

India's Number 1 Education App

BIOLOGY

BOOKS - KUMAR PRAKASHAN KENDRA BIOLOGY (GUJRATI ENGLISH)

CELL : THE UNIT OF LIFE

Section A Exam Oriented Qustions Answers Form Darpan 1. What is meant by living organism ? How is it

different from non-living objects ?

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2. What is called a cell ? Explain about it in short.



3. What is meant by cell Theory? Who presented its principles ? Which improvements were done in it ? Describe them.

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4. On the basis of organelles which types of

cell are found ?

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5. Explain about diversity found in size, shape

and structure of the cell.

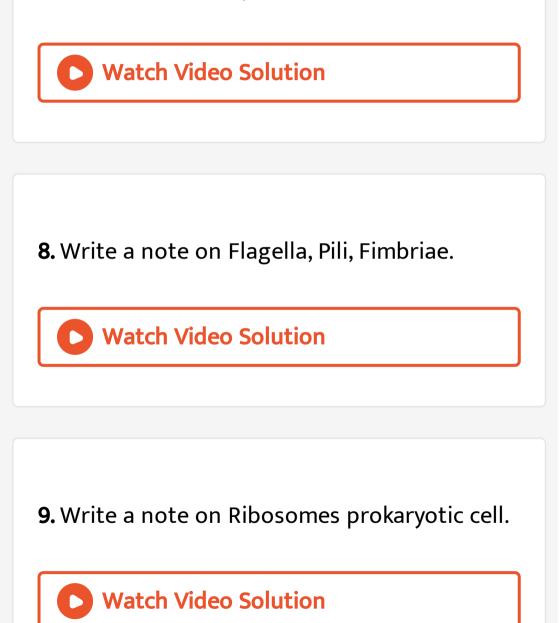


6. Describe structure of prokaryotic cell. OR In which organisms prokaryotic cells are found ? Give information about diversity of their shapes.



7. Give information about structure of cell

membrane and its specific functions.



1. Give information about Inclusion bodies.

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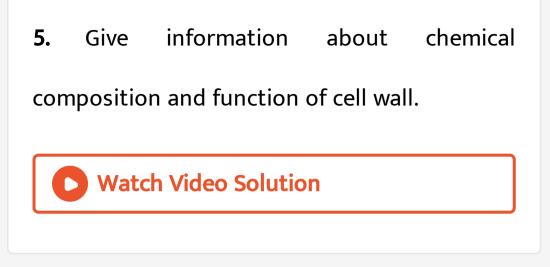
2. What is included in Eukaryotic cells ?

3. Discuss in detail the structure of plasma

membrane with diagram.

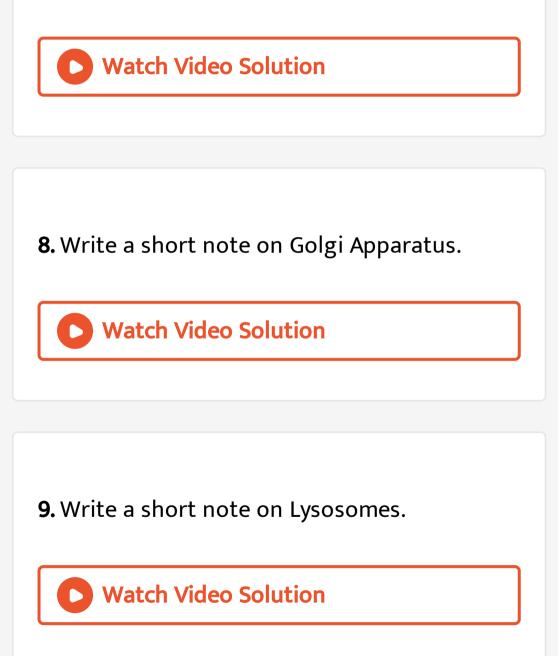
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4. Explain : On what basis substances are transported by plasma membrane/cell membrane ?



6. What is meant by Endomembrane system? Which cell organelles are seen in it ? Give information in short.

7. Describe about Endoplasmic Reticulum.



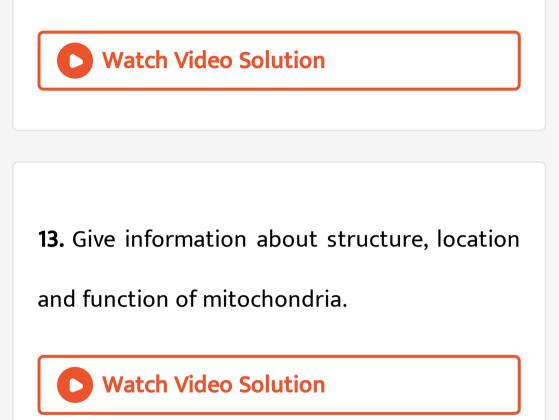
 10. Explain : Lysosomes can digest any

 biomolecules.

 Image: Watch Video Solution

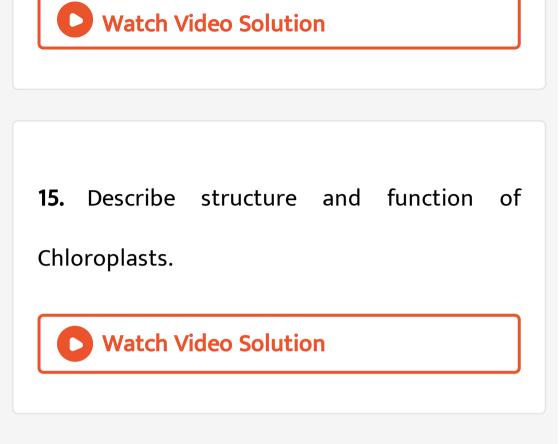
11. Give name and function of membrane bound structure occupying most of the space in plant cell.

