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 58

JORDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY
 College of Science, Dept. of Applied Biological Sciences
 B101 First Hour Exam/Fall-2003

FORM A

Time: 1 hour

Name:

Number:

SELECT THE MOST APPROPRIATE ANSWER:

- 1-Which of the following is FALSE about the electron microscope (EM)?
 - a. uses a beam of electrons
 - b. The resolving power is 0.2 μm
 - c. Transmission EM is used to examine the ultrastructure of cells
 - d. Electromagnetic lenses are used
- 2-Which of the following is TRUE about cell fractionation?
 - a. Tissue is first disrupted to break the cells apart without damaging organelles
 - b. The homogenate is centrifuged at different speeds
 - c. Centrifugation at low speed and for short time separates the nuclei & cellular debris
 - d. All of the above
- 3-Which of the following are MIS-MATCHED?
 - a. Prokaryotic cell / Bacteria & cyanobacteria
 - b. 1 micrometer (μm) = 10^{-3} mm
 - c. Cytoplasm / Region between nucleus & cell membrane
 - d. Amino acid/A monomer with one functional group
- 4-Select the base which is NOT present in RNA:
 - a. Adenine (A)
 - b. Guanine (G)
 - c. Thymine (T)
 - d. Uracil (U)
- 5-Animals store most of their energy as:
 - a. glucose
 - b. glycogen
 - c. Chitin
 - d. cellulose
- 6-Which of the following is NOT true about the nuclear lamina
 - a. lines the inner surface of nuclear envelope
 - b. lines the outer surface of nuclear envelope
 - c. Netlike array of protein filaments
 - d. maintains the shape of the nucleus
- 7-What happens when a protein denatures?
 - a. loses its tertiary structure
 - b. loses its ability to function
 - c. hydrolysed into amino acids
 - d. a and b
- 8-The solution of the central vacuole is called ?
 - a. Sap
 - b. Pigments
 - c. Tonoplast
 - d. All of the above
- 9-Which of the following organelles contain hydrogen peroxide forming enzymes?
 - a. Peroxisomes
 - b. Mitochondria
 - c. Chloroplasts
 - d. Lysosomes
- 10-Which of the following organelles has its own genetic machinery ?
 - a. Peroxisomes
 - b. Mitochondria
 - c. Golgi
 - d. Lysosomes
- 11-Which of the following is FALSE about Cilia and Flagella?
 - a. Consist of microtubules
 - b. Microtubules are in a 9+2 arrangement
 - c. The dynein is made of lipids.
 - d. Dynein's conformational changes, makes cilia or flagella bend
- 12-Which of the following is TRUE about Microfilaments?
 - a. Participate in muscle contraction
 - b. Responsible for cyclosis in plant cells
 - c. Play a role in the extension and contraction of pseudopodia
 - d. All of the above
- 13-Which of the following are MIS-MATCHED?
 - a. Intermediate Filaments/Keratin subunits
 - b. Microfilaments/Compose the nuclear lamina
 - c. Microfilaments/Fix the nucleus in the cell division
 - d. Microtubules/Separation of chromosomes during cell division
- 14-Which of the following are NOT part of the endomembrane system?
 - a. Nuclear envelope
 - b. Endoplasmic reticulum
 - c. Golgi apparatus
 - d. Peroxisome
- 15-Which of the following organelles is enclosed by a membrane
 - a. Nucleolus
 - b. Lysosome
 - c. Ribosomes
 - d. Centrosome
- 16-Cholesterol:
 - a. is a member of plant cell membrane
 - b. a steroidal animal hormone precursor
 - c. maintains the membrane fluidity
 - d. b+c
- 17-One of the following is NOT TRUE about the nucleus
 - a. It is surrounded by 2 membranes
 - b. The nuclear lamina maintains the nuclear shape
 - c. The nuclear envelope is continuous with the Golgi lumen
 - d. Pore complex regulates movement of some large macromolecules in the nucleus
- 18-Which of the following is TRUE about lysosomes?
 - a. The optimal pH for lysosomal enzymes is about pH 5

