritis characteristically causes nephrotic syndrome

35. The following are features of pseudohypoparathyroidism:
   a. Increased urinary phosphate and cAMP with PTH infusion
   b. Low serum PTH
   c. Low serum calcium and low serum phosphate
   d. Low serum calcium and high serum phosphate
   e. Shortened 2nd and 3rd metacarpals

36. A 60 year old man was diagnosed last year with adenocarcinoma of the lung, and a 4 cm mass lesion was treated with a right lower lobectomy. He now has an abdominal CT scan that reveals scattered hepatic mass lesions and hilar lymphadenopathy. For several weeks, he has had increasing malaise. A urinalysis reveals marked proteinuria, and a 24 hour urine protein collection is 2.7 g/24hr. His serum urea is 30 mmol/L (2.5-7.5) with creatinine of 450 μmol/L (60-110). A renal biopsy is performed, and there is focal deposition of IgG and C3 with a granular pattern. He is most likely to have which of the following conditions?
   a. Goodpasture’s syndrome
   b. Membranous glomerulonephritis
   c. Minimal change glomerulonephritis
   d. Nodular glomerulosclerosis
   e. Rapidly progressive glomerulonephritis

37. Erythropoietin therapy causes
   a. Benign intracranial hypertension
   b. Myositis
   c. Hypotension
   d. Seizures
   e. Osteoporosis

38. Which of the following is a feature of cystinuria?
   a. accumulation of cystine in the kidney
   b. a useful response to acidification of urine
   c. autosomal dominant inheritance
   d. excessive urinary arginine excretion
   e. radiolucent urinary calculi

39. An 19 year old female developed pleural effusions, ascites and ankle swelling. Her blood pressure was 112/76 mmHg. Investigations revealed:
   
   serum alanine transferase 17 U/L (5 15)
   serum total bilirubin 17 umol/L (1 22)
40. A 15-year-old girl was seen by her family physician because of increasing lethargy. She had a recent history of the “flu”. Biochemistry tests show that she has renal impairment.

serum sodium 140 mmol/L (137–144)
serum potassium 4.2 mmol/L (3.5–4.9)
serum urea 28 mmol/L (2.5–7.5)
serum creatinine 280 μmol/L (60–110)

Her condition does not improve after several weeks on corticosteroid therapy, so a renal biopsy is performed. The biopsy demonstrates the presence of segmental sclerosis of 3 of 10 glomeruli identified in the biopsyspecimen. Immunofluorescence studies and electron microscopy do not reveal evidence for immune deposits.

What is the most appropriate advice to give regarding her condition?

a. She has an underlying malignancy
b. She may require a renal transplant in 10 years
c. She will improve if she loses weight
d. She will likely develop a restrictive lung disease
e. She will probably improve with additional corticosteroid therapy

41. Which ONE of the following is true concerning Antidiuretic hormone (ADH)?

a. Carbamazepine potentiates it’s release
b. Ethanol potentiates it’s release
c. It circulates in the blood bound to neurohypophysin
d. It is a cyclic octapeptide
e. It is synthesised in the posterior pituitary

42. A 30-year-old female presents with fevers, and a 3 month history of malaise.

Results show:
Creatinine 250 micromol/l
Complement C3 23 mg/dL (65–190)

What is the likely diagnosis?

a. HIV nephropathy
b. Infective endocarditis
c. Membranous Nephropathy
d. Microscopic Polyangiitis
e. Minimal change nephropathy

43. Which one of the following biochemical abnormalities would fit with a diagnosis of Bartter’s syndrome?

a. Hyperchloreaemia
b. Hyperkalemia
c. Hypoatraemia
d. Hyperphosphataemia
e. Hypokalemia

44. A 35-year-old female presents with malaise, thirst and increasing nocturia over the last month. Six months ago she attended the Emergency Department with an episode of renal colic. One month previously her GP had noted an eruptive, painful, erythematous rash on the anterior shins, which was self-limiting. What is the likely cause of her symptoms?

a. Hypercalcaemia
b. Hyperglycaemia
c. Hypocalcaemia
d. Hypokalaemia
e. Hyperoxaluria

45. A 21-year-old man presents with painless haematuria which he has noticed in the last 3 days. He suffers from type I diabetes which is well controlled, but is otherwise fit and healthy. The patient has recently recovered from a mild throat infection. Urine dipstick analysis reveals blood and protein in the urine.

