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No of printed pages: 4 [E+G]

[37]
ETK

SARDAR PATEL UNIVERSITY

B. Sc. (Semester III) Examination (2021-22)

2nd December, 2021

03:00pm to 05:00 pm

US03CBOT22 BOTANY

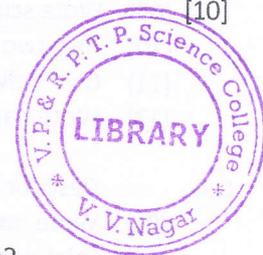
(Plant Anatomy, Physiology, Taxonomy and Bioinformatics)

TOTAL MARKS: 70

Instructions: There is total four questions. * Answer all sub questions in continuation. *

Q:1 Multiple choice questions.

- (01) _____ is an example of lateral Meristem.
(a) intercalary (b) root apical (c) cork cambium (d) shoot apical
- (02) Sclerids are present in the pulp of
(a) Carrot (b) Rye (c) Wheat (d) Guava
- (03) Aerenchyma is present in which plant?
(a) *Nymphaea* (b) Neem (c) Banyan (d) *Nerium*
- (04) In which of the following, stomata are present only on lower surface?
(a) apple and mulberry type (b) potato type (c) oat type (d) water lily type
- (05) Backane disease is related with
(a) Ethylene (b) Cytokinin (c) Auxin (d) Gibberellin
- (06) Which of the following is gaseous hormone?
(a) Abscisic acid (b) Auxin (c) Ethylene (d) all of the above
- (07) Which of the following is an example of Liliaceae?
(a) *Asparagus racemosus* (b) *Ricinus communis* (c) *ixora coccinia* (d) *Acacia nilotica*
- (08) Gynobasic style is present in which plant family?
(a) Liliaceae (b) Labiatae (c) Euphorbiaceae (d) Meliaceae
- (09) Swiss prot is a
(a) protein sequence database (b) structural database
(c) nucleic acid database (d) carbohydrate database
- (10) Abbreviated name of nucleic acid database is
(a) NDB (b) NADB (c) NUDB (d) NUADB



Q:2 Answer as stated.

- (01) Growth in Chara is an example of _____ theory of meristematic tissue system.
- (02) Annular thickening is seen in sieve tube cell. (True or false?)
- (03) Excess production of auxin leads to seedless fruit. (True or false?)
- (04) Root is a major source of cytokinin synthesis. (True or false?)
- (05) *Polyalthia* (asopalav) is an example of _____ plant family.
- (06) *Aloe vera* is an example of Liliaceae family, in which number of carpels are _____.
- (07) Sequence database include carbohydrate sequence data. (True or false?)
- (08) Bioinformatics does not include mathematics and statistics branches. (True or false?)

See page 2 over leaf

(P.T.O.)

- Q:3 Write answer in one or two sentence only. (any ten) [20]
- (01) Write only examples of primary and secondary meristems.
 - (02) Explain angular and lacunar collenchyma types with examples.
 - (03) Sketch the neat and labeled diagram of various types of thickenings of xylem vessels.
 - (04) Sketch the neat and labeled diagram of the monocotyledonous type of stomata.
 - (05) What is an albuminous seed? Give example.
 - (06) Give definition of vernalization?
 - (07) Write the classification of Euphorbiaceae as per Bentham and Hooker.
 - (08) Write name of medicinal and timber plants of Meliaceae.
 - (09) Write scientific name of two plants belongs to Rubiaceae.
 - (10) Give two name of primary database.
 - (11) Give definition of 'Pharmacogenomics'.
 - (12) Write name of two Indian institute of bioinformatics.

- Q:4 Describe. (Any four) [32]
- (01) Write note on sieve tube and companion cell.
 - (02) Brief note on importance of Plant anatomy in forensics.
 - (03) Brief note of functions of auxin as growth hormone.
 - (04) Explain the types of photoperiodism with examples.
 - (05) Sketch full chart of Bentham and Hooker classification system with one example of each family.
 - (06) Write the classification, general characteristics and economic importance of any one sub family of Leguminosae.
 - (07) Explain about Genomics and Proteomics branches of bioinformatics.
 - (08) Write brief note on biological database retrieval system.