12. Write a note on vacuole.



14. Where are plastids seen ? Explain its type

and functions in short.



16. Give information about ribosomes in short.



17. What is Cytoskeleton ? Give information

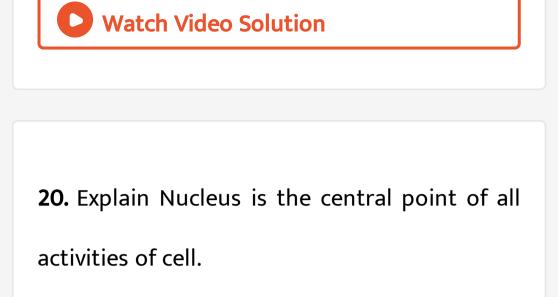
about its components, structure and function.



18. Describe micro structure of cilia and flagella.



19. Explain Centrosome and Centrioles.



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21. Describe about nucleus in detail.

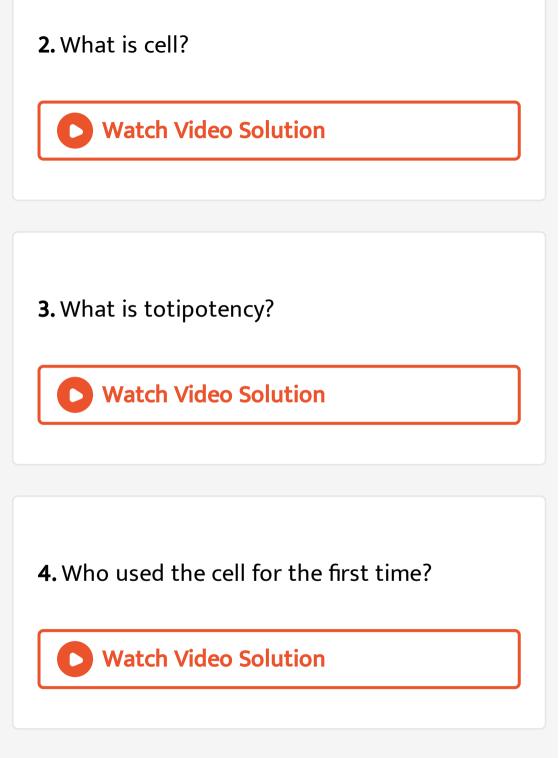
22. Show composition, structure and type of

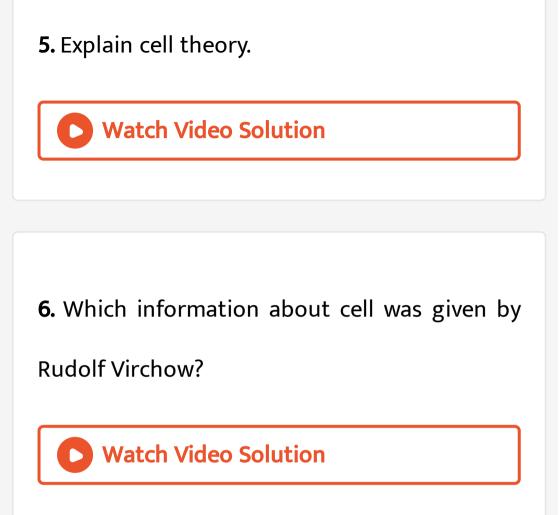
chromosomes.

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Section A Exam Oriented Qustions Answers Form Darpan Questions

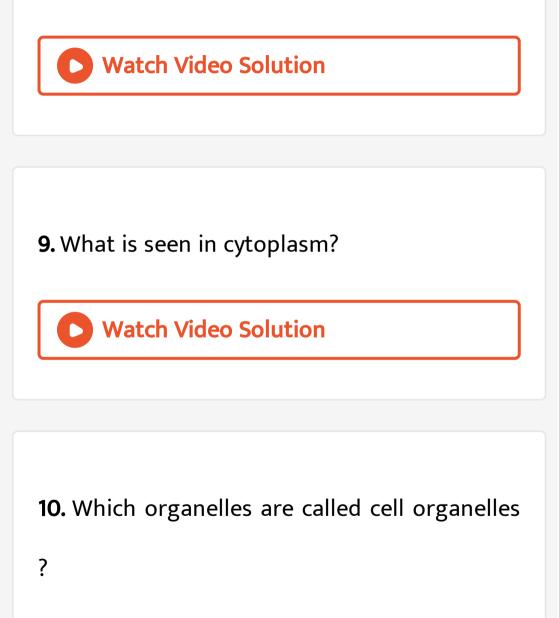
1. What is called multicellular organism?





7. What is nucleus ?

8. What is called prokaryotic cell ?



11. Which are the smallest and largest cells?

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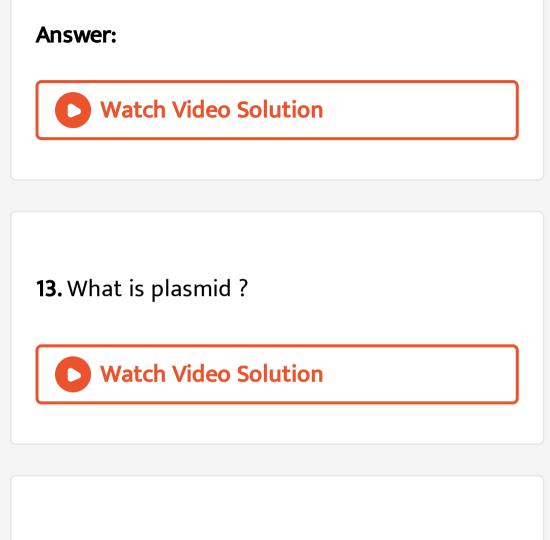
12. What are the basic shapes of bacteria ?

