|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| **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** |  |  |
|  |  |  |  |  |  |  |  |
| **This paper contains ONE printed page and THREE parts** **Draw diagrams wherever necessary**1. **Write on any TEN in one or two sentences: 10x2=20**
2. Citation of bibliography
3. Polarisation microscope
4. Freeze fracturing and freeze etching
5. Camera lucida
6. Sedimentation coefficient
7. Autoradiography
8. Covalent bond
9. Types of centrifuges
10. Brownian movement
11. Two applications of colloids
12. Protein engineering
13. Clearing agents

 **B. Write critical notes on any FIVE of the following 5x6=30**1. Confocal microscopy
2. Advantages and disadvantages of cryopreservation
3. NMR spectroscopy
4. Thin layer chromatography
5. Kinetic theory of gases
6. Phosphorescence and bioluminescence
7. Nano biotechnology
 |  |

1. **Give a comprehensive account of any TWO of the following 2x10=20**
2. Principle, instrumentation and applications of GC
3. Principle, instrumentation and applications of AFM and STM
4. SDS- PAGE.

 BO-0115-A-18