

Unit 3 - Week 2

Course outline

How to access the portal

Week 1

Week 2

- Lesson 1: DNA Nanotechnology
- Lesson 2: Protein and Glyco Nanotechnology
- Lesson 3: Lipid Nanotechnology
- Lesson 4: Bio-Nanomachines
- Lesson 5: Carbon nanotubes and Its Bio-Applications
- Quiz : Assignment 2**
- Solution for Assignment 2

Week 3

Week 4

WEEKLY FEEDBACK

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Assignment 2

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-09-11, 23:59 IST.

1) Consider the following:

1. Ionic interactions
2. Non-covalent interactions
3. Van Der Waals forces
4. Hydrogen bonding
5. Magnetic forces

Which of the above mentioned forces play an important role in the process of self-assembly?

- 1,2 and 4 only
- 1,2,3 and 4 only
- 2,3 and 4 only
- All the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

All the above

1 point

2) The Chargaff's rule in DNA nano technology implicates that

- A always bonds with C and G always bonds with T
- A always bonds with T and G always bonds with C
- A always bonds with G and T always bonds with C
- C always bonds with T and G always bonds A

No, the answer is incorrect.

Score: 0

Accepted Answers:

A always bonds with T and G always bonds with C

1 point

3) α -helix and β -sheets are terms associated with

- Structure of proteins
- Structure of DNA
- Structure of RNA
- Structure of cell wall

No, the answer is incorrect.

Score: 0

Accepted Answers:

Structure of proteins

1 point

4) The charges of cationic peptide tubes and DNA are _____ and _____ respectively.

- Negatively charged and positively charged
- Positively charged and negatively charged
- Both are positively charged
- Both are negatively charged

No, the answer is incorrect.

Score: 0

Accepted Answers:

Positively charged and negatively charged

1 point

5) Consider the following statements:

1. Liposomes are spherical vesicles made of lipid bilayer.
2. Liposomes can carry only hydrophobic drugs and not hydrophilic drugs.

Which of the above statements are **incorrect**?

- 1 only
- 2 only
- Both 1 and 2
- None

No, the answer is incorrect.

Score: 0

Accepted Answers:

2 only

1 point

6) The liposomes that typically range in size between 0.05 to 10 μ m are called as

- Multilamellar vesicles
- Large uni-lamellar vesicles
- Small uni-lamellar vesicles
- Small multi-lamellar vesicles

No, the answer is incorrect.

Score: 0

Accepted Answers:

Multilamellar vesicles

1 point

7) Choose the correct sequence of flow of information in a mammalian cell.

- DNA-Protein-RNA
- RNA-DNA-Protein
- DNA-RNA-Protein
- RNA-Protein-DNA

No, the answer is incorrect.

Score: 0

Accepted Answers:

DNA-RNA-Protein

1 point

8) The phenomenon of energy transfer between two light sensitive molecules is known as

- Raman Scattering
- Fluorescence resonance energy transfer
- Rayleigh scattering
- Surface Plasmon Resonance

No, the answer is incorrect.

Score: 0

Accepted Answers:

Fluorescence resonance energy transfer

1 point

9) Graphene is mainly made up of _____ rings of carbon.

- Octagonal
- Hexagonal
- Pentagonal
- Heptagonal

No, the answer is incorrect.

Score: 0

Accepted Answers:

Hexagonal

1 point

10) Pi stacking in the context of functionalisation of the carbon nanotubes is associated with

- Endohedral functionalisation
- Covalent defect group functionalisation
- Non-covalent exohedral functionalisation
- Covalent side wall functionalisation

No, the answer is incorrect.

Score: 0

Accepted Answers:

Non-covalent exohedral functionalisation

1 point