



11628

B.Sc. VI Semester Degree Examination, May/June 2017  
**BOTANY**

**6.1 : Cytology, Genetics, Biostatistics, Plant Breeding, Plant Propagation  
and Nursery Management**

Time : 3 Hours

Max. Marks : 80

- Instructions :**
- 1) Questions of Part – I are compulsory.
  - 2) Answer **any 10** questions from Part – II
  - 3) Labelled diagram will enhance the value of answer.

**PART – I**

I. Answer the following :

(2×8=16)

- 1) Define somatic hybridization.
- 2) What are nucleotides ? Mention nucleotides in DNA.
- 3) State the law of purity of gametes.
- 4) Distinguish between euchromatin and heterochromatin.
- 5) What are Balbiani rings ?
- 6) What is synoptemal complex ? Mention its significance.
- 7) What are nonsens codans ?
- 8) What is correlation ?

**PART – II**

II. Answer **any four** of the following questions :

(4×4=16)

- 9) Explain heterosis and its significance.
- 10) Explain complete linkage with example.
- 11) Explain single gene theory of sex determination.
- 12) Explain incomplete dominance with example.
- 13) Describe nucleosome structure.
- 14) Explain commercial green house.

11628



III. Answer **any six** of the following questions :

(6×8=48)

- 15) Explain steps involved in hybridization.
- 16) Describe structure and functions of mitochondria.
- 17) Describe double helix model of DNA.
- 18) Explain steps involved in translation of protein synthesis.
- 19) Explain complementary factors with an example.
- 20) What is cutting ? Explain different types of stem cutting and their advantages.
- 21) Explain nursery management and its significance.
- 22) In cucurbitapepo there are 3 fruit colours white, yellow and green. White colour is dominant over yellow and green, yellow is dominant over green colour. In across made between white coloured variety (WWYY) and green coloured (wwyy). The F<sub>1</sub> generation appeared with white coloured variety (WwYy). Which are selfed together to give 12 white, 3 yellow and 1 green. Here 'W' gene act as epistatic gene and 'Y' gene act as hypostatic gene.

11629

B.Sc. VI Semester Degree Examination, May/June 2017  
**BOTANY**

**Paper – 6.2 : Plant Physiology and Biotechnology**

Time : 3 Hours

Max. Marks : 80

- Instructions :** 1) Answer **all** the questions from Part – I.  
2) Answer **any ten** questions from Part – II.  
3) Labelled diagrams will enhance value of answer.

**PART – I**

I. Answer the following questions : (2×8=16)

- 1) Differentiate wall pressure from Turgor pressure.
- 2) What is crescograph ? Who discovered it and its uses ?
- 3) What is action spectrum ?
- 4) Define apical dominance.
- 5) What is R.Q ?
- 6) What is apoenzyme ?
- 7) Write about vector.
- 8) Define Hydrotropism.

**PART – II**

II. Answer **any four** of the following : (4×4=16)

- 9) Write the difference between PSI and PSII.
- 10) Write about Munche's Hypothesis.
- 11) Explain the mechanism of active absorption of water.
- 12) Write the useful and Harmful aspects of Transpiration.
- 13) Explain carrier concept theory of mineral absorption.
- 14) Define tropism and explain geotropism.

P.T.O.

11629



III. Answer **any six** of the following :

(8×6=48)

- 15) Explain calvin cycle.
  - 16) Write about Kreb's cycle with schematic representation.
  - 17) Write the theories of ascent sap like relay pump theory and pulsation theory.
  - 18) Explain the physiological role of Auxins.
  - 19) Write the Agricultural, Industrial and environmental importance of Biotechnology.
  - 20) Narrate the properties of Enzymes.
  - 21) Differentiate short day plants and long day plants.
  - 22) What are transgenic plants ? Explain the steps in golden rice production.
-