



# BIOLOGY

## BOOKS - SARAS PUBLICATION

### CELL: THE UNIT OF LIFE

#### Exercise

1. The two subunits of ribosomes remain united at critical ion level of

A. Magnesium

B. Calcium

C. Sodium

D. Ferrous

**Answer:**



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**2. Which of the following is used as food?**

A. mRNA

B. rRNA

C. tRNA

D. hnRNA

**Answer:**



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**3.** Many cells functions properly and divide mitotically even though they do not have

A. Plasma membrane

B. Cytoskeleton

C. Mitochondria

D. Plastids.

**Answer:**



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4. Keeping in view the fluid mosaic model for the structure of cell membrane, which one of the following statements is correct with respect to the movement of lipids and

proteins from one lipid monolayer to the other

- A. Neither lipid nor proteins can flip-flop
- B. Both lipid and proteins can flip flop
- C. While lipids can rarely flip-flop proteins cannot
- D. While proteins can flip-flop lipids cannot

**Answer:**



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5. Match the columns and identify the correct option:-

Column-I	Column-II
(A) Thylakoids	(i) Disc-shaped sacs in Golgi apparatus
(B) Cristae	(ii) Condensed structure of DNA
(C) Cisternae	(iii) Flat membranous sacs in stroma
(D) Chromatin	(iv) Infoldings in mitochondria



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6. Who proposed the cell theory .....

A. Scheldiden and Schwann

B. Wastson and Crick

C. Mendel and Morgan

D. Robert Hooke

**Answer:**



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7. Which of the following is the exception of cell theory?

A. Bacteria

B. Fungi

C. Lichen

D. Virus

**Answer:**



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**8.** The division of the plant kingdom into prokaryotes and Eukaryotes is based on the character of

A. Nucleus



B. Chromosomes

C. Cell organelles

D. All the above.

**Answer:**



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9. Which one of the following is a prokaryote?

A. Agaricus

B. salmonella

C. Green algae

D. Bacteriophage

**Answer:**



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**10.** The cell organelle are found in

A. Bacterial cells

B. Cyanaobacterial cells

C. Prokaryotic cells

D. Eukaryotic cells

**Answer:**



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**11. Which one is not true for ribosome?**

A. Made of two subunits

B. Form polysome

C. May attach to mRNA

D. No role in protein synthesis

**Answer:**



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**12.** Who proposed the Fluid Mosaic Model of plasma membrane ? Describe the fluid mosaic model of plasma membrane with the help of labelled diagram.

A. Camillo Gogli

B. Schleiden and Schwann

C. Singer and Nicolson

D. Robert Brown

**Answer:**



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**13. What is tonoplast ?**

A. Outer membrane of mitochondria

B. Inner membrane of chloroplast

C. Membrane boundary of the vacuole of plant cells.

D. Cell membrane of a plant cell.

**Answer:**



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**14.** Who proposed the Fluid Mosaic Model of plasma membrane ? Describe the fluid mosaic model of plasma membrane with the help of labelled diagram.

A. Phospholipids and Oligasaccharides

B. Phospholipids and hemicellulose

C. Phospholipids and integral proteins.

D. Phospholipids and polysaccharides

**Answer:**



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**15. Peroxisoms are**

A. Microbodies

B. Spaherosomes

C. Macrobodies

D. Ribosomes

**Answer:**



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**16.** Semi autonomous cell organelle is

A. Mitochondrion

B. Ribosome



C. Plasma membrane

D. Peroxisome

**Answer:**



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**17. Colourless plastids are known as**

A. Chloroplasts

B. Chromoplasts

C. Leucoplasts

## D. Protoplasts

**Answer:**



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**18.** Ribosomes are the site of

A. Photosynthesis

B. Respiration

C. Protein synthesis

D. Absorption.

**Answer:**



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**19.** Which is the largest cell organelle present in plant cell?

A. Nucleus

B. Chloroplasts

C. Endoplasmic reticulum

D. Mitochondria.

**Answer:**



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**20. DNA is stored in**

A. Nucleus

B. ER

C. Ribosomes

D. Lysosome

**Answer:**



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21. Which of the following is used to visualize live cells?

