**Question Bank 4**

**Course- B.Sc. Biotechnology (H) 2nd Semester**

**Subject: Cell Biology; Topic: Plant Hormone Signalling**

1. **Multiple Choice Questions:**
2. Which of the following microorganism have two nuclei?  
   a) Slime molds  
   b) Cyanobacteria  
   c) Amoeba  
   d) Paramecium
3. Which of the following is not a component of the nucleus?  
   a) Chromosome  
   b) Nucleolus  
   c) Cytoplasm  
   d) Nuclear envelope
4. Mark the INCORRECT statement about nuclear lamina.  
   a) Filaments present in the inner membrane of the nucleus  
   b) Made up of lamin proteins  
   c) Provide mechanical support to the nucleus  
   d) It has bounded with the ribosomes
5. Name the signal which helps protein to move in or out of the nucleus?  
   a) Notch signal  
   b) Paracrine signal  
   c) Nuclear localization signal  
   d) Chemical signals
6. Non-membrane bound body of the nucleus which disappears in the late prophase and reappears in telophase\_\_\_\_\_\_\_  
   a) Nucleolus  
   b) Chromosome  
   c) Nucleoplasm  
   d) Nuclear pore
7. Which region of chromatin is transcriptionally silent?  
   a) Nucleoid  
   b) Centromere  
   c) Euchromatin  
   d) Heterochromatin
8. Which of the following is not true for chromatin?  
   a) Organized structure of DNA and protein  
   b) These are highly condensed DNA  
   c) It is found in the nucleus  
   d) It contains a single dsDNA
9. Red blood cells are multinucleate in nature.  
   a) True  
   b) False
10. Nucleoporins are \_\_\_\_\_\_\_\_\_\_  
    a) Nuclear pores  
    b) Ribosomes on nuclear membranes  
    c) rRNAs in the nucleolus  
    d) None of the mentioned
11. The transport factors that help in the transport of molecules through the nuclear pores are known as \_\_\_\_\_\_\_\_\_\_\_  
    a) Nucleopherins  
    b) Nucleoporins  
    c) Karyopherins  
    d) Karyoporins
12. **Short Questions**
13. Comment on nuclear lamina?
14. Illustrate the ultra structure of nucleus?
15. Define nucleolus.
16. Discuss the structure of Nuclear localization signal.
17. What is the cell's transport system to the nucleus?
18. What is the "purpose" of nuclear transport?
19. **Long Questions**
20. Illustrate the structure of nuclear pore complex.
21. Discuss the transport of protein inside the nucleus
22. What is the function of RanGAP in relation to nuclear import and export?