



BIOLOGY

BOOKS - EVERGREEN BIOLOGY (ENGLISH)

SAMPLE PAPER 2 (BIOLOGY)

Section I

1. Name the following by choosing the correct option:

Equipment used to determine the rate of transpiration in plants:

- A. Potometer
- B. Photometer
- C. Auxanometer
- D. None of these

Answer: A



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2. Name the following by choosing the correct option:

The material used to dissolve the chlorophyll pigments while testing a leaf for starch:

A. Cobalt chloride paper

B. Litmus Paper

C. Boiled water

D. Methylated spirit

Answer: D



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3. Name the following by choosing the correct option:

The cross between two parents having one pair of contrasting characters.

- A. Dihybrid Cross
- B. Monohybrid Cross
- C. Back Cross
- D. Test Cross

Answer: B



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4. Name the following by choosing the correct option:

Phenomenon by which living or dead plant cells absorb water by surface attraction:

A. Transpiration

B. Osmosis

C. Adhesion

D. Imbibition

Answer: D



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5. Name the following by choosing the correct option:

A cell organelle directly involved in genetics

A. Cytoplasm

B. Nucleus

C. Chloroplast

D. Chromosome

Answer: D



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6. Complete the following statements by choosing the appropriate option for each blank:

NADP is expanded as

A. Nicotinamide Adenosine Dinucleotide
Phosphate

B. Nicotinamide Adenine Dinucleotide
Phosphate

C. Nicotinamide Adenine Dinucleolus
Phosphate

D. Nicotinamide Adenosine Dinucleolus
Phosphate

Answer: D



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7. Complete the following statements by choosing the appropriate option for each blank:

Cobalt chloride paper will turn _____ faster due to presence of more stomata at dorsal surface of leaves.

A. blue

B. blue black

C. colourless

D. pink

Answer: D



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8. Complete the following statements by choosing the appropriate option for each blank:

Light reaction: Granum:: Dark reaction: _____

A. Stoma

B. Mesophyll cells

C. Thylakoids

D. Grana

Answer: A



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9. Complete the following statements by choosing the appropriate option for each blank:

The cell sap of root hair is _____

A. isotonic

B. hypotonic

C. hypertonic

D. none of these

Answer: B



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10. Complete the following statements by choosing the appropriate option for each blank:

_____ bonds are present between the complementary nitrogenous bases of DNA

- A. Nitrogen
- B. Hydrogen
- C. Coordinate
- D. Ionic

Answer: B



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11. Choose the correct answer from each of the four options given below:

Some adaptations found in plants to reduce the rate of transpiration:

A. Sunken stomata

B. Modification of leaves into spines

C. Presence of thick layer of cuticle on the
leaf surface

D. All of these

Answer: D



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12. Choose the correct answer from each of the four options given below:

Bacteria cannot survive in a highly salted pickle because:

A. Salt inhibits reproduction

B. No favorable environment that lead to
bacteria dead

C. Bacteria do not get enough light for photosynthesis

D. Bacteria plasmolyse and consequently kills

Answer: C



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13. Choose the correct answer from each of the four options given below:

Which of the following is not the phase of light reaction?

A. . Water splitting

B. Oxygen release

C. Carbon dioxide release

D. Light absorption

Answer: C



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14. Choose the correct answer from each of the four options given below:

In which stage of the cell cycle will RNA polymerase enzyme be most active?

- A. M phase
- B. G_2 phase
- C. S phase
- D. Quiescent phase

Answer: B



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15. Choose the correct answer from each of the four options given below:

A genotype can be described as:

- A. The genetic makeup of an organism
- B. Part of a chromosome that codes for a certain hereditary trait.
- C. The outward, visible expression of the hereditary makeup of an organism.

