Temple University School of Medicine
Department of Pathology and Laboratory Medicine
Pathology (D305) Lecture Examination II
October 16, 2008

IMPORTANT: Read the following instructions.

1. Fill in your name and the last four digits of your Temple identification number on your answer sheet and darken the corresponding circles with a #2 pencil.

2. There are fifty (50) items (questions) on this examination. There is only one answer to each item. Choose the best correct answer to a question or response to finish the statement of each item.

3. Use a #2 pencil to mark your answers on your answer sheet. Mark your answer right after you chose one. There is no extra time at the end of the examination. The examination time is one hour.

4. Keep your eyes on your own examination paper and answer sheet. Place your own examination paper and answer sheet on your table top and prevent them from being exposed to others.

5. Students are not allowed to bring electronic devices or other miscellaneous items to the examination.

6. Proctors are not allowed to explain questions during examination.

1. What is the crucial difference between neoplasia and hyperplasia?

A. Hyperplasia increases cell numbers more than neoplasia does.
B. Neoplasia loses responsiveness to normal growth control.
C. Hyperplasia steadily increases in cell size regardless of local environment.
D. Neoplasia is an independent growth and causes no harm to the host.
E. Necrosis often occurs in hyperplasia because it grows very rapidly.

2. Which of the following tumors usually has a thin fibrous capsule?

A. Squamous cell carcinoma
B. Basal cell cacrcinoma
C. Papilloma
D. Lipoma
E. Osteosarcoma

3. What is the generic term for a benign tumor of glandular tissue?

A. Glanduloma
B. Chondroma
C. Adenoma
D. Leiomyoma
E. Rhabdomyosarcoma

4. Which of the following is a characteristic feature of malignant cells?

A. Tripolar mitotic figures
B. Increase in cell size
C. Pyknotic nuclei
D. Multinucleated foreign body giant cells
E. Abundant cytoplasm

5. What is the most reliable indicator of malignant tumors?

A. Disorganized histological pattern
B. Persistent growth
C. Local expansion
D. Encapsulation
E. Spread to distant sites

6. Which of the following is an oncogene?

A. RB gene
B. BCL-2 gene
C. APC gene
D. TGF-beta gene
E. RAS gene

7. Which of the following is considered to be the most prevalent cancer suppressor gene?

A. PDFG gene
B. EGF receptor gene
C. ABL gene
D. P53 gene
E. MYC gene

8. What genetic alteration occurs in Philadelphia chromosome?

A. Translocation of ABL gene from chromosome 9 to chromosome 22
B. Deletion of RB gene from chromosome 13q14
C. Translocation of MYC gene from chromosome 8 to chromosome 14
D. Loss of p53 gene
E. Translocation of BCL-2 gene from chromosome 18 to chromosome 14

9. In order to attach to the extracellular matrix, what do cancer cells do?

A. Develop vascular endothelial growth factor
B. Secrete epidermal growth factor
C. Develop basic fibroblast growth factor
D. Secrete lysosomal enzymes
E. Develop laminin and fibronectin receptors

10. Which of the following is a significant etiologic factor for cervical cancer?

A. Benzo[a]pyrene
B. UV radiation
C. HPV types 16 and 18
D. Aflatoxin
E. Hepatitis B virus

11. What is the principal clinical manifestation of a patient with a wide-spread cancer?

A. Cachexia
B. Dyslaxia
C. Paraplegia
D. Ataxia
E. Cyanosis

12. Which of the following is a paraneoplastic syndrome?

A. Myocardial hypertrophy
B. Nonbacterial thrombotic endocarditis
C. Pulmonary thromboembolism
D. Cerebral hemorrhagic infarct
E. Aortic dissecting aneurysm

13. In histological evaluation of oral squamous cell carcinomas, which of the following has the most aggressive behavior?

A. All cancer cell islands contain keratin pearls with a minimal number of mitoses
B. Thin strands of anaplastic squamous cells with numerous mitoses
C. About 80% of cancer cell islands contain keratin pearls with some mitoses
D. About 30% of cancer cell islands contain keratin pearls with some mitoses
E. Sheets of cancer cells with a small number of keratin pearls and many mitoses

14. An 87-year-old man developed a squamous cell carcinoma in the right side of the floor of his mouth. The tumor mass measures 1.5 cm in its greatest dimension. The tumor tissue has spread to one lymph node on the left side of his neck. This lymph node also measures 1.5 cm. No distant metastasis to any organ was detected. What is the clinical staging of this cancer using TNM system?

