



**KERALA AGRICULTURAL UNIVERSITY**  
**B.Sc.(Hons) Forestry 2018 Admission**  
**II Semester Final Examination-August 2019**

Fbti.1204

**Plant Cytology and Genetics (2+1)**

**Marks: 50**  
**Time: 2 hours**  
**(10x1=10)**

**I Fill in the Blanks**

- 1 Term mutation was coined by \_\_\_\_\_
- 2 Highly mutable sites within a gene \_\_\_\_\_
- 3 DNA form having largest diameter \_\_\_\_\_
- 4 The term chromosome was coined by \_\_\_\_\_
- 5 Centromeres contain \_\_\_\_\_ DNA

**Match the following**

- |                                 |                           |
|---------------------------------|---------------------------|
| 6 Epigenesis                    | a) Lamarck.               |
| 7 Germplasm theory              | b) Darwin.                |
| 8 Pangenesis                    | c) Schleiden and Schwann. |
| 9 Theory of acquired characters | d) Wolff.                 |
| 10 Cell theory                  | e) Weismann.              |

**II Write Short notes on any FIVE of the following**

**(5x2=10)**

- 1 Penetrance and Expressivity.
- 2 Inversions and their consequences.
- 3 Lamp brush chromosomes.
- 4 Extra chromosomal inheritance.
- 5 Properties of the Genetic code.
- 6 Differentiate between the various stages of mitosis and meiosis.
- 7 Types of RNA.

**III Answer any FIVE of the following.**

**(5x4=20)**

- 1 *CIB* technique.
- 2 Mechanisms of Sex determination in plants.
- 3 Evidence for Semi conservative DNA replication.
- 4 Translation.
- 5 Molecular basis of mutation.
- 6 Genetic significance of deletions and duplications.
- 7 How can the gene action be classified based on dominance effect?

**IV Answer any ONE of the following**

**(1x10=10)**

- 1 Numerical chromosomal aberrations-features , types and their genetic significances.
- 2 Mutation and the causes of mutation. Explain the various mutagenic agents.

\*\*\*\*\*