



# AJEENKYA

## D Y PATIL UNIVERSITY

### End Term Examination (December 2018)

**School :** of Engineering

**Course:** Nanotechnology in Biomedical Engg

**Semester:** I

**Max Marks:** 50

**Program:** M.Tech (BioMed)

**Course Code:** BEN507

**Duration (mins) :** 120

Note : 1. Figures to the right indicates full marks.

2. All questions are compulsory

**Q. No. 1 Define following terms – (each question carries 1 marks)**

**(any 10)**

**(10)**

- |                        |                       |
|------------------------|-----------------------|
| a. Nanotechnology      | g. Beer's law         |
| b. Top down approach   | h. Hooke's law        |
| c. Nanoparticles       | i. Monochromator      |
| d. Fluorescence        | j. Optical density    |
| e. Spin quantum no.    | k. Gyromagnetic ratio |
| f. Diffraction grating |                       |

**Q. No. 2 Write short note on following – (each question carries 3 marks)**

**(any 5)**

**(15)**

- |  |   |
|--|---|
| a. Quantum dots                        | b. Chromophore concept                  |
| c. Applications of UV-Vis spectroscopy | d. Applications of gold nanoparticles   |
| e. Raman spectroscopy                  | e. Nanotechnology in Tissue engineering |

**Q. No. 3 Explain in details - (each question carries 5 marks)**

**(any 5)**

**(25)**

- Calculate the wavenumber for C-H and O-H stretching.
- NMR Spectroscopy
- Atomic force microscopy
- Nanotechnology for medical diagnosis
- Biosensors
- Scanning electron microscopy