The most likely diagnosis is:

a. Henoch-Schonlein purpura
b. Benign prostatic hypertrophy
c. IgA nephropathy
d. Diabetic nephropathy
e. Urinary tract infection (UTI)

46. A 74-year-old type 2 diabetic woman undergoes a bowel resection for cancer of the colon. She is well prior to the operation with well–controlled diabetes and no other underlying disease. The operation is successful and the patient is given postoperative insulin and IV dextrose. Two days after the operation she becomes very agitated.

Sodium 124 (135–145)
Potassium 3.3 (3.5–5.0)
Urea 3.1 (3.0–7.0)
Glucose 7.2 (2.5–6.0)
Serum osmolality 265 (275–295)
Urine osmolality 150

The most likely cause of the hyponatraemia is:

a. Addison’s disease
b. Syndrome of inappropriate anti-diuretic hormone (SIADH)
c. Diabetic nephropathy
d. Excess insulin
e. Water overload

47. A 16-year-old boy presents with a low-grade fever which started 1 week ago. The patient also reports feeling fatigued and indicates pain in his joints. His parents mention that he has been visiting the toilet more often than usual. A urine dipstick shows trace proteins, while a blood test shows raised eosinophils. The most likely diagnosis is:

a. Acute tubulointerstitial nephritis
b. Renal failure
c. Diabetes mellitus
d. UTI
e. Reactive arthritis

48. A 58-year-old African man presents with pitting oedema of his ankles. He suffers from recently diagnosed hypertension, but is otherwise healthy. Blood results show low albumin and a urine dipstick is positive for protein. The most appropriate initial treatment is:
a. High protein diet  
b. Diuretics  
c. Prophylactic anticoagulation  
d. ACE inhibitor  
e. Bed rest  

49. A 33-year-old woman presents with severe right flank pain. The pain started 3 hours ago and is not constant, occasionally moving towards her right iliac fossa. The patient also feels nauseous and has a low-grade fever. The most appropriate investigation is:
   a. Abdominal x-ray  
b. Magnetic resonance imaging (MRI) scan  
c. Intravenous urography  
d. Computed tomography (CT) scan  
e. Abdominal ultrasound (US) scan  

50. A 42-year-old diabetic Asian male complains of dysuria, increased urinary frequency and general malaise for the past six months. In the last few days, he has noticed blood in the urine. Examination of the urine shows the presence of neutrophils with no organisms detected on urine culture. The most likely diagnosis is:
   a. Tuberculosis  
b. Renal cell cancer  
c. Diabetic nephropathy  
d. Bladder cancer  
e. Nephritic syndrome  

51. A 17-year-old patient is referred by his GP after presenting with periorbital oedema. The patient noticed the oedematous eyes 3 days ago, but reports feeling unwell since a throat infection 3 weeks ago with nausea and vomiting in the last week. A urine dipstick is positive for protein and blood while serum creatinine and urea are mildly deranged. The most likely diagnosis is:
   a. Nephrotic syndrome  
b. Nephritic syndrome  
c. Renal failure  
d. Glomerulonephritis  
e. Von Grawitz tumour  

52. A 28-year-old woman who is 13 weeks pregnant presents for an antenatal clinic appointment. The patient feels embarrassed when asked to provide a urine sample and produces enough for a urine dipstick test only which is positive for leucocytes and nitrites. The patient denies any symptoms. The most appropriate treatment is:
   a. Trimethoprim  
b. Quinolone  
c. Tetracycline  
d. Cephalexin  
e. Ampicillin  

