

Name:_____

School:_____

PATHOLOGY 135
FINAL EXAMINATION

1. Print your NAME AND SCHOOL on the answer sheet and exam.
(DO NOT FILL IN THE BOXES ASKING FOR I.D. NUMBERS)
2. Use only a No. 2 pencil.
3. Make **NO** stray marks on your answer sheet.
4. Three hours will be allowed to complete the exam.
5. Turn in your answer sheet, exam and any borrowed pencils when you are done.
6. DO NOT START THE EXAM UNTIL YOU ARE INSTRUCTED.

FINAL EXAMINATION

Directions: Please place a mark in the space on the answer sheet corresponding to the single best answer.



1. What type of collagen is primarily found in scar tissue?
 - A. Type I
 - B. Type II
 - C. Type III
 - D. Type IV
 - E. Type V

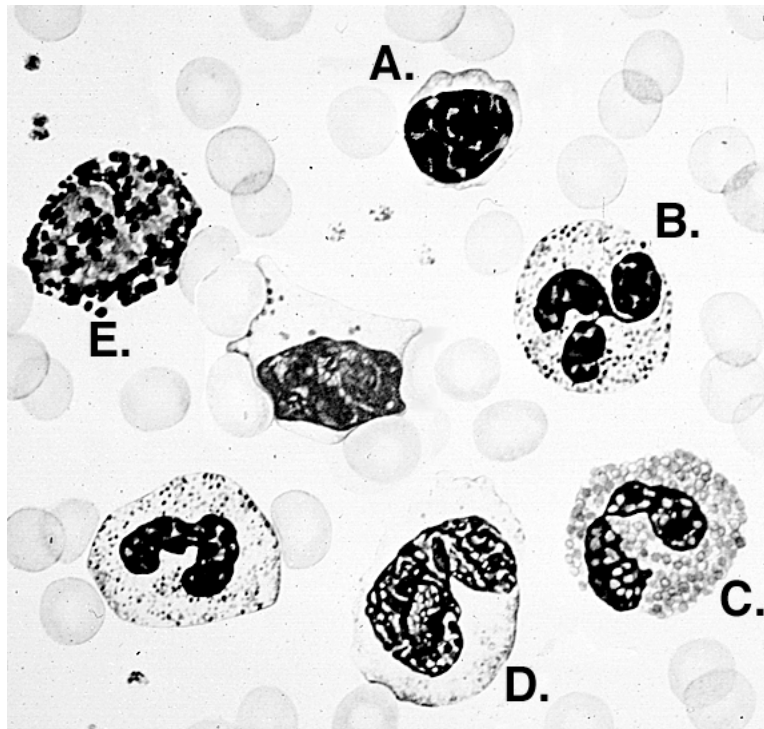
2. Choose the **INCORRECT** match:
 - A. cytopathic-cytoproliferative inflammation – cytomegalovirus hepatitis
 - B. exudative inflammation - leprosy
 - C. granulomatous inflammation – tuberculosis
 - D. interstitial inflammation - chronic HPV cervicitis
 - E. necrotizing inflammation – necrotizing staphylococcal pharyngitis

3. Which of the following is the **BEST** example of fibrinoid necrosis?
 - A. abscess
 - B. acute myocardial infarct
 - C. acute rheumatic fever
 - D. cryptococcal infection
 - E. tuberculosis

4. Among the following diseases, which is **LEAST** likely to be associated with metastatic calcification as a feature?
 - A. bronchogenic carcinoma
 - B. calcified pulmonary granuloma
 - C. hyperparathyroidism
 - D. leukemia
 - E. multiple myeloma

5. Metaplasia is defined as:
 - A. Change one adult cell type with another adult cell type (e.g., chronic bronchitis)
 - B. Decrease size of cells (e.g., dieting)
 - C. Increase in cell size due to increased synthesis of more structural proteins (e.g., arterial hypertension)
 - D. Increase in the number of cells (e.g., benign prostatic hypertrophy)
 - E. Proliferation and the loss of cell size, shape and orientation to the normal maturation of epithelial (e.g., cervix) or mesenchymal cells

6. Which leukocyte in this peripheral blood smear will be involved in a staphylococcal abscess?



7. Which of the following is an example of labile cells?
- A. endothelial cells
 - B. fibroblasts
 - C. germinal epithelium of the testes
 - D. neurons in adults
 - E. renal proximal tubular cells
8. In contrast to apoptosis, skeletal muscle atrophy is **MOST** likely:
- A. a form of reversible cell injury
 - B. a passive process that is not reversible
 - C. a rapid process due to the release of anabolic enzymes
 - D. often associated with an inflammatory response
 - E. triggered by hyperemia
9. A 32-year-old IV drug user with septic vegetation on her tricuspid valve develops multiple walled-off lesions in her lungs. Among the following, a lung biopsy from this patient would **MOST** likely show:
- A. caseous necrosis
 - B. fat necrosis
 - C. fibrinoid necrosis
 - D. gangrenous necrosis
 - E. liquefactive necrosis

10. Among the following consequences of injury, wound healing by primary union is **MOST** likely to:
- be complicated by bacterial contamination
 - have increased granulation tissue, as compared with healing by secondary union
 - involve a shorter period of time for complete wound remodeling compared to secondary union
 - scar formation would be more likely compared to secondary union
 - undergo more wound contraction, as compared with healing by secondary union
11. Which disease is generally thought of as a hypersensitivity type I reaction?
- asthma
 - Bruton's hypogammaglobulinemia
 - Goodpasture's disease
 - post-streptococcal glomerulonephritis
 - thymic dysplasia
12. Which of the following statements is **LEAST** likely?
- Cancer is the second leading cause of death in the United States.
 - Diagnosis of cancer requires only an x-ray or MRI.
 - Malignant tumors often metastasize.
 - Most benign tumors will not become malignant.
 - UV radiation exposure is the most common cause of skin cancers.
13. 