A. What are the basic shapes of bacteria?

Β.

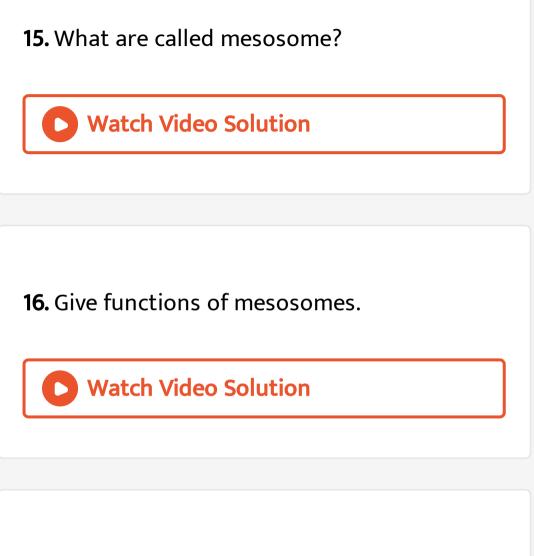
C.

D.



14. What are called gram +ve bacteria and

gram -ve bacteria ?



17. What is meant by flagella?

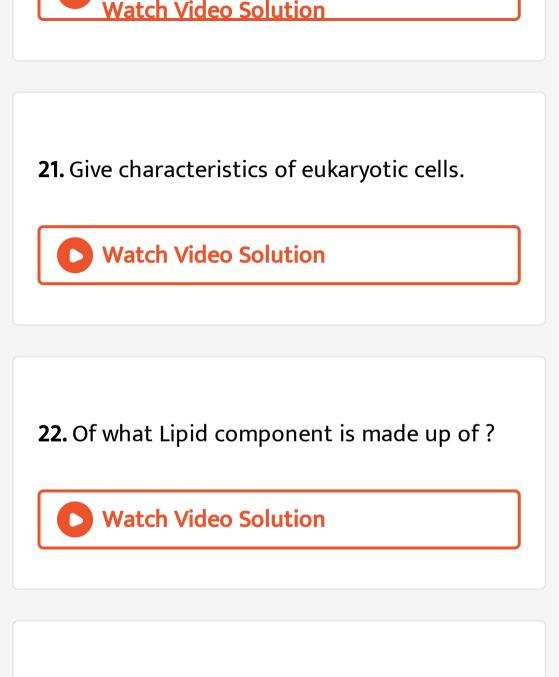
18. What is the function of fimbriae ?



19. What is the size of ribosomes in prokaryotic cells?

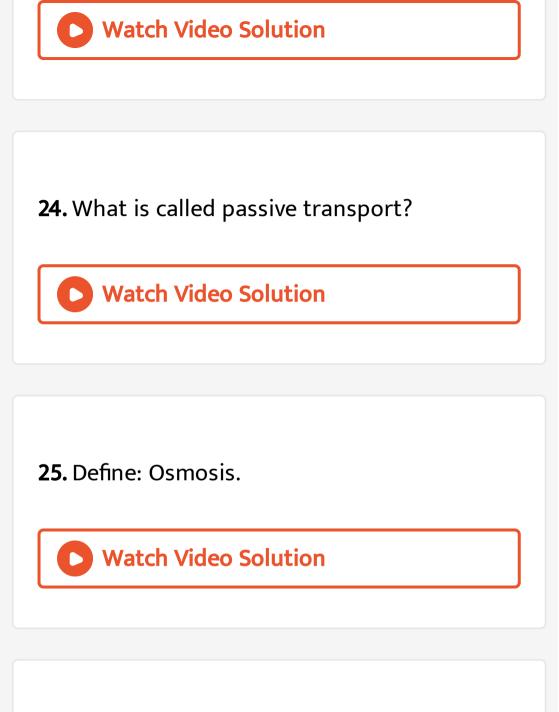
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20. What is included in inclusion bodies ?

