eExam Question Bank

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Search:

Question Type	Question	A	B	C	D	Answer	Remark
FBQ	The lipid bilayers of the cell membrane have very low [ ] for ions and most polar molecules.	permeability					eExam
FBQ	The cytoskeleton is found underlying the cell membrane in the cytoplasm and provides a [ ] for membrane proteins to anchor to, as well as forming organelles that extend from the cell.	scaffolding	scaffold				eExam
FBQ	[ ] are circular pockets that are enclosed by a lipid bilayer.	Lipid vesicles	Liposomes				eExam
FBQ	The cell membrane serves as the attachment surface for the extracellular [ ], and cell wall and intracellular cytoskeleton	glycocalyx					eExam
FBQ	With the following proportions of lipids: 3% phosphotidyl-serine, 3% sphingomyelin, 10% cholesterol and 55% phosphotidyl choline. The membrane discussed is [ ].	rat liver nuclear membrane					eExam
FBQ	The cell membrane consists of three classes of [ ]	lipidsamphipathic					eExam
FBQ	The [ ] is an important feature in all cells, especially epithelia with microvilli.	glycocalyx					eExam

☐								
☐	FBQ	The _____ is an elaboration of the plasma membrane; a sort of rosette of ruffled membrane intruding into the cell. Not all prokaryotic cells have it.	mesosome					eExam
☐	FBQ	Paired cylindrical structures located near the nucleus, which play an important role in cell division are referred to as _____	centrioles					eExam
☐	FBQ	Lipid rafts and caveolae are examples of cholesterol-enriched _____ in the cell membrane.	microdomains					eExam
☐	FBQ	_____ proteins interact widely with hydrocarbon chains of membrane lipids and can be released by agents that compete for the same nonpolar interactions.	Integral					eExam
☐	FBQ	The _____ of a polarized cell is the surface of the plasma membrane that forms its basal and lateral surfaces.	basolateral membrane					eExam
☐	FBQ	The movement of substances across the membrane can be _____, occurring without the input of cellular energy.	passive					eExam
☐	FBQ	Proteins that are transported by the endoplasmic reticulum and from there throughout the cell are marked with an address tag called a _____.	signal sequence					eExam
☐	FBQ	The biological membranes can be considered as a two-dimensional liquid where all lipid and protein molecules diffuse more or less easily, according to the _____ model	fluid mosaic					eExam

☐	FBQ	_____ membrane has the following mineral composition; 8% Carbohydrate, 43% lipid and 49% protein.	human erythrocyte plasma					eExam
☐	FBQ	Pores and gates are examples of _____ __.	transmembrane protein complexes					eExam
☐	FBQ	The molecules of phospholipid in the cell membrane form a _____ .	phospholipid bilayer					eExam
☐	FBQ	In gram-negative bacteria, the region outside the plasma membrane but inside the outer membrane is the _____ .	periplasm					eExam
☐	FBQ	Crystals of calcium oxalate or silicon dioxide in plants, granules of energy-storage materials such as starch, glycogen, or polyhydroxybutyrate are all _____ _.	cytoplamic inclusions					eExam
☐	FBQ	The _____ is a biological membrane that separates the interior of all cells from the outside environment. It is selectively-permeable to ions and organic molecules, and controls the movement of substances in and out of cells.	cell membrane					eExam
☐	FBQ	_____ are organelles on which protein synthesis takes place	Ribosomes					eExam
☐	FBQ	_____ are specialized lipid-storage cells, which are also found in a range of other cell types.	Adipocytes					eExam
☐	FBQ	Protoplasm is composed of a mixture of small molecules and _____	macromolecules					eExam
☐	FBQ	_____ involves the attachment of oligosaccharides.	Glycosylation					eExam

