

**MANECKJI COOPER EDUCATION TRUST SCHOOL, JUHU TARA ROAD,
PRELIMINARY EXAMINATION 2018-19**

Std: X

Date: 05/01/19

Subject: Biology

TIME: 2 Hours

Marks: 80

SECTION I (40 MARKS)

[Attempt all questions from this Section]

- Q 1 A** Name the following: (5)
- 1) The canal through which the testes descend into the scrotum just before birth in a human male child.
 - 2) The only plant hormone which is a gas at ordinary temperature.
 - 3) The pressure of the cell contents on the cell wall.
 - 4) Movement of WBCs out of the capillary walls.
 - 5) A neurotransmitter that conducts nerve impulses through a synapse.

B State true or false and if false rewrite the correct statement by changing the first or last word. (5)

- 1) Salts like calcium oxalate cause gout.
- 2) Gyri and sulci are folds of the cerebellum.
- 3) Amniotic fluid acts as a shock absorber.
- 4) Minerals are a non-renewable resource.
- 5) Rate of transpiration increases if atmospheric pressure increases.

C Complete the following statement by choosing the correct alternative from those given in the brackets. (5)

- 1) Reflex action is predominantly controlled by _____.
(brain, spinal cord, Autonomic nervous system, Peripheral nervous system)
- 2) During photosynthesis the oxygen in glucose comes from _____.
(carbon dioxide, water, oxygen from air, NADP)
- 3) Conversion of glucose to glycogen for storing food takes place in _____.
(Pancreas, small intestine, liver, blood)
- 4) In mammals the corpus callosum connects _____.
(two cerebral hemispheres, two optic lobes, cerebrum to cerebellum, two cerebellum hemispheres)
- 5) Industrial melanism was studied with the help of _____.
(Paramecium, Biston bitularia, butterfly, honeybee)

D Given below are a set of terms. Rearrange each term of the set in such a way that they make a logical sequence. (5)

- 1) Pupil, retina, cornea, optic nerve, lens. (Pathway for passage of light through eye)
- 2) Implantation, parturition, fertilization, gestation, ovulation. (Process of child birth)
- 3) Homo habilis, Ramapithecus, Neanderthal, Homo erectus, Homo sapiens sapiens. (Process of evolution)
- 4) Xylem, soil water, cortex, endodermis, root hair. (Conduction of water)
- 5) Injured cell, Thrombin, Fibrin, Thrombus, Thromboplastin. (Process of blood clotting)

E Given below are five sets of terms with four terms each. In each set one term is odd. Choose the odd one out of the following terms and name the category to which the others belong. (5)

Set of terms	Odd term	Category of others
1) Sneezing, coughing, typing, blinking.		
2) Detergent, x-rays, sewage, oilspills.		
3) ADH, TSH, NADPH, ACTH.		
4) Fovea centralis, conjunctiva, cochlea, retina.		
5) Pinna, wisdom teeth, vulva, vermiform appendix.		

(1)

P.T.O...

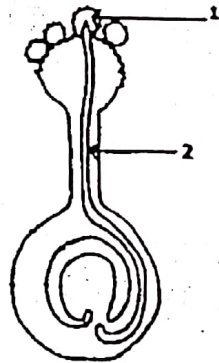
E State the exact location of the following structures. (5)

- 1) Thyroid gland
- 2) Lenticels
- 3) Spleen
- 4) Medulla Oblongata
- 5) Seminal vesicles

G Match the items in column 'A' with the most appropriate in column 'B'. Rewrite the matching pairs. (5)

A	B
1) Natality	a) Nerium
2) Sunken stomata	b) Dominant trait
3) Cytokinins	c) Death rate
4) Attached ear lobes	d) Testosterone
5) Leucocytes	e) Inhibits apical dominance
	f) Recessive trait
	g) Birth rate

H The diagram shown below is a type of tropic movement. Look at the figure and answer the following questions. (5)



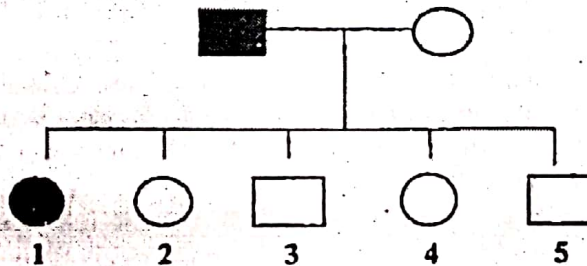
- 1) Identify the type of tropic movement seen in the above figure.
- 2) Label the parts indicated by 1 and 2.
- 3) Name the substances secreted by part labelled 2.