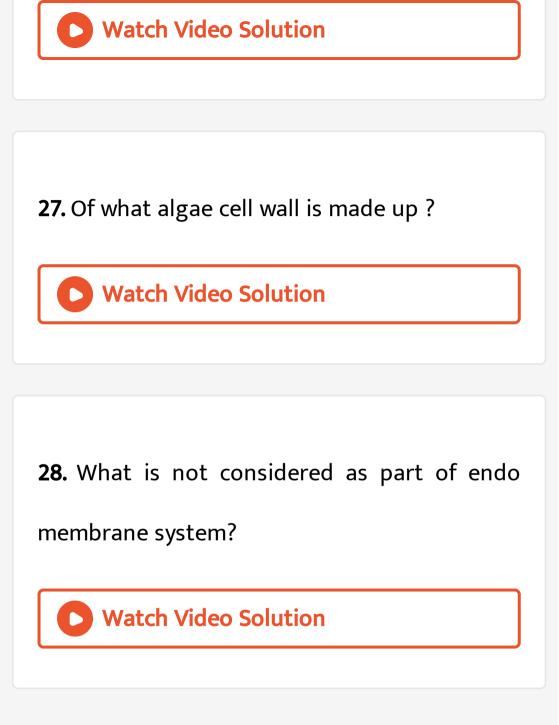


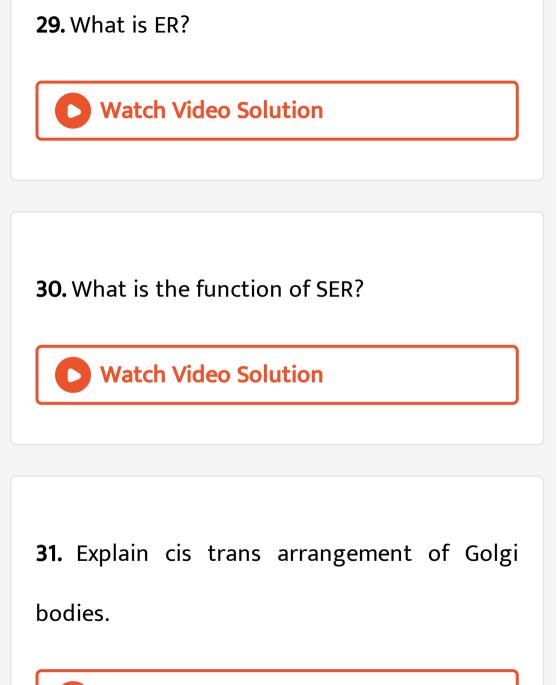
23. What percentage of protein and lipid is

present in the membrane of human RBC?

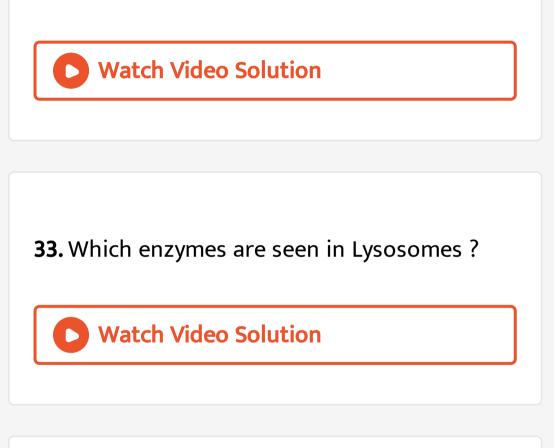


26. What is active transport?

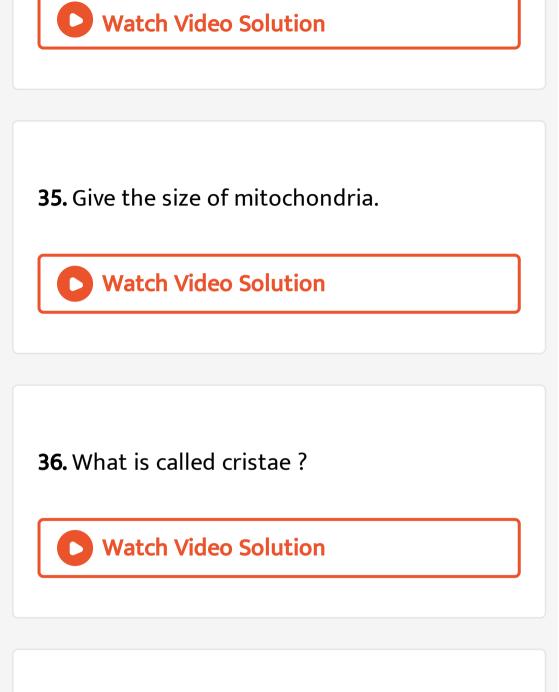




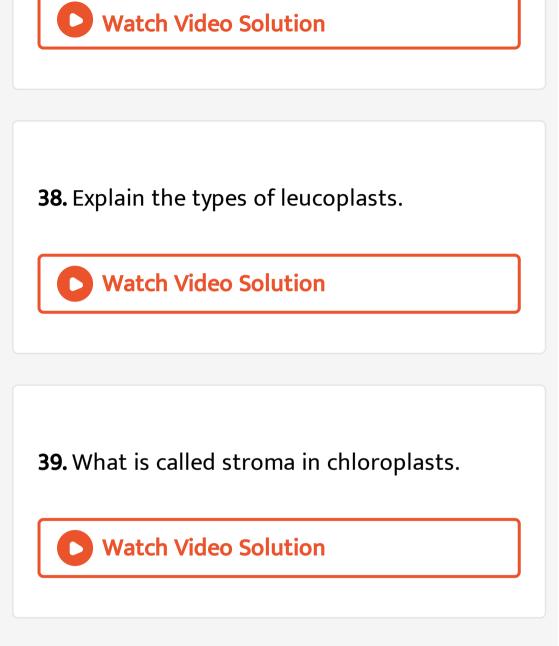




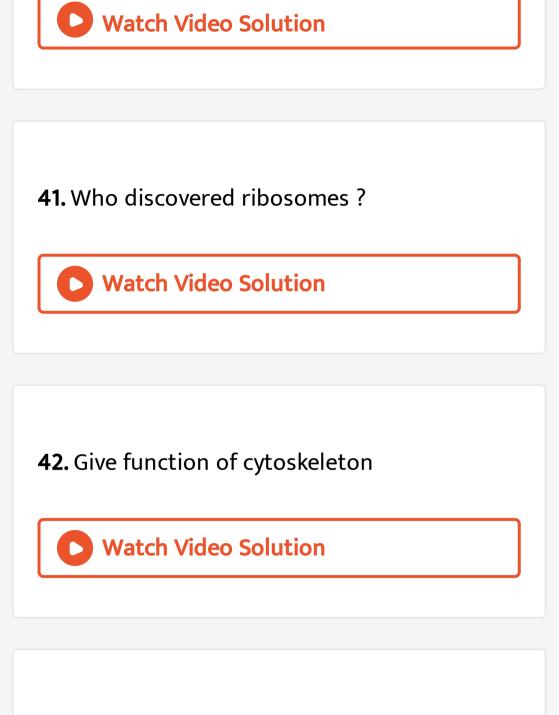
34. In which form are vacuoles present in protists?



