

Code No: 58103

Set No. 1

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

IV B.Tech. II Sem., II Mid-Term Examinations, April-2014

NANO BIOTECHNOLOGY

Objective Exam

Name: \_\_\_\_\_ Hall Ticket No. 

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**Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.**

**I. Choose the correct alternative:**

1. Poly(D,L-lactic acid), poly(D,L-lactic-co-glycolic acid) and poly ( $\epsilon$ -caprolactone) (PCL) are used to form polymeric nanoparticles (NPs) as they are [      ]  
A) Not degradable    B) Persist long period    C) Biodegradable    D) Half life is more
2. The copolymers spontaneously assemble into a core-shell structure in an aqueous environment to minimize the system's [      ]  
A) energy    B) free energy    C) Enthalpy    D) Heat
3. The enzymes that regulate the over winding or under winding of DNA are [      ]  
A) Isomerase    B) Ligase    C) Helicase    D) Topoisomerase
4. Biopolymers contain monomeric units that are \_\_\_\_\_ bonded to form larger structures. [      ]  
A) Covalent    B) Ionic    C) Hydrogen    D) vaanderwaal
5. It is a thermoplastic aliphatic polyester derived from renewable resources, such as corn starch [      ]  
A) PLA    B) PGA    C) PFA    D) PAU
6. Biopolymers are biodegradable, and some are also compostable [      ]  
A) PLA    B) Biopolymers    C) Polylactide    D) All of the above
7. A very simple class of heterogeneous nanostructures includes \_\_\_\_\_ structural materials.[      ]  
A) Surface tensed    B) Frictional    C) Reinforced    D) Elasticity based
8. It is the technical field of using microscopes to view samples and objects that cannot be seen with the unaided eye [      ]  
A) Bio computing    B) Bio imaging    C) Bio lenses    D) Bio viewing
9. It is a laser-based, biophysical technology employed in cell counting, cell sorting, biomarker detection and protein engineering is [      ]  
A) spectrometry    B) colonoscopy    C) heamometer    D) flow cytometry
10. These are biological molecular machines that are the essential agents of movement in living organisms are [      ]  
A) Biological motors    B) Molecular motors    C) Living motors    D) Molecular agents

**Cont.....2**

**II Fill in the Blanks:**

11. Polymeric NPs can be formulated by self-assembly of block copolymers consisting of two or more polymer chains with different\_\_\_\_\_
12. \_\_\_\_\_ has ability to catalyze the inter conversion of RNA knot and the RNA circle, as well as catenation of RNA circles.
13. \_\_\_\_\_ are polymers produced by living organisms.
14. \_\_\_\_\_ is the study of the structural properties of the biopolymers.
15. The \_\_\_\_\_ removes the terminal peptides of the procollagen.
16. \_\_\_\_\_ is the main structural protein of the various connective tissues in animals.
17. \_\_\_\_\_ is an endopeptidase involved in the processing of collagen.
18. \_\_\_\_\_ means, in this case, that the material is not the same physically throughout its bulk.
19. \_\_\_\_\_ is a form of phototherapy using nontoxic light-sensitive compounds that are exposed selectively to light, they become toxic to targeted malignant and other diseased cells.
20. FACS stands for\_\_\_\_\_

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**Set No. 2**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**IV B.Tech. II Sem., II Mid-Term Examinations, April-2014**

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**Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.**