- b. Lysosomes may engulf other organelles and digest them
c. Cells are destroyed by their own lysosomes during development of organisms
d. All of the above
- 19-Which of the following is MIS-MATCHED?
a. Chromatin / DNA & proteins
b. Nucleolus / Synthesises and assembles ribosomal components
c. Cristea / Endoplasmic reticulum
d. Nucleoid / Region of bacterial DNA
- 20-Which of the following is NOT a function of smooth Endoplasmic Reticulum (ER)?
a. Synthesis of lipids and steroids
b. Participates in carbohydrate metabolism
c. Detoxifies drugs and poisons
d. In muscle cell ER pumps Ca into cytosol
- 21-Which of the following is MIS-MATCHED?
a. Golgi apparatus / Finishes sorts and ships cell products
b. Cis face / Receiving face
c. Trans face / Shipping face
d. Golgi / Phagocytosis
- 22-The following pair is MIS-MATCHED
a. Receptor-mediated endocytosis/LDL transport
b. Pinocytosis/exocytosis of extracellular fluid
c. Cotransport/ATP-driven pump
d. Phagocytosis/endocytosis of particulate matter
- 23-The most types of molecules that pass easily through plasma membrane are:
a. small and hydrophilic
b. large and hydrophilic
c. small and hydrophobic
d. large and hydrophobic
- 24-Which of the following has a cell-cell recognition function:
a. phospholipids
b. choline
c. glycoproteins
d. cholesterol
- 25-Which of the following molecules is highly reduced
a. CH₄
b. CH₃OH
c. CH₂O
d. CO₂
- 26-Membrane fluidity depends on:
a. unsaturation of fatty acids of the phospholipids.
b. Cholesterol
c. protein
d. a+b
- 27-In hypertonic solution plant cells are:
a. increased in size
b. turgid
c. normal
d. plasmolyzed
- 28-One of the following is NOT true about active transport:
a. requires transport proteins
b. occurs down the concentration
c. requires energy
d. needs specific protein for each molecule
- 29-Water molecules move into the cell if the cell is placed in ... solution:
a. hypertonic
b. hypotonic
c. isotonic
d. a+c
- 30-Which of the following Does Not occur down a concentration gradient:
a. gas exchange in the lungs
b. sodium-potassium pump
c. facilitated transport
d. water absorption by plants
- 31-Condensation reactions are _____ reactions:
A) Anabolic
B) Catabolic
C) Hydrolysis
D) Degradation
- 32-Sucrose is a dimer of:
A) Glucose
B) Lactose
C) Fructose
D) (A+C)
- 33-The following macromolecule is MIS-MATCHED with the bond between its monomers
a. Glycogen/α glycosidic bond
b. Hemoglobin/Peptide bond
c. RNA/Sulphur-bond
d. DNA/Phosphodiester bond
- 34-The product of the hydrolysis of sucrose is:
a. fructose & galactose
b. fructose & glucose
c. galactose & glucose
d. galactose & lactose
- 35-The following pair is MIS-MATCHED
a. Cellulose / β glucose and unbranched
b. Amylose / α glucose and unbranched
c. Amylopectin / β glucose and branched
d. Glycogen / α glucose and branched
- 36-Which of the following is NOT a common function of protein:
a. defensive action
b. structural component
c. transport
d. energy storage
- 37-Which of the following molecules is LEAST related to the others:
a. glycerol
b. nucleotide
c. fatty acid
d. choline
- 38-The branched form of starch is:
A) Amylopectin
B) Amylase
C) Glycogen
D) Cellulose
- 39-What is the voltage across the membranes called?
A) Water potential
B) chemical gradient
C) membrane potential
D) electrochemical gradient
- 40-All of the following cellular activities require ATP energy except
A) movement of CO₂ into the cell
B) protein synthesis
C) Na⁺ ions moving out of the cell
D) Exocytosis
- 40-Which chapter did you find it easier?