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[70]  
[E86]

## SARDAR PATEL UNIVERSITY

B. Sc. (Semester III) Examination

Monday, 4<sup>th</sup> January, 2021

2:00 pm to 4:00 pm

US03CBOT22 BOTANY

(Plant Anatomy, Physiology, Taxonomy and Bioinformatics)

TOTAL MARKS: 70



Instructions:

There are total four questions. \* Answer all sub questions in continuation. \*

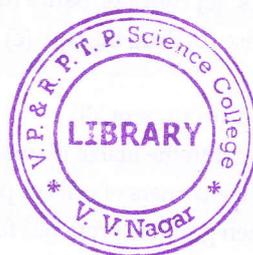
- Q:1 Select your answer from given multiple options. (attempt all) [10]
- (01) The knowledge of plant anatomy is helpful in which of the following?  
(a) biostatistics (b) forensics (c) genetics (d) molecular biology
  - (02) Where do you find the presence of Bordered pits?  
(a) parenchyma (b) lenticel (c) tracheids (d) stomata
  - (03) Companion cells are absent in which of the given example?  
(a) Cycas (b) Carrot (c) Mango (d) Merry gold
  - (04) If temperature increase, what happen to transpiration?  
(a) no effect (b) decreases (c) increases (d) fluctuate
  - (05) Seed dormancy is due to which hormone?  
(a) Auxin (b) Gibberelin (c) Absisic acid (d) Ethylene
  - (06) For induction of flowering, if less than 8 hrs of light is required then, that kind of plants are called as what? (a) Long day plants (b) Short day plants (c) day neutral plants (d) all of the above
  - (07) Which one of the following is an example of family Myrtaceae?  
(a) *Eucalyptus* sp. (b) *Annona* sp. (c) *Ocimum* sp. (d) *Putanjiva* sp.
  - (08) In which plant petals are united? (a) Asopalav (b) Rai (c) Baval (d) Ixora
  - (09) Production of Bt Cotton is due to which of the following?  
(a) gene therapy (b) proteomics (c) Agroinformatics (d) metabolics
  - (10) What is Swiss prot? (a) data base (b) drug therapy (c) mathematical model (d) biological weapon
- Q:2 Marked statement as True or false (attempt all) (08)
- (01) Intercalary meristems are present in the maize plants.
  - (02) Thickening is present only on the corners of cells of parenchyma tissues.
  - (03) 'S' shaped curve appeared when graph is prepared for photoperiodism.
  - (04) Ethylene is gaseous pigment.
  - (05) Mustard apple is an example of Brassicaceae.
  - (06) Fudino and tulsii both are example of one common family.
  - (07) Nucleotide sequence analysis is the branch of Plant anatomy
  - (08) The data created by researcher is known as primary database.

[1]

[P.T.O]

- Q:3 Give answer in short (Attempt any ten) [20]
- (01) Write only the names of layer proposed in Tunica and Corpus apical theory.
  - (02) Sketch the labeled diagram of spiral and reticulate thickening in vessels.
  - (03) Write only the names of components of phloem seen in wheat plant.
  - (04) Write only name of two factors affecting the process of stomatal transpiration.
  - (05) Define the term 'Growth in Plants'.
  - (06) What is Vernalization?
  - (07) Briefly discuss any one function of Gibberellin hormone.
  - (08) What is the meaning of K 2+2, C (4)
  - (09) Write scientific name of 'kuvar Pathu'.
  - (10) Bentham and Hooker classified Spermatophytes into which three division?  
Write only names of those 3 divisions.
  - (11) Give definition of bioinformatics.
  - (12) Write name of any two institutes working for bioinformatics.

- Q:4 Descriptive questions (attempt any FOUR) [32]
- (01) Describe the cell types and cytology of Xylem elements.
  - (02) What is Simple tissue? Explain the Parenchymatous tissues system in plants with suitable examples.
  - (03) Explain the hypogeal and epigeal type of seed germination.
  - (04) Discuss the chemical nature and bioassay of hormone Auxins.
  - (05) Write the General Characters of any one sub family of Leguminosae.
  - (06) Write the classification of Euphorbiaceae and Brassicaceae family and give two economic important features from each.
  - (07) Write various Branches of Bioinformatics, and explain its multidisciplinary approach.
  - (08) Write notes on any four important applications of bioinformatics



[2]