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SECTION II (40 MARKS)

[Attempt any 4 Questions from this Section]

Q2 A The pedigree chart shown below is of a family consisting of two parents and their five children and the inheritance of the trait colour blindness in them. (5)

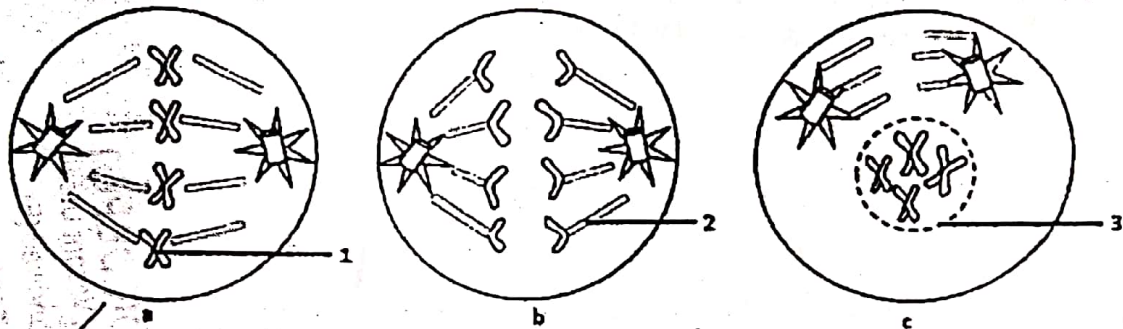


- 1) Who is colour blind among the parents – Father or Mother?
- 2) Give the genotype of the mother and father.
- 3) What does child '1' indicate about this trait?
- 4) On which chromosome is the gene for this trait located.
- 5) Name one other trait in humans which follows a similar pattern of inheritance.
- 6) What is the phenotype and genotype of the child '5'.
- 7) State Mendel's Law of Purity of Gametes.

B Give the appropriate technical terms for the following. (5)

- 1) Origin of a new species by gradual modification.
- 2) The fluid that reduces friction during heartbeat.
- 3) A pair of corresponding chromosomes of the same size and shape.
- 4) The Bowman's capsule and glomerulus together.
- 5) Aggregate of nerve cells from which nerve fibres may arise or enter into.
- 6) The hormone secreted by the adrenal cortex which suppresses inflammation.
- 7) The transformation of several glucose molecules into one molecule of starch.
- 8) The device that measures the rate of water uptake by a plant.
- 9) The nuclear changes that occur during cell division.
- 10) A cross between one pair of contrasting character.

Q3 A Stages of cell division are given below. Study the diagram and answer the questions that follow. (5)

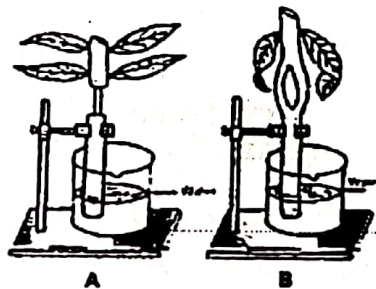


- 1) Identify the stages of cell division a, b and c.
- 2) Arrange the stages in the correct sequence using the alphabets given under them.
- 3) How many daughter cells are formed during this type of cell division?
- 4) Name the parts labelled 1, 2 and 3.
- 5) Write the names of any one pair of compatible nitrogenous bases found in the DNA molecule.

