

[33/A-13]

SEAT No. _____

No. of Printed Pages : 2

SARDAR PATEL UNIVERSITY
B.Sc. THIRD SEMESTER EXAMINATION
2018
TUESDAY 27th NOVEMBER
02:00 pm to 04:00 pm
USO3EBIO 01
(CYTOGENETICS AND PLANT BIOLOGY)

Marks: 70

- Note: 1. Answers of all the questions (including multiple choice questions) should be written in the provided answer book only
2. Draw neat and labeled diagrams wherever necessary

Q.1. Select the correct answer and write it in the answer sheet. (10)

1. _____ is known as suicidal bag
(a) Lysosome (b) Mitochondria (c) Chloroplast (d) Nucleus
2. Chromosome with _____ are designated as sat chromosome
(a) Centromere (b) Satelite (c) Kinetochore (d) Telomere
3. Which law of Mendel is known as law of purity of gametes?
(a) Independent assortment (b) Dominance
(c) Segregation (d) Gravity
4. Recessive epistasis modify the classical dihybrid ratio of 9:3:3:1 into _____
(a) 12:3:1 (b) 9:7 (c) 9:6:1 (d) 9:3:4
5. Mendel carried out his experiments on which plants?
(a) Pea (b) Peanuts (c) Papaya (d) Polyalthia
6. Capitulum inflorescence is a characteristic of family _____
(a) Euphorbiaceae (b) Asteraceae (c) Labiateae (d) Brassicaceae
7. Scientific names are always written in _____
(a) Calibri (b) Aerial (c) Italics (d) Bold
8. Corolla is cruciform in which family?
(a) Brassicaceae (b) Asclepiadiceae (c) Euphorbiaceae (d) Asteraceae
9. Loss of water from aerial parts of plants in the form of water vapour is called _____
(a) Photophosphorylation (b) Transpiration
(c) Photosynthesis (d) Respiration
10. Non cyclic photophosphorylation is also known as _____ scheme
(a) M (b) N (c) Z (d) W

(1)

(P.T.O)

Q.2. Answer the following questions in brief (Any 10) (20)

1. Mitochondria is known as power house of cell. Justify
2. Define metacentric and sub metacentric chromosomes
3. State the functions of cell wall
4. Define test cross
5. Write note on incomplete dominance
6. Define the term genotype and phenotype
7. What is binomial nomenclature?
8. Give the economic importance of any two plants of Brassicaceae family
9. Write any four distinguishing characters of family Asclepiadiceae
10. Discuss in brief the mechanism of transpiration in plants
11. Write about C4 plants
12. Define photosynthesis

Q.3. (a) Describe the different types of lysosomes (06)
(b) Explain the ultra-structure of mitochondria (04)

OR

Q.3. (a) Describe the structure and functions of nucleus (06)
(b) Discuss the fluid mosaic model of plasma membrane (04)

Q.4. (a) Explain Mendel's Laws of Independent assortment (06)
(b) Write note on back cross (04)

OR

Q.4. (a) Write note on complementary genes (06)
(b) State and explain Mendel's law of dominance (04)

Q.5. Discuss the general characters and economic importance of family Lamiaceae (10)

OR

Q.5. Describe the general characters of family Euphorbiaceae (10)

Q.6. (a) Explain C3 Cycle (06)
(b) Describe the types of transpiration (04)

OR

Q.6. Write note on:
(a) Cyclic photophosphorylation (05)
(b) CAM Pathway (05)