

Salahaddin University-Erbil
College of Education
Department of Biology

Subject: Question Bank of Cell Biology

Question// Fill the blanks with appropriate terms of phrases:

- 1- ----- is a technique means to keep cells alive and grow in an in vitro
- 2- -----is a term used in histology and cytopathology to describe variability in the size, shape and staining of cells
- 3- A prokaryotic cell has three regions -----, ----- and -----
- 4- membrane proteins have two types -----and-----
- 5- When samples prepared for TEM, the tissue postfixed in -----for ----- hour
- 6- The most acceptable model of plasma membrane-----
- 7- Nucleolus is the site for synthesis -----
- 8- Facilitated diffusion does not require -----
- 9- In humans, ----- is a commonly co-transported ion across the plasma membrane
- 10- Membrane carbohydrates may be covalently bonded to lipids forming ----- or to proteins forming -----
- 11- ----- is a branch of biology that studies the structure, function, and behavior of cells.
- 12- Membrane carbohydrates may be covalently bonded to lipids forming -----
- 13- Molecules can move into or out of cells by 2 basic mechanisms -----and -----
- 14- A molecule which binds specifically to a receptor is called a -----
- 15- The thickness of the sections using ultramicrotome is semi-thin sections about ----- or ultrathin sections -----
- 16- Substances which are transported by active transport, are ----- form and ----- form.
- 17- Intracellular receptors are receptor proteins found typically in the -----or-----
- 18- The first step in preparing samples for TEM is -----
- 19- ----- is the process of capturing a substance or particle from outside the cell by engulfing it with the cell membrane, and bringing it into the cell.
- 20- Receptors can be divided into two categories -----and -----

- 21- Aerobic respiration takes place in the -----in the presence of oxygen.
- 22- The pH of the interior of the lysosomes is-----
- 23- Tumor is an abnormal mass of tissue has two types -----and -----
- 24- -----the cells that are isolated from the inner cell mass of blastocysts
- 25- The lysosomal enzymes are synthesized in the while the lysosomes are produced in the -----
- 26- The selective degradation of mitochondria by autophagy called-----
- 27- ----- is the ability of Umbilical stem cells to travel to the site of tissue damage
- 28- Metastasis is -----
- 29- -----is the ability of few cells to change its shape during their life cycle
- 30- One of the main component of cells are molecules like -----which is 50%
- 31- A prokaryotic cell has three regions-----, -----and-----
- 32- -----is the process of degradation through lysosomes for any unnecessary or damaged components.
- 33- The cell membrane composed of -----, ----- and -----
- 34- Cell adhesion between two different molecules called-----

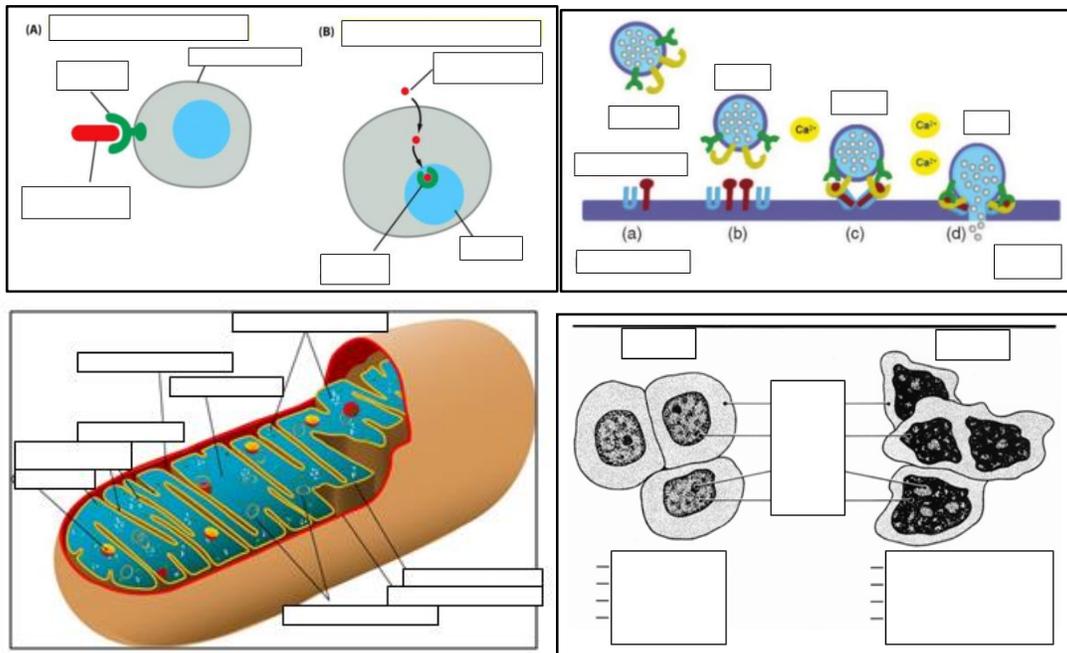
Question// Count the following:

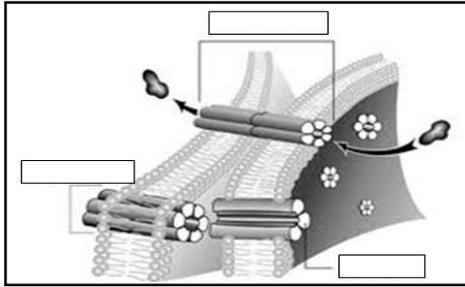
- 1- Diffusion or Passive transport further divided into?
- 2- Major functions of membrane proteins
- 3- Types of Gated Channels
- 4- Factors that determine the rate of diffusion (just 6)
- 5- Main types of Cell surface receptors.
- 6- The unique properties of all stem cells.
- 7- Main categories of cancer cell, according to the cell type which originate.
- 8- The properties of the cells which has more mitochondria.
- 9- Types of lysosomes in the cell.
- 10- Types of stem cell according to the capacity of differentiation
- 11- Techniques commonly used to study cells?
- 12- Main types of Endocytosis
- 13- Diffusion subdivision
- 14- Function of Tight Junction
- 15- Special types of Active Transport
- 16- Four major functions of membrane proteins
- 17- Factors that determine the rate of diffusion (just 5 factors).

Question// Choose the letter of the correct choice:

1. Produce spindle fibers which are used to separate chromosomes during cell division is function of:
 - a. Nucleus.
 - b. Vesicle.
 - c. Centrioles.
 - d. Golgi apparatus.
2. The mechanism of transport through cell membrane which use energy derived secondarily from ionic concentration differences is:
 - a. Primary active transport
 - b. Transcytosis
 - c. Diffusion
 - d. Secondary active transport
3. It is a very special macromolecules (proteins) which present on the surface of a cell or within the cell receives chemical signals originating externally from a cell.
 - a. Phosphate
 - b. Ligand
 - c. ATP
 - d. Receptor
4. Receptors are mainly composed of
 - a. Proteins
 - b. carbohydrate
 - c. nucleic acid
 - d. all of these
5. Its functions is synthesize, store, and secrete Proteins:
 - a. Nucleus
 - b. Rough endoplasmic reticulum
 - c. Lysosome
 - d. Golgi apparatus

Question// Identify and label the following figures:





Question // Write the main difference between the following:

- 1-Embryonic Stem cells and Adult Stem cells
- 2- Malignant tumor and Benign tumor
- 3-TEM and SEM

Question// Give an example for the following:

- 1- Secondary Active transport
- 2- Integral membrane proteins
- 3- Signal relaying junctions
- 4- Transcytosis

Question// Answer the following:

- 1- Describe secondary active transport, what substance transported by this mechanism? With drawing.
- 2- If the ligands are small, hydrophobic molecules, which type of receptors are used and why?
- 3- Define Receptors and what is its main structure?

Asst. Prof. Dr. Treefa F. Ismail