D. The shifting of gene positions in chromosomes

Answer: D



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Section II

1. Explain the following terms:

DNA

- A. Uncondensed form of nucleoprotein
- B. Single stranded molecule having short chain of nucleotides
- C. Double stranded molecule having long chain of nucleotides
- D. Condensed form of nucleoprotein

Answer: C



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2. Explain the following terms:

Turgor pressure

- A. Pressure exerted by cell wall on cell sap
- B. Minimum pressure exerted to prevent the passage of pure solvent into the solution
- C. Pressure of water against the inside cell wall of a plant cell

D. Pressure to raise water up through the stem into leaves

Answer: C



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3. Explain the following terms:

Law of Segregation

A. Out of a pair of contrasting characters present together, only one form of the

trait will appear in the next generation

B. Two members of a pair of factors

separate during gamete formation

C. Distribution of alleles of one character

into the gametes is independent of the

distribution of the allele of the other

characters

D. In a pair of contrasting characters,

prominently recessive trait will appear in

next generation

Answer: B



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4. Explain the following terms:

Bleeding

A. Escape of water loses through

hydathodes of plant

B. Exudation of water from margins of

leaves

C. Oozing out of water drops from injured edges or tips

D. Water loses through stomata, lenticels and cuticles

Answer: C



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5. Explain the following terms:

Photolysis

- A. Conversion of glucose into starch
- B. Conversion of light energy into chemical energy
- C. Splitting of water molecule into hydrogen and oxygen ions in the presence of light
- D. Conversion of ADP into ATP in the presence of light
- Question

Answer: C



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6. State the exact location of the following:

Cristae

A. Individual flattened stacks of membranous structures inside the chloroplasts

B. At the tip and margins of leaves

C. Fluid in the chloroplast

D. Green pigment in the chloroplast of the green leaves

Answer: A



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7. State the exact location of the following:

Centromere

- A. Within a chromosome consisting of
DNA and uncondensed protein

- B. Point of attachment of two chromatid
sisters

C. Star-shaped structures form around
each pair of centrioles

D. DNA-protein complex in nucleus

Answer: B



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8. State the exact location of the following:

Phloem

A. outer side of the vascular bundle

- B. centre of the vascular bundle, deep in the plant
- C. between the vascular tissues and the epidermis
- D. between the two primary cell walls of two plant cells

Answer: A



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9. State the exact location of the following:

Lenticels

- A. Present in the epidermis of the stems of woody plants
- B. Loose aggregation of cells in the bark of the stems and roots
- C. Margins of the leaves of herbaceous plants
- D. Both 1 and 2

Answer: D



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10. State the exact location of the following:

Thymine

A. Phosphate in DNA paired with sugar

B. Nitrogenous base in DNA paired with
adenine

C. Pentose in RNA

D. Pentose in DNA

Answer: B



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11. State the function of the following:

Chromatids

A. provide hereditary characteristics and genetic information

B. control the inheritance of all characteristics except the sex-linked ones

C. organize the microtubules and provide a structure to the cell

D. allow cells to store two copies of their information in cell division

Answer: D



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12. State the function of the following:

Stroma

- A. Sites of dark reaction of photosynthesis
- B. Site of light independent phase of photosynthesis
- C. Site of light reaction of photosynthesis
- D. Both 1 and 2

Answer: D



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13. State the function of the following:

Cuticle

- A. Absorb sunlight for the photosynthesis
- B. Wax-like layer on the epidermis of leaves
to reduce transpiration
- C. Provide an increase in the surface area
- D. Contain enzymes required for
photosynthesis as well as DNA, RNA

Answer: B



14. State the function of the following:

Guard cells

- A. Absorption of light energy and conversion of it into biological energy
- B. Regulate the opening and closing of stomata
- C. Prevents evaporation of water from the epidermal surface