A. SEM

B. TEM

C. Phase contrast microscope

D. All the above.

**Answer:**



22. Which of the following is used in electron microscope?

A. Electron beams

B. Magnetic fields

C. Electron gun

D. All the above.

**Answer:**



**23.** Which among the following helps us in getting a three dimensional picture of the specimen?

A. TEM

B. SEM

C. Compound microscope

D. Simple microscope.

**Answer:**



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**24.** Electron microscope was first introduced by

- A. Robert Hooke
- B. Kepler and Galileo
- C. Ernst Ruska
- D. Z. Jansen

**Answer:**



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**25.** Identify the non-membraneous organelles from the following

A. Ribosomes

B. ER

C. Nucleus

D. Chloroplast

**Answer:**



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**26.** The sub units of prokaryotic ribosomes are

A. 40S + 60S

B. 70S + 30S

C. 60S + 30S

D. 30S + 50S

**Answer:**



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27. Smooth endoplasmic reticulum is the site of

- A. Protein synthesis
- B. Lipid synthesis
- C. Carbohydrate synthesis
- D. Amino acid synthesis

**Answer:**



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**28.** Assembly of two sub units 40S and 60S of the ribosome is

A. 100S unit

B. 70S unit

C. 80S unit

D. 90S unit

**Answer:**



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**29.** The term chromosome was introduced by

A. W. Flemming

B. W. Roux

C. Sutton

D. Waldeyer

**Answer:**



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**30.** Chromosomes are not composed of

A. Cytosine

B. Thymine

C. Chromatin

D. Adenine

**Answer:**



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**31.** chromosome having centromere in its middle is

A. Acrocentric

B. Telocentric

C. Metacentric

D. Submetacentric

**Answer:**



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**32.** The terminal part of chromosome is

- A. Telemere
- B. Centromere
- C. Chromomere
- D. Kinetomere

**Answer:**



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**33.** In eukaryotic flagella, the arrangement of microtubules is

A. 9+1

B. 9+2

C. 9+3

D. 9+4

**Answer:**



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**34.** The adjacent doublets of flagella are jointed by a protein called

A. Radial spoke

B. Axoneme

C. Nexin

D. Dynein

**Answer:**



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**35.** Eukaryotic flagella is driven by

A. Proton

B. ATP

C. ADP

D. Protein

**Answer:**



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**36.** The basal bodies at the base of flagella and cilia are

- A. Ribosome
- B. Kinetoplast
- C. Dictyosome
- D. Kinetosome

**Answer:**



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**37.** Tubulin protein occurs in

A. Endoplasmic reticulum

B. Microtubules

C. Thylakoids

D. Digestive enzymes

**Answer:**



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**38.** Which of the following is not a component of the nucleus?

A. Centrosome

B. Nucleolus

C. Cytoplasm

D. Nuclear envelope

**Answer:**



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39. L shape chromosomes are described as

-----

- A. Metacentric
- B. Acrocentric
- C. Telocentric
- D. Sub-metacentric

**Answer:**



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**40.** The bead like accumulation of chromatin material is

- A. Centromere
- B. Telomere
- C. Chromomere
- D. Centrosphere

**Answer:**



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**41. Autosome is**

A. Kinetosome

B. Sex chromosome

C. Chromosome other than sex  
chromosomes.

D. Peroxisome

**Answer:**



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**42.** Chitinous cell wall is present in

A. Bacteriophage

B. Bacteria

C. Cyanobacteria

D. Fungi

**Answer:**



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**43.** Nucleus is stained using

- A. Methylene blue
- B. Cotton blue
- C. Toluidine blue
- D. Coomassie brilliant blue

**Answer:**



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**44.** Lignin (cell wall) is stained using

A. Safranin

B. Sudan black

C. Iodine

D. Eosin

**Answer:**



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**45.** In mitochondria, Cristae involve the

- A. Protein synthesis
- B. Electron transport system
- C. Deamination
- D. Carboxylation

**Answer:**



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**46.** Which of the following stain is used to visualise mitochondrion?

