



**Sample Paper**  
**Class – X**  
**Subject - Biology**

Set – 1

[Full Marks 75 ]

[Time – Three Hours]

**Section – I (40 marks)**

*Attempt all questions from this section*

**Q.1(a)** Name the following :-

- (i) The shortest phase of mitosis. (ii) The unit of the nervous system.
  - (iii) Shrinkage of protoplasm when a cell is kept in salt solution.
  - (iv) The site of production of sperm in man. (v) Protein deficiency disease.
- (b)** Choose the most appropriate answer :
- (i) DPT stands for :  
[p] Diphtheria, Polio and Tetanus [q] Diphtheria, Pertussis and Tetanus  
[r] Dysentery, Polio and Typhoid [s] Diphtheria, Polio and Typhoid.
  - (ii) Population explosion has led to :  
[p] Environmental pollution [q] Deforestation  
[r] Shortage of natural resources [s] Better medical facilities to people.
  - (iii) Secretion of endocrine glands are called :  
[p] Hormones [q] Enzymes [r] Nucleic acids [s] Amino acids.
  - (iv) Which of the following does not affect the rate of transpiration ?  
[p] Light [q] Humidity [r] Wind [s] Age of the plant.
  - (v) Removal of anthers from flowers artificially is known as :  
[p] Castration [q] Emasculation [r] Cutting [s] Cross-pollination.
- (c)** Complete the following statements by choosing the correct alternative out of those given in brackets.
- (i) The spindle fibres are made of \_\_\_\_\_ [Microtubule / Matrix / Centriole].
  - (ii) Starch can be tested by \_\_\_\_\_ [Iodine / Hydrochloric acid / Alcohol].
  - (iii) Calcium carbonate particles present in endolymph are called \_\_\_\_\_ [Otolith / ampullae / Cochlea].
  - (iv) Testis is covered by \_\_\_\_\_ [Theca externa / Theca interna / Tunica albuginea].
  - (v) Serum gives \_\_\_\_\_ [Active immunity / Passive immunity / No immunity].
- (d)** Mention if the following statements are true (T) or false (F).
- (i) Hypertrichosis is X-linked. [ ].
  - (ii) Root hair are thin, delicate prolongations of cortex. [ ].
  - (iii) Hormones are produced by exocrine glands. [ ].
  - (iv) The cutting of fallopian tube in female is called vasectomy. [ ].
  - (v) The Red Cross symbol can be seen on ambulances. [ ].
- (e)** Define the following terms :-
- (i) Mitosis, (ii) Guttation, (iii) Hypermetropia, (iv) Fertilization and (v) Immunity.
- (f)** Differentiate between the following terms :-
- (i) Test cross and Back cross, (ii) Diffusion and Osmosis, (iii) Natality and Mortality
  - (iv) Antiseptic and Disinfectant, (v) Congenital disorder and Acquired diseases.

(g) Give reason for the following :-

(i) Leaves are reduced to spine in cactus.

(ii) Grass is killed if salt is sprinkled on it.

(iii) It is necessary to place a plant in dark before starting an experiment on photosynthesis.

(iv) The deficiency of Vitamin A causes night blindness.

(v) Patients suffering from diabetes are treated with insulin.

(h) Match the following :-

|                  |                                    |
|------------------|------------------------------------|
| (i) Zygotene     | (a) scientific study of population |
| (ii) Testes      | (b) Penicilline                    |
| (iii) Demography | (c) Geneva                         |
| (iv) Antibiotic  | (d) Sperm                          |
| (v) WHO          | (e) Synapsis                       |

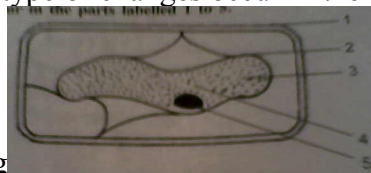
### Section – II (40 Marks)

Answer ANY FOUR questions from this section.

2(a) What is interphase ? Mention three significant changes that occur in a cell during interphase. [5]

(b) Define mutation. Suggest two ways by which it can happen to human cells. [5]

3(a) The following diagram represents a plant cell after being placed in a strong sugar solution. Write down what type of changes occur in the parts labelled 1 to 5. [5]



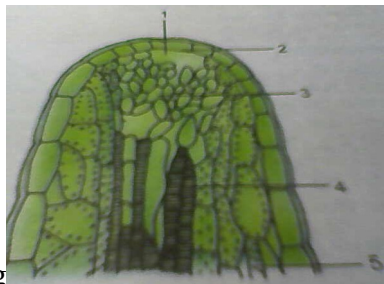
fig

(b) Figure given below represents the vertical section of a leaf.

(i) Name the structure shown in the leaf section.

(ii) Name the parts labelled 1 to 5.

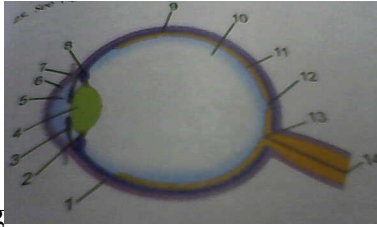
(iii) How many leaf veins have been shown in this section ? [5]



fig

4(a) Write short notes on : (i) Light reaction (ii) Dark reaction. [5]

(b) In the given figure, label the parts 1 to 14. [5]



fig

**5(a)** Why old people are unable to perceive taste easily ? Mention the location of the following tastes of the tongue : sweet, salt, bitter and sour. [5]

**(b)** What is Red Cross ? List three functions of the Red Cross. [5]

**6(a)** Find the odd one out :

**(i)** thyroid, pituitary, liver, adrenal

**(ii)** glucagons, adrenalin, urea, insulin

**(iii)** growth hormone, TSH, ACTH, progesterone

**(iv)** cretinism, goiter, myxoedema, gigantism

**(v)** aldosterone, insulin, adrenaline, noradrenaline [5]

**(b)** Mention the functions of :

**(i)** Seminal vesicles, **(ii)** Uterus, **(iii)** Testicles,

**(iv)** Fallopian tube, **(v)** Corpus Luteum. [5]

**7(a) (i)** What is the age limit for marriage by law for boys and girls in India ?

**(ii)** Name the two surgical techniques (one each for human male and female) which can be used to prevent pregnancy.

**(iii)** What is the emblem (sign) of family planning and family welfare in India ? [5]

**(b)** Write briefly about the following :

**(i)** Principle of vaccination in producing immunity against a disease.

**(ii)** Immunization schedule for the newly-born child. [5]