PAWAR PUBLIC SCHOOL, BHANDUP.						
Class	Subject	Exam	Marks	Date	Duration	No. of printed sides
X	Biology	Prelim- II	80	04.01.2019	2 hrs.	6

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.
The question paper consists of 3 sheets printed on 6 sides.
The figures to the right of the questions indicate full marks for that question.

SECTION – I (40 Marks)
(Attempt all questions from this section)

QUESTION 1

(a) **Name the following:** [5]

i. The fluid which surrounds the human foetus to protect it from mechanical shock.

ii. The unit of heredity in living organism.

iii. The membrane that lines the inner surface of the eyelids and the exposed surface of the eyeball.

iv. The number of chromosomes present in a nerve cell of a human being.

v. The canal through which the testes descend into the scrotum just before birth in a human male child.

(b) **Given below are six sets with four terms each. In each set one term is odd and cannot be grouped in the same category to which the other three belong. Identify the odd one in each set and name the category to which the three belong. The first one has been done as an example:** [5]

Sr.No.	SET	ODD ONE	CATEGORY
Eg:	Calyx, midrib, corolla, androecium.	midrib	Parts of a flower
i.	Cerebrum, cerebellum, thalamus, hypothalamus		
ii.	Auxins, ascorbic acid, abscisic acid, cytokinin		
iii.	Pulmonary vein, hepatic vein, renal vein, superior vena cava		
iv.	Plastic, paper, glass, aluminum		
v.	Myopia, hypermetropia, xerophthalmia, astigmatism		

(c) **Given below are five sets of terms. In each case, arrange and rewrite each set so as to be in logical sequence:** [5]

i. Dorsal root ganglion, receptor, effector, ventral root ganglion, associated neuron.

ii. Cochlea, tympanum, pinna, oval window, ear ossicles.

iii. Node of Ranvier, synapse, axon endings, cyton, dendrite.

iv. Vagina, ovary, uterus, oviduct, cervix.

v. Water molecules, oxygen, grana, hydrogen and hydroxyl ions, photons.

(d) **Choose the most appropriate answer from the given options and rewrite the sentences:** [5]

i. Aqueous humour is present between the _____

a. Lens and retina **b.** iris and lens
c. Cornea and iris **d.** cornea and lens

ii. The space between the cell wall and plasma membrane in a plasmolysed cell is filled with _____

a. Isotonic solution **b.** hypotonic solution **c.** hypertonic solution **d.** water

iii. The theory of Natural Selection was proposed by_____

a. Darwin **b.** Mendel **c.** Lamarck **d.** Wallace

iv. Which part of the eye is grafted in a needy patient from a donated eye?

a. Conjunctiva **b.** cornea **c.** choroid **d.** ciliary muscle

v. Sterilization in the females involves cutting and tying the _____

a. ureter **b.** uterus **c.** urethra **d.** oviducts

(e) **Give one point of difference between the following pairs on the basis of the parameter given in the brackets:** [5]

i. ATP and IAA (expand the abbreviation)

ii. Light reaction and dark reaction (place of occurrence)

iii. Monohybrid cross and dihybrid cross (phenotypic ratio)

iv. Pancreas and thyroid (location)

v. Biodegradable waste and non-biodegradable waste (definition)

(f) Give below are groups of terms. In each group the first pair indicates the relationship between the two terms. Rewrite and complete the second pair on a similar basis: [5]

i. Presbyopia: Convex lens:: _____: Cylindrical lens.

ii. Emergency hormone: Adrenaline:: Birth hormone: _____

iii. Coronary artery: Heart:: Hepatic artery : _____

iv. CO_2 : Greenhouse effect :: SO_2: _____

v. Oxyhaemoglobin : oxygen and haemoglobin :: Carboxyhaemoglobin : _____

(h) Given in the box below are a set of 14 biological terms. Out of these, 12 can be paired into 6 matching pairs. One has been done for you as an example: [5]
Example: Sewage - eutrophication,