53. A 32-year-old builder presents in accident and emergency in a distressed state. Hereports suffering from chest pain for the last 2 weeks, the pain is sharp and only occurs when he moves heavy objects. He has a family history of cardiovascular disease and is worried about a heart attack. His blood gas findings are as follows:
   pH=7.47; PCO2 =33; PO2=15.3; bicarbonate=17.53. The most likely diagnosis is:
   a. Respiratory acidosis with metabolic compensation  
b. Acute metabolic acidosis  
c. Respiratory alkalosis with metabolic compensation  

54. A 21-year-old woman complains of urinary frequency, nocturia, constipation and polydipsia. Her symptoms started 2 weeks ago and prior to this she would urinate twice a day and never at night. She has also noticed general malaise and some pain in her left flank. A urine dipstick is normal. The most appropriate investigation is:
   a. Serum phosphate  
b. Serum calcium  
c. Parathyroid hormone (PTH)  
d. Plasma glucose  
e. Serum potassium  

55. A 58-year-old man presents with breathlessness, he reports feeling unwell over the last three months with nausea, vomiting and difficulty breathing. You notice his ankles are swollen and he has bruises on his arms. The patient mentions he has not been urinating as often as normal. The most appropriate investigation is:
   a. Urine microscopy  
b. Renal ultrasound  
c. Serum electrolytes, urea and creatinine  
d. Renal biopsy  
e. Chest x-ray  

56. A 24-year-old man presents with a four-month history of abdominal pain which has been getting worse. The patient describes the pain as generalized, dull in character and does not radiate but often occurs alongside loin pain. An irregular mass is palpable in both flanks and a mid-systolic click can be auscultated. The most appropriate investigation is:
   a. MRI scan  
b. Abdominal US scan  
c. Excretion urography  
d. CT scan  
e. Abdominal x-ray  

57. A 55-year-old woman is seen in clinic, she has a ten-year history of type 2 diabetes treated with glibenclamide. Her blood pressure is 148/93 with new onset proteinuria, her serum results show elevated lipid levels, glycated haemoglobin of 5.5 per cent and fasting glucose of 6.0 mmol/L. A renal biopsy shows the presence of Kimmelstiel–Wilson lesions. The most appropriate management is:
   a. Increase oral hypoglycaemic dosage  
b. ACE II antagonists  
c. Start cholesterol lowering therapy  
d. Start ACE inhibitors  
e. Start renal dialysis  

58. A 52-year-old man complains of a 3-week history of malaise and shortness of breath. He has lost weight in the last few months but attributes this to a loss of appetite possibly due to stress at work. On examination, he has a palpable mass in the right lumbar region. He has no urinary symptoms. However, the urine dipstick detected blood. The most likely diagnosis is:
   a. Renal abscess  
b. Renal cyst  
c. Renal carcinoma  
d. Adrenal tumour  
e. Pyelonephritis
59. A 37-year-old man presents with a 5-day history of haematuria. Abdominal examination is unremarkable. Urine analysis reveals hypercalciuria and excretionurography reveals small calculi within the papilla of the patient’s right kidney. The patient has presented several times in the past with UTIs and renal stones, but is otherwise healthy. The most likely diagnosis is:
   a. Medullary sponge kidney
   b. Renal cell carcinoma
   c. Medullary cystic disease
   d. Horse-shoe kidney
   e. Tertiary hyperparathyroidism

60. A 38-year-old woman presents to her GP with a 2-week history of dysuria, haematuria and shortness of breath. She suffers from chronic headaches and has been taking ibuprofen to treat them. She has a history of cardiovascular disease in the family and a friend recommended she use aspirin to keep healthy. The most appropriate investigation is:
   a. Retrograde pyelography
   b. Renal biopsy
   c. Abdominal x-ray
   d. Antegrade pyelography
   e. CT scan of the kidney