D. Provide the platform for the light reaction

Answer: B



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15. Nucleotides

A. Storage and transfer of genetic information

B. Cell division and Protein synthesis

C. Cell signaling, metabolism and enzyme reactions

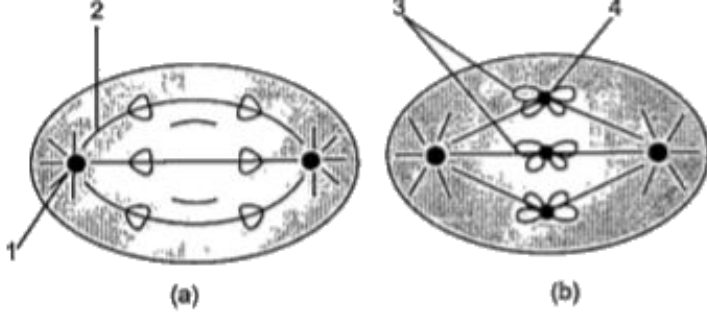
D. All of these

Answer: D

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Section Iii

1. Study the diagram which is related to cell division and answer the following questions:



Which of the following option is correctly labelled for the stages of mitosis?

- A. 1- Centromere, 2-Spindle fibres, 3- Chromatids, 4-Centriole
- B. 1- Centriole, 2-Spindle fibres, 3- Centromere, 4-Chromosomes
- C. 1- Centriole, 2-Spindle fibres, 3- Chromatids, 4-Centromere

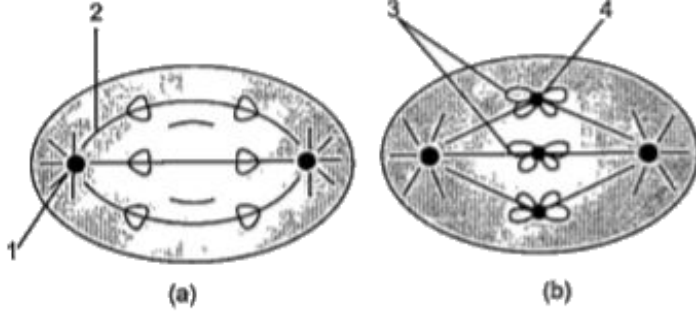
D. 1- Centriole, 2-Centromere, 3-Spindle
fibres, 4-Chromosomes

Answer: C



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2. Study the diagram which is related to cell
division and answer the following questions:



Which stage is being shown in figure (a) ?

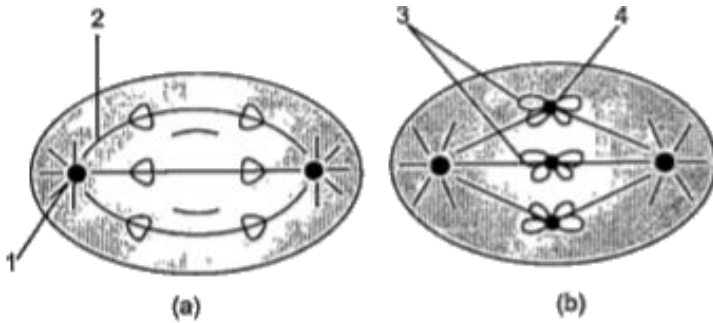
- A. Prophase
- B. Anaphase
- C. Telophase
- D. Metaphase

Answer: B



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3. Study the diagram which is related to cell division and answer the following questions:



At what stage, chromosomes line up at the equator?

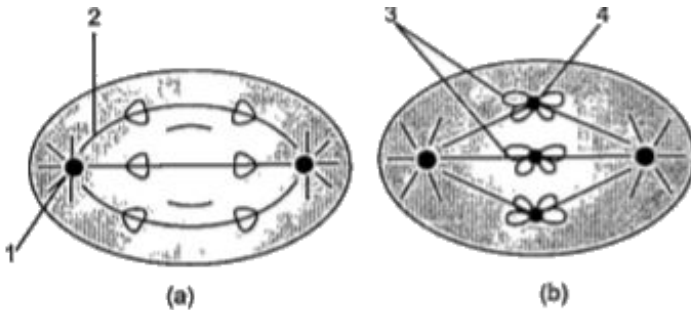
- A. Anaphase
- B. Prophase
- C. Metaphase

D. Telophase

Answer: C

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4. Study the diagram which is related to cell division and answer the following questions:



Which of the following occurs only in meiosis, not in mitosis?

