

# BOTANY

2014

Time: 15 Minutes

Max. Marks: 08

## SECTION "A" (MULTIPLE CHOICE QUESTION)

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

- (i) The sea below 2000 meters having no light is called:  
\* Benthic Zone \* Abyssal zone  
\* Euphotic zone \* Neretic zone
- (ii) Water moves in or out of a living cell by the process of:  
\* Plasmolysis \* Osmosis \* Guttation \* Imbibition
- (iii) Growth movement of plants in response to touch stimulus is called:  
\* Chemotropism \* Geotropism  
\* Thigmotropism \* Hydrotropism
- (iv) In Bryophytes, growth takes place at:  
\* apices \* lateral region  
\* in the centre \* throughout the body
- (v) Mendel performed his famous experiment of heredity on:  
\* Maize \* Pea \* Bean \* Gram
- (vi) The total aggregate of genes in a population at any one time is called:  
\* Gene pool \* Linkage \* Crossing over \* Genome
- (vii) Down's syndrome is an example of this condition:  
\* Trisomic \* Monosomic \* Nullisomic \* none of these
- (viii) One complete turn of DNA contains:  
\* 2 nucleotides \* 5 nucleotides  
\* 10 nucleotides \* 20 nucleotides
- (ix) For synthesis of protein, cells use:  
\* DNA \* Nucleus \* RNA \* Chromosomes
- (x) The concentration of oxygen in an atmosphere is about:  
\* 21% \* 50% \* 30% \* 60%
- (xi) Producers of a pond ecosystem are:  
\* Bacteria \* Zooplankton \* Phytoplankton \* Fungi
- (xii) These are capable of cell division:  
\* Mature cells \* Meristematic cells  
\* Permanent \* Parenchyma
- (xiii) Increase in diameter of a plant due to the activity of vascular and cork cambium is called:  
\* Primary growth \* Secondary Growth  
\* Primary & Secondary Growth \* None of these
- (xiv) Plant hormone responsible for apical dominance is:  
\* auxin \* Gibberellin \* Cytokinin \* ethene
- (xv) Cells found at the stem and root apices are termed as:  
\* Apical meristem \* Intercalary meristem  
\* Lateral meristem \* Cambium
- (xvi) The study of living things in relation to its environment is called:  
\* Community \* Ecosystem \* Ecology \* Succession

# BOTANY

2014

Time: 1 Hours 45 Minutes

Marks: 32

## SECTION 'B' (SHORT-ANSWER QUESTIONS)(20)

NOTE: Answer 10 questions from this section.

- 2.(i) Describe any two phases of Growth OR Draw L.S. of stem and root spines showing different growing zones.
- (ii) Differentiate between DNA and RNA.
- (iii) A colour blind woman marries a normal man. How many children of this couple are likely to be colour blind in  $F_2$  generation?
- (iv) Draw graphically the level of organization.
- (v) Write a note on Biotic components of Pond Ecosystem.
- (vi) Describe Coniferous or Temperate deciduous forests of Pakistan.
- (vii) Draw a char showing seven pairs of contrasting characters observed by Mendel. Also mention which of these characters are dominant or recessive.
- (viii) Write a note on Neritic region of ocean.
- (ix) What is a Test Cross? Explain with example.
- (x) Write a note on Sickle cell anemia or Vernalization.
- (xi) State four points of Chromosomal theory of heredity.
- (xii) Write a note on the significance of Secondary growth.
- (xiii) Write a note on the role of Growth hormones in plant movement.
- (xiv) Write a note on any one of the following:  
(a) Cymose inflorescence (b) Tissue culture
- (xv) Explain why interphase is not a resting phase of cell cycle.

## SECTION 'C' (DETAILED- ANSWER QUESTIONS)

NOTE: Answer 2 question from this section(12)

- 3.(i) State the Law of Independent Assortment. Explain it with the help of checker board method.
- (ii) What is Ecological succession? Describe Hydrosere.
- OR How do male and female gametophytes of angiospermic plants develop from anthers and ovaries respectively?
- (iii) Draw and describe Prophase I of Meiotic division.
- OR Describe the process of Gene expression.