

7th Science Lesson 10 Questions in English

10] Cell Biology

1. Salmonella species is a_____

- a) Virus
- b) Fungus
- c) **Bacteria**
- d) None

Explanation

Bacteria are micro-organisms that can be seen only under microscope and not seen through naked eyes. **Salmonella species is a Bacteria** that can cause food-borne infection.

2. The basic functional unit of an organism is called_____

- a) Nucleus
- b) **Cell**
- c) Axon
- d) Slime

Explanation

The basic functional unit of an organism is called, a cell. Structure of a cell represent the arrangement of parts or organelles in a cell. Function is the activity of each part or organelle in a cell. Cells are the basic building blocks of an organism.

3. Which of the following statement is correct?

- 1) Some simple organisms, are made up of only one cell, called as unicellular organisms
 - 2) They can be seen with naked eyes
 - 3) There are many single – celled microscopic organisms.
- a) 1, 2
 - b) **1, 3**
 - c) 2, 3
 - d) All the above

Explanation

Some simple organisms, are made up of only one cell. They are called unicellular organisms, which **can be seen with the help of a microscope**. There are many single – celled microscopic organisms.

4. Which of the following are single cell organisms?

- 1) Amoeba

- 2) Chlamydomonas
- 3) Bacteria
 - a) 1, 2
 - b) 1, 3
 - c) 2, 3
 - d) All the above

Explanation

Chlamydomonas and an Amoeba, a single-celled organism which carryout entire functions. The body of all organisms are made up of tiny building blocks called, cells. **Bacteria are also one celled unicellular organism.**

5. Arrange the following in order:

- 1) Organ
- 2) Organ system
- 3) Cell
- 4) Tissue
 - a) 4, 1, 2, 3
 - b) 2, 1, 4, 3
 - c) 3, 4, 1, 2
 - d) 3, 2, 1, 4

Explanation

The cells are organized into tissues, organs and organ systems in a multicellular organism. Macroscopic organisms are visible and consists of many cells. The body of macroscopic organisms involves various functions.

6. Which of the following are organ systems?

- 1) Respiratory system
- 2) Excretory system
- 3) Digestive system
 - a) 1, 2
 - b) 1, 3
 - c) 2, 3
 - d) All the above

Explanation

Many cells function together to form tissues, different tissues combined together to form an organ and different organs to form an organ system, which leads to form an organ. Many types of organ

systems function together in a body, e.g. **respiratory system, digestive system, excretory system, circulatory system** etc.

7. Which of the following is not included in respiratory system?

- a) Nostrils
- b) Nasal chamber
- c) **Liver**
- d) Wind pipe

Explanation

Many organs together form an organ system, which is concerned with a specific function. For example, **Respiratory system, which has organs like nostrils, nasal chamber, wind pipe and lungs that helps in the process of respiration.**

8. Which of the following does the function of conduction of water, mineral and also fixation?

- 1) Primary roots
- 2) Secondary roots
- 3) Tertiary roots
- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) **All the above**

Explanation

In a plant, the root system consists of **primary root, secondary root and tertiary root**, which does the **function of conduction of water, mineral and also fixation.**

9. Which of the following is odd on related to plants?

- a) **Stomach**
- b) Roots
- c) Leaves
- d) Stem

Explanation

A collection of different tissues worked together to perform a specific function or functions is called an organ. Human body has different organs like stomach, eye, heart, lungs etc., are made up of different type of tissues. **Plants have organs such as leaves, stems, and roots.**

10. Which of the following statement is correct?

- 1) Tissue is a group of cells, organized for a specific function.

- 2) Human and other animals are made up of nervous, epithelial, connective and muscle tissues.
- 3) Plants have transport, protective and ground tissues.
- a) 1, 2
 - b) 1, 3
 - c) 2, 3
 - d) **All the above**

Explanation

Tissue is a group of cells, organized for a specific function. Tissues have following features like same shaped cells or different shaped cells to perform a common function. Human and other animals are made up of nervous, epithelial, connective and muscle tissues. Plants have transport, protective and ground tissues.