61. A 64-year-old man is undergoing treatment for polycythemia vera with chemotherapy, he has no other medical problems. Shortly after starting treatment, the patient becomes lethargic, feels unwell and suffers weight loss. He attributes this to the chemotherapy. After 2 weeks, the patient becomes oliguric, complains of bilateral flank pain and becomes oedematous. The most likely diagnosis is:
   a. Analgesic nephropathy
   b. Renal infarction
   c. Hyperuricaemic nephropathy
   d. Acute tubulointerstitial nephritis
   e. Chronic renal failure

62. A 67-year-old diabetic female is brought in following a collapse at her home. She was found by her daughter who said she saw the patient going to the toilet and then hearing her collapse. The patient did not lose consciousness and appears well. Her supine blood pressure is 100/70 and standing 115/79. Urine dipstick is positive for protein only and blood. The most likely diagnosis is:
   a. Diabetic ketoacidosis
   b. UTI
   c. Orthostatic hypotension
   d. Diabetic nephropathy
   e. Hypoglycaemia

63. An 18-year-old man presents with general malaise and lethargy for the last 2 weeks, he denies any weight loss and has maintained a good appetite. On examination, there are no abnormalities except for a sacral oedema and a polypnomic wheeze. Urine dipstick is positive for protein only and blood pressure is 140/90. The most likely diagnosis is:
   a. Nephritic syndrome
   b. Nephrotic syndrome
   c. Goodpasture’s disease
   d. Thin-basement membrane nephropathy
   e. Minimal change glomerulonephritis

64. A 6-year-old has a sore throat and has been given antibiotics. Three weeks later, he represents feeling feverish with nausea, vomiting and tea-coloured urine. Urine dipstick confirms haematuria and protein. Blood pressure is 100/60 mmHg. The most likely diagnosis is:
   a. Nephritic syndrome
   b. UTI
   c. Acute tubulointerstitial nephritis
   d. Minimal change glomerulonephritis
   e. Post streptococcal glomerulonephritis

65. A 21-year-old man complains his urine has turned a faint red in the last week. He denies any significant changes in his diet or lifestyle and has no other medical problems except for sensorineural deafness diagnosed when he was young. On examination, you notice retinal flecks and urine dipstick confirms protein and blood. The most likely diagnosis is:
   a. Alport’s syndrome
   b. Benign familial haematuria
   c. Wolfram syndrome
   d. IgA nephropathy
   e. Down’s syndrome

66. A 65-year-old overweight man presents with a 2-week history of haematuria. The patient denies any other symptoms and his blood pressure is 128/83 mmHg. He suffers from no other medical problems but admits to being a chronic smoker since the age of 16. He has tried to lose weight using herbal remedies for three years, but he has only noticed significant weight loss in the last week despite stopping the remedies months ago. The most likely diagnosis is:
   a. Chinese herb nephropathy
   b. Bladder cancer
   c. Schistosomiasis
   d. Acute tubulointerstitial nephritis
   e. Renal cancer

67. A 53-year-old man with HIV suffers a ruptured aortic aneurysm and is rushed into theatre, he undergoes a successful operation and is recovering on the wards in anastomable condition. One day after the operation, he becomes oliguric with mildly elevated urea and creatinine. After 1 week, he becomes polyuric with a GFR of 30. The most likely diagnosis is:
   a. Haemolytic-uraemic syndrome
   b. Acute tubular necrosis
   c. SIADH
   d. HIV nephropathy
   e. Acute renal failure

68. A 64-year-old woman with type 1 diabetes presents to clinic with several months of sinus problem and a 4-day history of oliguria. Her blood pressure is 137/80, serum results show mildly elevated urea and creatinine, absence of anti-GBMAntibodies, while a C-ANCA assay is positive. Red blood cell (RBC) casts are present in the urine and her renal biopsy reveals glomerular crescents. The most likely diagnosis is:
   a. Post-streptococcal glomerulonephritis
   b. Goodpasture’s syndrome
   c. Minimal change glomerulonephritis
   d. Rapidly progressive glomerulonephritis
   e. Wegener’s granulomatosis

