

**SMT. SULOCHANADEVI SINGHANIA SCHOOL, THANE**

CLASS	SUBJECT	EXAM	DATE	MARKS	TIME	NO. OF SIDES	SET
10	BIOLOGY	PRELIMS	10-1-20	80	2Hrs	5	A

**SECTION I [ 40 marks]**

**Attempt all questions**

1a. Name the following-

[5]

- The fluid present between the lens and the cornea.
- The outermost protective membrane of brain.
- The depletion of this layer in the atmosphere can lead to skin cancer.
- The fluid entering the Bowman's capsule.
- The site of photochemical phase of photosynthesis.

b. Choose the correct answer from each of the four options given below-

[5]

- In a DNA molecule Adenine pairs with-  
a. Thymine      b. Cytosine      c. Guanine      d. Hydrogen
- The number of spinal nerves in a human are-  
a. 21 pairs      b. 30 pairs      c. 31 pairs      d. 12 pairs
- The state of the cell in which the cell wall is stretched by increase in volume due to absorption of water-  
a. Capillarity      b. Tonicity      c. Turgid      d. Flaccid
- The plant hormone which helps in stem elongation by growth of internodes-  
a. Ethylene      b. Gibberellins      c. Auxins      d. Absciscic acid
- Which one is the normal constituent of urine?  
a. Albumin      b. Blood      c. Bile pigments      d. Creatinine

c. Given below are groups of terms. In Each group the first pair indicates the relationship between two terms. Rewrite and complete the second pair on a similar basis. [5]

Example- Cell wall : freely permeable :: Cell membrane : semipermeable

- Stoppage of menstruation : Menopause :: Onset of menstruation: \_\_\_\_\_
- Vas deferens : Sperms :: \_\_\_\_\_ : Ovum
- Tt : Heterozygous :: TT : \_\_\_\_\_
- Hearing : Cochlea :: Dynamic balance : \_\_\_\_\_
- Thyroxine : Iodine :: Chlorophyll : \_\_\_\_\_

d. The statements given are incorrect. Rewrite the correct statements by changing the underlined words of the statements- [5]

- Deafness is caused by rupturing of Pinna.
- Nitrogen bonds are present between the complimentary bases of the DNA.
- The plasma without thrombin is called serum.
- Clinostat is an instrument to measure the water uptake by a cut shoot.
- The remnant of the Graafian follicle converts into yellow mass called Corpus callosum.

e. Choose the odd one out from the following terms and state the category of the others- [5]

- i. Condom, Diaphragm, Contraceptive pills, IUDs
- ii. Hepatic artery, Pulmonary artery, Coronary artery, Aorta
- iii. Prostate gland, Cowper's gland, Seminal vesicle, Seminiferous tubules
- iv. Cornea, Eustachian tube, Iris, Pupil
- v. Coughing, Sneezing, Typing, Blushing

[5]

f. State the location of the following structures-

- i. Testis
- ii. Malleus
- iii. Yellow spot
- iv. Pericardium
- v. Amniotic fluid

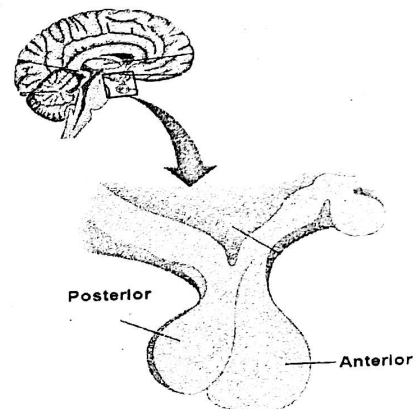
g. Define the following terms-

- i. Demography
- ii. Natality
- iii. Accommodation
- iv. Bleeding
- v. Imbibition

h. Observe the given diagram and answer the following questions-

[5]

- i. Identify the endocrine gland.
- ii. Name one hormone secreted by posterior part of this gland.
- iii. State the function of the hormone named in question ii.
- iv. Which part of the brain controls the functioning of this endocrine gland?
- v. State the location of this gland.



## SECTION II [ 40 MARKS]

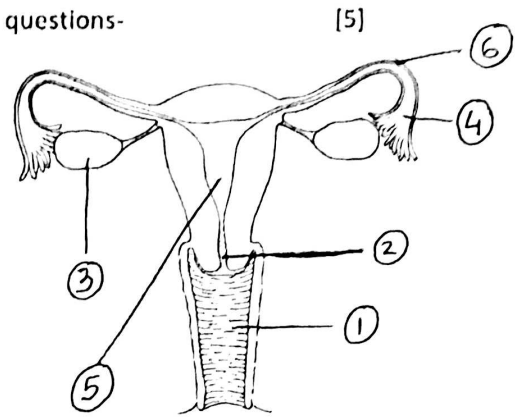
Attempt any four questions out of six

2a. Draw a neat diagram of vertical section of eye and label only the parts which suit the following functions/ description- [5]

- i. The innermost layer on which image is formed.
- ii. The structure that controls the size of the pupil.
- iii. The structure which holds the lens in position.
- iv. The region of distinct vision.
- v. The nerve carrying impulse from eye to brain.
- vi. The layer which maintains the shape of the eyeball.

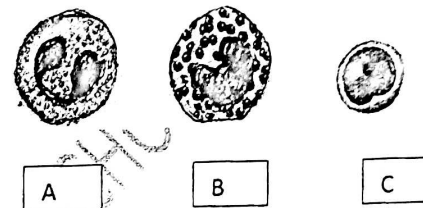
b. Observe the following diagram and answer the following questions-

- Label the parts 1 to 4.
- Differentiate between 5 and 6 based on their functions.
- Name two hormones released by 3.
- Which process takes place on the 14<sup>th</sup> day of the menstrual cycle?
- Name the permanent method of contraception which is performed by ligating part 6.