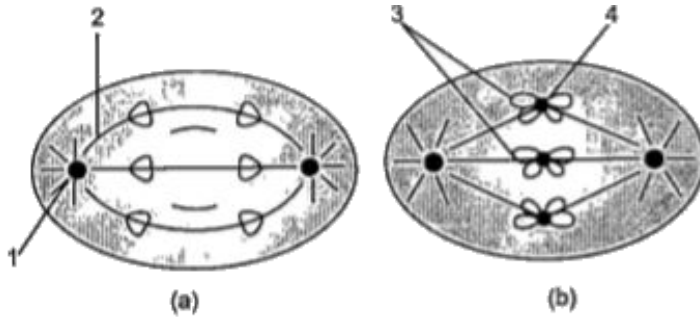
- A. Separation of duplicated DNA
- B. Pairing of homologous chromosomes
- C. Cytokinesis
- D. Disappearance of nuclear membrane

Answer: B



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5. Study the diagram which is related to cell division and answer the following questions:



How many chromosomes will each daughter cell have after the completion of the above division?

A. 2

B. 4

C. 6

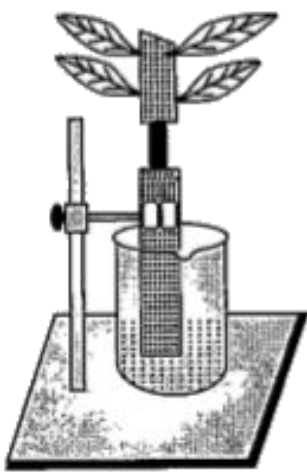
D. 8

Answer: B



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6. When some parts of the stem, both the fresh shoots of a green herbaceous plant have been removed and lower end is dip in the water. The diagram given below represents the result of the experiment.



(a)



(b)

Choose the correct explanation for the results

I. Phloem is removed and Xylem is intact in Plant A

II. Xylem is removed and Phloem is intact in Plant A

III. Phloem is intact and Xylem is removed in Plant B

IV. Xylem is removed and Phloem is intact in

Plant A

A. I and II

B. Only III

C. I and III

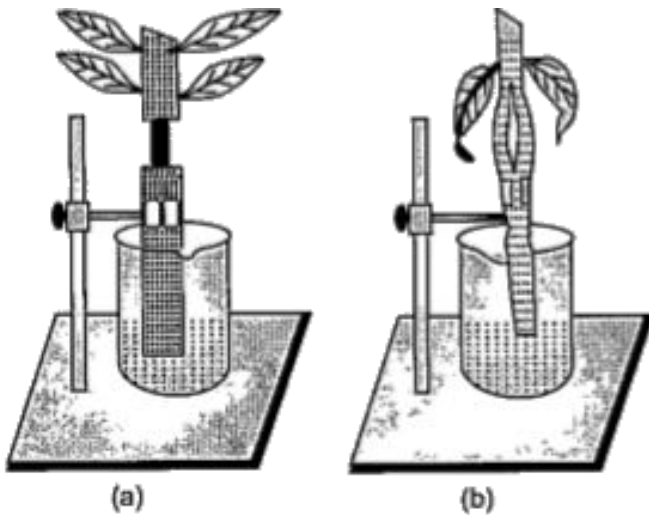
D. All of these

Answer: C



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7. When some parts of the stem, both the fresh shoots of a green herbaceous plant have been removed and lower end is dip in the water. The diagram given below represents the result of the experiment.



