

SUBJECT: NANO BIOLOGY

Day: - Monday
Date: 10/12/2018

W-2018-3081

Time: 11.00 AM TO 02.00 PM
Max Marks: 60

N.B.:

- 1) All questions are **COMPULSORY**.
 - 2) Answer the both the sections should be written in the **SEPARATE** answer books.
 - 3) Figures to the right indicate **FULL** marks.
 - 4) Assume suitable data if necessary.
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SECTION-I

Q.1 Give an overview of different classes of biomolecules of life. (10)

OR

What are amino acids? Describe the structure and general properties of amino acids. (10)

Q.2 Describe a eukaryotic cell. State the functions of various organelles of a eukaryotic cell. (10)

OR

Define 'Immune system'. Explain the differences between innate (non-adaptive) and acquired (adaptive) immunity. (10)

Q.3 Explain the general properties of an enzyme. Briefly describe the 'Lock and key' model of enzyme action. (10)

OR

Describe the fluid mosaic model of Lipid bilayer. (10)

SECTION-II

Q.4 Explain the method for microbial synthesis of nanoparticles. State its advantages over chemical method of synthesis. (10)

OR

Write short notes on: (10)

- a) Plant based nanoparticles
- b) Virus nanoparticles

Q.5 Define a 'nanosensor'. Explain its working and applications. (10)

OR

Give an overview of 'DNA Nanotechnology'. (10)

Q.6 Describe the cytoskeleton. State its components and functions. (10)

OR

Write short notes on: (10)

- a) Application of Nanotechnology in medicine
- b) Magnetic nanoparticles

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