



BRAINWARE UNIVERSITY

Term End Examination 2018 - 19

Programme – Bachelor of Science (Honours) in Biotechnology

Course Name – Plant Physiology & Biotechnology

Course Code – BBT203

(Semester –II)

Time allotted: 3 Hours

Full Marks: 70

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group –A

(Multiple Choice Type Question)

10 x 1 = 10

1. *Choose the correct alternative from the following*
 - (i) Scientist Levitt proposed the theory of proton transport during stomatal opening & closing in the year;

a. 1847	b. 1874
c. 1947	d. 1974
 - (ii) 0.6M Mannitol solution is an example of

a. Isotonic solution	b. Hypotonic solution
c. Hypertonic solution	d. None of these.
 - (iii) The space between the cell wall and plasma membrane in a plasmolysed cell is filled with

a. Isotonic solution	b. Hypotonic solution
c. Hypertonic solution	d. Water
 - (iv) Flavonoids is an example of

a. Plant growth regulator	b. Plant primary metabolites
c. Plant secondary metabolites	d. None of these.
 - (v) Which of the following enzyme is used to cut DNA molecule in recombinant DNA technology?

a. Phosphatase	b. Ribonuclease
c. Restriction enzyme	d. Ligase
 - (vi) Polyploidy is induced through

a. Irradiation	b. Mutagenic chemicals
c. Ethylene	d. Colchiine

9. (a) AB somatic hybrid is developed through protoplast fusion between parent A (susceptible) & B (disease resistant), discuss the followings with necessary diagram; 2+1+5+2+3
- i) Importance,
 - ii) Major reagents/chemical required,
 - iii) Steps in brief,
 - iv) Limitations,
 - v) Confirmation of hybridity.
- (b) Write the differences between hybrid & cybrid. 2
10. (a) Explain recombinant DNA technology in reference with principle, procedure and applications with diagram. 2+3+2+3
- (b) Highlight the methods of gene transfer in plant. 2
 - (c) Briefly describe the advantages and disadvantages of GM crops. 3
11. (a) Establish the relationship between Ψ_w and Ψ_s . 5
- (b) Write the difference between hypotonic and hypertonic solution with suitable example. 2
 - (c) Explain the deficiency symptoms of N, P & K in plant. 3
 - (d) Write short notes on 2+3
 - i. Restriction endonuclease.
 - ii. TA Cloning.