14. 

15. What cellular change **BEST** describes Barrett esophagus due to gastroesophageal reflux disease?
- apoptosis
 - anaplasia
 - dysplasia
 - hyperplasia
 - metaplasia

16.

[REDACTED]

[REDACTED]

17. Aging changes in various organs, which pairing is **INCORRECT**?

- A. brain: cortical atrophy
- B. lung: emphysema
- C. skeletal muscle: hypertrophy
- D. skin: decreased elasticity
- E. taste buds: atrophy

18. Among the following cells and functions, identify the **CORRECT** pairing:

- A. fibroblasts: promote collagen deposition
- B. macrophages: secrete immunoglobulins
- C. myofibroblasts: cause wound expansion
- D. neutrophils: produce nitric oxide
- E. T8 lymphocytes: involved in granuloma formation

19. Clotting factors are primarily synthesized by:

- A. endothelial cells
- B. hepatocytes
- C. leukocytes
- D. macrophages
- E. platelets

20. Among the following types of necrosis, which is associated with an acute myocardial infarct?

- A. caseous
- B. coagulative
- C. fat
- D. fibrinoid
- E. liquefactive

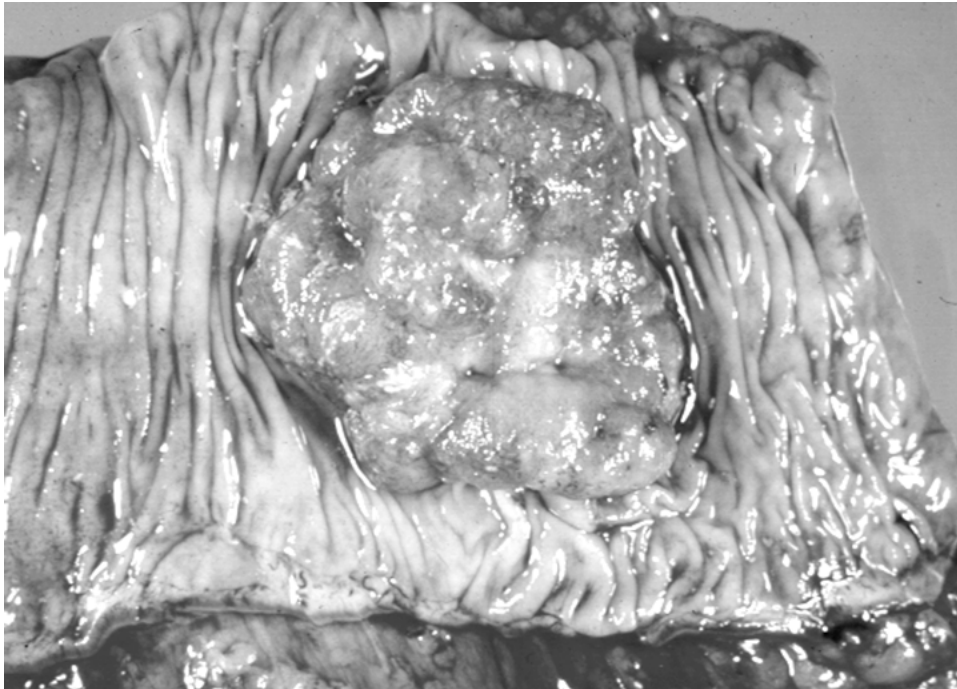
21. In a patient with type I hypersensitivity reaction, the cell that is **MOST** characteristic of the inflammatory infiltrate is the:

- A. basophil
- B. cytotoxic T8 lymphocyte
- C. eosinophil
- D. neutrophil
- E. plasma cell

22. Among the following pathologic features, which is **MOST** characteristic of malignant neoplasms?

- A. cells with low nuclear to cytoplasmic ratio
- B. cells with a lot of mitotic activity
- C. compression of surrounding tissues without invasion
- D. encapsulated
- E. reversible

23. Which of the following statements regarding this colon carcinoma is **LEAST** likely?



- A. Invasion has already occurred.
- B. Mitosis would be common.
- C. The nuclear/cytoplasm ratio is high.
- D. This particular type of neoplasm will eventually metastasize.
- E. This type of tumor probably arose from endothelial cells.

24. [REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

25.

[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

26. What is the adaptive response that has taken place in the left ventricular of the heart in a patient with systemic hypertension?

- A. atrophy
- B. dysplasia
- C. hyperplasia
- D. hypertrophy
- E. metaplasia

27. Which of the following viruses is associated with acute T-cell leukemia/lymphoma?

- A. cytomegalovirus
- B. Epstein-Barr virus
- C. herpes simplex II
- D. HTLV-1
- E. JC virus

28. The pathogenesis of thrombus formation due to oral contraception is dependent upon increased synthesis of clotting factors from:

- A. endothelial cells
- B. fibroblasts
- C. hepatocytes
- D. neutrophils
- E. smooth muscle cells

29. What is the **MOST** common cause of atypical pneumonia?

- A. *Adenovirus*
- B. *Klebsiella pneumoniae*
- C. *Staphylococcus aureus*
- D. *Streptococcus pneumoniae*
- E. *Streptococcus pyogenes*