11. Assertion(A): Our body is made up of many different kinds of cells.

Reason(R): Each type of cell is specialized to perform a specific function.

- a) Both (A) and (R) are correct, but (R) does not explain (A)
- b) Both (A) and (R) are wrong
- c) **Both (A) and (R) are correct and (R) explains (A)**
- d) (A) is Correct and (R) is wrong

Explanation

Our body is made up of many different kinds of cells. Each type of cell is **specialized to perform a specific function**. Depending on the function, cell has specific shape, size and may have some components which other type of cells do not have.

12. Which of the following statement is incorrect?

- 1) Inside a cell, there are many tiny structures called cell organelles
 - 2) They work to bring in food supplies, get rid of waste, protection and repair of the cell, and help it to grow and reproduce.
- a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) **None**

Explanation

Inside a cell, there are many tiny structures called cell organelles. These organelles are responsible for providing needs of the cell. They work to bring in **food supplies, get rid of waste, protection and**

repair of the cell, and help it to grow and reproduce. Each one has a specific function to do for the cell.

13. Which of the following is not found in Prokaryotes?

- a) Cell membrane
- b) Cytoplasm
- c) **Nucleus**
- d) All the above

Explanation

As we have mentioned before, all cells have some common structure.

These are 1. Cell membrane 2. Cytoplasm, and 3. Nucleus (In most eukaryotic cells)

Nucleus not found in prokaryotes.

14. The boundary of an animal cell is_____

- a) Nucleus
- b) Cytoplasm
- c) Protoplasm
- d) **Plasma membrane**

Explanation

The boundary of an animal cell is the plasma membrane, which is also called as cell membrane.

All animal and plant cells are enclosed or surrounded by a cell membrane.

15. Which of the following statement is correct?

- 1) Animal cells often have an irregular shape
 - 2) Plant cells have a much more regular and rigid shape
- a) 1 alone
 - b) 2 alone
 - c) **1, 2**
 - d) None

Explanation

All animal and plant cells are enclosed or surrounded by a cell membrane as you learned before. However, as you might have noticed previously that, **animal cells often have an irregular shape, whereas plant cells have a much more regular and rigid shape.**

16. What is the function of cell wall in plants?

- a) Support
- b) Conduction
- c) Stability
- d) Both 1 and 3

Explanation

Plant cells have an additional layer on the outer side of the cell membrane. This is called as the cell wall, that provides a frame work for **support and stability**

17. Which of the following statement is correct?

- 1) The cell wall is formed from various compounds, the main one being cellulose.
 - 2) Cellulose allows the plant to remain rigid and upright even if it grows to great heights
 - 3) Each cell is interconnected with its neighbouring cells through openings called Plasmodesmata.
- a) 1, 2
 - b) 1, 3
 - c) 2, 3
 - d) All the above

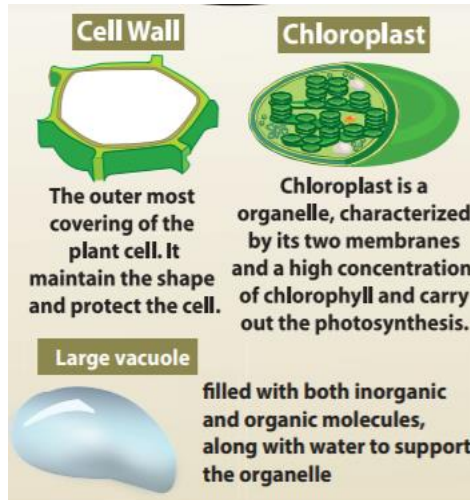
Explanation

The cell wall is formed from various compounds, the main one being cellulose. **Cellulose** helps to maintain the shape of the plant cell. This **allows the plant to remain rigid and upright even if it grows to great heights**. Each cell is interconnected with its neighbouring cells through openings called **Plasmodesmata**.

