



MD ORTHOPEDIC PATHOLOGY OCTOBER 2016

Name of Student: _____

Student Number: _____

Direction: Each of the statement below is followed by four / five suggested answers. Select ONE that is BEST in each case and completely fill in the circle containing the corresponding letter on the answer sheet.

1. Which of the following diagnostic studies best confirms a diagnosis of multiple myeloma?
 - a. CT scan of the chest
 - b. Bone marrow biopsy
 - c. Complete blood cell count
 - d. Lateral radiograph of the skull
 - e. Erythrocyte sedimentation rate

2. Which of the following radiographic findings would be characteristic of the knee joints of a patient with neuropathic osteoarthropathy of the knee?
 - a. Fragmentation and subluxation of the normal joint articulation
 - b. Varus deformity with medial subchondral sclerosis
 - c. Preferential narrowing of the medial tibiofemoral compartment
 - d. Narrowing of the medial, lateral, and patellofemoral compartments
 - e. Bone proliferation at the patellar tendon and ligament insertion sites

3. Radiographs of the cervical spine of a 73-year-old man who fell down stairs reveal cervical spondylosis without evidence of fracture or dislocation. MRI and CT scans are consistent with the plain radiographs. After 72 hours, neurologic evaluation reveals intact sensation; however, weakness of the upper extremities is greater than that of the lower extremities.
What is the most likely diagnosis?
 - a. Central cord syndrome
 - b. Anterior cord syndrome
 - c. Posterior cord syndrome
 - d. Brown-Sequard syndrome
 - e. Cervical nerve root injury

4. What factor is most commonly associated with malignant transformation of a giant cell tumor?
 - a. High-grade histology of the initial tumor
 - b. Multiple local recurrences after curettage
 - c. Previous treatment of the tumor with cryotherapy



- b. E. coli
- c. Staph. aureus
- d. Group A streptococcus
- e. Clostridium perfringens

11. Chronic flatfoot deformity is most commonly associated with a contracture of the

- a. Plantar fascia
- b. Spring ligament
- c. Deltoid ligament
- d. Intrinsic tendons
- e. Gastrocnemius-soleus complex

12. Which of the following is true regarding osteoblastoma of the spine

- a. It typically occurs in the thoracic and lumbar pedicles
- b. It usually presents as painless scoliosis
- c. It rarely causes neurologic deficit
- d. Malignant transformation never occurs
- e. The best initial treatment is radiotherapy

13. Osteoarthritic cartilage is characterized by decreased

- a. Water content.
- b. Synthesis of type I collagen.
- c. Proteoglycan content.
- d. Activity of chondrocytes.
- e. Synthesis of hyaluronate

14. Which of the following metastatic carcinomas has the worst long-term prognosis?

- a. Lung
- b. Breast
- c. Prostate
- d. Thyroid
- e. Renal

15. What is the predominant collagen type in osteoarthritic articular cartilage?

- a. I
- b. II
- c. IV
- d. IX
- e. X

16. Demyelination diseases as multiple sclerosis and Guillain-Barre syndrome create neurologic symptoms by

- a. Decreasing initiation of action potentials.



