

Section-A

- I. Choose the correct answer: $8 \times 1 = 8$
- In agaricus, _____ type of sexual reproduction occurs.
a) spermatization b) somatogamy c) oogamy
d) isogamy
 - Shiwalik fossil park is located at _____.
a) Madhya Pradesh b) Himachal Pradesh
c) Rajmahal Hills d) Jharkhand
 - _____ grows on sand.
a) Mesophytes b) Psammophytes
c) Lithophytes d) Xerophytes
 - If the ovary is inferior, then the flower is _____,
a) hypogynous b) epigynous
c) perigynous d) epihypogynous
 - DNA bar coding was introduced by _____.
a) Stebbins b) Hebert c) Camp & Gilly d) Darwin
 - Microtubules are made of _____.
a) Dyenin b) Tubin c) Tubulin d) Nexin
 - _____ is called as reduction division.
a) Meiosis b) Mitosis c) Amitosis d) Budding
 - Structures between two adjacent cells which is an effective transport pathway is _____.
a) Plasmodesmata b) Middle lamella
c) secondary wall layer d) primary wall layer
- II. Answer any 4 of the following: $4 \times 2 = 8$
- What is mycorrhizae?
 - What is stele and its types?
 - What is Napiform root?
 - What is Perianth?
 - Define chemotaxonomy.
 - Expand RAPD, explain.
- III. Answer any 3 of the following, Q.No.16 is compulsory: $3 \times 3 = 9$
- Differentiate Chromoplasts and Leucoplasts.
 - Draw cell cycle and label its parts.
 - Write the properties of enzyme.
 - Explain the types of ovary position.
 - Write Functions of root.
- IV. Answer all the questions: $2 \times 5 = 10$
- a) What is Gram staining and write down the steps involved in Gram staining? (or)
b) Write the general characteristic features of Gymnosperms.

- a) Bring out various special types of inflorescence. (or)
b) Draw the floral diagram of Clitoria ternatea and label its parts.

Section-B

- I. Choose the correct answer: $8 \times 1 = 8$
- Who proposed Korper Kappe theory?
a) Schmidt b) Hanstein c) Nageli d) Schucpp
 - Sun hemp is obtained from _____.
a) Crotolaria juncea b) Corchorus capsularis
c) Linum ustitaissimum d) Cannabis sativa
 - Principle behind the desalination of sea water is _____.
a) Endosmosis b) Diffusion c) Reverse osmosis
d) Deplasmolysis
 - The term hydroponics was coined by _____.
a) Arnon b) David durger c) Liebig d) Goerick
 - Chlorophyll and carotenoid ratio in PSII is _____.
a) 3 to 7:1 b) 20 to 30:1 c) 7 to 30:1 d) 10 to 30:1
 - F₁ particles are also referred as _____.
a) Polysomes b) Oxysomes c) Mesosomes d) Liposomes
 - The P_r form absorbs red light in _____ nm.
a) 730 b) 620 c) 660 d) 635
 - Relay pump theory was put forth by _____.
a) Atkins and preistley b) Strasburger and Overton
c) Godlewski d) J.C.Bose
- II. Answer any 4 of the following: $4 \times 2 = 8$
- Write the types of fermenatation.
 - Define dendroclimatology.
 - What is ammonification?
 - Write the types of solution based on concentration.
 - Define Quantasomes.
 - What are stone cells?
- III. Answer any 3 of the following, Q.No.16 is compulsory: $3 \times 3 = 9$
- Differentiate Absolute growth rate and Relative growth rate.
 - Draw T.S of Dicot leaf and Label its parts.
 - Explain types of wood.
 - Write the significance of transpiration.
 - Draw the flowchart of Nitrogen fixation.
- IV. Answer all the questions: $2 \times 5 = 10$
- a) Differentiate C₃ plants and C₄ plants.
(or)
b) Explain the stages in growth rate.
 - a) Draw the structure of mitochondria and label its parts.
(or)
b) Explain briefly about periderm.