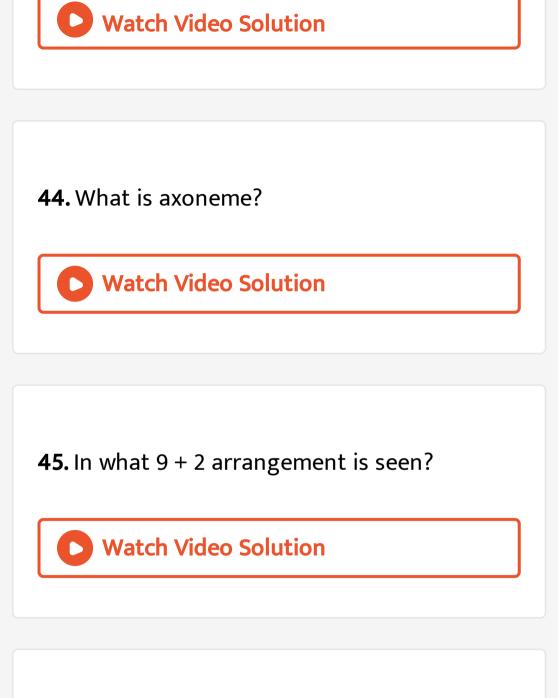
37. Which pigments are seen in chromoplasts?



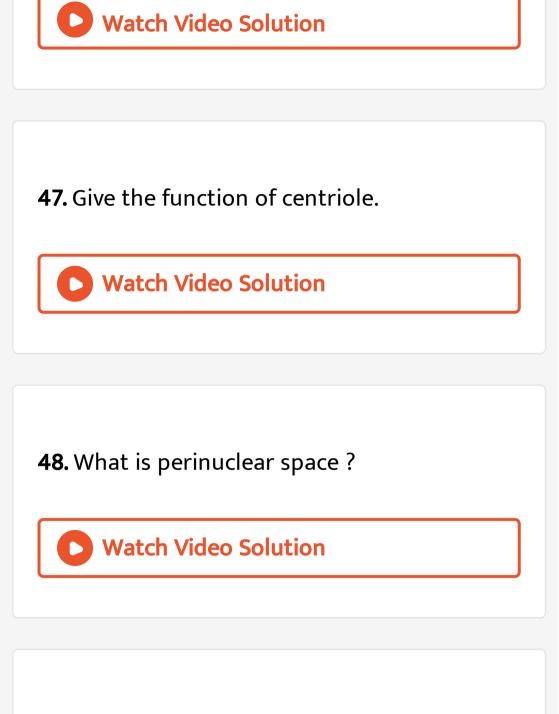
40. Explain structure of granum.



43. Give function of cilia.

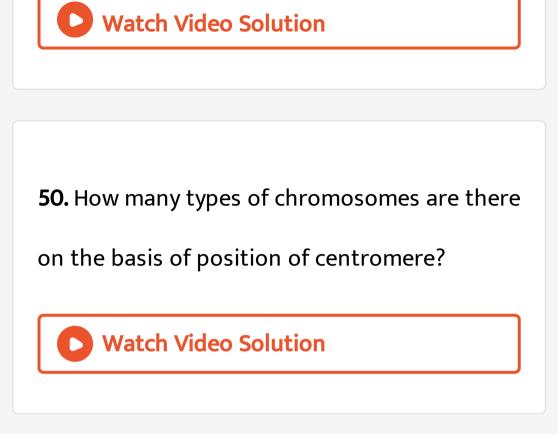


46. What are centrioles ?



49. What is the function of nuclear pores?

Г



Section B Difference Scientific Reasons Give Difference 2 Marks

1. Prokaryotic cell and Eukaryotic cell



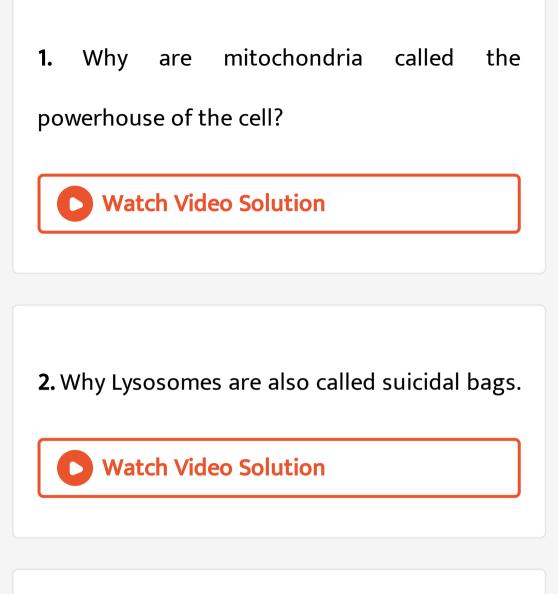
2. Plant cell and Animal cell

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3. Cilia and Flagella

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Section B Difference Scientific Reasons Give Scientific Reasons 2 Marks



3. Explain Nucleus is the central point of all activities of cell.

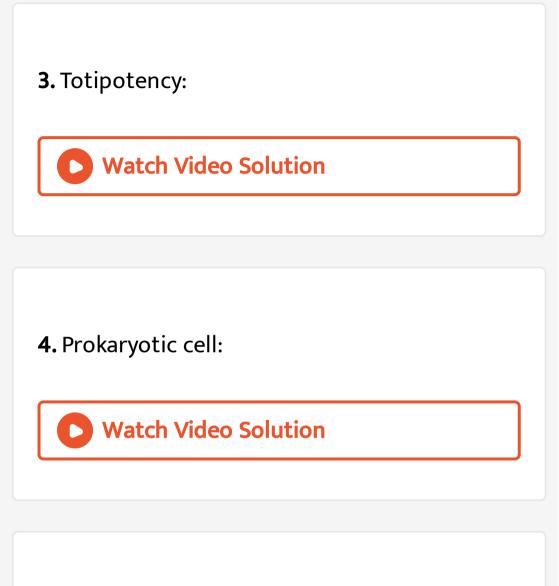


Section C Definition Explanation Terms Location Function Contribution Of Scientists Definitions Explanation 1 Mark