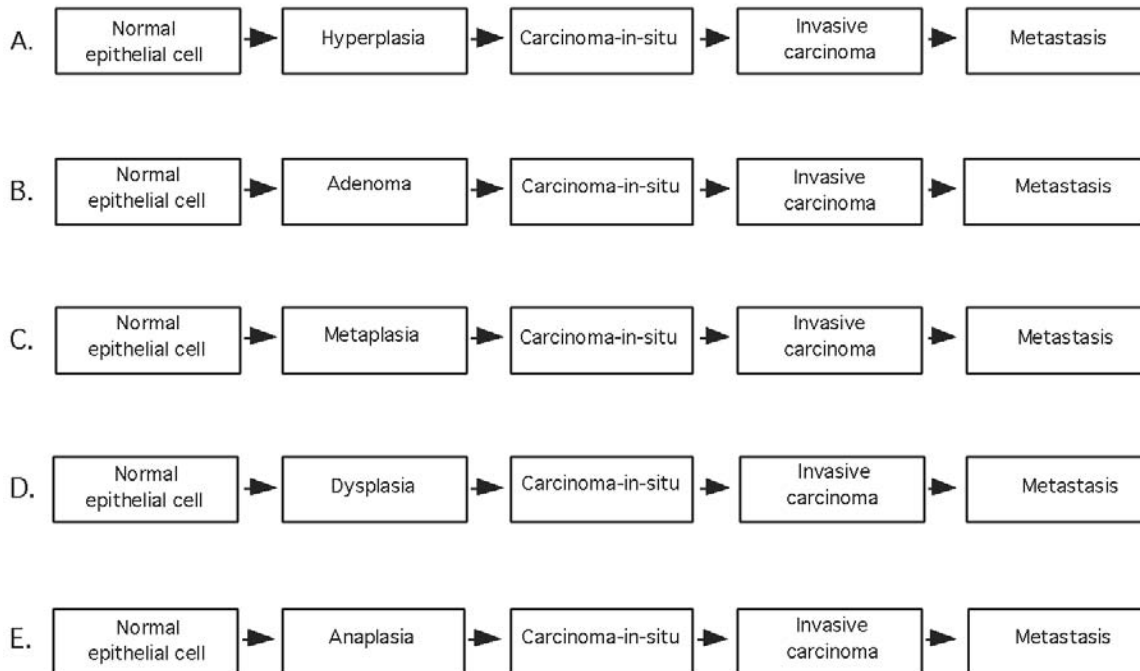
30. Which of the following histopathologic lesion is seen in the early stages of adult respiratory distress syndrome?

- A. diffuse interstitial fibrosis
- B. hyaline membranes
- C. microabscesses
- D. multiple granulomas
- E. multiple infarcts

31. Coccidioidomycosis:

- A. always begins in the skin.
- B. is found primarily in the southwest United States.
- C. is the most frequent cause of chronic fungal meningitis in AIDS patients.
- D. often produces type II hypersensitivity reaction.
- E. triggers acute rheumatic fever.

32. Among the following examples of possible tumor progression, which is **MOST** likely to occur in esophageal adenocarcinoma due to Barrett esophagus?



33. Among the following forms of tuberculosis, which is **MOST** likely to occur in primary tuberculosis?

- A. cavitory
- B. Ghon focus
- C. progressive pulmonary tuberculosis
- D. pulmonary miliary tuberculosis
- E. Simon focus

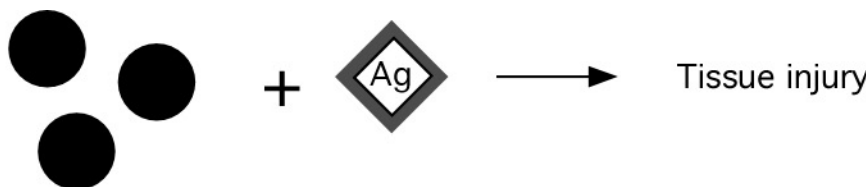
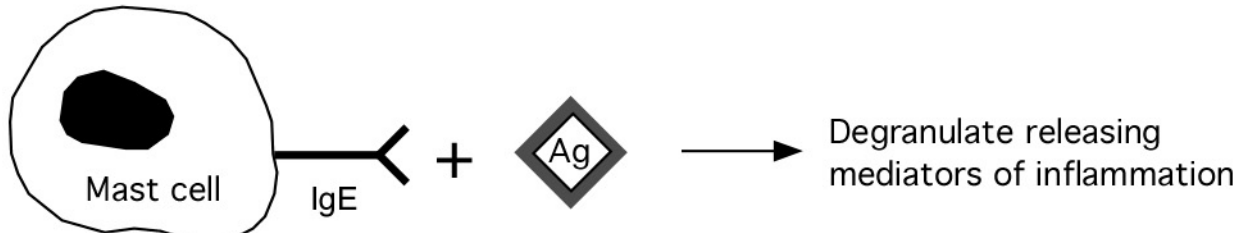
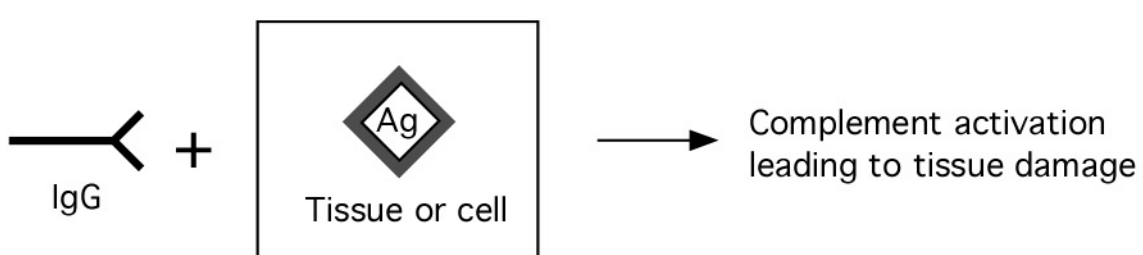
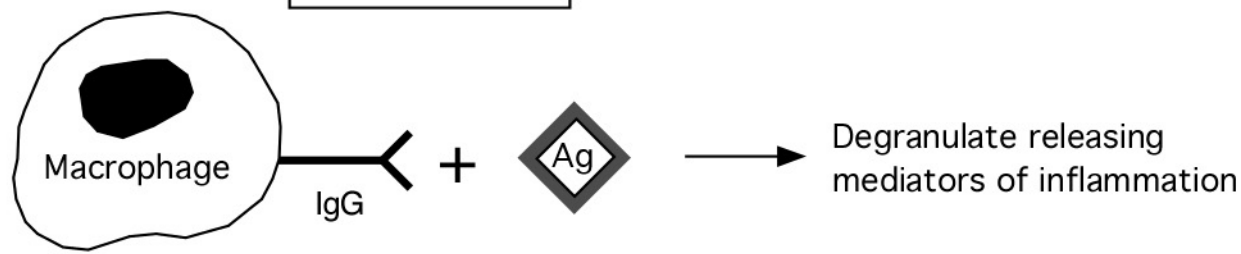
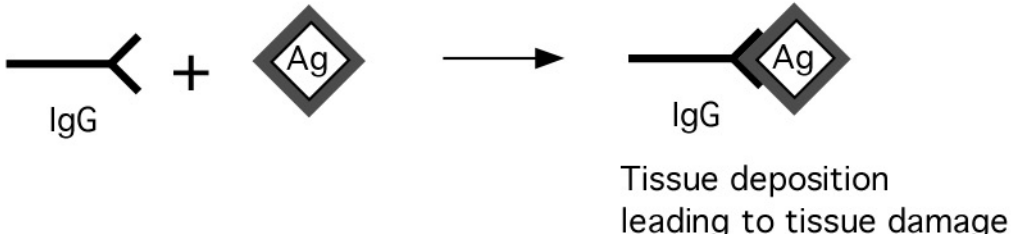
34. Which neoplastic process is associated with ultraviolet irradiation?

