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| **ST. JOSEPH’S COLLEGE (AUTONOMOUS), BENGALURU-560027** |  |
| **M.Sc BOTANY – IV SEMESTER** |  |
| **SEMESTER EXAMINATION: APRIL 2018** |  |
| **B0 0115 : METHODS IN PLANT SCIENCE AND BIOPHYSICS**.  |  |
|  |  |  |  |  |  |  |  |
| **Time- 2 ½ hrs** |  |  **Max Marks-70** |  |  |
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| **This paper contains ONE printed page and THREE parts****Draw diagrams wherever necessary**1. **Write on any TEN of the following one or two sentences: 10x2=20**
2. Octet rule
3. Barrier filters in UV microscope
4. Freeze etching
5. Abbe’s condensor
6. Retention volume
7. Cell fractionation
8. London Forces of dispersion
9. Numerical aperture
10. Brownian movement
11. Emulsion
12. Biomechanics
13. Fixatives

 **B. Write critical notes on any FIVE of the following 5x6=30**1. Fluorescence microscopy
2. Ultra microtomy technique
3. NMR spectrophotometry
4. State Avogadro’s law and Boltzmann’s distribution
5. Confocal microscopy
6. Phosphorescence and bioluminescence
7. Nano biotechnology
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1. **Give a comprehensive account of any TWO of the following 2x10=20**
2. Principle, instrumentation and applications of HPLC
3. Principle, instrumentation and applications of TEM.
4. Agarose gel electrophoresis.

 BO-0115-B-18