Sewage, cell division, turgid cell, sinu-atrial node, ethylene, acromegaly, eutrophication, Graafian follicle, endosmosis, pacemaker, corpus luteum, growth hormone, cytokinins, exosmosis

(g) **Match the columns and write the answer in the format provided below.** [5]

I	II
a. Nissl's granules	i. Centriole
b. Aster	ii. Natality
c. Euro norms	iii. Mortality
d. Birth rate	iv. Radiation waste
e. Iodine 131	v. Vehicular standards
	vi. Cyton

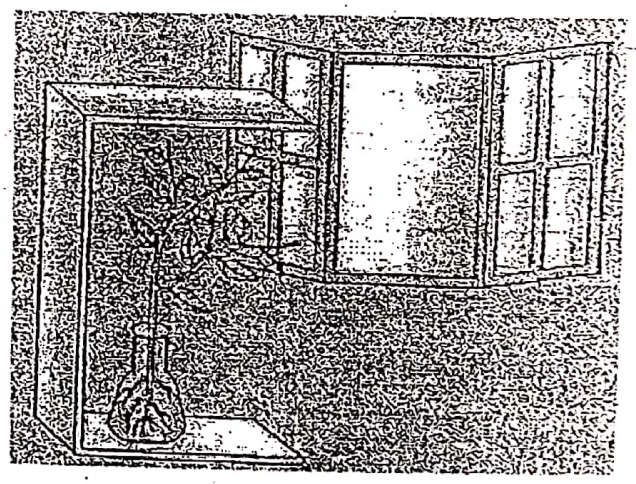
a. ____, b_____, c.____, d._____, e_____

SECTION –II (40 Marks)
(Attempt any four questions)

Question 2

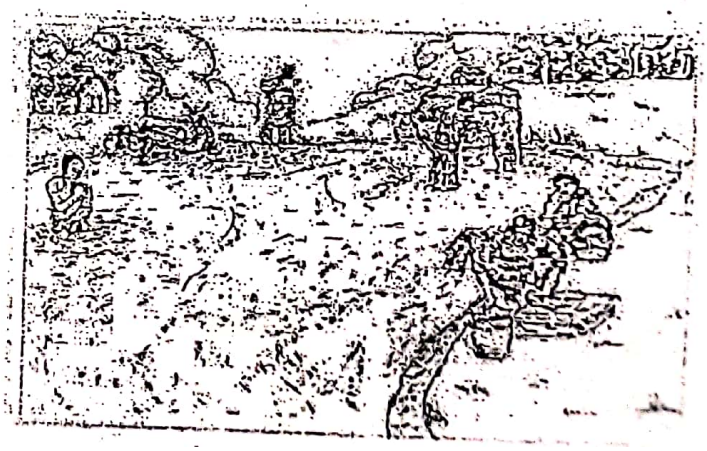
a) **Study the figure given alongside and answer the questions that follow:** [5]

i. Name the tropic movement shown by the shoot and the roots.
ii. What is the stimulus that made the shoot bend towards the window?
iii. Which plant hormone caused the effect in it?
iv. Explain the role of the hormone in the shoot towards the window?



b) **Study the figure given alongside and answer the questions that follow:** [5]

i. What does the figure depict?
ii. State any two sources of the event mentioned in i.
iii. Write one effect of the above event on human.
iv. State one way of controlling the above mentioned event.
v. Explain the term 'Pollutant'