- A. angiosarcoma of the liver
- B. cervical squamous cell carcinoma
- C. leukemia
- D. malignant lymphoma
- E. melanoma

35. Which of the following conditions is responsible for bronchiectasis?
- A. acute bronchitis
 - B. adult respiratory distress syndrome
 - C. asthma
 - D. centriacinar emphysema
 - E. immotile cilia syndrome
36. Among the following characteristics of tumor tissue, the **MOST** reliable indicator of a malignant tumor is:
- A. cellular hyperchromasia and pleomorphism
 - B. compression of surrounding normal tissue
 - C. evidence of invasion
 - D. increased nuclear-to-cytoplasmic (N:C) ratio
 - E. numerous mitotic figures
37. Among the following pathophysiologic mechanisms, which is **MOST** likely to play a role in asthma?
- A. binding of C3a to eosinophils
 - B. decreased release and synthesis of cytokines
 - C. decreased smooth muscle responsiveness
 - D. smooth muscle hyperplasia
 - E. surface goblet cell hypoplasia
38. Among the following statements, regarding primary lung carcinoma, which one is **LEAST** likely to be true?
- A. Adenocarcinoma is the most common histologic type of non-small cell lung cancer.
 - B. Small cell carcinoma is characterized by gland formation.
 - C. Small cell carcinoma shows neuroendocrine differentiation and can present as a paraneoplastic syndrome.
 - D. The second common histologic variant of lung cancer is squamous cell carcinoma.
 - E. The most lethal histologic variant of lung cancer is small cell carcinoma.
39. An 82-year-old homeless woman was found comatose on a sidewalk in downtown San Jose. She had been drinking alcoholic beverages for the last three months everyday. She had vomit in her oral cavity when she was examined in the emergency room upon admission. Her admission chest x-ray was unremarkable; however, on her second hospital day, her chest x-ray showed patchy infiltrates throughout her lung fields consistent with a diagnosis of acute bronchopneumonia. Among the following, a lung biopsy from this patient would **MOST** likely show:
- A. abscess formation
 - B. diffuse interstitial fibrosis
 - C. granulomatous inflammation
 - D. hyaline membranes
 - E. numerous intra-alveolar lymphocytes

40. Among the following, which pathologic feature is **MOST** characteristic of an acute pulmonary hemorrhagic infarct due to a pulmonary embolus?
- A. coagulative necrosis
 - B. diffuse pulmonary hemorrhage
 - C. interstitial pulmonary fibrosis
 - D. lymphocytic interstitial inflammation
 - E. organizing intra-alveolar hemorrhage
41. Among the following clinical symptoms/signs, which is **LEAST** likely to be associated with nephritic syndrome:
- A. anuria
 - B. hematuria
 - C. hypertension
 - D. oliguria
 - E. massive proteinuria
42. Among the following pathologic findings, the **MOST** likely to be found in the lungs of a chronic bronchitic patient is:
- A. airway eosinophilic inflammation
 - B. Curshmann's spirals
 - C. eosinophils
 - D. submucosal glandular hyperplasia
 - E. smooth muscle hyperplasia
43. Which of the following is **LEAST** likely regarding autosomal dominant polycystic kidney disease (PCD)?
- A. Autosomal dominant PCD is characterized by cystic dilatations affecting the collecting tubules of both kidneys.
 - B. Autosomal dominant PCD is often associated with cysts in the liver and/or cerebral berry aneurysms.
 - C. Autosomal dominant PCD is often asymptomatic.
 - D. The autosomal dominant form of PCD affects the lungs, pancreas and spleen as well.
 - E. The autosomal dominant PCD form is more common than the autosomal recessive form of PCD.
44. Among the following primary lung cancers, which is **MOST** likely associated with men, smoking, paraneoplastic syndromes and usually located in the hilum of the lung?
- A. adenocarcinoma
 - B. anaplastic squamous cell carcinoma
 - C. large cell carcinoma
 - D. small cell carcinoma
 - E. squamous cell carcinoma