18. Which of the following statement is incorrect?

- 1) Chloroplast is responsible for photosynthesis
 - 2) Vacuoles are filled with both organic and inorganic molecules
- a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) None

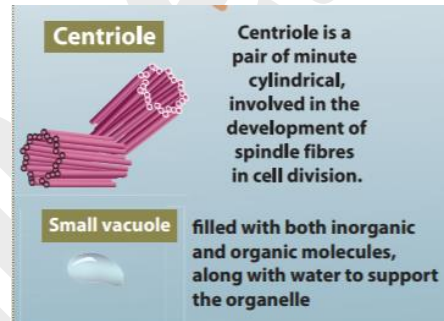
Explanation



19. Which of the following is involved in the development of spindle fibres?

- a) Nucleus
- b) **Centrioles**
- c) Cytoplasm
- d) Golgi body

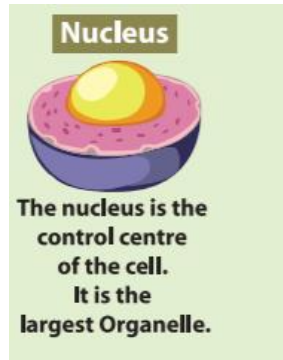
Explanation



20. Which of the following is the control centre of the cell?

- a) Golgi body
- b) Mitochondria
- c) Cytoplasm
- d) **Nucleus**

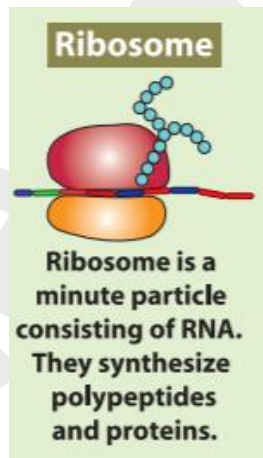
Explanation



21. Which of the following is contained in Ribosome?

- a) DNA
- b) **RNA**
- c) Either a or b
- d) Both a and b

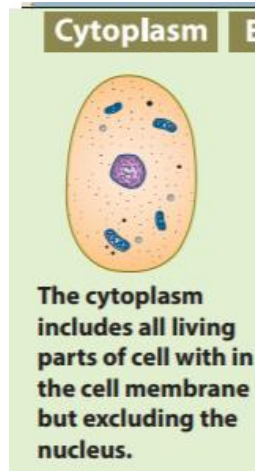
Explanation



22. Which of the following is not included in cytoplasm?

- a) **Nucleus**
- b) Ribosomes
- c) Mitochondria
- d) Endoplasmic reticulum

Explanation



23. Which of the following is involved in protein and lipid synthesis?

- a) Nucleus
- b) **Endoplasmic reticulum**
- c) Mitochondria
- d) Golgi body

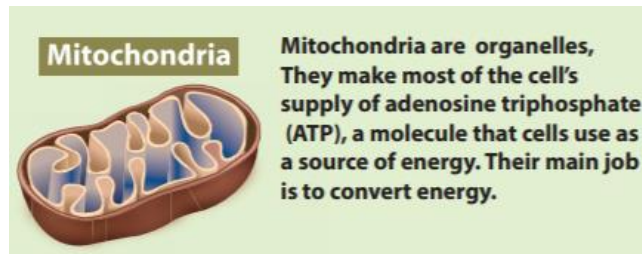
Explanation



24. Which of the following makes ATP?

- a) Nucleus
- b) Endoplasmic reticulum
- c) **Mitochondria**
- d) Golgi body

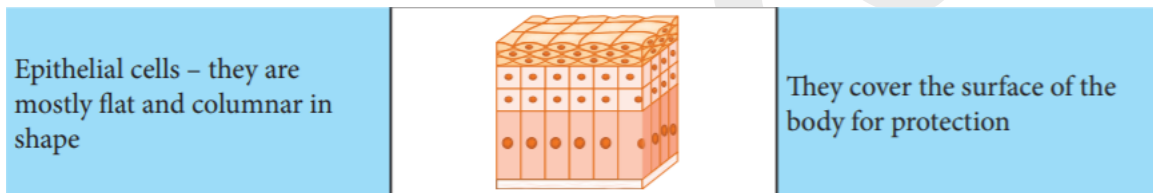
Explanation



25. What is the shape of Epithelial cells?

- a) Cylindrical
- b) **Flat**
- c) Circular
- d) Oval

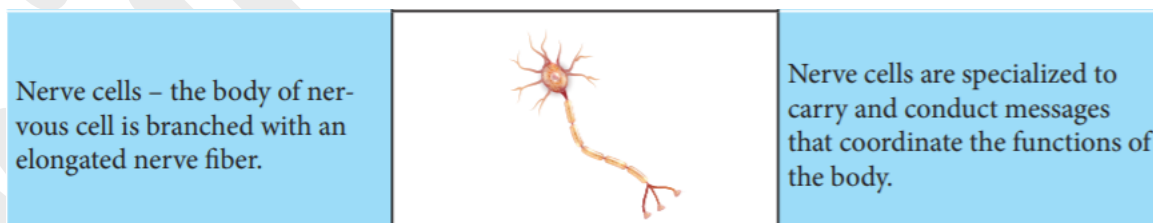
Explanation



26. _____ are specialized to carry and conduct messages that coordinate the functions of the body

- a) Epithelial cells
- b) Muscle cells
- c) **Nerve cells**
- d) RBC

Explanation



27. What is the shape of RBC?

- 1) Round
- 2) Rectangular
- 3) Disc
- 4) Biconcave
- a) 1, 2, 4

- b) 2, 3, 4
- c) 1, 3, 4
- d) All the above

Explanation

Red blood cells – Round, biconcave and disc shaped



Red blood cells carry oxygen and collect carbon dioxide from various part of the body.

