

CLASS: M.Sc. BOTANY

15A / 226

St. JOSEPH'S COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI – 620 002

SEMESTER EXAMINATIONS – APRIL 2015

TIME: 3 Hrs.

MAXIMUM MARKS: 100

SEM	SET	PAPER CODE	TITLE OF THE PAPER
II	2014	14PBO2202A	BIOPHYSICS AND INSTRUMENTATION

**SECTION – B**

**Answer all the questions:**

**5 x 5 = 25**

31. a. State and explain the First Law of thermodynamics.

**OR**

b. Explain the concept of free energy.

32. a. Differentiate Iso, Hypo and Hypertonic solutions.

**OR**

b. What do you mean by redox potential?

33. a. Give the principle of fluorescence microscopy.

**OR**

b. Illustrate and explain the flow diagram of phase contrast microscope.

34. a. Describe the technique of density gradient centrifugation.

**OR**

b. Narrate the technique of thin layer chromatography.

35. a. Give a brief account on autoradiography.

**OR**

b. Explain the principle of atomic absorption spectroscopy.

**SECTION – C**

**Answer any THREE questions:**

**3 x 15 = 45**

36. State and explain the Second Law of thermodynamics.

37. Discuss the active and passive bioelectric properties of membranes.

38. Explain the principle, construction and uses of SEM.

39. Illustrate and explain the principle and instrumentation of GC.

40. Write an essay on general principle and instrumentation of ESR.

\*\*\*\*\*