45. Which hypersensitivity mechanism is associated with Goodpasture's syndrome?

- A.  T lymphocytes → Tissue injury
- B.  Mast cell IgE + Ag → Degranulate releasing mediators of inflammation
- C.  IgG + Ag (in Tissue or cell) → Complement activation leading to tissue damage
- D.  Macrophage IgG + Ag → Degranulate releasing mediators of inflammation
- E.  IgG + Ag → IgG-Ag complex → Tissue deposition leading to tissue damage

46. Among the following statements regarding primary renal tumors, which is **LEAST** likely?
- A. Both renal cell carcinoma and Wilms tumor can metastasize.
 - B. Hematuria can be found in patients with both Wilms tumor and renal cell carcinoma.
 - C. Renal cell carcinoma occurs primarily in adults.
 - D. The incidence of renal cell carcinoma is not associated with cigarette smoking.
 - E. Wilm's tumor is most commonly diagnosed in early childhood.
47. Which one of the following sites is **LEAST** likely to be affected by atherosclerosis?
- A. aorta
 - B. circle of Willis
 - C. popliteal artery
 - D. right coronary artery
 - E. superior vena cava
48. [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
49. A 39-year-old individual presents with nephrotic syndrome. Among the following, the **MOST** likely diagnosis is:
- A. diabetic nephropathy
 - B. Goodpasture's syndrome
 - C. post-streptococcal glomerulonephritis
 - D. rapidly progressive glomerulonephritis
 - E. systemic lupus erythematosus
50. Among the following, the **LEAST** likely consequence of left-sided acute infective endocarditis is:
- A. brain abscess
 - B. eye abscess
 - C. liver abscess
 - D. lung abscess
 - E. renal abscess

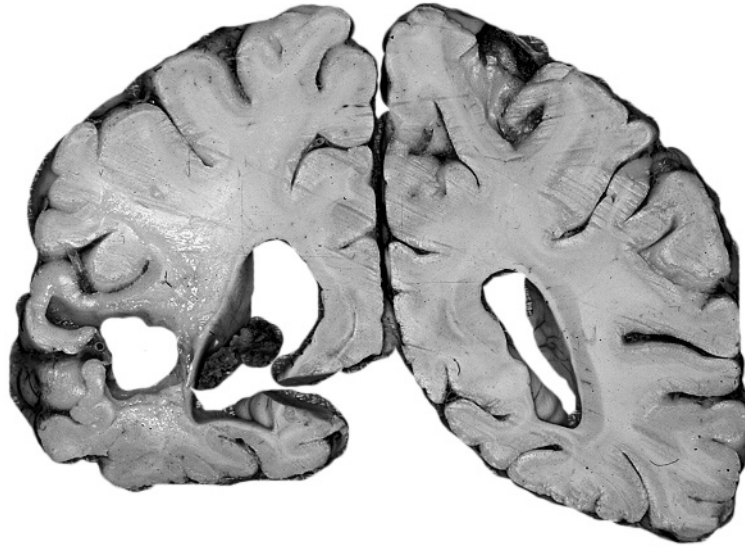
51. A 62-year-old woman had an acute myocardial infarct two weeks ago. She develops sepsis due to acute pneumonia and dies within three days. What is the **MOST** likely protein that the medical examiner would find in this person's myocardial infarct ?
- A. albumin
 - B. collagen type I
 - C. collagen type III
 - D. fibrin
 - E. fibrinogen
52. Among the following, which is **MOST** likely to lead to secondary pulmonary hypertension?
- A. atherosclerotic cerebral vascular disease
 - B. longstanding tricuspid stenosis due to chronic rheumatic valvular disease
 - C. ruptured abdominal aortic aneurysm
 - D. severe mitral stenosis
 - E. septic shock
53. A 62-year-old pharmacist with long-standing hypertension but otherwise in good health comes to the Emergency Room with a 6 hour history of substernal chest discomfort pain. Following diagnostic evaluation in the Emergency Room, the pharmacist is admitted for acute myocardial infarction. On the second hospital day, she dies suddenly. At postmortem examination, there is an acute myocardial infarct of the left ventricular wall. Among the following, the **MOST** likely cell to be abundant within the acute myocardial infarct would be:
- A. endothelial cell
 - B. fibroblast
 - C. macrophage
 - D. neutrophil
 - E. plasma cell
54. A 55-year-old woman with a prosthetic aortic valve develops fever (40°C) and has a new heart murmur. Echocardiography discloses a large vegetation on the prosthetic aortic valve. Three days into therapy, she develops sepsis and dies. At autopsy, the pathologist would **LEAST** likely find:
- A. liver abscess
 - B. myocardial abscess
 - C. pulmonary abscess
 - D. renal abscess
 - E. skin abscess
55. Which of the following is **MOST** likely regarding renal cell carcinoma?
- A. Metastasis is often an early sign of renal cell carcinoma due to early hematogenous spread to lungs, brain and bones.
 - B. Painless hematuria is the least common symptom.
 - C. Renal cell carcinoma is due to chronic ischemia.
 - D. Renal cell carcinoma is the third most common primary renal malignant tumor in adults.
 - E. Renal cell carcinoma originates from transitional epithelium of the renal pelvis.