28. Assertion(A): Stem Cells are utilized by the Scientist and Medicos, to cure and prevent some diseases like Spinal cord injury

Reason(R): Stem cells are quite amazing as they can divide and multiply while at the same time with their ability to develop into any other type of cell

- a) Both (A) and (R) are correct, but (R) does not explain (A)
- b) Both (A) and (R) are wrong
- c) Both (A) and (R) are correct and (R) explains (A)
- d) (A) is Correct and (R) is wrong

Explanation

Stem cells are quite amazing as they can divide and multiply while at the same time with their ability to develop into any other type of cell. Embryonic stem cells are very special as they can become absolutely any type of cell in the body, for example, blood cell, nerve cell, muscle cell or gland cell. So, they are utilized by the **Scientist and Medicos, to cure and prevent some diseases like Spinal cord injury**

29. What % of water in cytosol?

- a) 70 to 90
- b) 30 to 50
- c) 40 to 60
- d) 15 to 20

Explanation

The cytoplasm includes all living parts of the cell with in the cell membrane, excluding the nucleus. The cytoplasm is made up of the cytosol and cell organelles. **The cytosol is a watery, jellylike medium made up of 70% - 90% water and usually colourless.**

30. Which of the following are included in cell?

- 1) Vacuole
 - 2) Chloroplast
 - 3) Mitochondria
- a) 1, 2
 - b) 1, 3
 - c) 2, 3
 - d) All the above

Explanation

Cell organelles and structures present in a cell are **endoplasmic reticulum, vacuole, ribosome, golgi body, lysosome, mitochondria, centriole, chloroplast**, surrounded by plasma membrane and cell wall.

31. The material inside and outside the nuclear membrane is known as_____

- a) Endoplasmic reticulum
- b) Cytoplasm
- c) **Protoplasm**
- d) Nucleoplasm

Explanation

In particular, the **material inside and outside the nuclear membrane is known as Protoplasm**. The fluid inside the nucleus is known as the nuclear fluid or nucleoplasm and outside the nucleus is called as cytoplasm.

