# ASSESSMENT-I BIOLOGY
# GRADE-X

Maximum Marks:80

***Time allowed: Two hours***

*Answers to this Paper must be written on the paper provided separately.*
*You will not be allowed to write during 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 A is compulsory. Attempt any four questions from Section B.

*The intended marks for questions or parts of questions are given in brackets [].*

## SECTION A

*(Attempt **all** questions from this Section.)*

**1. Choose the correct answer to the questions from the given options. [15]**

(i) A source of acid rain is
(a) sulphur dioxide (c) carbon dioxide
(b)hydrogen sulphide (d)carbon

(ii) Addition of salts is a method of killing the bacteria

(a) imbibitions (b)deplasmolysis
(c) diffusion (d) plasmolysis

(iii)Root pressure can be measured by using
(a) Thermometer (b) barometer
(c) Speedometer (d) manometer

(iv)Chromosomes arrange at equatorial plate during
(a) anaphase (b) prophase
(c) telophase (d) Metaphase

(v) Oxygenated blood to heart is supplied by
(a) hepatic artery (b) coronary artery
(c) renal artery (d) pulmonary artery

(vi)Assertion:(A)Human beings have an open blood vascular system.
Reason: (R) Blood is contained in the heart and openly flows all through out the body via three kinds of blood vessels-veins, capillary and artery
(a) Both A and R are true (b) Both A and R are false
(c)A is true and R is false (d) A is false and R is true

(vii) Hydathodes are located on:
(a) at the petiole (b) upper surface of leaves
(c) margins of leaves (d) lower surface of leaves

(viii) Assertion: (A) Hereditary is the basic fundamental unit of genetics.
Reason: (R) Genes carry hereditary information from the off springs to their parent.
(a) Both A and R are true (b)Both A and R are false
(c) A is true and R is false (d) A is false and R is true

(ix) The doubled layered membrane which covers and protect the Heart is
(a) pericardial fluid (b) pericardium
(c) pleura (d) méninges

(x)Which of the following is a radioactive pollutant?
(a) iodine 313 (b) iodine 131
(c) iodine 113 (d) cobalt 16

(xi)Function of centrosome is
(a) to initiate cell division (b) to provide site for protein synthesis
(c) to inhibit cell division (d) none of these

(xii)If a tall plant is crossed with a dwarf plant, this type of cross is called
(a) dihybrid (b) reciprocal (c)monohybrid (d) trihybrid
(xiii)The 9:3:3:1 dihybrid ratio is due to
(a) segregation (b) independent assortment
(c) crossing over (d) homologous pairing
(xiv)The number of histone protein associated with the DNA in a nucleosome is
(a) 4 (b) 6 (c) 8 (d) 1
(xv) Wilting of the plant occurs when
(a) phloem is blocked (b)xylem is blocked
(c) Both are blocked (d) a few old roots are removed

**2. (i) Name the following.** **[5]**
(a) The respiratory pigmenting erythrocyte.
(b) Bean shaped cells with chloroplast found around the stomatal opening in the leaves.
(c)The type of gene, which in the presence of a contrasting allele, is not expressed.
(d)An example of X linked inheritance.
(e)A paper which is used to show loss of water through the stomata's of a leaf.

**(ii )Correct the following statements by changing the underlined words:** **[5]**
(a) Genes are specific sequences of <u>bases</u> on a chromosomes.
(b) <u>Terminal</u> flower position is a dominant trait of pea flower.
(c) The cell wall of the root cell is <u>differentially</u> membrane.
(d) Most transpiration occurs at <u>midnight.</u>
(e) <u>Composting</u> is the best solutions to get rid of non- biodegradable wastes.

**(iii) Fill in the blanks with suitable words.** **[5]**
(a).....contained in the heart and in the blood vessels of the circulatory system. The blood vessel that begins and ends in capillaries is the(b) .....A blood vessel which has small lumen and thick wall is (c)..... The valve which prevents back flow of blood in the veins and lymph vessels is( d)…….an anticoagulant present in the blood is(e).....

**(iv) State the exact location of the following structure:** **[5]**
(a) Hydathodes
(b)Chromosomes
(c) Chiasma
(d) Chloroplast
(e)Thymine and Cytosine

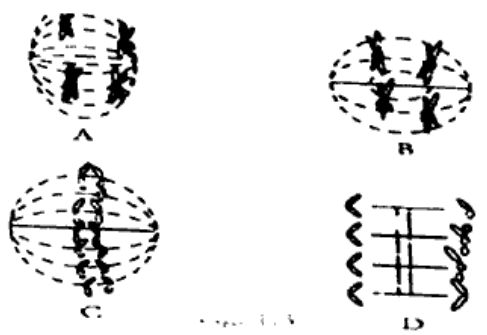
**(v) Match the items given in Column I with the most appropriate ones in Column II and rewrite the correct matching pairs.** [5]

| Column I | Column II |
|---|---|
| CFC | Reduce loss of water |
| Heart Beat | Chromosomes similar in size and shape |
| Cuticle | Ozone depletion |
| Upward flow of water | xylem |
| Homologous Chromosomes | 0.85 sec. |
| | carbon |