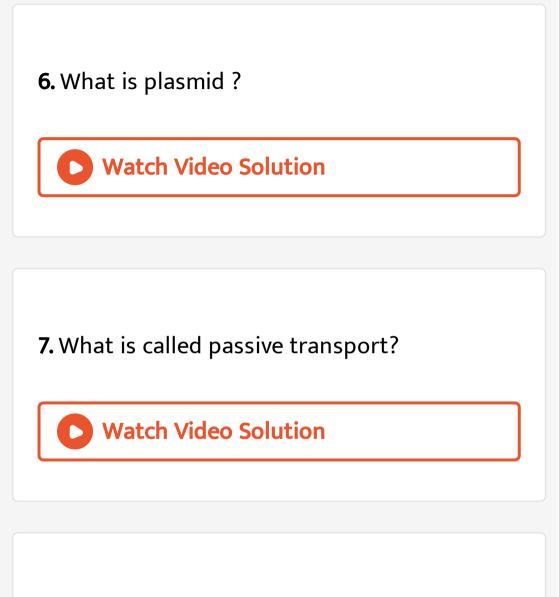
1. Unicellular organism :

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2. Multicellular organism :



5. Eukaryotic cell:



8. Facilitated diffusion :



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10. Define:- Polysome

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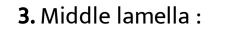
11. Inclusion bodies :

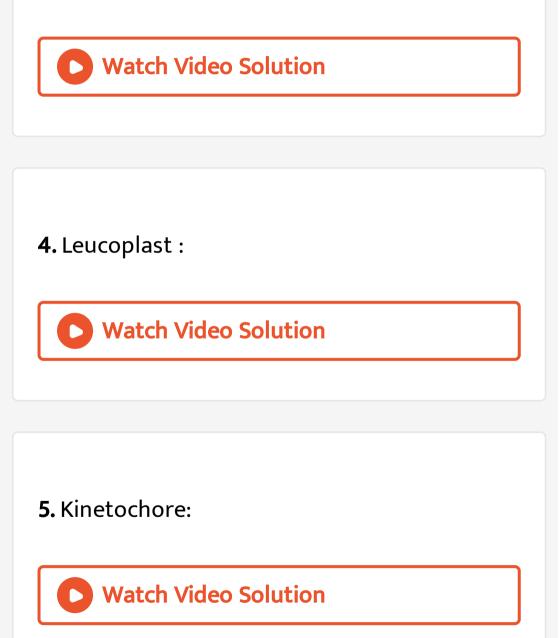
Section C Definition Explanation Terms Location Function Contribution Of Scientists Location And Functions 1 Mark

1. Define :- Peptidoglycan

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2. Mesosome :





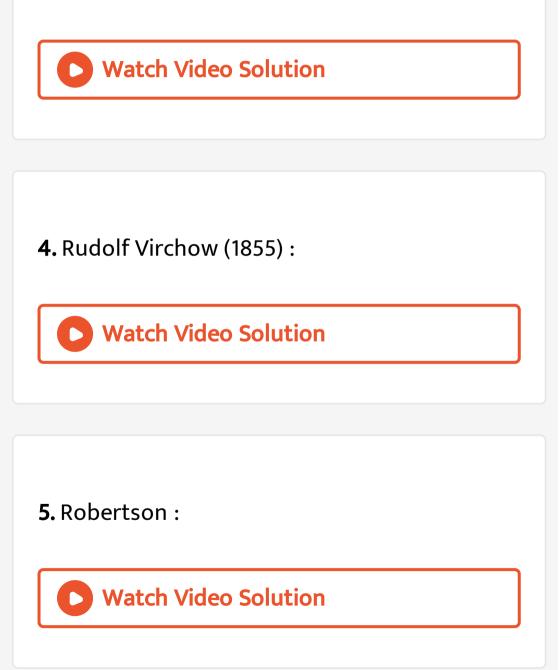
Section C Definition Explanation Terms Location Function Contribution Of Scientists Contribution Of Scientists 1 Mark

1. Robert Hook (1665) :

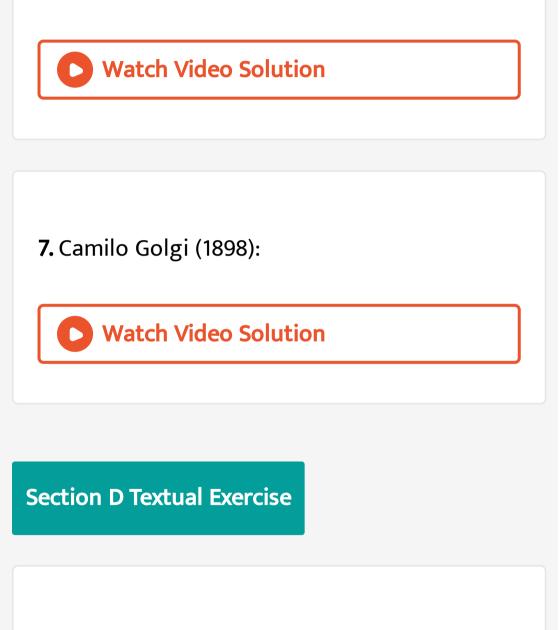
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2. Robert Brown (1831) :

3. Schleiden and Schwann (1838) :



6. Singer and Nicolson (1972) :



1. Which of the following is not correct ?

A. Robert Brown discovered the cell.

- B. Schleiden and Schwann formulated the cell theory.
- C. Virchow explained that cells are formed

from pre-existing cells.