Question 3

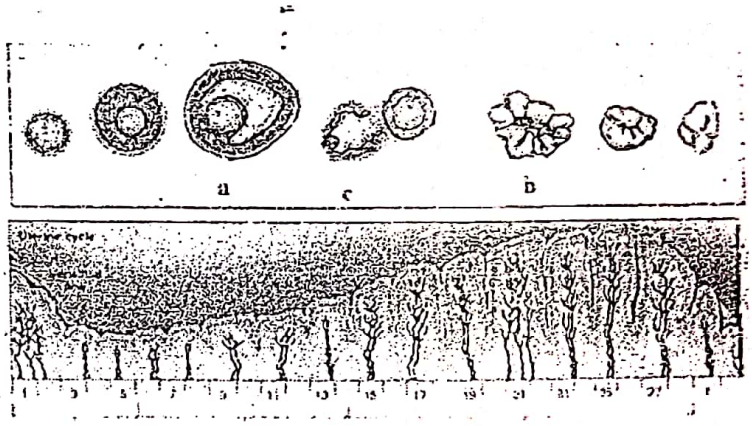
a) **Given alongside is a diagram showing uterine changes seen in relation to follicular changes during the menstrual cycle. Study the diagram and answer the questions that follow:** [5]

i. Name the part labelled 'a' and 'b.

ii. Explain the process shown in 'c'.

iii. State the endocrine function of 'b'.

iv. State the terms which mean the beginning and the stoppage of the above cycle.



b) A homozygous tall plant (T) bearing red coloured (R) flowers is crossed with a homozygous dwarf (t) plant bearing white (r) flowers: [5]

i. Give the genotype and phenotype of the plants of F_1 generation.

ii. Mention the possible combinations of the gametes that can be obtained from the F_1 hybrid plant.

iii. State the Mendel's law of Independent Assortment.

iv. State two reasons why Mendel selected garden pea for conducting experiment.

Question 4

a) **Study the diagram given alongside which represents a stage during the mitotic cell division and answer the questions that follow:** [5]

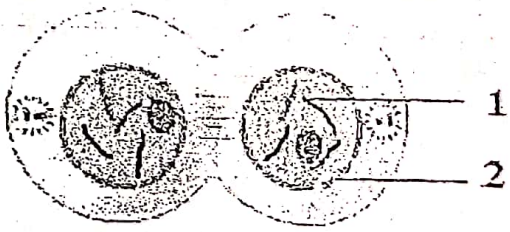
i. Label the parts numbered 1 and 2.

ii. Identify the stage giving suitable reasons.

iii. What is the technical term for the division of nucleus?

iv. Which is the cell division that results in half the number of chromosomes in daughter cells?

v. Draw a neat labelled diagram of the stage that comes before the stage shown in the diagram.



b) **Answer the following questions:**

i. State any two functions of lymph. [2]

ii. State any two characteristics of Neanderthal Man. [2]

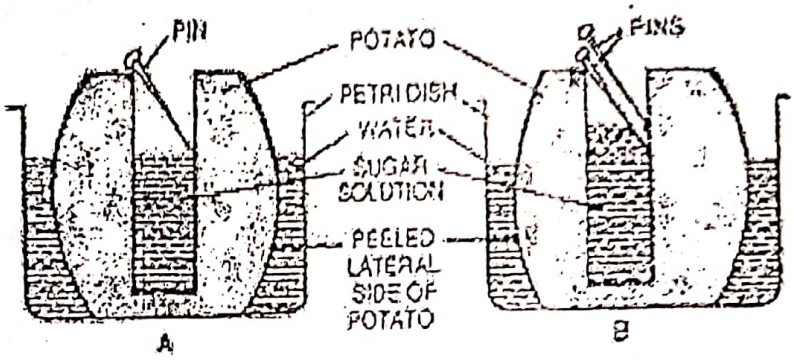
iii. State one function of Gibberellins. [1]

(40)

Question 5

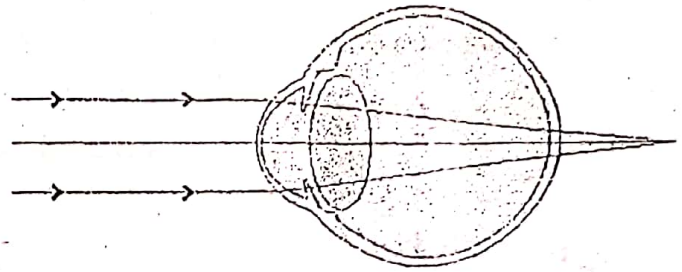
a) **Given alongside is an experimental demonstration of a physiological process that takes place in a plant tissue. Study the diagram and answer the questions that follow:** [5]

i. What is the aim of the experiment?
ii. Define the physiological process that takes place in this experiment.
iii. What will you observe after few hours?
iv. What changes will be observed, if concentrated sugar solution is taken in beaker and water is placed in the cavity of the potato? Why?



