

XIIth 2023-24

Date : 09/10/2023

Botany Theory Round -01

Max.Marks :- 35
Time 90 Minutes.

General Instructions : The question paper is divided into four sections.

- (1) **Section A :** Q.No.1 contains Five Multiple choice type of question carrying **One** mark each.
Q.No.2 contains Four very short answer type of questions carrying **One** mark each.
- (2) **Section B :** Q.No.3 to Q.8 are short answer type of question carrying **Two** marks each.
- (3) **Section C :** Q.No.9 to Q. No.14 are short answer type of questions carrying **Three** marks each
- (4) **Section D:** Q.No.15 to Q.No.18 are long answer type of questions carrying **Three** marks each.
- (5) Figures to the right indicate full marks

Section -A

[05]

Q.1 Select and write the correct answer.

- i) During double fertilization second male gamete fuses with _____.
- (a) Antipodal Cell
(b) Egg cell
(c) Secondary nucleus
(d) Synergids
- ii) Which of the following is the first step in water absorption?
- (a) Imbibition
(b) Active Absorption
(c) Passive absorption
(d) Osmosis
- iii) The correct sequence of different phases of growth is
- (a) Elongation, Formation, Maturation
(b) Formation, Elongation, Maturation
(c) Differentiation, Elongation, Maturation
(d) Maturation, Formation, Elongation
- iv) The improved variety of wheat having high protein and high iron content is
- (a) Atlas-66
(b) Himgiri
(c) Kalyansona
(d) Sonalika
- v) The base of an upright ecological pyramid represents
- (a) Primary consumers
(b) Producers
(c) Secondary consumers
(d) Tertiary consumers

Q.2 Answer the following

[04]

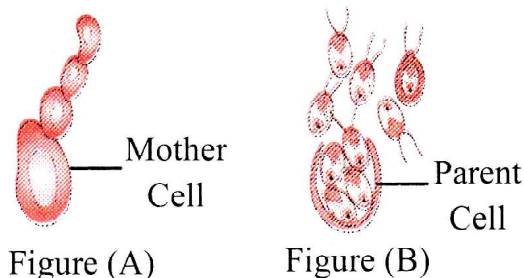
- (i) Define clones.
- (ii) If in a fully turgid cell, T.P = O.P, then what will be its DPD?
- (iii) What is biofortification?
- (iv) Can you tell?
Which plant organ does show both arithmetic and geometric growth?

Section -B : Attempt any -4 (Q.3 to 8)

[08]

Answer the following questions :

- Q.3 Identify the type of asexual reproduction given in the figures.



- Q.4 Differentiate between Apoplast pathway and Symplast pathway.
- Q.5 Write a short note on toxicity of micronutrients.
- Q.6 Explain in brief mutation breeding.
- Q.7 Define Stratification
- Q.8 Enlist the types of Pyramids.

Section -C : Attempt any 4 (Q.9 to 14)

[12]

- Q.9 Define the following terms :
 - (i) Chasmogamy
 - (ii) Cleistogamy
 - (iii) Homogamy
- Q.10 Explain the term root pressure, Name the instrument used to measure root pressure.
- Q.11 Give a diagrammatic representation of nitrogen cycle.
- Q.12 Explain the concept of single cell protein giving examples
- Q.13 What is Productivity? Explain their types.
- Q.14 Draw neat and labelled diagram of anatropous ovule and explain its structure in detail.

Section -D : Attempt any 2 (Q.15 to 18)

[06]

- Q.15 Write a short note on entomophily.
- Q.16 What is transpiration? Describe mechanism of opening and closing of stomata.
- Q.17 Give an account of application of Plant Tissue Culture.
- Q.18 What is decomposition? Enlist the steps of decomposition.