**Question Bank-8**

**Course- B.Sc. Biotechnology 6th Semester, B.Sc. CBZ 6th Semester, B.Sc. Biotechnology (H) 4th Semester & B.Sc. Botany (H) 4th Semester**

**Subject: Molecular Biology; Topic: Protein Targeting**

1. **Multiple Choice Questions:**
2. Which of the following is not a component of the nucleus?  
   a) Chromosome  
   b) Nucleolus  
   c) Cytoplasm  
   d) Nuclear envelope
3. 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
4. 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
5. 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
6. Which region of chromatin is transcriptionally silent?  
   a) Nucleoid  
   b) Centromere  
   c) Euchromatin  
   d) Heterochromatin
7. 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
8. Red blood cells are multinucleate in nature.  
   a) True  
   b) False
9. Nucleoporins are \_\_\_\_\_\_\_\_\_\_  
   a) Nuclear pores  
   b) Ribosomes on nuclear membranes  
   c) rRNAs in the nucleolus  
   d) None of the mentioned
10. 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
11. **Short Questions**
12. Differentiate between Ran GTP and Ran GDP.
13. Illustrate the structure of nuclear pore.
14. Explain Tom and TIM.
15. Explain TIC and TOC.
16. **Long Questions**
17. Discuss the process of nuclear transport.
18. Discuss the process of protein transport to chloroplast.
19. Discuss the process of protein transport to peroxisomes.