☐	FBQ	_____ inclusions are small particles of insoluble substances suspended in the cytosol.	Cytoplasmic					eExam
☐	FBQ	Correct folding of newly-made proteins is made possible by several _____ proteins of the endoplasmic reticulum	chaperone					eExam
☐	FBQ	During gluconeogenesis, the Smooth Endoplasmic Reticulum converts glucose-6-phosphate to _____ through the enzyme glucose-6-phosphatase	glucose					eExam
☐	FBQ	The rough appearance of the rough endoplasmic reticulum is as a result of it being studded with _____	protein-manufacturing ribosomes					eExam
☐	FBQ	Within the cells of eukaryote organisms, the contents of the cell nucleus are separated from the cytoplasm, and are then called the _____ "	nucleoplasm					eExam
☐	FBQ	_____ contain acid hydrolases	Lysosomes					eExam
☐	FBQ	They digest excess or worn-out organelles, food particles, and engulfed viruses or bacteria. They are _____ .	Lysosomes and Peroxisomes	Peroxisomes and Lysosomes				eExam
☐	FBQ	A _____ is the component of a biological cell that creates proteins from all amino acids and RNA representing the protein	ribosome					eExam
☐	FBQ	In order to modify a macromolecule, cisternae's enzymes need the addition of carbohydrates and _____ to properly label each protein for its ultimate destination.	phosphates					eExam

☐								
☐	FBQ	Mitochondria generate the cell's energy by _____	oxidative phosphorylation					eExam
☐	FBQ	_____ molecules are used to add amino acids during protein translation.	Transfer RNA	tRNA				eExam
☐	FBQ	Levels of cellular organization together with the resultant tissues-organs-and-systems form the _____ process	physiological					eExam
☐	FBQ	A system is an association of _____ that have a common function.	organs					eExam
☐	FBQ	A _____ is a group of cells that performs a specific function	tissue					eExam
☐	FBQ	Cells are the basic structural and _____ units of the organisms body.	funtional					eExam
☐	FBQ	Plasma membrane serves as selective _____ for the import and export of materials between the cell and its surrounding environment.	barrier					eExam
☐	FBQ	Increased absorption rate of _____ by the epithelial cells is possible because of microvilli on the apical surfaces of the epithelial cells.	nutrients					eExam
☐	FBQ	Eukaryotes can move using _____	motile cilia	flagella				eExam
☐	FBQ	The protists and bacteria that live inside the gut of termite and help in digesting its woody diet are referred to as _____ .	endosymbionts					eExam
☐	FBQ	The _____ is an elaboration of the plasma membrane.	mesosome					eExam

☐								
☐	FBQ	The cytoskeleton provides a scaffolding for membrane _____ to anchor to, as well as forming organelles that extend from the cell	proteins					eExam
☐	FBQ	Exocytosis is the process of removing waste materials from _____	cells					eExam
☐	FBQ	Peripheral proteins are proteins that are bounded to the membrane by electrostatic interactions and _____ with the hydrophilic phospholipid heads.	hydrogen bonding					eExam
☐	FBQ	A _____ is the basic structural and functional units of living things	cell					eExam
☐	FBQ	The cell membrane is selectively _____ to ions and organic molecules and controls the movement of substances in and out of cells	Permeable					eExam
☐	FBQ	_____ is the science that describes how organisms function and survive in continually changing environments.	Physiology					eExam
☐	FBQ	Homeoviscous adaptation is the ability of some organisms to regulate the fluidity of their cell membranes by altering _____ .	lipid composition					eExam
☐	FBQ	_____ permeability refers to the ease with which molecules hook unto it	Membrane					eExam
☐	FBQ	_____ signal sequence of amino acids directs proteins to the endoplasmic reticulum, which inserts the proteins into a lipid bilayer	N-terminus					eExam

	FBQ	Antigens are present on cell membrane because they are receptors that aid cell to cell _____ .	communication					eExam
	FBQ	Protein within the cell membrane normally transport chemicals and _____ across the membrane	information					eExam
	FBQ	Liposomes are circular pockets that are enclosed by a _____	lipid bylayer					eExam
	FBQ	The diffusion of water across a cell membrane from an area of low solute concentration to an area of high solute concentration is called _____	osmosis					eExam
	FBQ	_____ is the movement of ions or molecules from regions of higher concentration to regions of lower concentration.	Diffusion					eExam
	FBQ	Active transport is the transportation of some molecules through the cell membrane powered by _____ from the cell's reserves.	energy					eExam
	MCQ	Protein synthesis takes place in the _____.	Cytoplasm	Lysosome	Plasma membrane	Ribosome	D	eExam
	MCQ	What is the function of the contractile vacuole?	To function as a nucleus	To store water in the cell	For osmoregulation; to pump water out of the cell if there is too much water	To store food and waste	C	eExam
	MCQ	The microtubules of a cell, a key component of the cytoskeleton, is produced by ____.	peroxisome	centrosome	cetriole	lysosome	A	eExam
	MCQ	How do Mitochondria generate the cell's energy?	By oxidative phosphorylation	By splitting into two	By carboxylation	Through the cystosol	A	eExam
	MCQ	Which of the following structures is found only in eukaryotes?	Chloroplasts	Mitochondria	Golgi apparatus	A, B & C	D	eExam
	MCQ	The following are theories about the origin of small molecules except ____.	Small molecules were synthesized by lightning in a reducing atmosphere	Small molecules came from meteorites	Small molecules are not divisible	Small molecules were created at deep-sea vents	C	eExam

