



24/3/2018

**DOON UNIVERSITY, DEHRADUN**  
**Mid Semester Examination, VI Semester, 2017-18**  
**Department of Physics, School of Physical Sciences**  
**Integrated M.Sc. Physics**  
**Course PHD-313- : Bio Physics**

*Time Allowed: 2 Hours*

*Maximum Marks: 30*

*Note: Attempt All Questions from Sections A, B, C.*

**SECTION: A**

*(Marks: 1 X 6=6)*

1. Write full form of (1) ATP (2) GTP .
2. Classify prokaryotes and eukaryotes among golgi apparatus and endoplasmic reticulum organelles.
3. The nonpolar saturated fatty acid has a less uniform electronic charge distribution. (T/F)
4. The semipermeable nature of the cell membrane results due to \_\_\_\_\_.
5. Write the name of bosonic particles required for physics of living state.
6. Name the ions that are important in Biology.

**SECTION: B**

*(Marks: 4 X 3=12)*

7. Draw the chemical structure for amino acids and proteins. What are the possible -R groups to distinguish one amino acid from the next? Name the bond through which amino acids link together to form proteins.
8. Write down the short notes on the requirement of water and carbohydrates for the existence of life.
9. Discuss hydrogen bonds and anhydro bonds.

**SECTION: C**

*(Marks: 6X 2=12)*

9. Draw schematic of a living cells and write down key organelles and their functions.
10. What do you mean by molecular interactions. Explain in detail the vander waal's interaction, hydrophobic interactions and colloidal interactions.