

**G. D. SOMANI MEMORIAL SCHOOL**

**PRELIM EXAMS**

**SUB: BIOLOGY**

**DATE: 21/1/08**

*Theexampapers.com*

**MARKS: 80**

**TIME: 1½ HRS.**

*Answers to this Paper must be written on the paper provided separately. You will not be allowed to write during the first 15 minutes. This time is to be spent in reading the question paper. The time given at the head of this Paper is the time allowed for writing the answers.*

*Section I is compulsory. Attempt any four questions from Section II  
The intended marks for questions or parts of questions are given in brackets [ ]*

**SECTION - I [40 MARKS]**

*Attempt all questions from this Section.*

**Question: I**

**[A] Name the following:**

**[5]**

- The kind of division normally seen at the tip of the root and shoot system.
- The unit of heredity.
- The solution whose concentration is more than the cell sap.
- The tubular knot sitting like a cap on the upper side of the testes.
- The technical term used for the difference between the birth rate and death rate in a population.

**[B] State whether the following statements are true or false. If false, write the correct statement by changing the underlined word only:**

**[5]**

- A solution whose concentration is equal to the cell sap is known as hypotonic solution.
- The immediate product of photosynthesis is starch.
- Photosynthesis stops at 35°C.
- Some vitamin preparation prevents the release of the egg from the ovary.
- Living weakened germs are used as vaccine for small pox.

**[C] Match the items in column A with those, which are most appropriate in column B. You must rewrite the matching pair.**

**[5]**

- | <u>'A'</u>        | <u>'B'</u>                                       |
|-------------------|--|
| i. Mendel         | a. Undersecretion of thyroxine.                  |
| ii. Myxodema      | b. Garden Pea                                    |
| iii. Phenotype    | c. Stroma  |
| iv. Dark Reaction | d. Characters which cannot be seen from outside. |
| v. Genotype       | e. long hair                                     |
|                   | f. oversecretion of thyroxine                    |
|                   | g. thylakoid.                                    |

**[D] Given below is a list of biological terms that can be used to complete statements that follow. Select the appropriate term from the box and rewrite the completed statement. You may use a term only once:**

**[5]**

*Hypotonic, Hypertonic, placenta, amniotic sac, nucleus, epidermis of root cells, chloroplast  
Of root cells, family planning, red cross, WHO, National, local, international.*

- i. The Municipal corporation is a \_\_\_\_\_ body.
- ii. Raisins swell up when kept in a \_\_\_\_\_ solution.
- iii. The root hair is an extension of \_\_\_\_\_
- iv. \_\_\_\_\_ nourishes the embryo inside the womb.
- v. Headquarters of \_\_\_\_\_ are located in Geneva.

[E] Given below are certain hormones/structures/processes found in living organisms. Name the location or source of each: [5]

- i. Light Reaction [location]
- ii. Glucagon [source]
- iii. Oxytocin [source]
- iv. Prolactin [source]
- v. Implantation [location]

[F] Define: [5]

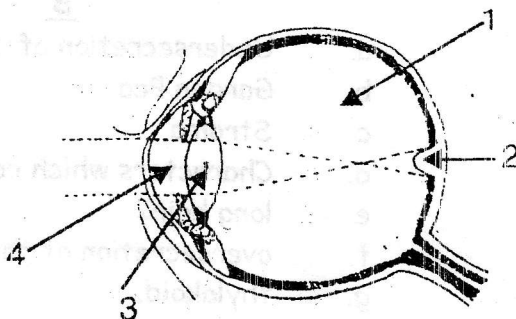
- i. Osmosis
- ii. Guttation
- iii. Photolysis
- iv. Prophylaxis
- v. Demography

[G] Complete the second pair of the following. One example is given: [5]

*Eye - Sight, Ear - Hearing*

- i. Typhoid - TB vaccine; Poliomyelitis - \_\_\_\_\_
- ii. Embryo - Uterus; Fertilization - \_\_\_\_\_
- iii. Red Cross - 1864 ; WHO - \_\_\_\_\_
- iv. Chromosomes - Nucleus; centrosome - \_\_\_\_\_
- v. Monohybrid ratio - 3 : 1; dihybrid ratio - \_\_\_\_\_

[H] The given diagram depicts the defect of the human eye. Study the same and answer the questions that follow: [5]



- i. Name the defect shown in the diagram.
- ii. Give two possible reasons for this defect of the eye in human beings.
- iii. Name the parts labelled 1 to 4.
- iv. Name the type of lens used to correct this eye defect and draw a labelled diagram to show how the above mentioned defect is rectified using the lens named above.