	MCQ	Prokaryotic cells have no ____ while eukaryotic cells have ____.	nuclei, true nuclei	vacuole, false nuclei	cytosol, vacuole	protoplasm, cytosol	A	eExam
	MCQ	Levels of cellular organization together with the resultant tissues-organs-and-systems form the _____ processes.	psychological	biological	physiological	cytological	B	eExam
	MCQ	Major systems in the human body include the following except _____.	bone	urinary	digestive	endocrine	A	eExam
	MCQ	The following are basic types of tissues in the body except _____.	epithelial	head	nervous	muscle	B	eExam
	MCQ	The following are cytoplasmic inclusions except _____.	granules of starch	granules of polyhydroxybutyrate	crystals of silicon dioxide in plants	organelles	D	eExam
	MCQ	Cytoplasmic _____ are small particles of insoluble substances suspended in the cytosol.	suspensions	inclusions	projections	adipocytes	B	eExam
	MCQ	The smooth endoplasmic reticulum _____ while the Sacroplasmic reticulum stores _____ions.	pumps calcium; synthesizes	sequesters molecules; and binds	synthesizes molecules; and pumps calcium	produces organelles; and passes	C	eExam
	MCQ	Which of the following is a step in gluconeogenesis?	Conversion of glucose-6-phosphate to glucose	Conversion of glucose-3-phosphate to glucose	Conversion of glucose-6-phosphate to fructose	Conversion of glucose-3-phosphate to fructose	A	eExam
	MCQ	Depending on the enzymatic needs of a cell, massive changes can occur in the protein content without any noticeable _____ changes.	functional	structural	nuclear	reticular	B	eExam
	MCQ	Types of endoplasmic reticulum include _____.	sarcoplasmic reticulum	rough endoplasmic reticulum and smooth endoplasmic reticulum	A & B	short endoplasmic reticulum and sarcoplasmic reticulum	C	eExam
	MCQ	"_____ paired cylindrical structures located near the nucleus, which play an important role in cell division."	Centrioles	Centrosomes	Cisternae	smooth endoplasmic reticulum	A	eExam
	MCQ	Why are ribosomes classified as ribozymes?	Ribosome have ribonucleic acid that reflects the likely evolutionary origin of this organelle.	Ribosomes are classified as ribozymes because ribosomes from bacteria, archaea and eukaryotes have significantly different structures and RNA sequences.	Ribosomes are classified as ribozymes because when a ribosome finishes reading a mRNA, the two subunits split apart	Ribosomes are classified as ribozymes because the ribosomal RNA seems to be most important for the peptidyl transferase activity that links amino acids together	D	eExam

☐	MCQ	The ___ states that the vesicles fuse to each other at the cis face of the Golgi apparatus and are essentially pushed along as new vesicles fuse together behind them.	cisternal maturation model	membrane-bound model	endomembrane system model	ribosomal model	A	eExam
☐	MCQ	The Golgi will use a xylose link to polymerize ___ onto proteins to form ___.	saminoglycans; glycoprotein	proteoglycan; glycosaminoglycans	glycosaminoglycans; proteoglycan	sulfation; proteoglycan	C	eExam
☐	MCQ	_____ are flattened stacks of membrane usually found in a series of five to eight in golgi apparatus	Golgi	Cisternae	Lysosomes	Nucleotide sugars	B	eExam
☐	MCQ	Which of the following is a similarity between mitochondria and chloroplasts?	Both contain DNA in circular plasmids	Mitochondria and chloroplasts each contain their own genome	The geneone of each organelle is separate and distinct from the nuclear genome of a cell	A, B & C	D	eExam
☐	MCQ	The primary function of the golgi apparatus include the following except ____.	creating lysosomes	modifying the proteins that it receives from the rough endoplasmic reticulum	transporting lipids to vital parts of the cell	delivery of nucleotide sugars from the cytosol	D	eExam
☐	MCQ	Organelles that are modified chloroplasts are broadly called ___, and are involved in energy storage through photosynthesis.	pits	plastids	plasmas	proteins	B	eExam
☐	MCQ	The following are molecules and macromolecular assemblies exported from the nucleus except _____.	transfer RNA molecules	ribosomal subunits	histones	messenger RNA (mRNA) molecules	C	eExam
☐	MCQ	Splicing factors are needed to:	turn genes on (and off)	cut out intron regions and splice the exon regions	make the nucleosomes	assemble ribosomes	B	eExam
☐	MCQ	Transport through the nuclear pore complexes is active; meaning that it requires ____.	energy	many different carrier molecules	each moleculespecialized to transport a particular cargodocking molecules in the NPC	A, B & C	D	eExam
☐	MCQ	The following are correct about ribosomes except _____.	The smaller subunit of the ribosome binds to the mRNA, while the larger subunit binds to the tRNA and the amino acids	Ribosomes are made from complexes of RNAs and proteins	When a ribosome finishes reading a mRNA, these two subunits split apart.	Ribosomes are divided into several subunits	D	eExam
☐	MCQ	The following are constituents of cell cytoplasm except _____.	microtubules	cystosol	nucleus	organelles	C	eExam

