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(20517) Roll No. ....

B.Sc. Micro.-I Yr.

3489

B.Sc. (Microbiology) Examination, May 2017

Bio-Physics

(B-106)

Time : Three Hours / Maximum Marks : 50

Note : Attempt any five questions. All questions carry equal marks.

- 1 Explain chirality and uses of chirality in biomolecules. 10
2. Write short notes on the following :
  - (i) Scope of Bio-Physics 5
  - (ii) Properties of open systems 5
3. (a) State the 'First and Second Laws' of thermodynamics. 2

(b) Discuss the applications of the laws of thermodynamics to cellular respiration and photosynthesis. 8

4. Describe the conformatinoal properties of enzymes. 10

5. Write short notes on the following :
- (a) Photoreception in vertelerates 5
  - (b) Electrical activity of rhodopsin 5
6. Describe the physical aspects of photorecep- tion with special reference to Barterior- hodopsin. 10

7. Write short notes on the following :
- (a) Relationship between Physics and Biol- ogy 5
  - (b) Electricity as a potential signal. 5
8. Explain biological compartments and describe the electrical properties of biological com- partments. 10 (2+8)

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9. Explain biomechanics and discuss the biomechanics of striated muscles. 2+8=10

10. Explain chemiosmotic couplings and describe biomechanics of cardiovascular system.

4+6=10