56. Which of the following associations is **MOST** likely?
- A. ependymal cell – component of the blood brain barrier
 - B. microglia -- glial fibrillary acidic protein (GFAP)
 - C. nerve cell -- dendritic processes
 - D. oligodendrocyte – peripheral nerve
 - E. Schwann cell – central nervous system myelin
57. A 59-year-old man with Parkinson's disease expires. Histologic examination of the brain would **MOST** likely show
- A. cytoplasmic viral inclusions within cortical neurons with perivascular lymphocytic infiltrate
 - B. Lewy bodies in the neurons of the substantia nigra
 - C. nuclear viral inclusions within oligodendrocytes and reactive gliosis
 - D. senile plaques
 - E. vacuolization of the cortical neurons (spongiform change)
58. Which of the following associations is characteristic?
- A. Alzheimer's disease – neuritic plaques
 - B. amyotrophic lateral sclerosis – atrophy of cardiac muscle
 - C. Creutzfeldt-Jakob disease – spongiform degeneration of astrocytes
 - D. multiple sclerosis – Lewy bodies
 - E. Parkinson's disease – neurofibrillary tangles
59. A 58-year-old man undergoes aortic valve replacement for critical aortic valve stenosis due to chronic rheumatic valvular disease. Considering the pathophysiology of this man's condition, the **MOST** likely associated finding would be:
- A. dilated right ventricle
 - B. emphysema
 - C. hemosiderin-laden macrophages in the kidney
 - D. left ventricular hypertrophy and failure
 - E. right ventricular hypertrophy
60. A 66-year-old woman with chest discomfort and significantly elevated troponin I is diagnosed with an acute myocardial infarct of the anterior septum. The culprit vessel is **MOST** likely to be the:
- A. circumflex artery
 - B. distal right coronary artery
 - C. left anterior descending coronary artery
 - D. nodal artery
 - E. right main coronary artery
61. Adults with right ventricular hypertrophy would **MOST** likely have a history of:
- A. acute rheumatic fever
 - B. arterial hypertension
 - C. congenital bicuspid aortic valve
 - D. infective endocarditis
 - E. ruptured chordae tendineae

62. Which of the following is **MOST** characteristic of multiple sclerosis?

- A. loss of oligodendrocytes
- B. microinfarcts of the white matter
- C. periaxonal infiltration by lymphocytes and plasma cells
- D. periventricular and asymmetrical location of plaques
- E. reactive fibroblastic "scar"

63. Which of the following conditions would **MOST** likely explain the gross specimen shown below?



- A. Alzheimer's disease
- B. bacterial meningitis
- C. cerebral infarct
- D. hypertension
- E. multiple sclerosis

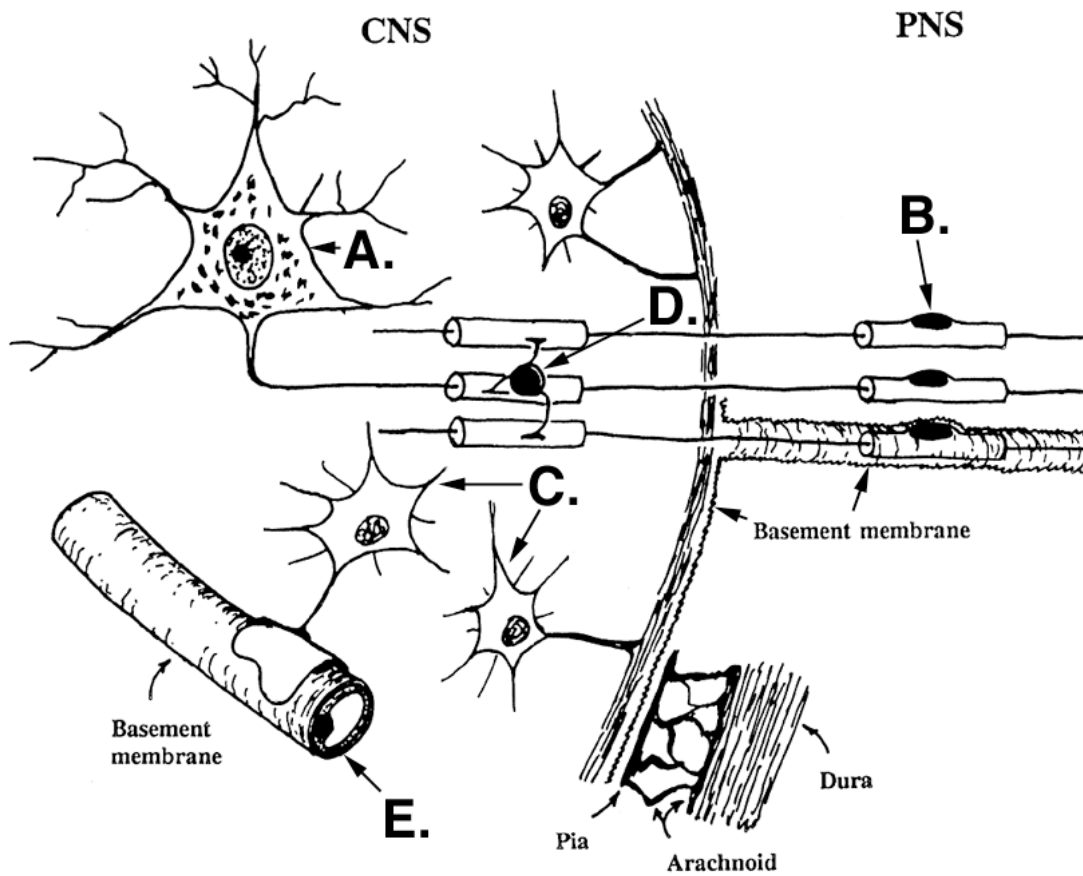
64. The **MOST** common primary central nervous system neoplasm in adults is:

- A. astrocytoma
- B. glioblastoma multiforme
- C. medulloblastoma
- D. meningioma
- E. neuroblastoma

65. Among the following cell types, which one is **MOST** likely to be affected in Parkinson's disease?

- A. astrocyte
- B. microglia
- C. neuron
- D. oligodendrocyte
- E. Schwann cell

66. The clinical manifestations of Creutzfeldt-Jakob disease is direct injury to:



67. What is the principle cell that is affected in glioblastoma multiforme?

- A. See illustration above in question 66
- B. See illustration above in question 66
- C. See illustration above in question 66
- D. See illustration above in question 66
- E. See illustration above in question 66

68.



