Practice Lecture Test 1

- **This is a model test for lecture Exam 1. I will use the same format for all the lecture exams. I will use review questions given at the end of each chapter your text book, Essentials of Anatomy and Physiology by Martini - Bartholomew. I will use some questions as such but will modify others or can use similar questions. I will also make new questions.**

- **Lecture Exam 1 will cover Chapters 1 – 5.** 1. An introduction to Anatomy and Physiology 2. The chemical level of organization 3. Cell Structure and Function 4. The tissue level of organization 5. The integumentary system

**Multiple Choice Questions**

1. The process by which an organism increases the size and / or # of its cells is
   A) reproduction   B) growth   C) metabolism   D) adaptation

2. The mediastinum is a space between
   A) lungs and heart   B) thorax and abdomen   C) 2 pleural cavities   D) heart and pericardium

3. When a variation outside normal limits triggers a response to restore the normal condition, the regulatory mechanism is
   A) adaptation   B) compensation   C) positive feedback   D) negative feedback

4. The section passing through long axis of body and divides it into anterior and posterior halves
   A) sagittal   B) frontal   C) transverse   D) median

5. Abdominal and pelvic body cavities are divided by
   A) peritoneum   B) diaphragm   C) pericardium   D) peritoneum

6. Study of tissues is
   A) cytology   B) anatomy   C) histology   D) gross anatomy

7. Pituitary, thyroid, adrenal glands are part of ---- system
   A) nervous   B) endocrine   C) digestive   D) respiratory

8. The # of electrons in its outer shell determines its
   A) Chemical properties   B) atomic #   C) atomic weight or mass #   D) electrical properties

9. The bond between Sodium (Na) and Chlorine (Cl) is a
   A) polar covalent   B) non-polar covalent   C) ionic   D) Hydrogen

10. Name the bond formed between H and O atoms in a water molecule
    A) polar covalent   B) non-polar covalent   C) ionic   D) Hydrogen

11. Name the amphipathic molecules found in cell membranes
    A) proteins   B) fats   C) phospholipids   D) nucleic acids

12. Carbon has 6 protons, 8 neutrons, and 6 electrons. What is its atomic mass or mass #?
    A) 8   B) 16   C) 12   D) 14

13. An acid is a/an
    A) H⁺ donor   B) H⁺ donor   C) OH⁻   D) produces an ion other than H⁺ or OH⁻

14. Proteins are polymers of
    A) glucose   B) amino acids   C) nucleotides   D) cholesterol

15. Name the unique base and sugar present in DNA
    A) Thymine, deoxyribose   B) Uracil, deoxyribose   C) thymine, ribose   D) uracil, ribose
16. In DNA cytosine and guanine always join with --- H-bonds  A) 1  B) 2  C) 3  D) 4

17. The proteins in the cell membranes may function as  A) receptors and channels  B) carriers and enzymes  C) anchors and identifiers  D) all are correct

18. Pick the active membrane transport process  A) diffusion  B) osmosis  C) facilitated diffusion  D) vesicular transport

19. The term ‘differentiation’ means  A) The loss of genes from cells  B) division of genes amongst cells  C) cells develop different functional capabilities due to activation of different genes  D) the acquisition of new functional capabilities by cells


21. A cell organelle rich in digestive enzymes  A) RER  B) SER  C) Lysosomes  D) Peroxisomes

22. The phase of cell cycle in which DNA replication takes place  A) M  B) S  C) G1  D) G2

23. The tissue that covers large areas like lungs, blood vessels, and skin is ------ epithelium

24. A) squamous  B) Cuboidal  C) columnar  D) transitional

25. Typical connective tissue that joins epithelium and muscles below  A) loose  B) dense  C) cartilage  D) blood

**Match the terms**

| 26. metabolism | A. Positive feedback |
| 27. filtration  | B. negative feedback |
| 28. temperature regulation | C. stabilize pH |
| 29. blood clot formation | D. All chemical activity in body |
| 30. buffer | E. hydrostatic pressure |

| 31. Covalent bond | A. Synthesizes components of ribosomes |
| 32. nucleolus | B. intercalated discs |
| 33. Ionic bond | C. Sharing of electrons |
| 34. Bone to bone attachment | D. ligament |
| 35. cardiac muscles | E. Loss or gain of electrons |

**Small Answer Questions**

36. A DNA has the following sequence: ATA CCG GTA GAA TTA. Write the m-RNA sequence formed from it. Also write how many amino acids will be coded from this sequence.

37. As a surgeon you perform an invasive procedure that necessitates cutting through peritoneum. Are you more likely to operating on the heart or stomach?

38. Explain the difference between 1) non-polar covalent, polar covalent bonds and ionic bonds.

39. What characteristics make the cutaneous membrane different from serous and mucous membranes?
40. In some cultures women must be covered completely except their eyes. These women often exhibit a high incidence of bone problems. Why?

**Completion Questions**

I will use most questions for this group from recaps covered during lecture exams.

41. # of ___________________________ determine the isotope.

42. ___________ bonds are formed due to sharing of electrons.

43. ___________ increase the rate of reactions

44. A substance producing ions other than H⁺ or OH⁻ is a __________

45. Polysaccharide for storage of glucose in body is __________

46. Genes are formed of __________

47. Structures formed of membranes and molecules, present in cytoplasm, doing a special function, are __________ __________

48. Bulk movement of solids into the cell in vesicle is ________ and of liquids is ________________.

49. Smooth E.R. synthesizes

50. Divided chromosomes move to opposite poles during ______________