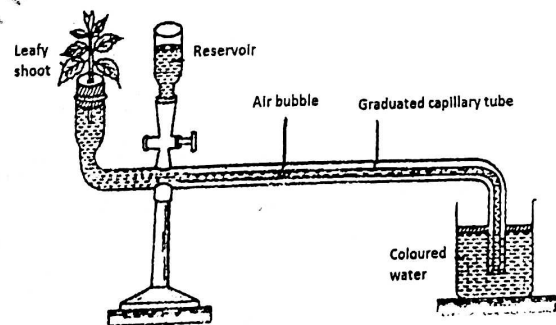
3a. Observe the following diagrams and answer the following questions-

- Identify the individual blood cells.
- State the functions of each type.
- Define Diapedesis.
- Why does Carbon monoxide poisoning lead to death?



b. Study the diagram and answer the following questions-

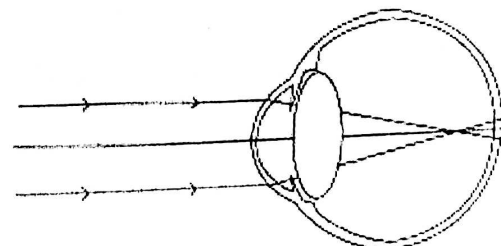
- Identify the apparatus.
- What is the significance of the reservoir?
- State two limitations of this apparatus.
- What will be the impact of the following conditions on the movement of the air bubble in the capillary tube?  
a. High humidity b. High temperature



- Draw a neat labeled diagram of the Stomatal apparatus of leaves.

4a. Observe the given diagram and answer the following questions-

- Identify the eye defect.
- State two reasons for such a defect.
- Draw a neat diagram of the correction of this defect and mention the name of the lens used for correction.
- State one function of tears.
- When we step out in bright area from a dark room, our eyes get dazzled—Justify.



b. State the functions of the following

[5]

- Lymph
- Eustachian tube
- Tympanum
- Placenta
- Glucagon

5a. Differentiate between-

[5]

- Photochemical phase and Biosynthetic phase (End products)
- Diffusion and Active transport (Definition)
- Pea plant and Peppered moth (Scientific name)
- Artery and vein (Structure)
- Homohablis and Homoerectus (Height)

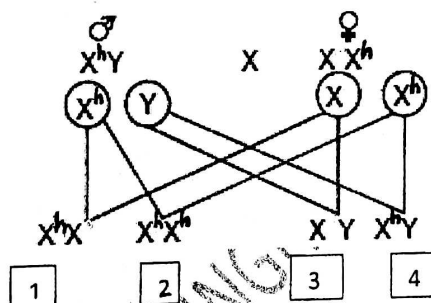
b. Study the following cross and answer the following questions-

[5]

Parental phenotype Haemophilic man Carrier woman

Parental genotype  
Gametes

F1 Genotypes



- Give the Phenotype of the off springs 1, 2, 3 and 4.
- Colour blindness is more common in males than in females—give reason
- Mention the chromosome number in ----a. Female gamete b. Male skin cell
- State Mendel's law of Independent Assortment.

6a. Answer the following questions-

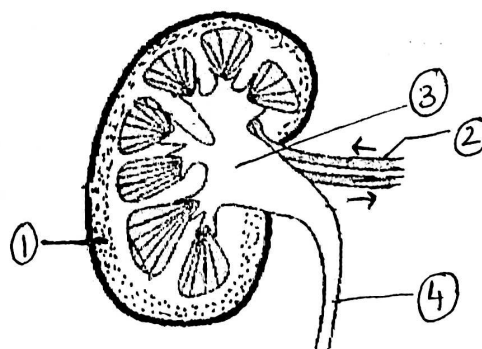
[5]

- Draw a neat labeled diagram of anaphase in an animal cell with chromosome number 6.
- Differentiate between Mitosis and Meiosis based on number of daughter cells produced.
- Mention two significances of Mitosis.
- Define Nucleosome.

b. Observe the following diagram and answer the following questions-

[3]

- Label the parts 1 to 4.
- What is Diuresis?
- State the function of 4.



c. Answer the following questions-

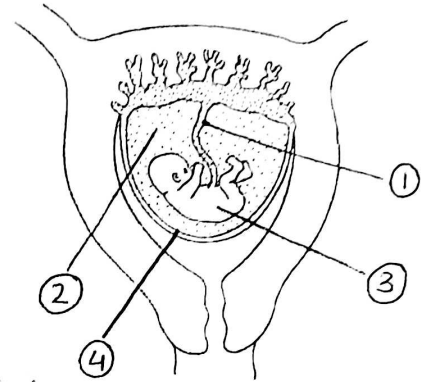
- i. Define Biomedical waste.
- ii. State two harmful effects of noise pollution.

[2]

7a. Observe the given diagram and answer the following questions-

[5]

- i. Label the parts 1 to 4.
- ii. State two functions of 2.
- iii. Differentiate between Gestation and Parturition based on their definition.
- iv. Give biological reason for the fact that it is dangerous for an Rh -ve mother to carry an Rh+ve foetus in her womb.



b. Draw a neat labeled diagram of a human sperm.

[2]

c. Observe the diagram and answer the following questions.

[3]

- i. Identify the factor studied in this experiment.
- ii. Name the physiological process studied in this experiment.
- iii. Which type of plant is used for this experiment? Give an example of such a plant.
- iv. State the observation for leaf A after Starch test is performed on it.