A. T1N1M0
B. T2N2M1
C. T3N3M0
D. T4N2M1
E. T1N3M0

15. What is the clinical stage of the above cancer by using the AJC system?

A. Stage 0
B. Stage 1
C. Stage 2
D. Stage 3
E. Stage 4

16. What is the designation for clinical manifestations due to deficiency of total calorie?

A. Marasmus
B. Kwashiorkor
C. Anorexia nervosa
D. Cachexia
E. Bulimia

17. Deficiency of which of the following is most likely related to xerostomia, xerophthalmia, and follicular keratosis?

A. Cholesterol
B. Iron
C. Proteins
D. Vitamin A
E. Selenium

18. Which of the following is caused by deficiency of ascorbic acid?

A. Hemochromatosis
B. Diabetes
C. Scurvy
D. Metabolic acidosis
E. Pellagra

19. Which of the following can cause deficiency of active vitamin D?

A. Cerebral hemorrhage
B. Myocardial infarct
C. Pulmonary embolism
D. Chronic kidney disease
E. Ulcerative colitis

20. Growth retardation, male hypogonadism, dermatitis, and stomatitis are most likely manifestations of which of the following?

A. Excess HDL
B. Vitamin D intoxication
C. Zinc deficiency
D. Autoimmune reaction to parietal cells
E. Low fiber diet

21. Which of the following is the most important risk factor for atherosclerosis after age 45 years?

A. High levels of HDL
B. Hypertension
C. Diabetes mellitus
D. Low fat high fiber diet
E. Moderate consumption of ethanol

22. Which of the following causes hardening of the arterial wall in atherosclerosis?

A. Accumulation of triglycerides
B. Dystrophic calcification of cell debris
C. Liquefactive necrosis of vascular wall
D. Thrombosis in the vascular lumen
E. Metastatic calcification of perivascular tissues

23. What is the most common cause of secondary hypertension?

A. Liver cirrhosis
B. Myocardial hypertrophy
C. Chronic kidney diseases
D. Splenic infarction
E. Coronary atherosclerosis

24. Aortic dissection aneurysm most commonly occurs in which of the following?

A. Sjogren syndrome
B. Li-Fraumeni syndrome
C. Syphilis
D. Marfan syndrome
E. Pernicious anemia

25. Which vascular tumor frequently occurs on the palatal mucosa of AIDS patients?

A. Kaposi's sarcoma
B. Vascular hamartoma
C. Capillary hemangioma
D. Lymphangioma
E. Cavernous hemangioma

26. Immunologic attack of a recipient's tissue after receiving an allogeneic bone marrow transplant is the basis of:

(A) graft versus host disease.
B. Sjogren's disease.
C. CREST syndrome.
D. X-linked hypogammaglobulinemia.
E. IgA deficiency.

27. The principal class of antibody in type III hypersensitivity reactions is:

A. IgA.
B. IgD.
C. IgE.
(D) IgG.
E. IgM.

28. Human immunodeficiency virus (HIV) enters CD4 (+) T cells by binding which of the following cell surface molecules?

(A) CD4
B. the T cell receptor antigen-binding site
C. C3b receptor
D. Fc receptor
E. IL-1/TNF receptor

29. A pannus is:

A. a focus of granulomatous inflammation in the lung.
B. a blister on the side of the tongue due to amyloidosis.
C. a scar within bone following healing of an abscess within the myocardium.
(D) inflamed granulation tissue within the joint space in rheumatoid arthritis.
E. an abscess within the buccal mucosa due to trauma.

30 A patient with HLA-B27 haplotype has a 90-fold increased risk of developing:

A. rheumatoid arthritis.
(B) ankylosing spondylitis.
C. Sjogren's syndrome.
D. DiGeorge's syndrome.
E. systemic lupus erythematosus.

31. A 51-year-old woman with Raynaud's phenomenon, esophageal fibrosis, telangiectasia, and anti-centromere antibodies in her serum is most likely suffering from:

A. systemic lupus erythematosus.
B. systemic sclerosis.
C. DiGeorge's syndrome.
D. Graves disease.
E. CREST syndrome.

32. Which of the following diseases has the greatest risk for development of amyloidosis?

A. Systemic sclerosis
B. Anaphylaxis
C. Sjogren's syndrome
D. Multiple myeloma
E. Mesothelioma

33. Antibodies to which of the following antigens are more commonly found in the serum of patients suffering from systemic sclerosis than other autoimmune diseases?

