

[A-8]

SARDAR PATEL UNIVERSITY

S. Y. B.Sc. (III SEMESTER) EXAMINATION (CBCS) for batch 2011 to 2017

2022

Saturday, 1st October

12:30 p.m. to 2.30 p.m.



USO3EBIO01 CYTOGENETICS & PLANT BIOLOGY Total Marks: 70

Q.1 Select the correct answer and write it in the answer Sheet

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- 1 The chromosomes are basic units of _____
a. Photosynthesis b. Heridity c. Respiration d. Ribosomes
- 2 The chromosomes are packed in _____ organelle
a. Mitochondria b. Nucleus c. Lysosome d. Chloroplast
- 3 _____ is known as father of Genetics
a. Darwin b. Watson c. Mendel d. Antonie
- 4 _____ indicates the genetic makeup of an organism
a. Genotype b. Phenotype c. Ecotype d. Nanotype
- 5 Crossing of F1 Hybrid with homozygous recessive is known as _____
a. Back cross b. Test cross c. epistasis d. dominance
- 6 Sunflower belongs to family _____
a. Asteraceae b. Euphorbiaceae c. Brassicaceae d. Lamiaceae
- 7 Binomial nomenclature was given by _____
a. J C Bose b. Newton c. Linnaeus d. Robert
- 8 The Chloroplast shows presence of photosynthetic pigments in _____
a. Grana b. Stroma c. Membrane d. Vacuole
- 9 The stomata are made up of _____ cells
a. Stone b. meristematic c. Guard d. Prokayotic
- 10 _____ is evolved during the process of Photosynthesis
a. CO₂ b. O₂ c. Nitrogen d. Ozone

Q.2 Do as directed : Fill in blanks/ Write true or false

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- 1 Plant cell wall is made up of _____
- 2 Lysosomes are also known as suicidal bags (T/F)
- 3 The phenotypic ratio of Monohybrid cross is _____
- 4 Dihybrid cross is between parents in which two pair of characters are studied (T/F)
- 5 Tulsi plant belongs to family _____
- 6 Brassicaceae is also known as Mustard family (T/F)
- 7 The light reaction and dark reaction are operated in _____ cell organelle
- 8 Stomata are fsignificant as they allow exchange of gases (T/F)

Q.3 Answer the following in brief (Any Ten)

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- 1 What is the function of Cell wall?
- 2 Sketch and label Eukaryotic cell
- 3 Explain the Structure of Mitochondrion
- 4 Explain Back Cross and Test Cross
- 5 Why did Mendel select Pea plant?
- 6 Enlist the seven traits selected for genetic studies by Mendel
- 7 Write two important characters of family Lamiaceae
- 8 State the economic importance of family Asteraceae
- 9 Write the floral characters of Euphorbiaceae
- 10 What is photophosphorylation? Explain cyclic and non- cyclic photophosphorylation
- 11 Give a schematic presentation of Calvin cycle
- 12 Write about the pigment systems involved in Photosynthesis

Q.4 Answer the following in detail (Any four)

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- 1 Explain the ultrastructure of Cell membrane and state its functions
- 2 What are Chromosomes? Discuss their structure and functions
- 3 Explain the Law of Dominance with suitable example
- 4 Discuss Law of independent assortment
- 5 Write the general characters of Euphorbiaceae and state its economic significance
- 6 Describe the floral characters of family Brassicaceae and write its economic importance
- 7 What is Transpiration? Discuss its mechanism and types.
- 8 Explain the Dark reaction of Photosynthesis

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