29. As a patient approaches skeletal maturity, Unicameral bone cysts usually will undergo what changes?
- Remained unchanged
 - Increase in size
 - Decrease in size and may heal after growth is completed
 - Become malignant after growth is completed
 - Affect growth of the affected bone
30. Which of the following best characterizes the natural history of cervical spondylotic myelopathy?
- Slow, steady deterioration
 - Rapid deterioration
 - Stable over time
 - Stable for long periods with stepwise deterioration
 - Improvement after an initial episode of severe symptoms
31. What characteristic change appears in cartilage in late-stage osteoarthritis?
- Swelling of the matrix
 - Longer glycosaminoglycan side chains
 - Increase in keratin sulfate concentration
 - Increase in type ii collagen
 - Clusters of chondrocytes
32. 81. Which of the following conditions leads to recurrent ankle injuries in children and adolescents?
- Tarsal coalition
 - Accessory navicular
 - Os trigonum
 - Osteochondral fracture
 - Physeal fracture
33. The mechanism of osteolysis around total joint components is caused by
- Macrophage activation secondary to particulate debris.
 - Stress shielding secondary to stiff components.
 - Direct osteoclast activation secondary to particulate debris.
 - T cell-mediated inflammatory response to metal ions.
 - Polymorphonuclear leukocyte activation secondary to the complement cascade.
34. What is the primary function of 1,25-dihydroxyvitamin d?
- Inhibits osteoclast bone resorption
 - Promotes urinary excretion of phosphate
 - New osteoblast bone formation
 - Increase calcium and phosphate absorption from the gastrointestinal tract



35. What type of cells associated with the pathogenesis of Dupuytren's contracture?
- Atypical macrophage
 - Myofibroblast
 - Tenocyte
 - Dermatocyte
 - Fibroblast
36. Which of the following changes typically occurs in the inflamed synovium in patients with rheumatoid arthritis?
- Abundant neutrophils
 - Intimal lining hypoplasia
 - Blood vessel proliferation
 - Thickening of the basement membrane
 - Reduction in CD4-positive T cells
37. Osteoclasts are signaled directly via receptors to stop resorbing bone by which of the following substances?
- Parathyroid hormone
 - Calcitonin
 - Vitamin D
 - Interleukin-6
 - Tamoxifen
38. Which of the following best describes apoptosis?
- Local change in the membrane potential of a neuron
 - Cell death induced by a series of programmed signaling events
 - Introduction of an alteration in to the organism's genome
 - Excessive deposition of calcium salts in cartilaginous tissues
 - Process of apophyseal growth under tensile forces
39. For patients with metastatic carcinoma to bone, which of the following primary cancers is associated with the shortest life expectancy following pathologic fracture?
- Thyroid
 - Breast
 - Prostate
 - Lung
 - Renal
40. A patient with an external rotational deformity of the leg undergoes an open transverse osteotomy and stabilization with rigid compression plating. What is the expected type of bone healing?
- Intramembranous ossification
 - Endochondral ossification

Tanta University Master of Science in Orthopedic surgery
Faculty of Medicine Anatomy Exam. First part (ORTHO 8001)
Human Anatomy & Embryology Dep. Number of Questions: 5
1/10/2016 - Time Allowed: 3 Hours Total: 30 Marks



ORTHOPAEDIC SURGERY

All questions to be answered

Illustrate your answer with diagram whenever possible:

1. **Mention** the classification of synovial joints according to the axis. (3 marks)
2. **Discuss** the boundaries and contents of the cubital fossa. **Outline** the effects of injury of one of its nerve content. (9 marks)
3. **Discuss** the course and branches gluteal nerves. **Outline** the effects of their injury. (9 marks)
4. **Describe** the articulation and ligaments of the vertebral column in the thoracic region. (4.5 marks)
5. **Explain** the development and congenital anomalies of the vertebral column and its intervertebral discs. (4.5 marks)

END OF THE EXAM

Oral and Practical Examination:

On Sunday 9/ 10 / 2016 at 10 o'clock in the Anatomy Department
(Second floor)

WITH MY BEST WISHES

Chairman of Department: Prof. Dr. Mona Zoair

Exam for Master Degree in: Orthopaedics Surgery
Course Title: Histology
Date: 1/10/2016
Term: October
Total marks: 30 marks

Tanta University
Histology Department
Faculty of Medicine

Give an account on the followings and illustrate your answers with diagrams:

- 1- Golgi apparatus . (7.5 marks)
- 2- Blood neutrophils. (7.5 marks)
- 3- Fibrocartilage. (7.5marks)
- 4- Osteoclast. (7.5 marks)

GOOD LUCK

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