**SECTION - II [40 MARKS]**

[Attempt any four questions from this section]

**Question:II**

[5]

[A] Differentiate between the following:

- i. Turgidity and Flaccidity.
- ii. Natality and Mortality
- iii. Antiseptic and Disinfectant
- iv. Active and Passive immunity
- v. Hormonal and Nervous control

[B] Write the function of the following structures:

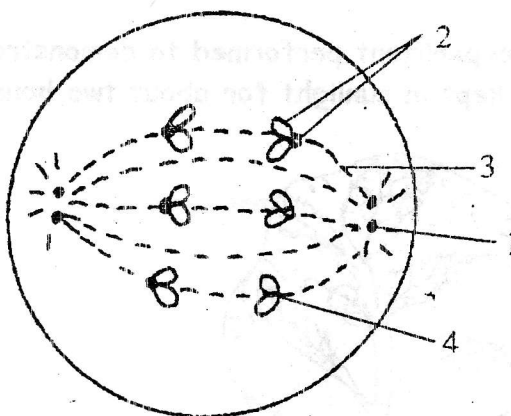
[5]

- i. Medullary sheath
- ii. Cerebellum
- iii. Thalamus
- iv. Medulla oblongata
- v. Corpus Callosum.

**Question: III**

[5]

[A] The figure alongside shows a certain stage of mitosis:



- i. Label the parts 1 - 4
- ii. Name the stage
- iii. How will you identify the stage by this diagram?
- iv. How many daughter cells are formed by mitosis?

[B] i. Draw the structure of the sperm and label any two parts.

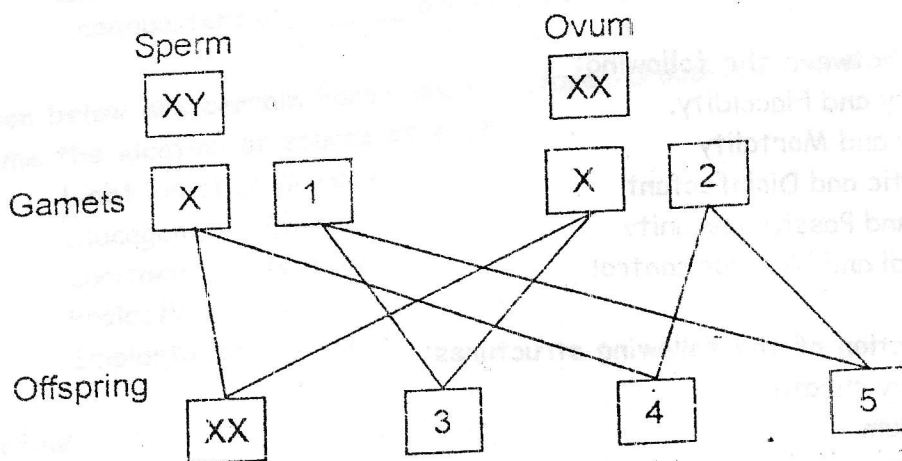
[5]

- ii. Where are sperms produced?
- iii. What is the number of chromosomes in sperms?
- iv. Define semen.

## Question :IV

[5]

[A] The figure shows the sex determination in mammals:



- Complete the boxes 1 to 5
- Write the types of sex of box 3, 4 and 5
- What do you mean by carrier female?
- Define homozygous.

[B] The figure represents an experiment performed to demonstrate certain phenomenon in plants. The set-up was kept in sunlight for about two hours. [5]



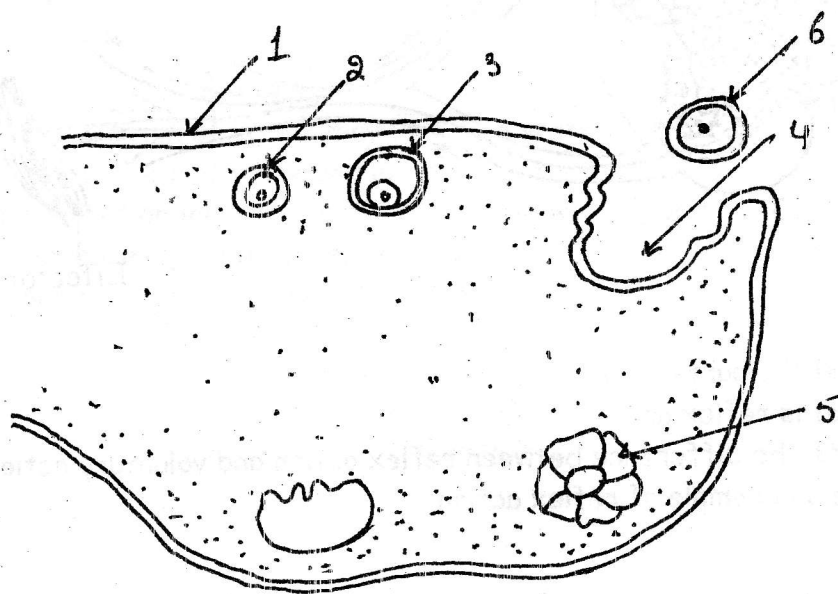
- What is the aim of the experiment?
- Define the process mentioned in (i) above.
- What do you observe in the experiment as an evidence of the process stated in (i) and (ii) above?
- What precaution should be taken for proper results in the experiment?
- Suggest a suitable control experiment for comparison.

## Question: V

[A] The figure shows the section of an ovary.