A. Eosin

B. Acetacarmine

C. Janus green

D. Haematoxylin

**Answer:**



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**47.** ATP is formed in

A. Nucleus

B. Mitochondria

C. Nucleolus

D. Ribosomes

**Answer:**



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**48.** The size of ribosomes and their sub units are give in

- A. SI unit
- B. Solubility factor
- C. Svedberg unit
- D. Sub-cellular unit

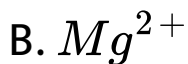
**Answer:**



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**49.** Which of the following ions are required for binding of ribosomal sub units.



**Answer:**



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50. Dark reaction occurs in \_\_\_\_\_ of chloroplast.

A. Grana

B. Lumen

C. Thylakoid

D. Stroma

**Answer:**



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51. Main function of the chloroplast is

A. Photosynthesis

B. Respiration

C. Translatioin

D. Transduction

**Answer:**



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52. \_\_\_\_\_ is the fluid present inside the chloroplast

A. Stroma

B. Thylakoid

C. Pigments

D. Grana

**Answer:**



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**53.** Thylakoids are constituents of

A. Chloroplasts

B. Mitochondria

C. ER

D. Ribosomes

**Answer:**



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**54.** The engulfing of fluid into a cell is called

A. Phagocytosis

B. Exocytosis

C. Pinocytosis

D. Endocytosis

**Answer:**



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**Example**

1. Bring out the significance of phase contrast microscopy



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2. State the protoplasm theory.



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3. distinguish between prokaryotes and eukaryotes.



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**4. Difference between plant and animal cell.**



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**5. Draw the ultra structure of plant cell.**



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**6. State Rudolf Virchow's cell theory.**





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**7. What is compound microscope?**



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**8. What is magnification?**



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**9. Define primary magnification.**



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**10. Define secondary magnification.**



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**11. Define micrometry.**



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**12.** Name the scientists who proposed the cell theory.



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**13.** What are the components of protoplasm?



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**14.** What is solation and gelation ?



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**15.** What is gelation?



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**16.** Define a tissue.



**Watch Video Solution**

**17.** Define organ.



**Watch Video Solution**

**18.** What is organ system?



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**19.** What is plasmodesmata?



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**20.** What are the main functions of cell membrane?



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21. Write about the formation of Golgi apparatus.



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22. Write the discovery of mitochondria. Write about the naming of mitochondria



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23. What is the role of mitochondria in evolution?



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24. Write notes on mitochondrial matrix



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25. Write the chemical composition of mitochondria.





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**26.** Why Mitochondira is called as 'the power house of a cell'?



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**27.** Write down the functions of lysosomes.



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**28.** List out the enzymes of lysosomes.



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**29.** What is the pH of lysosomal enzyme?



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**30.** What is microbodies ? Give examples.



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**31. What is Sphaerosomes?**



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**32. Name the two types of microbodies.**



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**33. What are cell inclusions ? Give example.**



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**34.** Name the inclusions in prokaryotes.



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**35.** What are metachromatic granules?



**Watch Video Solution**

**36.** Name the inclusions in prokaryotes.



**Watch Video Solution**

**37.** What is heterochromatin?



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**38.** What is nucleosome? How many base pairs are there in a typical nucleosome?



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**39.** Write about the discovery of chromosomes.



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**40.** What is Holocentric chromosomes ?



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**41.** What are the types of eukaryotic centromere?



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**42.** Write about regional centromere



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**43.** What is holocentromere?



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**44.** What are cytological techniques?



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**45.** What are types of slide preparation.



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**46.** What is whole mount?



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**47.** What is squash mount?



**Watch Video Solution**

**48.** What is smear mount?



**Watch Video Solution**

**49.** What is section mount?



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**50.** How can the observations made through a microscope recorded?



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**51.** Write notes on hand diagram.



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**52.** Write about histochemical staining.



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**53.** List out some common stains used in histochemistry.



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**54.** Name the stains used staining the nucleus?



**Watch Video Solution**

**55.** What are the types of microscope?



**Watch Video Solution**

**56.** What is microsocopic resolution?



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**57.** Define numerical aperture.



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**58.** What are the important statemetns of cell theory?



