

系所組別： 生物醫學工程學系丙組

考試科目： 病理學

考試日期：0225·節次：2

一、選擇題：〔40分，每題2分〕

1. Which of the following pathogens has tropism for neurons: (A) Rhinovirus; (B) Influenza virus; (C) Enterovirus 71; (D) Epstein-Barr virus; (E) Human papillomaviruses.
2. Damage to which of the following organs or tissues always leads to permanent cell loss or scarring: (A) cardiac muscle, (B) liver, (C) bone marrow, (D) urinary bladder mucosa, (E) colonic mucosa.
3. The major pathological change of the following infectious diseases is associated with delayed-type hypersensitivity reaction (T cell-mediated immunity): (A) Erysipelas; (B) Toxic shock syndrome; (C) Tuberculosis; (D) Hemolytic-uremic syndrome; (E) Post-streptococcal glomerulonephritis.
4. Sensation loss in leprosy is due to: (A) persistent inflammation involving neurons in anterior horns of spinal cord, (B) persistent inflammation involving peripheral nerves, (C) persistent inflammation involving posterior horns of spinal cord, (D) infection of sensory neurons in dermis by *Mycobacterium leprae*, (E) infection of spinal ganglia by *M. leprae*.
5. Which of the following pathological changes is seen in all stages of syphilis: (A) gummas; (B) osteochondritis, (C) endarteritis, (D) interstitial lung fibrosis, (E) suppurative inflammation.
6. Malignant cerebral malaria caused by *Plasmodium falciparum* is associated with: (A) brain vessels plugged with parasitized red cells; (B) anemia; (C) hypoxia due to cardiac vessels plugged with parasitized red cells; (D) hypoxia due to lung vessels plugged with parasitized red cells; (E) ischemia due to septic shock.
7. Which of the following descriptions about diabetes mellitus is **CORRECT**: (A) amyloid replacement of islets is present in type 1 diabetes; (B) type 1 diabetes is associated with obesity; (C) type 2 diabetes is an autoimmune disorder; (D) type 2 diabetes is associated with a decreased response of peripheral tissues to respond to insulin; (E) type 1 diabetes is associated with a derangement in β -cell secretion of insulin.
8. Pancreatic adenocarcinomas: (A) usually arise from acinar cells; (B) most often occur in middle-aged men; (C) are associated with chronic mumps virus infections; (D) usually can be cured by surgical excision; (E) Approximately 80-90% of pancreatic adenocarcinomas are associated with *K-ras* mutations.
9. The most common recognizable cause of chronic pancreatitis is: (A) pancreas divisum; (B) long-term alcohol abuse; (C) tropical pancreatitis; (D) diabetes mellitus; (E) idiopathic chronic pancreatitis.
10. The most important mechanism responsible for the development of emphysema is: (A) type I hypersensitivity (B) obstruction and infection (C) protease-antiprotease imbalance (D) cell-mediated immune reactions (E) congenital deficiency in pulmonary surfactant.
11. To make a diagnosis of squamous cell carcinoma of lung on histopathology, which of the following findings must be found in the tumor: (A) sheets of pleomorphic tumor cells (B) keratinization and/or

(背面仍有題目,請繼續作答)

intercellular bridges (C) in situ bronchial epithelial dysplasia (D) tumor cells with finely granular nuclear chromatin (E) organoid nesting, trabecular, rosette-like and palisading patterns.

12. IgE-mediated hypersensitivity plays an important role in: (A) asthma, (B) chronic bronchitis, (C) hypersensitivity pneumonitis, (D) emphysema, (E) bronchiectasis.
13. Which of the following descriptions on rheumatoid arthritis is **CORRECT**: (A) It is possibly an autoimmunity disorder affecting joints only; (B) Characteristic histologic features found in joints include pannus formation, chronic proliferative synovitis and rheumatoid nodules; (C) HLA-B27 is associated with occurrence of the disease; (D) Rheumatoid factors are IgG antibodies to the Fc portion of autologous IgM; (E) The disorder probably is triggered by exposure of an immunogenetically susceptible host to an arthritogenic microbial antigen.
14. Which of the following descriptions on gout and gouty arthritis is **CORRECT**: (A) It is the common end point of a group of disorders that produce hypercalcemia (B); Heavy alcohol consumption, obesity, use of some drug (e.g., thiazides), and lead toxicity can contribute to attacks of the disorder; (C) Characteristic histological changes include dissecting osteitis, cortical cutting cones, and hyperplasia of synovium; (D) Central to the pathogenesis of the arthritis is precipitation of calcium hydroxyapatite crystals into the joints (E) Pott disease is used to describe gouty arthritis with involvement of intervertebral joints.
15. Which of the following bone diseases is caused by osteoclast dysfunction: (A) Osteogenesis imperfecta; (B) Achondroplasia; (C) Paget disease (Osteitis deformans); (D) Rickets; (E) Osteoporosis.
16. Osteoarthritis is: (A) an autoimmune disorder; (B) caused by unknown infectious etiologies; (C) a degenerative joint disease associated with aging; (D) due to defect in purine metabolism; (E) caused by deposition of calcium pyrophosphate in joint cavities.
17. Menopause-associated osteoporosis is associated with: (A) decreased osteoblast activity; (B) increased osteocyte activity; (C) increased osteoblast activity; (D) increased osteoclast activity; (E) decreased osteoclast activity.
18. The most common cause of Cushing syndrome is: (A) hyperfunction of anterior pituitary, (B) administration of exogenous glucocorticoids, (C) adrenal hyperplasia, (D) lung cancer or other neuroendocrine tumors, (E) pituitary tumor.
19. Which of the following diseases is associated with Epstein-Barr virus infection? (A) Nasopharyngeal carcinoma; (B) Hepatocellular carcinoma; (C) Adenocarcinoma of lung (D) Urothelial carcinoma; (E) (A) and (D).
20. Which of the following cell types plays a vital role in the pathogenesis of acute lung injury and diffuse alveolar damage: (A) neutrophils (B) eosinophils (C) basophils (D) mast cells (E) lymphocytes.

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二、簡答題：〔30分，每題5分〕

Please define the following terms.

1. Biomarker (5分)
2. Carcinoma (5分)
3. Infection (5分)
4. Desmoplasia (5分)
5. Immune complex hypersensitivity (5分)
6. Immunohistochemistry (5分)

三、問答題〔30分，每題15分〕

1. Please describe the importance of Pathology in biomedical research. 〔15分〕
2. Please describe the role of macrophages in fibrosis. 〔15分〕