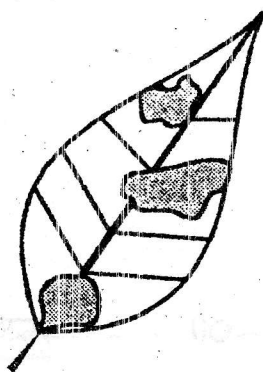
[5]

- i. Label the parts 1 - 6
- ii. What is ovulation?
- iii. Define artificial insemination.



[B] The figure shows a variegated leaf.

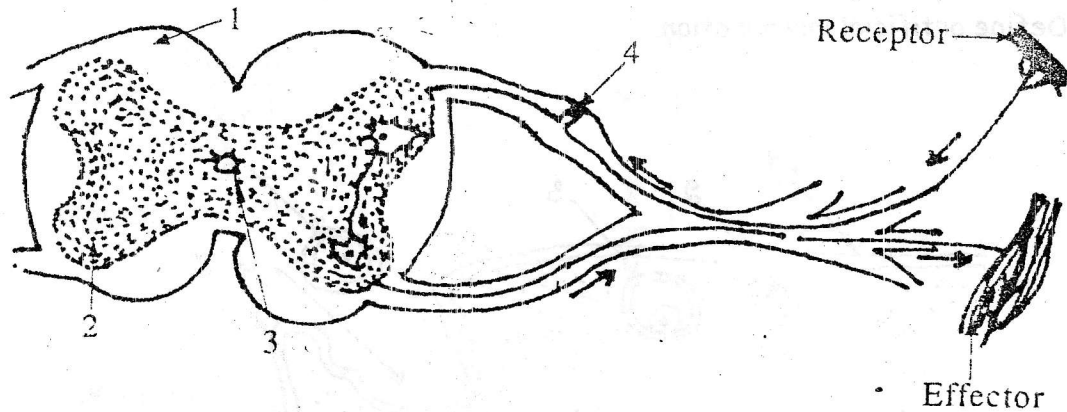
[5]



- i. What do you mean by variegated leaf?
- ii. If this leaf is treated for iodine tests what would be the colour changes?
- iii. Give reasons for the colour changes.
- iv. What is the role of chlorophyll?
- v. Why is the leaf boiled in alcohol?

## Question: VI

[A] The figure shows the structure of the spinal cord and nervous pathway in a spinal reflex. [5]

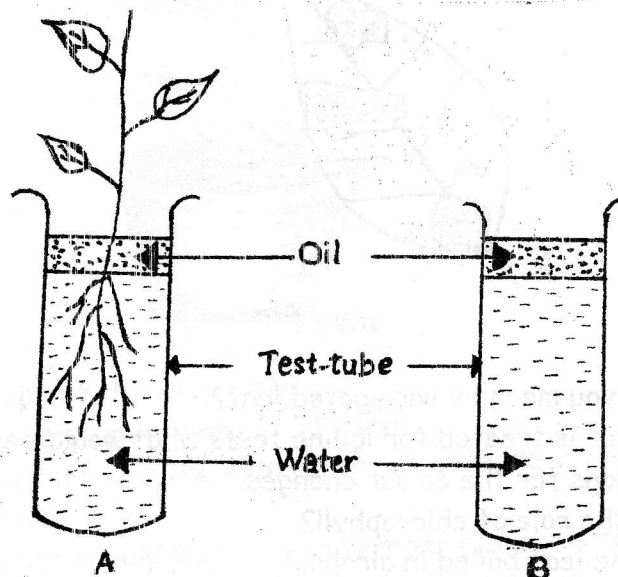


- i. Label the parts 1 - 4
- ii. What is reflex arc?
- iii. State the difference between reflex action and voluntary action.
- iv. Give an example of reflex action.

- [B] i. Write four functions of WHO [2]  
 ii. Describe tubectomy. [2]  
 iii. What is the cause of exophthalmic goitre? [1]

## Question: VII

[A] The figure given below represents the set-up at the start of a certain experiment to demonstrate an activity of plants. [5]





- What is the aim of the experiment?
- Why has oil been put in each test-tube?
- What will be the observations in the two test tubes after about 2-3 days?
- Give reasons to explain any change observed as answered in (iii) above.
- Why has the test tube B without the plant, been taken in the experiment?

[B] Give reasons for the following:

[5]

- Oversecretion of insulin may lead to a state of coma.
- Pancreas are endocrine and exocrine in nature
- Transpiration increases with increase in wind velocity.
- Interphase is known as resting phase.
- Colour blindness is more common in males.

\*\*\*\*\*

Match the items in column A with those which are most appropriate in column B. You must rewrite the matching pair.

A	B
i. Mandel	a. Underscretion of thyroxine
ii. Myxodema	b. Garden Pea
iii. Phenotype	c. Stroke
iv. Dark Reaction	d. Characters which cannot be seen from outside
v. Genotype	e. long hair
	f. oversecretion of thyroxine
	g. Thylakoid

[D] Given below is a list of biological terms that can be used to complete statements that follow. Select the appropriate term from the box and rewrite the completed statement. You may use a term only once.

[5]

hypotonic, hypertonic, plasmolysis, anastosis, nucleus, epidermis of root cells, chloroplast, Of root cells, food, growing, red cross, WHO, National, blood, international.