

GK

IMPORTANT FOR ALL COMPETITIVE EXAMINATIONS

BIOLOGY GK + NOTES

Cytology – Biology Question Answer mcq + notes [PDF]

PDF

GKAREA.COM



Cytology Related Question Answer

[Important Points on Cytology with question and answers](#). Dear aspirants, I have updated all the important and selective points related to Cell. So keep reading regularly and prepared for your upcoming competitive exams like SSC, CGL, MTS, CHSL, Railway Group-D, Banking, IAS, UPSC, WBCS etc..

In this topics I have covered by selecting some important points of cell organelles such as [Ribosome](#), [Plastid](#), [Lysosome](#), [Peroxisome](#), [Mitochondria](#), [Vacuoles](#), [Golgi Body](#) and [Centrosome](#).

Q 1 Outermost thick dead protective layer of plant and bacterial cell are called as -

A: cell wall.

B: Cell Membrane

C: Cell Layer

D: Cell barrier

Answer:

A: Cell Wall

Q 2 Bacterial cell wall is mainly composed of _____.

A: Glycoprotein

B: peptidoglycan

C: glycan

D: mucopeptides

Answer:

peptidoglycan

⇒ Most of the plant cell wall are composed of - **cellulose, Hemicellulose, Lignin, pectin** etc.

Q3 Plasmodesmata is found in -

A: cell wall.

B: Cytoplasm

C: Nucleus

D: Cell membrane

Answer

Cell membrane

Q4 Outermost thin living protective layer of animal cell is _____.

A: cell membrane / plasma membrane.

B cell wall

C: Cell barrier

D Cell Layer

Answer

cell membrane / plasma membrane

⇒ Cell membrane is mainly composed of **protein and lipid**.

⇒ Unit membrane theory was proposed by **Robertson**. Fluid Mosaic model was proposed by **Singer and Nicolson**.

Q What is **Endocytosis**?

A Engulfment of solid particle into cell is known as Endocytosis.

Q What is **pinocytosis**?

A: Engulfment of liquid particle into cell is known as pinocytosis.

Q What is the nature of cell membrane ?

A: Cell membrane is selectively permeable or semi permeable.

Q Who coined the term Protoplasm?

A: Purkinji

⇒ Protoplasm is also called as - '**Physical basis of life**' (called by Huxley).

⇒ What is the nature of protoplasm?

A: Protoplasm is colloidal.

⇒ What is cytoplasm?

A: Protoplasm without nucleus.

⇒ Who discovered nucleus?

A: Robert Brown.

⇒ Nucleus is also called as - ***Brain of a cell / controlling tower of a cell.***

⇒ Nucleus less cell - **Mature Red Blood Cell or R.B.C** for animal (except camel). **Sieve tube** for plant.

⇒ Cell with well organised nucleus is called as - **Eukaryotic Cell** (Both DNA and RNA present)

⇒ Cell with ill organised nucleus is called as **Prokaryotic cell** (only RNA present).

⇒ Nucleo-plasm is also called as - **karyolymph.**

⇒ Nucleolus is also called as - **Ribosome.**

⇒ Nuclear reticulum is actually is - **Chromosome.**

⇒ Nucleus of bacterial cell is called as - **Nucleoid / Genophore.**

⇒ Nucleus of egg cell is known as - pronucleus.

⇒ Nucleus of diploid somatic cell is called as - **Amphi Nucleus.**

Ribosome :

Q Who discovered ribosome?

A: Palade.

⇒ Ribosome is also called as - ***protein factory of cell.***

⇒ Smallest cellular organelle of cell is - **Ribosome.**

Q Which kind of ribosome is found in prokaryotic cell?

A: 70S (30S & 50S)

Q What is cytology?

A: Study to form, structure and composition of cell is called cytology.

Q Who is known as father of cytology?

A: Robert Hooke

Q What is cell?

A: Cell is the fundamental structural and functional unit of cell living organism.

Q Who discovered cell?

A Robert Hook (1665).

⇒ Microscopes are of three types.

- Simple Microscopes
- Compound microscopes
- Electron microscopes.

Q Which is the smallest cell?

A: Mycoplasma gallisepticum.

Q Which is the largest cell?

A: Egg of Ostrich.

Q Which is Longest human cell

A: Nerve cell

Q Which is smallest human cell?

A: Platelets.

Q Which is longest unicellular plant cell

A: Acetabularia.