69.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

70.

[REDACTED]

[REDACTED]

[REDACTED]

71.

[REDACTED]

[REDACTED]

[REDACTED]

72.

[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

73.

[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

74.

[REDACTED]

[REDACTED]

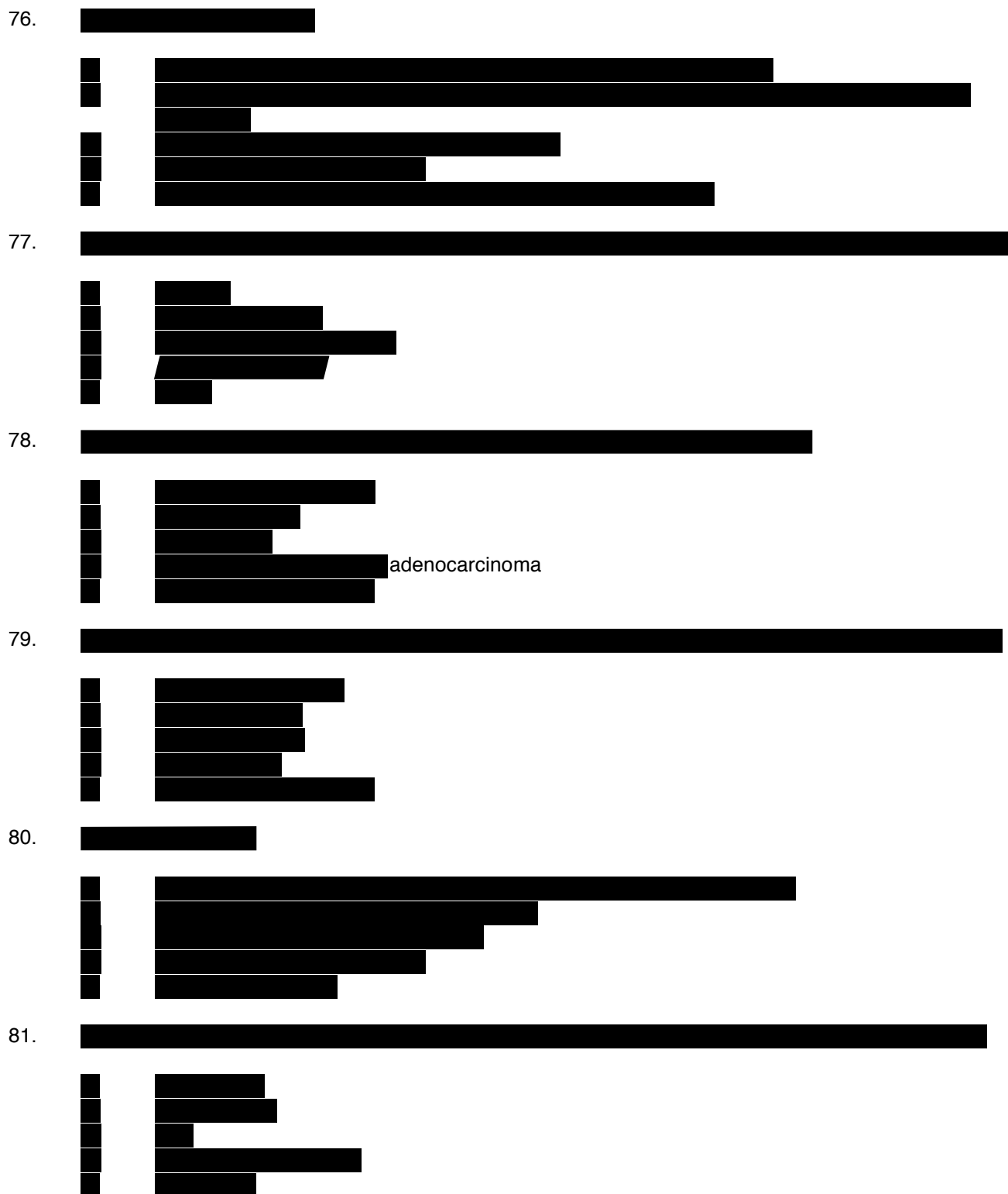
[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

75.

[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]



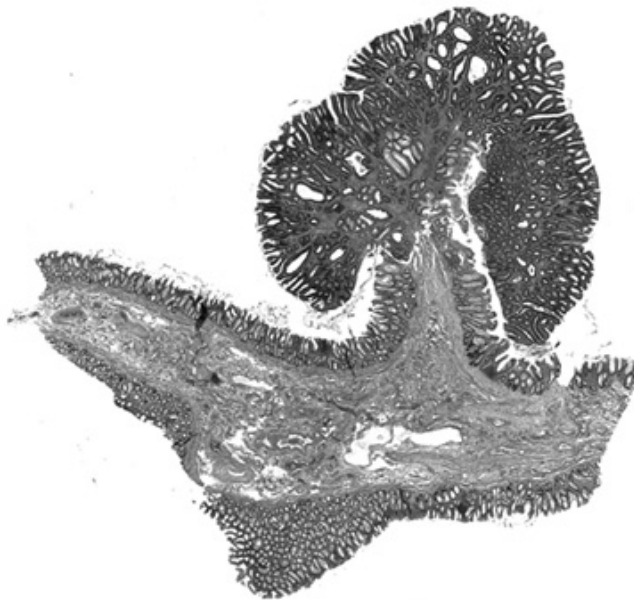
82.

[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

83.

Which of the following is **MOST** likely to occur in this colonic adenomatous polyp?



- A. evolve into hyperplasia
- B. lead to malabsorption
- C. malignant transformation
- D. metastasize to the liver
- E. regress spontaneously

84.

