1. white infarcts
   a. may be transiently red
   b. occur in the intestine
   c. result from venous occlusion
   d. are always septic
   e. occur predominantly in the liver

2. the first thing that occurs in acute inflammation is
   a. vasodilation
   b. increased permeability
   c. diapedesis
   d. vasoconstriction
   e. stasis

3. which cell type is found predominantly in the periarteriolar sheaths in the white pulp of the spleen and paracortical areas of the lymph nodes
   a. B lymphocyte
   b. Neutrophil
   c. Mast cell
   d. T lymphocyte
   e. Macrophage

4. hyperacute transplant rejection is due to
   a. vasculitis
   b. fibrosis
   c. immune complex deposition
   d. fibroblasts
   e. fibrinoid reaction in arterial walls

5. what best defines the pathophysiology underlying shock
   a. widespread tissue hypoxia as a result of decreased blood volume/ineffective blood volume
   b. lactic acid production
   c. low cardiac output
   d. decreased blood volume
   e. cellular hypoxia resulting from impaired tissue perfusion

6. which is an AIDS-defining illness
   a. Salmonella enteritis
   b. Hodgkins lymphoma
   c. Invasive cervical cancer
   d. EBV
   e. X

7. regarding HIV, which is correct
   a. the decrease in CB8+ T cells is greater than the decrease in CD4+ T cells
   b. patients are able to mount antibody responses to new antigens
   c. there is increased delayed type hypersensitivity
   d. it causes polyclonal hypergammaglobulinaemia
   e. there is increased chemotaxis

8. to which 2 organs do tumours most commonly spread haematogenously
   a. lungs and brain
   b. liver and lungs
   c. x
   d. x
9. all of the following are DNA viruses except
   a. CMV
   b. HIV
   c. VZV
   d. HSV
   e. EBV

10. Rickettsial infections
    a. Predominantly involve endothelial cells
    b. Are spread via the airborne route
    c. x
    d. X
    e. x

11. regarding the oral contraceptive pill – it is protective against
    a. venous thrombosis
    b. breast carcinoma
    c. cervical carcinoma
    d. ovarian carcinoma
    e. hepatic adenoma

12. regarding electrical injuries; which is correct
    a. all body tissue conduct equally
    b. amperage is not important
    c. massive skin burns may cause death
    d. dry skin is a good electrical conductor
    e. x

13. a man is brought into ED with heart failure and has a cardiac index of 81. which is most likely to cause this
    a. thiamine deficiency
    b. myocardial ischaemia
    c. vitamin B6 deficiency
    d. vitamin B12 deficiency
    e. arrhythmia

14. a deficiency of which can cause heart failure
    a. pyridoxine
    b. vitamin D
    c. vitamin C
    d. zinc
    e. thiamine

15. regarding air embolism, what amount of gas is required to produce symptoms
    a. 10mL
    b. 20mL
    c. 100mL
    d. 1000mL
    e. 1mL

16. regarding atrophy, all are correct except
    a. persistence of residual bodies
    b. decreased myofilaments
    c. decreased rough endoplasmic reticulum
    d. decreased autophagic vacuoles
    e. decreased smooth endoplasmic reticulum
17. which of the following is an example of hypertrophy
    a. increase in the size of the liver after partial hepatectomy
    b. increase in the size of the female breast
    c. increased respiratory epithelium in response to vitamin A deficiency
    d. increase in the size of the female uterus in pregnancy
    e. increased thickness of endometrium during the menstrual cycle

18. which of the following is true of nephrotic syndrome
    a. albumin is lost, but other globulins are unaffected
    b. hypertension results
    c. there is alteration in serum lipid levels
    d. there is increased sodium and water excretion
    e. there is haematuria

19. in chronic renal failure, morphology includes
    a. glomerular hyperplasia with dilation of tubules
    b. slowing of filtrate through the loop of Henle
    c. decreased pressure in the glomerulus
    d. hyperplasia of nephrons
    e. hypertrophy of nephrons

20. the type of emphysema most commonly associated with smoking is
    a. centrilobular
    b. paraseptal
    c. panacinar
    d. bullous
    e. irregular

21. the most common haemodynamic mechanism of pulmonary oedema is
    a. lymphatic obstruction
    b. decreased oncotic pressure
    c. increased oncotic pressure
    d. increased hydrostatic pressure
    e. x

22. conjugated hyperbilirubinaemia results from
    a. Gilberts syndrome
    b. Physiologic jaundice
    c. Excess production of bilirubin
    d. Decreased hepatic uptake
    e. Cholestasis

23. regarding hepatic failure
    a. occurs with loss of approximately 60% of functional liver capacity
    b. encephalopathy is a result of increased ammonia production
    c. the liver is the predominant site of synthesis of albumin
    d. x
    e. x

24. what happens to particles 1-5 micrometers in diameter?
    a. They are deposited in the nose
    b. They lodge in the trachea and bronchi
    c. They are phagocytosed by pulmonary alveolar macrophages
    d. X
    e. X
25. The pathogenicity of Mycobacterium tuberculosis is due to
   a. impaired antibody response
   b. hypersensitivity response to products of tuberculosis bacteria
   c. expanding granuloma
   d. caseous necrosis
   e. direct host cell killing by the bacillus

26. Regarding obstructive atelectasis
   a. the mediastinum moves away from the lesion
   b. it involves the reabsorption of air
   c. it is caused by pleural fluid
   d. it may be due to mesothelioma
   e. ARDS is a feature

