

Question Paper

Exam Date & Time: 18-Apr-2018 (09:30 AM - 12:30 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

INTERNATIONAL CENTRE FOR APPLIED SCIENCES FOURTH SEMESTER B.S (ENGG)

END-SEMESTER THEORY EXAMINATIONS APRIL - 2018

DATE : 18 APRIL 2018

TIME : 9:30AM TO 12:30PM

Biochemistry [CH 241]

Marks: 100

Duration: 180 mins.

Answer 5 out of 8 questions.

Missing data, if any, may be suitably assumed

- 1) Explain the types of mucopolysaccharides with examples and also describe their biochemical importance (8)
 - A)
 - B) Describe the reduction reaction of D-Glucose. How would you test it? (6)
 - C) List out the general properties of glucose and add a note on mutarotation (6)
- 2) Describe the classification of Lipids (6)
 - A)
 - B) Describe the properties of fats (6)
 - C) Describe about (i) saturated (ii) unsaturated and (iii) cyclic fatty acids with examples (8)
- 3) Classify proteins based on their solubility and composition (8)
 - A)
 - B) Explain the primary, secondary, super-secondary, tertiary and quaternary structures of proteins. (6)
 - C) Describe the general properties of proteins (6)
- 4) Describe the sterols of biological importance (8)
 - A)
 - B) Classify and describe the phospholipids with examples (6)
 - C) Describe about autoxidation and rancidity (6)
- 5) Differentiate the structures of DNA and RNA with a neat sketch (8)
 - A)
 - B) List out the biological functions of nucleic acids (6)

- C) Sketch the structure of ATP and list out its biological significance (6)
- 6) List out the source, properties and importance of vitamins (10)
- A)
- B) Classify the carbohydrates based on the degree of complexity with examples each (10)
- 7) Calculate and show all possible stereoisomers of D-glucose (10)
- A)
- B) Draw the structure of porphyrin and list out the properties (10)
- 8) Describe the classification, absorption and regulation of minerals in human (10)
- A)
- B) Describe the functions of Zinc, Molybdenum, Cobalt, Fluoride and Selenium (10)

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