[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

85. Which of the following is **LEAST** likely to increase the risk of osteoporosis?

- A. bedridden
- B. elderly men
- C. exercise
- D. lack of estrogen replacement therapy
- E. thin stature

86.

[REDACTED]

[REDACTED]

[REDACTED]

87. In contrast to enchondroma, osteogenic sarcoma:

- A. arises from chondroblasts
- B. is slow growing
- C. occurs primarily in the elderly
- D. often metastasize
- E. progress to chondrosarcoma

88. Which of the following characteristics is **LEAST** likely associated with rheumatoid arthritis?

- A. ankylosis
- B. lack of inflammation
- C. pannus formation
- D. symmetrical pattern of joint involvement
- E. type II hypersensitivity reaction

89. Chronic osteomyelitis involving the lumbar spine is **MOST** commonly caused by:

- A. *Escherichia coli*
- B. *Mycobacterium tuberculosis*
- C. *Pseudomonas aeruginosa*
- D. *Salmonella typhimurium*
- E. *Pseudomosa aeruginosa*

90. The causative agent responsible for basal cell carcinoma is:

- A. air pollution
- B. arsenic poisoning
- C. Epstein-Barr virus
- D. human papillomavirus type 16
- E. UV radiation exposure

91. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

92. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

93. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

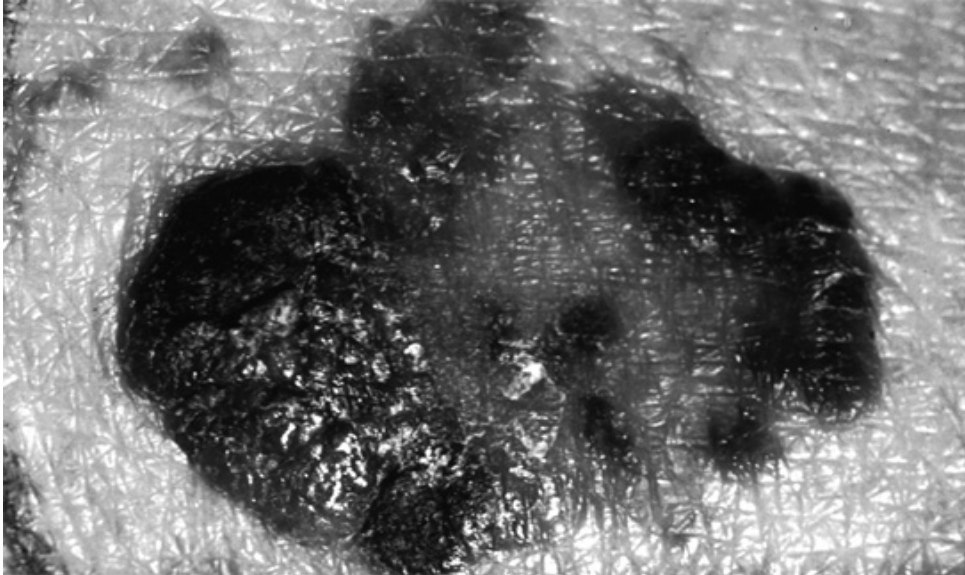
[REDACTED]

[REDACTED]

[REDACTED]

94. An 89-year-old retired forest ranger has numerous small basal cell carcinomas over his arms and hands. What is the cell of origin for this tumor?
- A. basal cells of the epidermis
 - B. epithelium of eccrine sweat glands
 - C. hair follicle basal cells
 - D. keratinocytes
 - E. melanocytes
95. [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
96. [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
97. What is the **MOST** important risk factor for developing squamous cell carcinoma of the skin?
- A. chronic arsenic exposure
 - B. excessive use of tanning booths
 - C. old burn scars
 - D. solar keratosis
 - E. UV radiation exposure
98. Nevus:
- A. is a malignant neoplasm of melanocytes.
 - B. is a neoplasm that is indolent.
 - C. is confined to the basal layer of the skin.
 - D. is preceded by a stage known as squamous cell hyperplasia.
 - E. will always metastasize.
99. What hormone is **LEAST** likely to affect bone metabolism?
- A. aldosterone
 - B. cortisol
 - C. estrogen
 - D. parathyroid hormone
 - E. vitamin D

100. A 64-year-old man with a pigmented lesion on his neck. Which of the following statements concerning his skin lesion is **MOST** likely?



- A. The major cellular component of this lesion is squamous cells.
- B. The risk of developing a nevus is extremely high.
- C. This lesion is a relatively uncommon lesion over the age of 4.
- D. This lesion will eventually invade into the epidermis.
- E. This type of cutaneous condition will not metastasize.

THE END!

Good luck and happy Winter Holiday!

PATHOLOGY 135
FINAL EXAM ANSWER KEY

1. A
2. B
3. C
4. B
5. A
6. B
7. C
8. A
9. E
10. C
11. A
12. B
13. 
14. 
15. E
16. 
17. C
18. A
19. B
20. B
21. C
22. B
23. E
24. 
25. 

26. D
27. D
28. C
29. A
30. B
31. B
32. C
33. B
34. E
35. E
36. C
37. D
38. B
39. A
40. A
41. E
42. D
43. A
44. D
45. C
46. D
47. E
48. 
49. A
50. D

51. C
52. D
53. D
54. C
55. A
56. C
57. B
58. A
59. D
60. C
61. A
62. A
63. C
64. B
65. C
66. A
67. C
68. 
69. 
70. 
71. 
72. 
73. 
74. 
75. 
76. 
77. 
78. 
79. 
80. 

81. 
82. 
83. C
84. 
85. C
86. 
87. D
88. B
89. B
90. E
91. 
92. 
93. 
94. C
95. 
96. 
97. E
98. B
99. A
100. D