

Unit 4 - Structure and Properties of Proteins and Cells

Course outline

How to access the portal

Week 1 Introduction to Biomaterials and Biocompatibility

Defining tissue engineering scaffolds and implants

Structure and Properties of Proteins and Cells

● Proteins

● Cell Structure

● Bacteria Structure

● Antibacterial Assay

○ Quiz : WEEK 3 ASSIGNMENT

Stem cells and Cell fate processes

Cell-material Interaction (in vitro and in vivo) and Clinical trials

Manufacturing of Biomaterials (metals, ceramics and polymers)

HA-based Composites

Glass ceramics for orthopedic and dental applications, acetabular socket and femoral head, prototype development

Text Transcripts

WEEK 3 ASSIGNMENT

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

Due on 2019-08-21, 23:59 IST.

1) Cytoskeleton consists of

1 point

- Fibronectin filaments
- Actin filaments
- Collagen fibres
- Elastin fibres

No, the answer is incorrect.
Score: 0

Accepted Answers:
Actin filaments

2) The voltage difference across the membrane of a eukaryotic cell is around

1 point

- 30 mV
- 70 mV
- 50 mV
- 90 mV

No, the answer is incorrect.
Score: 0

Accepted Answers:
70 mV

3) Depolymerization of Actin filaments happen when

1 point

- cell size increases
- undergoes division
- cell size decreases
- changes shape

No, the answer is incorrect.
Score: 0

Accepted Answers:
undergoes division

4) Cells can communicate to neighboring cells on a biomaterial substrate through

1 point

- signaling molecules
- focal adhesion complexes
- cell receptors
- all of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
all of the above

5) Focal adhesion complex is formed by interaction of

1 point

- cell surface receptor and adsorbed proteins
- cell membrane channels and adsorbed proteins
- biomolecules in the culture medium and adsorbed proteins
- nuclear pore complex and actin filaments

No, the answer is incorrect.
Score: 0

Accepted Answers:
cell surface receptor and adsorbed proteins

6) Ribosome is a

1 point

- membrane bound organelle
- RNA-Protein complex
- DNA-Protein complex
- Lipid-Protein complex

No, the answer is incorrect.
Score: 0

Accepted Answers:
RNA-Protein complex

7) The antibacterial effect of an agent should be tested when the bacterial culture is in

1 point

- lag phase
- log phase
- stationary phase
- death phase

No, the answer is incorrect.
Score: 0

Accepted Answers:
log phase

8) Bacterial density is commonly recorded using spectrophotometer in the range

1 point

- UV-Visible
- far- Infrared
- Infrared (IR)
- IR-UV range

No, the answer is incorrect.
Score: 0

Accepted Answers:
UV-Visible

9) Triple helix structure exhibited by the following

1 point

- Collagen
- Antigen
- ATP
- DNA

No, the answer is incorrect.
Score: 0

Accepted Answers:
Collagen

10) Which cytoskeletal structures make up the mitotic spindle, which appears during cell division?

1 point

- Microfilaments
- Microtubules
- Intermediate filaments
- Actin filaments

No, the answer is incorrect.
Score: 0

Accepted Answers:
Microtubules

11) Functional proteins in general are structurally

1 point

- simple
- straight
- globular
- none of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
globular

12) The pH for all the culture medium is kept at

1 point

- 5.4
- 3.4
- 7.4
- 9.4

No, the answer is incorrect.
Score: 0

Accepted Answers:
7.4

13) Under favorable environmental conditions, how do most prokaryotes reproduce?

1 point

- Meiosis
- Mitosis
- binary fission
- budding

No, the answer is incorrect.
Score: 0

Accepted Answers:
binary fission

14) Atrophy is the term used for loss of tissue functionality due to

1 point

- wastage/degeneration
- reduction in size
- diminished use
- all of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
all of the above

15) Complex structures of proteins generally involve

1 point

- hydrogen bonds
- Vander Walls forces
- covalent bonds
- all of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
all of the above