B Differentiate between the following pairs on the basis of the points mentioned in the brackets. (5)

- 1) IAA and ABA (expanded form)
- 2) Sperm and egg (site of production)
- 3) Endolymph and perilymph (location)
- 4) Arteries and veins (direction of blood flow)
- 5) Osmosis and Active transport (definition)

Q4 A Two freshly taken leafy shoots of an herbaceous plant are dipped in ordinary water at their lower ends. (5)



- 1) What is the aim of the experiment?
- 2) Name the conducting tissue removed in shoot 'A' and in shoot 'B'.
- 3) What changes do you observe in shoot 'A' and 'B' after a few days?
- 4) Name the two forces that contribute to Ascent of Sap.
- 5) State two characteristics of roots which enable them to draw water from the soil.

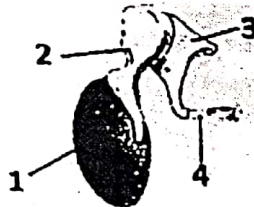
B) Complete the following paragraph by filling in the blanks (1) to (6) with appropriate words. (3)

(1) is a condition in which there is difficulty in seeing nearby objects. The image of the nearby object forms (2) the retina. A (3) lens is needed to correct this defect which results on account of (4) of the eyeball from front to back or because the lens is too (5). A similar condition that affects older people is called (6).

Q) Draw a neat labelled diagram of a kidney in longitudinal section and only label the following parts. (2)

- 1) Hilum
- 2) Cortex
- 3) Pelvis
- 4) Pyramids

Q.5 A Given below is a diagrammatic sketch of a certain part of an organ. Study the same and answer the questions that follow. (5)



- i) Label parts numbered 1 to 4.
- ii) Name the organ containing these parts.
- iii) Give the collective name for the parts numbered 2, 3 and 4.
- iv) State the function of the part numbered 1.
- v) Name the next two parts that follow the part labelled 4.
- vi) Name the nerve associated with the given figure.

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B State the main functions of the following.

- 1) Sinu-Atrial Node
- 2) Auxins
- 3) Grana of chloroplast
- 4) Epididymis
- 5) Cuticle

Q.6 A The following picture depicts a certain phenomenon. (5)



- 1) Name the phenomenon.
- 2) State how the above seen phenomenon causes harm.
- 3) Name any two sources that are responsible for the above seen phenomenon.
- 4) Give any two ways in which the above phenomenon affects human health.
- 5) Explain the term 'pollution'.

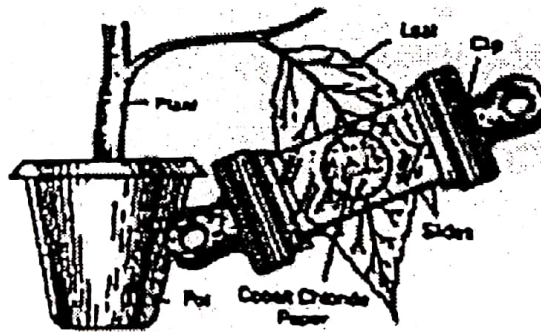
B) Descriptive statements of defects in the body due to hypo or hyper secretion of certain glands are given below. Complete the following table by naming the defect and the gland responsible for the same. (3)

DEFECT	NAME	GLAND
1) Dwarfism and mental retardation in children		
2) Obesity, hyperglycemia and osteoporosis		
3) Urination is frequent, copious and results in water loss from the body.		

ii) Expand the following terms. (2)

- 1) IUDs
- 2) AVN

Q7 Given below is a diagram of an experimental set-up to study a particular physiological process in plants. Answer the questions that follow. (5)



- 1) Name the process being studied.
- 2) What is the colour of the dry cobalt chloride paper?
- 3) After about half an hour what change will be seen on the upper and lower surface of the leaf? Give suitable reasons to support your answer.
- 4) Is the leaf shown a monocot or a dicot leaf? Give a reason for your answer.
- 5) State two important significances of the above process to plants.

B Answer the following questions. (5)

- 1) Mention two reasons for rise in world population.
- 2) Name two principles on which Lamarck's Theory of Evolution was based.
- 3) 'Patients suffering from cholera are given Oral Rehydration Solution (ORS)'-Explain why?
- 4) State two significances of Meiosis.
- 5) Give reason - 'It is better to transplant seedlings in a flower bed in the evening and not in the morning'.

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