A. Cytochrome c
B. HLA-B27
C. IgG
D. Scl-70
E. SS-A and SS-B

34. Hyperacute rejection of a kidney transplant is due to:

A. anaphylaxis.
B. a type IV hypersensitivity reaction.
C. presence of anti-donor tissue antibodies already present in the recipient.
D. a type I hypersensitivity reaction.
E. formation of granulomatous inflammation in the donor kidney.

35. An acute necrotizing vasculitis (fibrinoid necrosis) is a characteristic finding in:

A. type I hypersensitivity reactions.
B. Graves disease.
C. type IV hypersensitivity reactions.
D. hypersensitivity caused by immune complex formation.
E. myasthenia gravis.

36. An effect of chronic lead poisoning is:

A. myasthenia gravis.
B. atherosclerosis.
C. emphysema.
D. deposition of lead in mineralized tissue of bones and teeth.
E. Graves disease.

37. Inhaled asbestos particles are most likely to predispose the patient to:

A. rheumatoid arthritis.
B. anthracosis.
C. mesothelioma.
D. Sjogren syndrome.
E. systemic sclerosis.

38. Intravenous drug abuse poses a significant increase in risk for:

A. inflammation of the aorta.
B. rheumatoid arthritis.
C. lymphoma.
D. pituitary adenoma.
E. infective endocarditis.

39. Long-term (over 10 years) estrogen therapy (HRT) in post-menopausal women gives rise to greatest risk for:

A. liver cirrhosis.
B. renal carcinoma.
C. cervical cancer.
D. thromboembolism.
E. osteoporosis.

40. Following a dose of 200-500 cGy of total body ionizing radiation, the major clinical manifestations are the result of damage to:

A. bone marrow and intestinal epithelial lining.
B. the skeleton.
C. the skeletal muscles.
D. the heart.
E. the skin.

41. The breakdown product of ethanol that is hypothesized to cause most of the organ and tissue damage in chronic alcoholism is:

A. lactic acid.
B. N-acetyl glucosamine.
C. acetaldehyde.
D. bradykinin.
E. low molecular weight ketones.

42. Chronic ingestion of aspirin in doses > 3gm/day is associated with:

A. increased risk of oral carcinoma.
B. increased bleeding tendency.
C. psychological dependence.
D. systemic granulomatous inflammation.
E. amyloidosis.

43. In chronic alcoholism, sudden death is most likely to result from:

A. rupture of esophageal varices.
B. cerebral atrophy.
C. fatty change in the liver.
D. peripheral neuropathies due to poor diet.
E. early stages of cirrhosis.

44. Long-term inhalation of tobacco smoke predisposes to which of the following diseases?

A. Atherosclerosis
B. Hyperthyroidism
C. DiGeorge's syndrome
D. Amyloidosis of the tongue
E. Rheumatoid arthritis

45. The enzyme system most responsible for detoxification of exogenous chemicals is:

A. neutrophil myeloperoxidase.
B. lysozyme.
C. cytochrome P450 enzyme system.
D. NADPH oxidase.
E. phosphofructokinase.

46. Following herpes simplex II virus infection, the virus is latent within:

A. epithelial mucosa of the tonsils.
B. bone near site of primary infection.
C. B cells.
D. lymph nodes in the neck.
E. ganglia of nerves that innervate the primary site of infection.

47. A characteristic lesion or disease of tertiary syphilis is:

A. a pannus within the joints of the pelvis.
B. a marked decrease in circulating blood T cells causing immunosuppression.
C. Burkitt's lymphoma.
D. a gumma with destruction of tissue locally.
E. nasopharyngeal carcinoma.

48. A sulfur granule is:

A. the name given to abscesses that occur within the kidney.
B. partially calcified mass of necrotic tissue caused by ischemia.
C. a yellowish lesion of oral mucosal epithelium caused by herpes virus VIII.
D. a partially calcified mass of actinomyces organisms.
E. the name given to accumulated cholesterol in an atheromatous plaque.

49. The most common type of candidiasis that occurs due to immunosuppression is:

A. pseudomembranous candidiasis.
B. angular cheilitis.
C. median rhomboid glossitis.
D. chronic atrophic candidiasis.
E. chronic hyperplastic candidiasis.

50. Epstein-Barr virus has been implicated in which of the following diseases?

A. Adenoid cystic carcinoma of parotid glands
B. Burkitt's lymphoma
C. Rheumatoid arthritis
D. Hepatocellular carcinoma
E. Fibrosarcoma