1. One of the following differences between DNA and RNA is not true, work out which one.

**A.** DNA is only found in the nucleus, while RNA is only found in the cytosol

**B.** DNA contains Thymine whereas RNA contains Uracil

**C.** RNA is single stranded, while DNA is double stranded

**D.** RNA contains ribose sugar instead of deoxyribose

2. Which of these is not a feature of DNA?

**A.** Ionic bonding between nitrogenous base pairs

**B.** Antiparallel strands forming double helix

**C.** Complementary base pairing

**D.** Sugar phosphate backbone

3. A darkly stained body with in a nucleus without any prominent membranous boundary is

1. nucleolus
2. vacuole
3. ribosomes
4. mitochondria

**4. An octamer of 4 histones complexed with DNA forms**

(a) endosome

(b) nucleosome

(c) mesosome

(d) centromere.

**5. Each chromosome at the anaphase stage of a bone marrow cell in our body has**

(a) two chromatids

(b) several chromatids

(c) no chromatids

(d) only one chromatid.

1. **A 30-yr-old female presented to her physician with constant fever, running nose and itching to back of her throat secondary to allergies. After examination the physician prescribed oral anti histamines. This medication counteracts the products of which of the following cells?**
2. Fibroblasts
3. Lymphocyte
4. Mast cells
5. macrophage
6. **A 25-year-old female presented with swelling in the right axilla.On examination it was found to be a painful, enlarged lymph node. Biopsy revealed severe inflammation. Which of the following is the primary type of fibers found in the stroma of this organ?**

1. Elastic fiber
2. **Reticular fibers**
3. Type I collagen
4. Type II collagen

8**. Yellow elastic connective tissue**

A .is found in large arteries

 b. is found in lung

c. constitutes the elastic ligaments of legamenta flava

d. all of the above

**9. A section in the tendon shows all the following features except:**

a- Minimal intercellular substance

b- Many macrophages and mast cells

c- Parallel collagen bundles

d- Regular white fibrous connective tissue

e- Rows of fibroblasts  between collagen bundles

**10- The following regarding proteoglycans is correct:**

a- stains blue with silver

b-have a great elastic recoil

c- contain myosin

d- formed of a core of protein bound to GAGs

e- contain collagen type IV

**11. The principle protein of cilia and flagella is:**

a. Tubulin

b. Albumin.

c. Globulin.

d. Actin

**12. The number of membranes that surrounds the centrioles structure is:**

a. 3

b. 0

c. 2

d. 1

**13. Function of centriole is:**

 a. formation of spindle fibers.

b. formation of nucleolus.

c. initiation of cell division

d. formation of cell plate

**14. A chromosome with a very short arm and a very long arm is termed as:**

a. telocentric

b. acrocentric.

 c. metacentric

d. sub-metacentric

1. **The function of the nucleosomes is to:**
* transcribe the DNA
* form pores for bilateral nuclear-to-cytoplasmic transport
* hold together adjacent chromatids
* form the nuclear matrix
* package genetic material in a condensed form