

SECTION - A (Multiple Choice Questions)

Q.1 Choose the correct answer for each from the given options:

1. A _____ which updates itself perfectly to conditions of environment is termed as:
(a) Succession (b) Xerosere (c) Clusius (d) None of these
2. The nutrients which are necessary for the operation of ecosystem are:
(a) Micro - Nutrients (b) Macro - Nutrients
(c) Trace - Element (d) Operation - Nutrients
3. A phenomenon of inheritance in which alleles of contrasting characters are not completely domination over other:
(a) Complete Dominance (b) Incomplete Dominance
(c) Intermediate - Dominance (d) None of these
4. Cells in the spaces between the fingers that are no longer needed perform.
(a) Apoptosis (b) Growth (c) Mitosis (d) Necrosis
5. Vertically sea is divided in to _____ Zones.
(a) Euphotic, bathyal and abyssal
(b) Bathyal and abyssal
(c) Euphotic and aphotic
(d) Neritic and oceanic
6. The nature of endosperm (food storage tissue) is _____
(a) N (b) 2 N (c) 3 N (d) 4 N
7. Which one is the true statement for "Translocation" regarding chromosomal aberration?
(a) A segment of chromosome is invented
(b) A segment of chromosome missing
(c) A segment of chromosome present in excess
(d) Transfer of segment of chromosome to non - homologous chromosome.

8. Plasmolysis can occur, when a plant cell is placed in _____ solution.
(a) Isotonic (b) Hypertonic (c) Hypotonic (d) None of these
9. The relationship between members of two different species in which both get benefit.
(a) Symbiosis (b) Mutualism (c) Parasitism (d) Commensalism
10. In plant cell, the correct water potential of solution in vacuole is:
(a) Water – Potential (b) Osmosis
(c) Solute – Potential (d) Osmotic - Pressure
11. The movement which occur due to difference in the rate of growth on the two opposite sides of a plant organ is called:
(a) Tropic (b) Tactic (c) Nastic (d) All of these
12. A process in which a part of plant develops into a new plant:
(a) Cloning (b) Apomixis
(c) Tissue culture (d) Vegetative Propagation
13. Genetic –code is command from nucleus to cytoplasm in the form of:
(a) Anti – Codon (b) Codon (c) m – RNA (d) t – RNA
14. Parthenocarpy is the type of asexual reproduction.
(a) Type of asexual reproduction (b) Fruit form without fertilization
(c) Found in plants (d) All of these
15. The tubular lignified dead – cells with large hollow cavities and oblique transverse wall called:
(a) Fibres (b) Tracheae (c) Tracheids (d) Scleroids
16. The curvature movement of plant in response to touch stimulus.
(a) Haptonastic (b) Epinastic
(c) Sesmonastic (d) Thigmo – Tropism
17. One complete turn of DNA contains:
(a) 20 Nucleotides (b) 10 Nucleotides
(c) 5 Nucleotides (d) 2 Nucleotides

SECTION - B (SHORT ANSWER)

Note: Answer any EIGHT of the following questions. Each question carries 02 marks.

- Q.2 Which of the phyto-hormone is considered as growth inhibitor and why?
- Q.3 How Herbivory is stress for plants and how plants cope from this stress?
- Q.4 Why "Hetero - Chromatin" part of chromosome is never expressed?
- Q.5 Why Ethene is considered as fruit ripening hormone and how does ethane ripens the fruit?
- Q.6 Why coniferous forests are named so and where these forests are located in Pakistan?
- Q.7 Why secondary succession is more rapid than primary succession?
- Q.8 On the basis of position of centromere enlist the four types of chromosomes.
- Q.9 Distinguish between any ONE of the following in tabulated form:
- (i) Klinefelter's Syndrome and Turner's Syndrome
 - (ii) Vascular Cambium and Cork Cambium
- Q.10 Why Rh incompatibility could be a danger to the developing foetus and mother?
- Q.11 Define any TWO of the following.
- (i) Topography
 - (ii) Tundra
 - (iii) Mitotic Apparatus
 - (iv) Corymb
- Q.12 What is ecological Niche?
- Q.13 Why abnormal daughter cells are produced during cell division?

SECTION - C (DESCRIPTIVE ANSWER)

Note: Answer any TWO of the following questions. Each question carries 05 marks.