D. A unicellular organism carries out its life

activities within a single cell.

Answer:

- 2. New cells generate from
 - A. bacterial fermentation
 - B. regeneration of old cells
 - C. pre-existing cells
 - D. abiotic materials

Answer:



3. Match the following

	Column - I	Column - II		
(a)	Cristae	(i)	Flat membranous sacs in stroma	
(b)	Cisternae	(ii)	Infoldings in mitochondria	
(c)	Thylakoids	(iiii)	Disc-shaped sacs in Golgi apparatus	



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4. Which of the following is correct :

A. Cells of all living organisms have a nucleus.

B. Both animal and plant cells have a well

defined cell wall.

C. In prokaryotes, there are no membrane

bound organelles.

D. Cells are formed de novo from abiotic

materials.

Answer:

5. What is a mesosome in a prokaryotic cell ?

Mention the functions that it performs.

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6. How do neutral solutes move across the plasma membrane ? Can the polar molecules also move across it in the same way ? If not, then how are these transported across the membrane ?



7. Name two cell-organelles that are double membrane bound. What are the characteristics of these two organelles ? State their functions and draw labelled diagrams of both.

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8. What are the characteristics of prokaryotic

cells ?

9. Multicellular organisms have division of labour. Explain.

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10. Cell is the basic unit of life. Discuss in brief.

11. What are nuclear pores ? State their function.
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12. Both lysosomes and vacuoles are endomembrane structures, yet they differ in terms of their functions. Comment.

13. Describe the structure of the following with

the help of labelled diagrams.

(i) Nucleus

(ii) Centrosome

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14. What is a centromere ? How does the position of centromere form the basis of classification of chromosomes. Support your answer with a diagram showing the position

chromosomes.



Section E Solution Of Ncert Examplar Multiple Choice Questions Mcqs

1. A common characteristic feature of plant sieve tube cells and most of mammalian erythrocytes is

A. Absence of mitochondria

- B. Presence of cell wall
- C. Presence of haemoglobin
- D. Absence of nucleus

Answer: A::B::C::D

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2. Select one which is not true for ribosome

A. Made up of two sub-units

B. Form polysome

C. May attach to m RNA

D. Have no role in protein synthesis

Answer: A::D

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3. Which one of these is not a eukaryote?

A. Euglena

B. Anabaena

C. Spirogyra

D. Agaricus

Answer: A::B

Watch Video Solution

4. Which of the following stain is not used for

staining chromosomes ?

A. Basic fuschsin

B. Safranin

C. Methylene blue

D. Carmine

Answer:

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5. Different cells have different sizes. Arrange the following cells in an ascending order of their size. Choose the correct option among the followings :
(I) Mycoplasma

(II) Ostrich eggs

(III) Human RBC

(IV) Bacteria

A. I, IV, III, II

B. I, II, III, IV

C. II, I, III, IV

D. III, II, I, IV

Answer: A



6. Which of the following features is common

to prokaryotes and many eukaryotes ?

A. Chromatin material present

B. Cell wall present

C. Nuclear membrane present

D. Membrane bound sub-cellular organelles

present

Answer:



7. Who proposed the fluid mosaic model of plasma membrane ?

A. Camillo Golgi

B. Schleiden and Schwann

C. Singer and Nicolson

D. Robert Brown

Answer: A::C::D

8. Which of the following statements is true for a secretory cell ?

- A. Golgi apparatus is absent
- B. Rough Endoplasmic Reticulum (RER) is

easily observed in the cell

C. Only Smooth Endoplasmic Reticulum

(SER) is present

D. Secretory granules are formed in nucleus.

Answer: A::B::C::D



- **9.** What is a 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:



10. Which of the following is not true of a eukaryotic cell ?

A. Cell wall is made up of peptidoglycan

B. It has 80S type of ribosome present in

the cytoplasm

C. Mitochondria contain circular DNA

D. Membrane bound organelles are present

Answer: A::B::C::D

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11. Which of the following statements is not true for plasma membrane ?

A. It is present in both plant and animal

cell

B. Lipid is present as a bilayer in it

C. Proteins are present integrated as well as loosely associated with the lipid

bilayer

D. Carbohydrate is never found in it

Answer: A::B::C::D

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12. Plastid differs from mitochondria on the basis of one of the following features. Mark the right answer.

A. Presence of two layers of membrane

- B. Presence of ribosome
- C. Presence of thylakoids US
- D. Presence of DNA

Answer:

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13. Which of the following is not a function of

cytoskeleton in a cell ?

- A. Intracellular transport
- B. Maintenance of cell shape and structure
- C. Support of the organelle
- D. Cell motility

Answer: A::C

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14. The stain used to visualise mitochondria is

A. Fast green

B. Safranin

C. Acetocarmne

D. Janus green

Answer:

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Section E Solution Of Ncert Examplar Very Short Answer Type Questions Vsqs

1. What is the significance of vacuole in a plant

cell ?



2. What does 'S' refer in a 70s and an 80S ribosome ?



3.	Mention	a s	ingle	meml	brane	bound			
organelle which is rich in hydrolytic enzymes.									
Watch Video Solution									
	What are	e gas	vacu	oles	? State	e their			
Watch Video Solution									

5. What is the function of a polysome ?

(Gk. Poly = many, Soma = body)



6. What is the feature of a metacentric

chromosome ?



7. What is referred to as satellite chromosome



?

Section E Solution Of Ncert Examplar Short Answer Type Questions

1. Discuss briefly the role of nucleolus in the

cells actively involved in protein synthesis.