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**59.** Which of the following is the exception of cell theory?



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**60.** Write the cell size variation of organisms?



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**61.** Write about endosymbiont theory



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**62.** What are the functions of cell wall in plant cell?



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**63.** Write short notes on cell transport.



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**64.** Describe exocytosis.



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**65.** What is endomembrane system?



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**66.** Write notes on peroxisomes.



**Watch Video Solution**

**67.** What is glyoxysome?



**Watch Video Solution**

**68.** What are vacuoles?



**Watch Video Solution**

**69.** What is Euchromatin?



**Watch Video Solution**

**70. What is Nucleolus?**



**Watch Video Solution**

**71. What are the functions of nucleus.**



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**72. Write notes on chromonema fibre.**



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**73.** What are chromomeres ?



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**74.** Write briefly about point centromere



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**75.** Write notes on autosome.



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**76.** Write about sex chromosome



**Watch Video Solution**

**77.** What is giant chromosome?



**Watch Video Solution**

**78.** What are Balbiani rings ?



**Watch Video Solution**

**79.** What is endomitosis ?



**Watch Video Solution**

**80.** What is microphotograph ?



**Watch Video Solution**

**81.** What is staining technique?



**Watch Video Solution**

**82.** Write notes on crista.



**Watch Video Solution**

**83.** Write short notes on microscope.



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**84.** Write short notes on bright field microscope.



**Watch Video Solution**

**85.** Write short notes on dark field microscope.



**Watch Video Solution**

**86.** Write about microscopic measurements.



**Watch Video Solution**

**87.** Write about electron microscope.



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**88.** What do you know about TEM?



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**89.** Distinguish between light microscope and electron microscope.



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**90.** Write notes on Scanning Electron Microscope.



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**91.** Write the cell doctrine (cell principle).



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**92.** Discuss in detail about the physical properties of protoplasm.



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**93.** Write about prokaryotes



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**94.** Write about Mesokaryotes?



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**95.** Write short notes on Eukaryotes.





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**96.** Describe the origin of eukaryotes



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**97.** Write short notes on cell wall.



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**98.** What do you know about the primry wall of plant cell wall?



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**99.** Write notes on secondary wall of plant cell wall.



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**100.** Write notes on middle lamella.



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**101.** What is pit in a plant cell?



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**102.** Write briefly about cell membrane.



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**103.** Describe the fluid mosaic model of cell membrane.



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**104.** Explain endocytosis.



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**105.** Write notes on protoplasm.



**Watch Video Solution**

**106.** Define signal transduction.



**Watch Video Solution**

**107.** Write notes on cytoplasm.



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**108.** Describe the structure of endoplasmic reticulum.



**Watch Video Solution**

**109.** Write notes on Golgi body.



**Watch Video Solution**

**110.** Write down the functions of Golgi bodies.



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**111.** Describe the structure of Mitochondria.



**Watch Video Solution**

**112.** Describe plastid?



**Watch Video Solution**

**113.** Describe the structure of chloroplast.



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**114.** Write notes on Ribosome.



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**115.** What are 70S ribosomes?



**Watch Video Solution**

**116.** What are 80S ribosomes?



**Watch Video Solution**

**117.** What is polysome?





**Watch Video Solution**

**118.** Distinguish between 70S and 80S ribosomes.



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**119.** What do you know about lysosomes?



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**120.** Write down the functions of lysosomes.



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**121.** Write notes on centrioles.



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**122.** What are the functions of vacuoles?



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**123.** Describe the inclusions in eukaryotes.



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**124.** Describe the structure of nucleus with a suitable diagram.



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**125.** Write notes on Chromatin network.



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**126.** Describe the structure of chromosome.



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**127.** Describe the types of chromosomes.



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**128.** Write notes on telomere.



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**129.** Describe polytene chromosome.



**Watch Video Solution**

**130.** Write notes on lampbrush chromosomes.



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**131.** Describe the structure of flagella in bacteria.



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**132.** Describe the mechanism of prokaryotic flagellar movement.



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**133.** Describe the structure of eukaryotic flagellum.



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**134.** What is flagellar movement?



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**135.** Describe the structure of cilia.



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