

[This question paper contains 2 printed pages.]

Your Roll No. 5004.....

Sr. No. of Question Paper : 1906

G

Unique Paper Code : 3124611102

Name of the Paper : Engineering Chemistry – I

Name of the Course : **B.Tech. (Information
Technology and
Mathematical Innovations)**

Semester : I

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **five** questions.
3. Each question carries equal marks.

✓1. What are proteins? Discuss about any five major functions of proteins, giving at least one example of each. (12)

✓2. Write short notes on **any two** of the following : (6×2=12)

✓(i) Zwitter ion and iso-electric point

✓(ii) Programmable DNA structures

P.T.O.

(iii) Equivalence rule and Watson-crick hydrogen bonding

(iv) Aromatic amino acids

✓3. Define nanotechnology and nanomaterials. Describe different types of nanostructures with examples. (12)

4. Discuss about the main characteristic features of double-helical model of DNA. What are the major factors involved in the stability of double helix? (12)

✓5. What is drug discovery and development process? Discuss about the major steps involved in this whole process. (12)

✓6. What are biosensors? Discuss about various components of a biosensor. Also, give one example of a biosensor in detail. (12)

✓7. Why is green chemistry so important and what are basic principles of green chemistry? (12)