2. Explain the association of carbohydrate to

the plasma membrane and its significance.



3. Comment on the cartwheel structure of centriole.



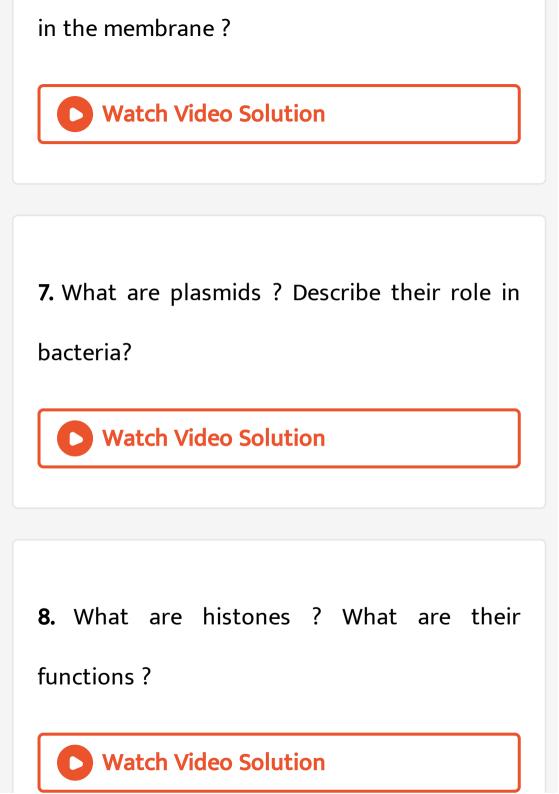
4. Briefly describe the cell theory,



5. Differentiate between Rough Endoplasmic Reticulum (RER) and Smooth Endoplasmic Reticulum (SER). Rough Endoplasmic Smooth Endoplasmic

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6. Give the biochemical composition of plasma membrane. How are lipid molecules arranged



Section E Solution Of Ncert Examplar Long Answer Type Questions

1. What structural and functional attributes

must a cell have to be called a living cell ?



2. Briefly give the contributions of the following scientists in formulating the cell

theory

(a) Rudolf Virchow

(b) Schleiden and Schwann

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3. Is extragenomic DNA present in prokaryotes and eukaryotes ? If yes, indicate their location in both the types of organisms.

4. Structure and function are correlatable in living organisms. Can you justify this by taking plasma membrane as an example ?



5. Eukaryotic cells have organelles which may

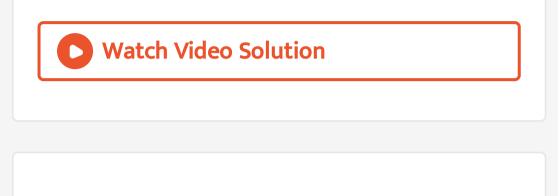
(a) not be bound by a membrane

(b) bound by a single membrane

(c) bound by a double membrane

Group the various sub-cellular organelles into

these three categories.



6. The genomic content of the nucleus is constant for a given species where as the extrachromosomal DNA is found to be variable among the members of a population. Explain.

7. Justify the statement, "Mitochondria are

power houses of the cell".

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8. Is there a species specific or region specific type of plastids ? How does one distinguish one from the other ?

9. Write the functions of the following

(a) Centromere (b) Cell wall

(c) Smooth ER (d) Golgi apparatus

(e) Centrioles

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10. Are the different types of plastids interchangable ? If yes, give examples where they are getting converted from one type to another ?





Questions From Module Important Mcq For Neet

1. Who gave the word Protoplasm ? (a) Purkinje(b) Hook (c) A K Sharma (d) Schwann

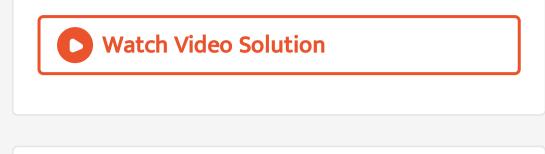
A. Purkinje

B. Hook

C. A. K. Sharma

D. Schwann

Answer:



2. Which role is played by Golgi complex ?

A. Energy transformation organelles.

B. Glycocylation of lipid and adaption of

protein are seen in transitional

transition phase.

chemical energy.

D. Proteins digest carbohydrates.

Answer:

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3. Where is lipid mainly synthesized ?

A. Simplast

B. Nucleoplasm

C. Rough ER

D. Smooth ER

Answer:



4. Which organelle is not bounded by membrane ?

A. Lysosomes

B. Mesosomes

C. Vacuoles

D. Ribosomes

Answer:



5. Which organelles are covered single

membrane layer ?

A. Lysosomes

B. Nucleus

C. Mitochondria

D. Chlorophyll

Answer:



Questions From Module Question Paper Answer The Following Questions Each Of 1 Mark

1. Briefly give the contributions of the following scientists in formulating the cell

theory

(a) Rudolf Virchow

(b) Schleiden and Schwann

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2. Name the organelle seen in Prokaryotic cell.

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3. What are polysomes ?

4. Give the proportion of protein and lipid in red blood cells of human beings.

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5. Write the functions of the following

- (a) Centromere (b) Cell wall
- (c) Smooth ER (d) Golgi apparatus

(e) Centrioles



6. Name the components present in matrix of

mitochondria.

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Questions From Module Question Paper Answer Briefly Each Of 2 Marks

1. Write information about vacuoles.

2. Differentiate between active transport and

passive transport.

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Questions From Module Question Paper Answer The Following Questions Each Of 3 Mark

1. Describe - Centriole

2. Justify the statement, "Mitochondria are

power houses of the cell".





1. Describe types of chromosomes with diagram.