## Section B

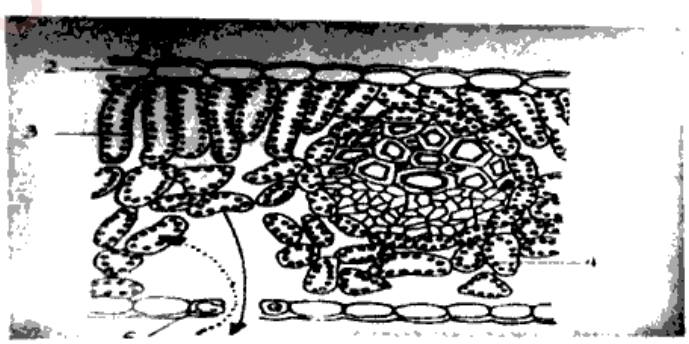
***(Attempt any four questions from this section)***

**Question3.**(i) Identify the cell division?



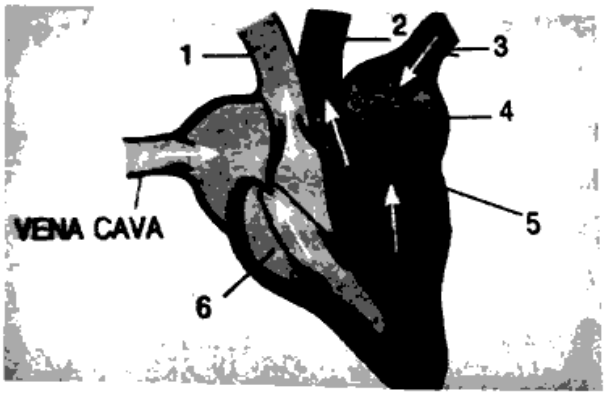

(ii) Define the type of cell division. [1]
(iii)Where does the above cell division take place? [2]
(iv) Differentiate between phenotype and genotype. [2]
(v)What is the significance of above cell division? [2]
[3]

**Question 4.**
(i) Define Crossing over [1]
(ii) State one difference in each of the following pairs on the basis of what is indicated in brackets after each question: [2]
a) Plasma and Serum (composition) b) DNA and RNA(Nitrogenous bases) [2]
(iii) What is the sex linked inheritance? Explain with the help of an example. [2]
(iv) Give the importance of turgor pressure.
(v) The diagram given below represents the vertical section of a leaf? [3]



a) Name the parts labelled 1 to 5.
b) What do the two arrows (dotted and solid) indicate during the day and at night?
c)How many leaf veins have been shown in this section?

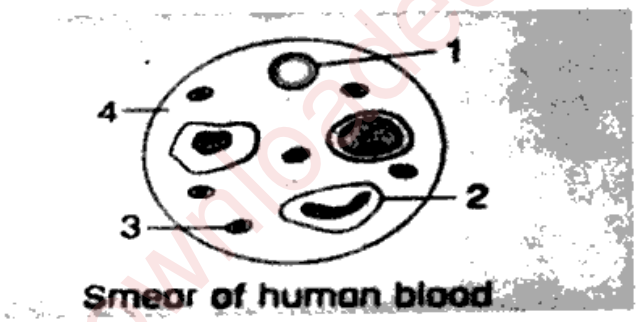
**Question 5.**The diagram given below represents the human heart in one phase of its activity.




i)Name the phase. [1]
ii)Which part of the heart is contracting in this phase? [2]
iii) Name the parts numbered 1 to 6. [2]
iv)Which type of circulation are present in human. Why? [2]
v)How many valves are closed in this phase? [3]

**Question6.**
(i) Name two types of Blood circulation. [1]
(ii)State any two objectives of Swachh Bharat Abhiyan. [2]
(iii) Mention two significant features of the stage anaphase during mitosis. [2]
(iv) How many daughter cells are formed at the ends of mitosis and meiosis? [2]
(v) Differentiate between Diffusion and Active transport. [3]

**Question7.**
(i) Define osmosis. [1]
(ii) Potato cubes when placed in water become firm and increase in size. [2]
(iii) Explain dihybrid cross with round & yellow seed with wrinkled and green seeds. [2]
(iv) Differentiate between karyokinesis and cytokinesis. [2]
(v) Given below is the diagram of human blood smears. [3]




(a) Mention one structural difference between 1 and 2.
(b)What is the function of part 3?
(c) Name the part labelled .