**I. Choose the correct alternative:**

1. Biopolymers contain monomeric units that are \_\_\_\_\_ bonded to form larger structures. [      ]  
A) Covalent                      B) Ionic                      C) Hydrogen                      D) vaanderwaal
2. It is a thermoplastic aliphatic polyester derived from renewable resources, such as corn starch [      ]  
A) PLA                      B) PGA                      C) PFA                      D) PAU
3. Biopolymers are biodegradable, and some are also compostable [      ]  
A) PLA                      B) Biopolymers                      C) Polylactide                      D) All of the above
4. A very simple class of heterogeneous nanostructures includes \_\_\_\_\_ structural materials.[      ]  
A) Surface tensed                      B) Frictional                      C) Reinforced                      D) Elasticity based
5. It is the technical field of using microscopes to view samples and objects that cannot be seen with the unaided eye [      ]  
A) Bio computing                      B) Bio imaging                      C) Bio lenses                      D) Bio viewing
6. It is a laser-based, biophysical technology employed in cell counting, cell sorting, biomarker detection and protein engineering is [      ]  
A) spectrometry                      B) colonoscopy                      C) heamometer                      D) flow cytometry
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A) Biological motors                      B) Molecular motors                      C) Living motors                      D) Molecular agents
8. Poly(D,L-lactic acid), poly(D,L-lactic-co-glycolic acid) and poly ( $\epsilon$ -caprolactone) (PCL) are used to form polymeric nanoparticles (NPs) as they are [      ]  
A) Not degradable                      B) Persist long period                      C) Biodegradable                      D) Half life is more
9. The copolymers spontaneously assemble into a core-shell structure in an aqueous environment to minimize the system's [      ]  
A) energy                      B) free energy                      C) Enthalpy                      D) Heat
10. The enzymes that regulate the over winding or under winding of DNA are [      ]  
A) Isomerase                      B) Ligase                      C) Helicase                      D) Topoisomerase

**II Fill in the Blanks:**

11. \_\_\_\_\_ is the study of the structural properties of the biopolymers.
12. The \_\_\_\_\_ removes the terminal peptides of the procollagen.
13. \_\_\_\_\_ is the main structural protein of the various connective tissues in animals.
14. \_\_\_\_\_ is an endopeptidase involved in the processing of collagen.
15. \_\_\_\_\_ means, in this case, that the material is not the same physically throughout its bulk.
16. \_\_\_\_\_ is a form of phototherapy using nontoxic light-sensitive compounds that are exposed selectively to light, they become toxic to targeted malignant and other diseased cells.
17. FACS stands for \_\_\_\_\_
18. Polymeric NPs can be formulated by self-assembly of block copolymers consisting of two or more polymer chains with different \_\_\_\_\_
19. \_\_\_\_\_ has ability to catalyze the inter conversion of RNA knot and the RNA circle, as well as catenation of RNA circles.
20. \_\_\_\_\_ are polymers produced by living organisms.

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**Set No. 3**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**IV B.Tech. II Sem., II Mid-Term Examinations, April-2014**

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**Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.**

**I. Choose the correct alternative:**

1. Biopolymers are biodegradable, and some are also compostable [      ]  
A) PLA                      B) Biopolymers              C) Polylactide              D) All of the above
2. A very simple class of heterogeneous nanostructures includes \_\_\_\_\_ structural materials. [      ]  
A) Surface tensed      B) Frictional              C) Reinforced      D) Elasticity based
3. It is the technical field of using microscopes to view samples and objects that cannot be seen with the unaided eye [      ]  
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4. It is a laser-based, biophysical technology employed in cell counting, cell sorting, biomarker detection and protein engineering is [      ]  
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8. The enzymes that regulate the over winding or under winding of DNA are [      ]  
A) Isomerase              B) Ligase              C) Helicase              D) Topoisomerase
9. Biopolymers contain monomeric units that are \_\_\_\_\_ bonded to form larger structures. [      ]  
A) Covalent              B) Ionic              C) Hydrogen              D) vaanderwaal
10. It is a thermoplastic aliphatic polyester derived from renewable resources, such as corn starch [      ]  
A) PLA              B) PGA              C) PFA              D) PAU

**II Fill in the Blanks:**

11. \_\_\_\_\_ is the main structural protein of the various connective tissues in animals.
12. \_\_\_\_\_ is an endopeptidase involved in the processing of collagen.
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19. \_\_\_\_\_ is the study of the structural properties of the biopolymers.
20. The \_\_\_\_\_ removes the terminal peptides of the procollagen.

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**Set No. 4**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

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**I. Choose the correct alternative:**

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