b) **Given alongside is a diagrammatic representation of a defect of human eye. Study the diagram and answer the questions that follow :** [5]

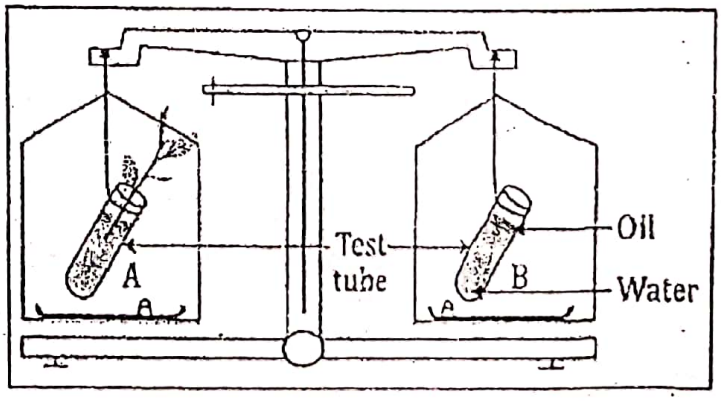
i. Identify the defect.
ii. Mention two reasons for the above defect.
iii. State how the defect can be rectified.
iv. What is the effect of this defect on man?



Question 6

a) **The figure given alongside represents an experimental set up with a weighing machine to demonstrate a particular process in plants. The experimental set up was placed in bright sunlight. Study the diagram and answer the questions that follow:** [5]

i. Name the process intended for study.
ii. Define the above mentioned process.
iii. When the weight of the test tube (A and B) is taken before and after the experiment, what is observed? Give reason to justify your observation in A and B.
iv. What is the purpose of keeping the test B in the experimental set up?



b) **Answer the following questions:**

i. State two objectives of 'Swachh Bharat Abhiyan' [2]

ii. State the three factors responsible for population explosion in India. [3]

Question 7

a) **The diagram given alongside shows two test-tubes A and B. Test tube A contains a green water plant. Test- tube B contains both a green water plant and a snail. Both test – tubes are kept in sunlight. Answer the questions that follow:** [5]

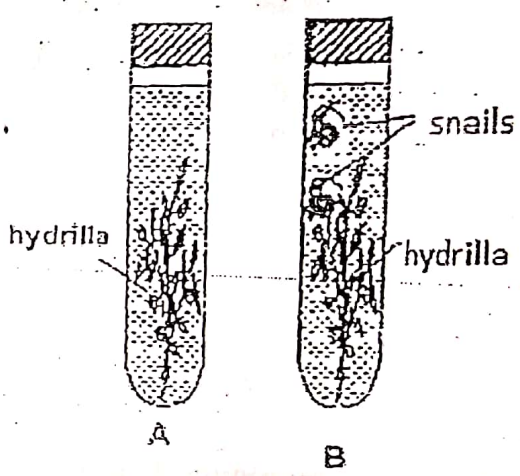
i. Name the physiological process that releases the bubbles of oxygen.

ii. Explain the physiological process as mentioned in i.

iii. What is the purpose of keeping a snail, in test tube 'B'?

iv. Give an example of a water plant that can be used in the above experiment.

v. Write the overall chemical equation for the above process.



b) **Given alongside is the figure of certain organs and its associated parts. Study the same and then answer the questions that follow:** [5]

i. Name all the organ systems which are shown completely or even partially.

ii. Label the parts marked 1 to 4.

iii. Name any two main organic constituent of fluid that flows down the part labelled 2.

iv. Mention two functions of kidneys.