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(20516)

Roll No. 1593502692

B. Sc. (Biotech.)-I Year

NS-3456

B. Sc. (Biotechnology) Examination, May 2016

BIO-PHYSICS

(B-102)

(New)

Time : Three Hours]

[Maximum Marks : 50

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

101 Draw the structure of Eye (human). Explain its working and defects. 10

2. Why pH ranges from 0-14 only? Explain the concept of buffers. 10

3. What are the high energy biomolecules? Explain their role in energy transductions. 10

(2)

4. Write short notes on the following : $2\frac{1}{2} \times 4$

- (a) pKa
- (b) Isoelectric point
- (c) Proton hopping
- (d) Enzymes.

BIO-PHYSICS

(B-103)

5. Explain the following : 5×2

- (a) Enzyme substrate reactions
- (b) Antigen antibody interactions.

6. Explain the Intra and Inter-nuclear interactions in biological systems. 10

7. Write short notes on the following : $2\frac{1}{2} \times 4$

- (a) Chirality
- (b) Hormones
- (c) Photosynthesis
- (d) Vision faults.

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(3)

8. What is Lambert-Beer law? Explain in detail. 10

9. Explain the primary and secondary structure of proteins. 10

10. Explain the laws of thermodynamics. How they become applicable on biological systems? 10

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(20518)

Roll No. R170935132018

B. Sc. (Biotech.)-I Year

NS-3456

B. Sc. (Biotechnology) Examination, May 2018

BIOPHYSICS

(B-102)

(New)

Time : Three Hours]

[Maximum Marks : 50

Note : Answer any *Five* questions. All questions carry equal marks.

1. ✓ What are high energy molecules ? Discuss their structure and functions. 10

2. ✓ Discuss the primary, secondary and tertiary structure of proteins and role of bonds and forces involved. 10

(2)

3. Write short notes on the following : $5 \times 2 = 10$

- (a) Defects of vision and corrections
- (b) Water as a universal solvent.

4. Discuss the internal structure and biophysics of statophono receptors. 10

5. Write short notes on any two of the following : $5 \times 2 = 10$

- (a) Super coiling of DNA
- (b) Lambert-Beer's law
- (c) Nucleotides.

6. Write short notes on the following : $5 \times 2 = 10$

- (a) Colorimetry
- (b) Steroid hormone.

7. Write short notes on the following : $5 \times 2 = 10$

- (a) Isomerism
- (b) Laws of thermodynamics.

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(3)

8. Discuss the light dependent reaction of photosynthesis in plants and microbes. 10

9. Write short notes on the following : $5 \times 2 = 10$

- (a) Membrane potential
- (b) Charismatic hypothesis.

10. Write short notes on any two of the following : $5 \times 2 = 10$

- (a) Antigen-Antibody reaction
- (b) Biophysical methods
- (c) Visual cycle.

workings of eye

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