

~~Dr. Abhishek~~
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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- April 2019

B.Tech/ M.Tech VIII Semester

COURSE CODE: L-11B1WBT840

MAX. MARKS: 25

COURSE NAME: Nano-Biotechnology

COURSE CREDITS: 3

MAX. TIME: 1.5Hr

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. XXXXXXXXXXXXXXXXXXXXXXXX

Part A: Answer the following Questions.

1. Write down the third and fourth postulate of quantum physics [4] [CO- 1]
2. Calculate the spin multiplicity for the excited singlet & triplet state? [3] [CO- 1]
3. Diagrammatically explain red edge excitation spectra [2] [CO- 3]
4. Write a note on preparation method used by Michal faraday for gold nanoparticles synthesis [2] [CO-2]
5. Explain in detail (a) stern volmer constant (b) fluorescence quantum yield [4] [CO-3]
6. **Answer the following** [2x5] [CO-3]
 - a) Born-Oppenheimer approximation
 - b) Mirror image rule
 - c) Vavilov rule
 - d) Difference between fluorescence and phosphorescence
 - e) Difference between internal conversion and inter system crossing