32. Which of the following statement is correct?

- 1) Anaerobic respiratory reactions take place with-in the mitochondrion to release energy
 - 2) Mitochondria is an oval or rod-shaped double membrane bounded organelle.
 - 3) It is known as "the Power House" of the cell
- a) 1, 2
 - b) 1, 3
 - c) **2, 3**
 - d) All the above

Explanation

Mitochondria is an oval or rod-shaped double membrane bounded organelle. **Aerobic respiratory reactions take place with-in the mitochondrion to release energy**. So, it is known as "the Power House" of the cell. The energy produced within the mitochondrion is used for all the metabolic activities of the cell.

33. Which of the following statement is correct?

- 1) Chloroplasts are the only cell organelles that can produce food from the sun energy
 - 2) Chlorophyll can absorb radiant energy from the Sun and convert it to the chemical energy which can be used by the plants and animals
 - 3) Animal cells have chloroplasts and but are unable to do photosynthesis
- a) 1, 2
 - b) 1, 3
 - c) 2, 3
 - d) All the above

Explanation

Chloroplasts are the only cell organelles that can produce food from the sun energy. Only plants with chloroplast are able to do photosynthesis because they contain the very important green pigment, chlorophyll. Chlorophyll can absorb radiant energy from the Sun and convert it to the chemical energy which can be used by the plants and animals. **Animal cells lack chloroplasts and are unable to do photosynthesis.**

34. As fruits ripen, chloroplasts change to_____

- a) Sulphur
- b) Nitrogen
- c) **Chromoplasts**
- d) Chromium

Explanation

Various range of these plastids impart different colours to various parts of plant. Chromoplast impart colour to flower and fruits. **As fruits ripen, chloroplasts change to chromoplasts.** Starch is converted to sugar.

35. Which of the following are the functions of Golgi Complex?

- 1) Production of secretory substances
 - 2) Packaging
 - 3) Secretion
- a) 1, 2
 - b) 1, 3
 - c) 2, 3
 - d) **All the above**

Explanation

Membrane bounded sacs are stacked on top of the other with associated secretory vesicles are collectively known as Golgi complex. **Functions of Golgi complex are the production of secretory**

substances, packaging and secretion. This is the secret behind the change in the colour and taste of fruits.

36. Which of the following is known as Suicidal Bag?

- a) Nucleus
- b) Lysosome**
- c) Centrioles
- d) Leucoplasm

Explanation

Lysosome- "Suicidal Bag"

Everything I touch, I destroy You will find organelles called as lysosomes, which are very small to view using a light microscope. They are the main digestive compartments of the cell. **They lyse a cell, hence they are called "suicidal bag"**

37. Which of the following is present in animals and absent in plants?

- a) Endoplasmic reticulum
- b) Nucleus
- c) Centrioles**
- d) Lysosomes

Explanation

Centrioles are generally found close to the nucleus and are made up of tube-like structures. **Centrioles or centrosomes are present only in animal cells and absent in plant cells.** It helps in the separation of chromosomes during cell division.

38. Which of the following helps in synthesis of protein?

- a) Rough endoplasmic reticulum**
- b) Smooth endoplasmic reticulum
- c) Centrioles
- d) Both a and b

Explanation

Rough endoplasmic reticulum is rough due to the ribosomes attached to the membrane. **which helps in the synthesis of protein**

Smooth endoplasmic reticulum. It is a network of tubular sacs without ribosomes on the membrane. They play a role in the synthesis of lipids, steroids and also transport them within the cell.

39. Which of the following statement is correct?

- 1) Plant and animal cells have a nucleus inside the cytoplasm
 - 2) During cell division, the chromatin body is organised into a chromosome.
 - 3) One or two nucleolus and the chromatin body are present inside the nucleus
- a) 1, 2
 - b) 1, 3
 - c) 2, 3
 - d) All the above

Explanation

Plant and animal cells have a nucleus inside the cytoplasm. It is surrounded by a nuclear envelope. One or two nucleolus and the chromatin body are present inside the nucleus. During cell division, the chromatin body is organised into a chromosome. Storage of genetic material and transfers heredity characters from generation to generation are the functions of chromosome.