Chloroplast and Photosynthesis: Xylem
and _____

A. Food transportation

B. Gaseous exchange

C. Water and minerals transportation

D. Transpiration

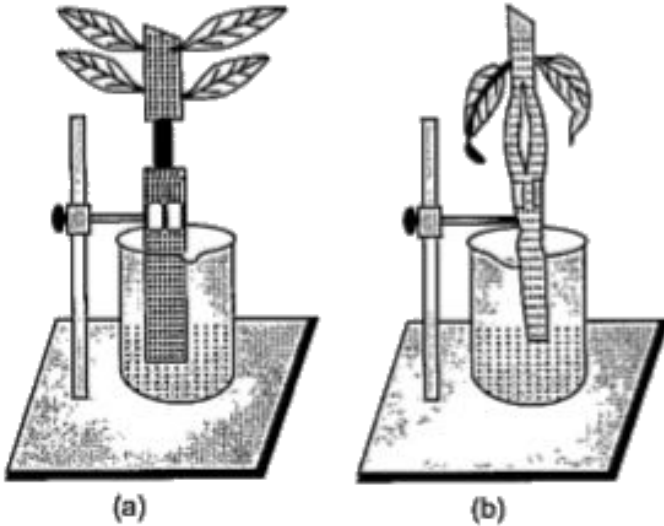
Answer: C



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8. When some parts of the stem, both the fresh shoots of a green herbaceous plant have been removed and lower end is dip in the

water. The diagram given below represents the result of the experiment.



Root pressure is maximum when:

- A. Transpiration is high
- B. Absorption is low

C. Transpiration is very low and absorption is very high

D. Both transpiration and absorption are very high or low

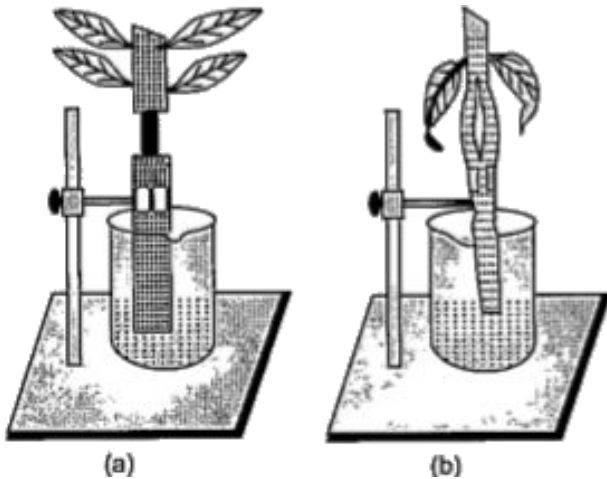
Answer: C



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9. When some parts of the stem, both the fresh shoots of a green herbaceous plant have been removed and lower end is dip in the

water. The diagram given below represents the result of the experiment.



Mineral salts are absorbed by roots from the soil in the form of:

- A. Very dilute solution
- B. Concentrated solution
- C. Hypertonic solution

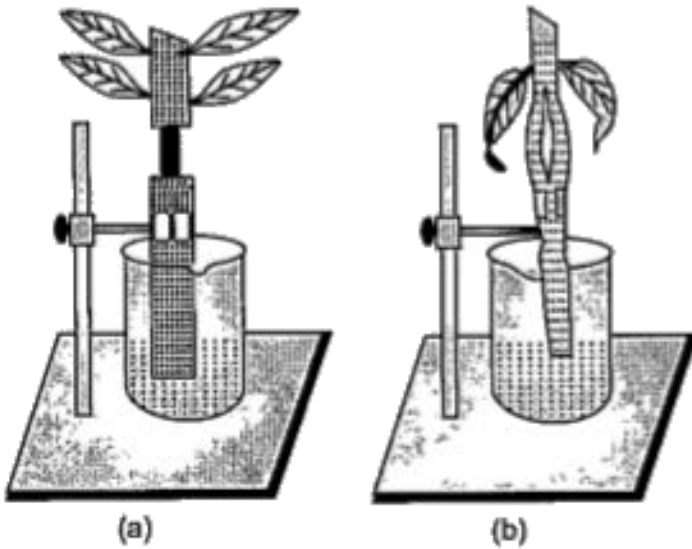
D. Very concentrated solution

Answer: D



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10. When some parts of the stem, both the fresh shoots of a green herbaceous plant have been removed and lower end is dip in the water. The diagram given below represents the result of the experiment.



The plants die due to wilting because :

- A. available light is reduced to half
- B. xylem is blocked
- C. a few roots are broken
- D. phloem is blocked

Answer: B



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