☐	MCQ	"In the movement of substances across the membrane, the cell is required to expend energy. What type of movement does this refer to?"	Protein	Active	Water	Slow	B	eExam
☐	MCQ	In humans the nuclear genome is divided into 23 _____.	cytogenes	genes	mesosomes	chromosomes	D	eExam
☐	MCQ	The following are component of the eukaryotic cytoskeletons except _____.	intermediate filaments	microtubules	microfilaments	eukaryases	D	eExam
☐	MCQ	Fluid mosaic membrane is another term for _____.	Phospholipid bilayer	Plasma memebrane	Semi-permeable membrane	Endomembrane	A	eExam
☐	MCQ	The ___ is a specialized region within the nucleus where ribosome subunits are assembled.	exoskeleton	ribosomes	nucleolus	ribosomal protein	C	eExam
☐	MCQ	Milk sugar is ____.	a plant polysaccharide made up of many glucose molecules	a disaccharide composed of the monosaccharides glucose and fructose	a disaccharide composed of glucose and the monosaccharide galactose	contains 5 or 6 carbon atoms	C	eExam
☐	MCQ	The phospholipic layer is so called because made mostly from a double layer of lipids; ____ and ___ molecules.	hydrophobic grain-like ; hydrophilic	hydrophobic fat-like; hydrophilic phosphorus	hydrophilic fat-like; hydrophobic phosphorus	hydrophobic phosphorous; hydrophilic phosphorus-like	B	eExam
☐	MCQ	Simple diffusion can be accomplished by the passage of solutes through __ transmembrane proteins called channel proteins.	tunnel-like	pun-like	gun-like	thread-like	A	eExam
☐	MCQ	"In facilitated diffusion, the rate of diffusion across a membrane, from a high concentration to a lower concentration is accelerated by the action membrane _____ called , that act as carrier molecules and aid in diffusion. "	Proteases	Maleases	Premeases	Permeases	D	eExam
☐	MCQ	"During osmosis, the solution that gains water is ___ while the solution that loses the water is ___"	Isotonic; Hypertonic	Hypotonic; Hypertonic	Hypertonic; Hypotonic	Hypotonic; Isotonic	C	eExam