- Q.14 What is mono hybrid cross? Describe the law of inheritance which explain the inheritance of mono hybrid cross?
- Q.15 Describe the experiment of Griffith, Hershy and Chase to prove that "DNA is the hereditary material".
- Q.16 What do you mean by karyokinesis? Describe various stages of karyokinesis of somatic cell division.

(Multiple Choice Questions (MCQ's))

1. Choose the correct answer for each from the given options.

In double fertilization, one sperm fuses with _____ and other with _____.

- (a) egg- synergids (b) egg- antipodal cell
(c) egg - two polar nuclei (d) egg- one polar nucleus

In double stranded DNA molecule, the amount of Thymine is equal to the amount of _____.

- (a) Uracil (b) Guanine (c) Adenine (d) Cytosine

The production of seeds without fertilization called _____.

- (a) Parthenocarpy (b) Apomixis (c) Parthenogenesis
(d) Sporulation

All are examples of sexual reproduction in plants except.

- (a) Cutting (b) Tissue culture (c) Sproutation (d) Cloning

The plants which grow partly or completely sub-merged in fresh water are termed _____.

All are examples of sexual reproduction in plants except.

- (a) Isogamy (b) anis gamy (c) Hydrophytes (d) Biosphere

Group of different species living together in same environment termed as _____.

- (a) Population (b) Community (c) Ecosystem (d) Biosphere

At what stage of mitosis, the chromosomes arrange themselves at the equatorial _____?

- (a) Telophase (b) Metaphase (c) Anaphase (d) Prophase

The capacity of living system to lose water is called _____

- (a) Osmosis (b) Plasmolysis (c) Water potential
(d) osmotic pressure

The movement of plant organs in the response to touch stimulus is called _____.

- (a) Geotropism (b) Thigmotropism
(c) Chemotropism (d) Hydrotropism

Increase in diameter of stem and root is called _____

- (a) Primary growth (b) Secondary growth
(c) Tertiary growth (d) growth correlation.

All are the climatic factors of ecosystem except _____

- (a) Light (b) Temperature (c) Altitude (d) Water

In _____ zone of ocean light penetrates and producers can prepare their food by photosynthesis.

- (a) Abyssal (b) Benthic (c) Euphotic (d) Pelagic

Mitosis provides a means for all the following except.

- (a) Healing of wound (b) Development (c) Evolution of species
(d) Growth

About _____ genes are present on human 'X' chromosome.

- (a) 200 (b) 400 (c) 600 (d) 1000

(xvi) During pollination, pollens travel from anther to the _____ of flower.

- (a) Style (b) Stigma (c) Filament (d) Ovary

- (xvii) halophytes have following characteristics except.
(a) Growing in salt marshes (b) Found in fresh water
(c) Having salt gland on leaves (d) Trap water vapours from air
- (xviii) Where proteins are made in the cell?
(a) Nucleus (b) Ribosomes (b) Mitochondira
(d) Golgi bodies
- (xix) The division of cytophlams is called _____.
(a) Cuytokinins (b) Karyokinesis (c) Synapsis (d) cytokinesis
- (xx) After fertilization, ovule develops into _____.
(a) Zygote (b) Flower (c) Fruit (d) Seed
- (xxi) The semiforest grasslands of tropical regions are called _____.
(a) Desert (b) undra (c) Savannah (d) Bread-basket
- (xxii) Ponds, lakes and rivers are the reservoirs of _____.
(a) Sea water (b) Fresh water (c) Both (a) and (b)
(d) Brakish water

Section-B

Note: Answer any ^{Three} of the following questions. Each question carries 02 marks.

- Q.2: How HALOPHYTES absorb water from the having lower water potential than the cell-sap?
- Q.3: Do the cells beneath formative-phase differ from each other?
- Q.4: What is Mutation?
- Q.5: How HETERO-CHROMATIN differs from the EU-CHROMATIN?
- Q.6: How bisexual flowers are prevented from self-pollination and to favours cross-pollination?
- Q.7: Why TRANSCRIPTION and TRANSLATION are so named?

Section-C

(Descriptive Answer)

- Q.8: How abnormal Eukaryotic cell differs from normal Eukaryotic cell?
- Q.9: What are Heliophytes and Sciophytes?
- Q.10: What is DIHYBRID cross? Describe the law of INHERITANCE which explains the inheritance of dihybrid cross?