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SEAT No. _____

[26]

SARDAR PATEL UNIVERSITY
B.Sc. Examination; Semester V
BOTANY-US05CBOT05
Cytology and Genetics

Date: 01/11/018, Thursday, Time: 10.00a.m.-1.00p.m. Marks-70

Q-1 Multiple choice questions.

(10)

- (1) Plasma-membrane is _____.
- (a) Selective barrier (b) Normal barrier (c) Both (d) None
- (2) Tonoplast is the membrane surrounding the _____.
- (a) Chloroplast (b) Golgi body (c) Mitochondria (d) Vacuole
- (3) A well-organized nucleus with a distinct nuclear membrane is absent in: _____
- (a) Bacterial cell (b) Volvox cell (c) Both (d) None
- (4) Mitochondria is a seat of _____.
- (a) Electron transport (b) Cellular respiration
(c) ATP formation (d) all of these
- (5) Endoskeleton of cell is made of _____.
- (a) Mitochondria (b) E.R. (c) Chloroplast (d) all of these
- (6) Which of the following organelles contains its own DNA?
- (a) Chloroplast (b) Mitochondria (c) Nucleus (d) all of these
- (7) In which organism the sex is determined by environmental condition?
- (a) Bonellia (b) Drosophila (c) Mirabilis (d) Salamander
- (8) Kappa particles are found in: _____.
- (a) Paramecium (b) Algae (c) Fungi (d) None
- (9) Variation in chromosome number in organism is known as: _____.
- (a) Ploidy (b) Deletion (c) Duplication (d) Translocation
- (10) Genetic mutation occurs in _____.
- (a) DNA (b) RNA (c) Protein (d) Nucleus

Q-2 Attempt following questions (any ten).

(20)

- (1) What are chromosomes?
- (2) Distinguish between the cell of Spirogyra and Bacteria.
- (3) Write the functions of nucleolus.
- (4) What is the main function of golgi complex?
- (6) Write the functions and location of F₁-particles.
- (7) What is gene balance theory?
- (8) What do you mean by heterogametic female?
- (9) What is extra chromosomal inheritance?

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[P.T.O.]

(10)What are four pairs of DNA bases that form in the double helix?

(11)Define: Transcription.

(12)Write any two examples of x-y linked genes in human.

Q-3Describe the fluid mosaic model of plasma-membrane. (10)

OR

Q-3 Give an account of various types of cell-inclusions. (10)

Q-4 Write the ultra structures of: (a)Ribosome (b)Peroxisome (10)

OR

Q-4Give an account of Chloroplast. (10)

Q-5 Describe chromosome theory of sex-determination. (10)

OR

Q-5 Discuss: (a)Jalap inheritance in Corn. (05)

(b)The pattern of inheritance of x-linked genes. (05)

Q-6Describe the process of translation. (10)

OR

Q-6 Write notes on: (a)Duplication. (05)

(b)Role of enzymes in DNA metabolism. (05)

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