☐	MCQ	How do the length and degree of unsaturation of fatty acid affect cell membrane fluidity?	Unsaturated lipids fatty acids may be saturated or unsaturated, with the configuration of the double bonds nearly always cis, thus decreasing cell membrane fluidity	Unsaturated lipids may be unsaturated, in which case the configuration of the double bonds decreases cell membrane fluidity	Unsaturated lipids create a kink, which prevents the fatty acids from packing together as tightly, thus decreasing the melting temperature of the cell membrane	The entire cell membrane is held together via non-covalent interaction of hydrophobic tails, which decreases its melting temperature.	C	eExam
☐	MCQ	The following are amphipathic lipids except _____.	Phospholipids	Glycolipids	Acids	Cholesterols	C	eExam
☐	MCQ	The following are integral membrane proteins except _____.	desmosomes	cadherins	caveolaes	phospholipid	D	eExam
☐	MCQ	A human cell has genetic material contained in the ____ and ___ genomes.	chromosomal; mitochondial	genomic; cytomic	nuclear; mitochondrial	genomic; nuclear	C	eExam
☐	MCQ	_____ molecules are used to add amino acids during protein translation.	Messanger RNA mRNA	Transfer RNA (tRNA)	Transfer DNA (tDNA)	Messanger DNA (mDNA)	B	eExam
☐	MCQ	Which of the following molecules would pass through the phospholipid bilayer easily?	Ions	Glucose	Benzene	Sucrose	C	eExam
☐	MCQ	Cell membrane has both _____ and _____ portions.	protein and carbohydrate	Carbohydrate and phospholipid	Carbohydrate and fatty acid	protein and phospholipid	D	eExam
☐	MCQ	Which of the following molecule types would pass through the cell membrane more easily?	Electrically charged, small molecules	Electrically charged, large molecules	Electrically neutral, small molecules	Electrically neutral and large molecules	C	eExam
☐	MCQ	Integral membrane protein can be found in the following except _____.	pits	desmosomes	cadherins	integrins	A	eExam
☐	MCQ	Apical membrane is evidenced in the following polarized cells except ___.	neurons	endothelial cells	epithelial cells	basolateral cells	D	eExam
☐	MCQ	The following are correct about the lipid layer of the cell membrane except ____.	Van der Waal, electrostatic, hyrdogen bonds, and noncovalent interactions contribute to the formation of the lipid bilayer	The arrangement of hydrophilic heads and hydrophobic tails of the lipid bilayer prevent polar solutes from diffusing across the membrane	Lipid bilayers have very high permeability for ions and most polar molecules.	The arrangement of hydrophilic heads and hydrophobic tails of the lipid bilayer generally allows for the passive diffusion of hydrophobic molecules	C	eExam
☐	MCQ	Steroids include the following except ____.	estrogen	progesteron	cholesterol	testosterone	B	eExam

☐	MCQ	The following are correct about lipids of a typical cell except ____.	Lipids form about 3% of the dry mass of a typical cell.	Lipids are composed largely of carbon and hydrogen, and are generally insoluble in water.	Lipids are involved mainly with long-term energy storage.	They function as as structural components and as ""messengers"" that play roles in communications within and between cells	A	eExam
☐	MCQ	Major differences between prokaryotic and eucaryotic cells are that:	prokaryotic cells lack a nucleus and membranous organelles while eukaryotic cells contain a membrane-bound nucleus and numerous membrane-enclosed organelles	prokaryotes are enclosed by plasma membranes filled with cytoplasm, while eucaryotes are not	the cytoplasm of eukaryotic cell type is loaded with small structures called ribosomes while that of the prokaryotic cell is not	Archived instructions for operating the cell are carried by the DNA in Eukaryotic cells while in prokaryotic cells, it is carried by the RNA	A	eExam
☐	MCQ	Which of the following may have played a role in the transition from prokaryotes to eukaryotes?	Meiosis	Sex as the stereotyped choreography of meiosis and syngamy	Syngamy	Bigamy	B	eExam
☐	MCQ	Mitochondrial and chloroplast DNA are similar to Prokaryotic DNA in several ways. Which of the following is not correct of these similarities?	In a manner similar to the binary fission of prokaryotic cells, mitochondria and chloroplasts divide	Like prokaryotic DNA, mitochondrial and chloroplast DNA molecules are naked and circular.	Similar to the Prokaryotic, these organelles also have their own population of ribosomes	Mitochonria have their own DNA duplicated in the nucleus	C	eExam
☐	MCQ	Which of the following ascertions is true of water in living organisms?	Water forms about 3% of the dry mass of a typical cell.	Water serves as an excellent solvent and enters into many metabolic reactions.	Most living organisms and cells are composed of 60-90% water	B & C	D	eExam
☐	MCQ	Foreign DNA can be artificially introduced into the cell by a process called _____.	transduction	transfection	transpoon	transport	B	eExam
☐	MCQ	Retroviruses have ____ as their genetic material.	DNA	rDNA	RNA	dRNA	C	eExam
☐	MCQ	Prokaryotic genetic material is organized in a simple circular DNA molecule in the _____ region of the cytoplasm.	nucleoid	membrane	lipid	cartilagenous	A	eExam
☐	MCQ	The DNA of the nucleus with its associated proteins are collectively referred to as ____ .	nonhistone	histones	nucleosomes	chromatin	D	eExam

Showing 1 to 120 of 120 entries

Previous 1 Next