⇒ Longest multi-cellular plant cell is **Fiber of Ramie**.

⇒ Cell theory was largely put forward by Schneiden and Schwann (1839)

⇒ Cell theory state that bodies of all organism are made up of cells.

⇒ Exception of cell theory is - **Virus**.

⇒ Modern cell theory was proposed by **R. Virchow**.

Q What is plasmodesmata?

A: Cytoplasmic bridge between adjacent plant cell which maintain the connectivity between them.

⇒ Brown algae cell wall is mainly composed of : **Alginic acid, a common polysaccharide**.

Plastid :

⇒ Plastid is mainly found in - **Plant cell**.

⇒ The term plastid was coined by - **Schimper**.

⇒ Plastid with chlorophyll or green pigment - **chloroplast**.

⇒ Chloroplast is related to **photosynthesis**.

⇒ Chloroplast consists of - double membrane, Thylakoid or grana and stroma.

⇒ Chloroplast is also called as - **kitchen of cell** and **sugar factory of cell**.

⇒ Largest cellular organelle of cell is - **chloroplast**.

⇒ Plastid with pigment rather than green - **chromoplastid**.

⇒ Chromoplastid is related to **pollination**.

⇒ Plastid with out pigment is called - **Leucoplast**.

Q: What is the use of leucoplast?

A: Storing food.

Mitochondria

⇒ Mitochondria was observed by - **Kolliker**.

⇒ Mitochondria was discovered by - **Altmann**.

⇒ The term Mitochondria was coined by - **Benta**.

⇒ Mitochondria consists of double membrane, Cristae, oxysome and matrix.

⇒ Krebs's cycle of respiration occurs in - **mitochondria**.

⇒ Mitochondria is also called as - **power house of cell**.

⇒ Mitochondria is not present in *Red Blood Cell R.C.B*

⇒ Oxidative phosphorylation occurs in - **Mitochondria**.

⇒ Mitochondria is also called as

- cell within a cell
- Semi autonomous cellular organelle.

⇒ Bacterial respiration occurs in **mesosome**.

⇒ Mesosome is also called as - bacterial **mitochondria**.

Lysosome :

⇒ Lysosome was discovered by = **C.D Duve**.

Q Which enzyme is found in Lysosome?

A: Hydrolytic enzyme.

⇒ Lysosome is also called as - **Suicidal bag of cell** / *atom bomb of cell*.

Q By which process lysosome destroy a cell?

A: Phagocytosis.

⇒ Lysosome originates from- **Golgi bodies**.

⇒ Lysosome of plant cell is called as - **Sphaerosome**.

Peroxisome

Q: Who discovered peroxysome?

C.D. Duve.

⇒ Peroxisome originates from- **Golgi Body**.

Q Which enzyme is found in peroxisome?

A: oxidative enzyme.

⇒ Peroxisome is also called as - ***Safety valve of cell.***

Endoplasmic Reticulum :

⇒ It is discovered by Porter. It is present in all cell except RBC and sperm cell.

⇒ There are two types of Endoplasmic Reticulum,

1. Rough Endoplasmic Reticulum (Granular). It is involved in protein synthesis.
2. Smooth endoplasmic Reticulum (Agranular). It is involved in lipid and steroid synthesis.

Vacuoles

⇒ Vacuoles are present in cytoplasm. It is covered by single membrane.

⇒ The watery fluid of vacuoles is called cell sap.

Q By which vacuoles are surrounded?

A Tonoplast.

⇒ Vacuoles is called the store house of cell sap pigments, waste products, useful minerals and salts.

Golgi Apparatus :

⇒ It is discovered by Camillo Golgi.

⇒ It is a sac like structure which frequently includes cisternae, vesicles and vacuoles. When it is present in plant called dictyosome. It is also called as traffic police of the cell.

Centrosome :

⇒ It consists of centrioles and centrosphere. Formation of spindle fibre is the main function of centrosome.

⇒ **Basal bodies** : it is also called blepharoplast or kinetosome. Cilia and flagella are originated from basal body. Its function is for locomotion.

Microtubules : Microtubules composed of Tubulin Protein. It helps in spindle fibre formation in plant cell.

⇒ **Cell inclusion** : It is found in cytoplasm. Silica, oil, CaCO_3 Crystal, Calcium Oxalate crystal and some reserve food like starch, glycogen etc. It is found in cell inclusion.