27. Regarding non-atopic asthma
   a. x
   b. x
   c. x
   d. x
   e. is mainly triggered by viral respiratory illnesses

28. Atherosclerosis
   a. predominantly affects large and medium sized arteries
   b. is characterised by thickening of the media of arteries
   c. when advanced is rarely calcified
   d. commonly affects the renal arteries
   e. produced lesions commonly containing neutrophils

29. Which combination represents the major risk factors for atherosclerosis
   a. hypertension, male gender, age, family history
   b. hypertension, sedentary lifestyle, obesity and family history
   c. x
   d. increased lipids, cigarette smoking, hypertension, diabetes mellitus
   e. x

30. Infective endocarditis
   a. is most commonly caused by Staphylococcus aureus
   b. is most commonly caused by streptococci
   c. involves abnormal valves in most acute cases
   d. is confirmed by positive blood cultures in less than 50% of cases
   e. may cause MacCallum’s plaques to form on affected valves

31. Which is NOT a cause of megaloblastic anaemia
   a. pregnancy
   b. folate/B12 deficiency
   c. EBV infection
   d. Neoplasia
   e. Hyperthyroidism

32. In iron deficiency
   a. there is increased serum ferritin
   b. there is decreased transferrin saturation
   c. there is decreased total iron binding capacity
   d. a normal haematocrit
   e. normal mean red cell volume
33. regarding acute pancreatitis
   a. less than 5% are idiopathic
   b. 35% of patients with gallstones develop pancreatitis
   c. Gallstones are present in 80% of cases
   d. Trypsin plays a central role in the activation of the kinin system
   e. involves acinar cell injury as a late event

34. which of the following may occur in acute pancreatitis
   a. hypercalcaemia
   b. glycosuria
   c. x
   d. x
   e. x

35. regarding hepatitis C
   a. has a high association with sexual transmission
   b. transmission increases during pregnancy
   c. greater than 50% become chronic
   d. x
   e. x

36. regarding type I diabetes mellitus
   a. it is due to decreased peripheral insulin receptors
   b. it is more severe in pregnancy
   c. insulin levels are normal or increased
   d. there is early insulinitis
   e. there is a 50% concordance in twins

37. in chronic renal failure, morphology includes
   a. glomerular hyperplasia with dilation of tubules
   b. slowing of filtrate through the loop of Henle
   c. decreased pressure in the glomerulus
   d. hyperplasia of nephrons
   e. hypertrophy of nephrons

38. regarding fatty change – which is INCORRECT
   a. it may result from protein malnutrition
   b. fatty acids are oxidised in the mitochondria
   c. it may result from diabetes mellitus
   d. It may represent unmasking of normal fat cell content
   e. X

39. regarding chronic inflammation
   a. it is characterised by hyperaemia, oedema, and leukocyte infiltration
   b. monocytes use the same chemotactic pathways as neutrophils
   c. it is always preceded by acute inflammation
   d. it most frequently results in resolution
   e. x

40. which type of emphysema is most commonly associated with smoking and chronic bronchitis
   a. centriacinar
   b. panacinar
   c. irregular
   d. paraseptal
   e. bullous
41. in the diagnosis of renal hypertension
   a. x
   b. 60% of cases of reno-vascular hypertension are due to fibromuscular dysplasia
   c. Malignant hypertension only occurs in patients with previous hypertension
   d. Onion skinning is proportional to the degree of renal failure
   e.

42. regarding ribosomes
   a. there are 3 subunits
   b. they are 65% DNA
   c. they synthesise haemoglobin
   d. they contain 30% DNA
   e. x

43. a patient has chest pain which is thought to be due to coronary artery vasoconstriction, this is likely to be due to
   a. Hypoxia
   b. Acetylcholine
   c. Decreased ATP in cells
   d. The action of catecholamines on alpha-1 receptors
   e. Increased CO₂

44. features of post-mortem clot include
   a. lines of Zahn
   b. the absence of red blood cells in supernatant
   c. adherence to vascular wall
   d. firm consistency
   e. composition including platelets, fibrin, erythrocytes and leukocytes.

45. stress fractures
   a. do not incite a periosteal reaction
   b. result from repetitive stressors or abnormal axial loading
   c. x
   d. x
   e. x

46. with regard to wound healing
   a. neutrophils proliferate at the wound margins at the same time as epithelial proliferation occurs
   b. it is characterised by neovascularisation within the first six hours
   c. it is called secondary intention when a wound is created by a clean surgical incision
   d. leads to eventual scar formation within 24 hours
   e. is considered to be abnormal if granulation tissue appears by day 5

47. with respect to the changes in acute inflammation, which occurs first?
   a. Arteriolar dilation
   b. Arteriolar constriction
   c. Oedema
   d. Leukocyte margination
   e. Stasis of blood flow

48. ischaemic acute tubular necrosis is associated with
   a. Tubular obstruction by casts
   b. Distal necrosis only
   c. An intact basement membrane
   d. Predominantly proximal necrosis
   e. A maintenance stage consisting of polyuria
49. Which is correct regarding squamous cell carcinoma of the lung
   a. It has a 5-year survival rate of 60%
   b. It is commonly associated with cigarette smoking
   c. It is most commonly seen in females
   d. It is most commonly peripheral
   e. It metastasizes widely and at an early stage

   1. a  2. a  3. d  4. c  5. a
   6. c  7. d  8. b  9. b  10. a
   11. d  12. c  13. a  14. e  15. c
   16. d  17. b/d  18. c  19. ?  20. a
   21. d  22. e  23. c  24. c  25. b
   26. b  27. e  28. a  29. d  30. b
   31. c  32. b  33. d  34. b  35. c
   36. d  37. ?  38. d  39. b  40. a
   41. d  42. c  43. d  44. b  45. b
   46. a  47. b  48. a  49. b