69. A 68-year-old obese Asian man is seen in the hypertension clinic. His blood pressure is 151/93 and he suffers from poorly controlled type 2 diabetes. Blood results demonstrate elevated serum urea and creatinine. An ultrasound scan shows asymmetry between the two kidneys and on examination audible abdominal bruits are auscultated. Urine dipstick did not detect any blood or protein. The best investigation is:
   a. CT angiography
   b. Doppler ultrasonography
   c. Abdominal x-ray
   d. Thin-basement membrane nephropathy
   e. Post streptococcal glomerulonephritis
d. Renal arteriography

70. A 63-year-old woman presents in accident and emergency with a 3-day history of worsening abdominal pain and mild flank pain. Examination reveals pain in the suprapubic region, but otherwise the abdomen is soft with no masses. The patient denies any other symptoms, such as dysuria, but mentions she has had difficulty passing urine in the last week and is only able to provide a small urine sample which is odorous and bloody. She has no other medical problems, but admits to being a long-term smoker. An ultrasound scan of the renal system is most likely to show:
   a. Bladder dilation
   b. Ureteral stricture
   c. Bilateral hydronephrosis
   d. Renal cysts
   e. Renal cancer

71. A 19-year-old man is recently diagnosed with type 1 diabetes and attends your clinic to ask about possible complications in the future. He mentions an uncle who has end-stage renal disease due to poorly controlled diabetes and specifically enquires about testing for early signs of renal impairment. The most appropriate investigation is:
   a. Blood pressure
   b. Microalbuminuria
   c. Serum creatinine
   d. Serum electrolytes
   e. Urine dipstick for glucose

72. A 21-year-old man presents with lethargy over the last week, he has periorbital oedema and proteinuria. The patient mentions he has been to hospital a number of times in the past due to the same symptoms as well as mild eczema. Light microscopy of a renal biopsy showed normal morphology. Electron microscopy of the renal biopsy reveals the diffuse effacement of the epithelial podocytes. The most appropriate treatment is:
   a. Cyclosporin
   b. No treatment
   c. Probenecid
   d. Renal transplant
   e. Oral prednisone

73. A 49-year-old woman attends your clinic suffering from chronic renal failure due to progressive glomerular disease. She appears well and her blood pressure is 141/92 mmHg. Blood tests reveal elevated phosphate, serum creatinine and urea, while calcium levels are low. Her estimated glomerular filtration rate is 35 mL/min/1.73 m². You also notice the patient's cholesterol levels are moderately raised. The most appropriate management is:
   a. Sevelamer
   b. Parathyroidectomy
   c. Oral vitamin D
   d. Cinacalcet
   e. Renal dialysis

74. A 66-year-old woman with poorly controlled type 2 diabetes presents with a 2-day history of severe pain in the right flank, nausea and fevers that come and go. On examination, the patient appears unwell, sweaty and has visible rigors with a temperature of 38°C. The patient denies any recent travel. Urine dipstick is positive for protein, blood, leukocytes and nitrates. A CT scan of the abdomen reveals gas in the renal parenchyma area. The most likely diagnosis is:
   a. Renal stones
   b. Renal infarction
   c. Diabetic nephropathy
   d. Renal TB
   e. Pyelonephritis
Nephrology - Answers

1. a  
2. a  
3. b  
4. e  
5. b  
6. c  
7. c  
8. a  
9. a  
10. b  
11. b  
12. b  
13. d  
14. d  
15. c  
16. d  
17. e  
18. d  
19. e  
20. d  
21. c  
22. b  
23. a  
24. e  
25. c  
26. a  
27. a  
28. d  
29. b  
30. c  
31. e  
32. b  
33. b  
34. c  
35. d  
36. b  
37. d  
38. d  
39. e  
40. b  
41. a  
42. b  
43. e  
44. a  
45. c  
46. e  
47. a  
48. b  
49. e  
50. a  
51. d  
52. d  
53. e  
54. b  
55. c  
56. b  
57. d  
58. c  
59. a  
60. e  
61. c  
62. b  
63. e  
64. e  
65. a  
66. b  
67. b  
68. e  
69. d  
70. c  
71. b  
72. e  
73. a  
74. e