



KERALA AGRICULTURAL UNIVERSITY
B.Sc.(Hons) Forestry 2017 Admission
II Semester Final Examination- August 2018

Fbti 1204

Plant Cytology and Genetics (2+1)

Marks: 50
Time:2 hours

I Fill in the Blanks (10x1=10)

- 1 Self incompatibility promotes -----
- 2 If a cross between black and albino mice produce a F₂ offspring ratio of 600 agouti:150black:50 slbino, this gene action refers to -----
- 3 Klinefelter syndrome is due to additional ----- chromosome in males of human
- 4 Polytene chromosome are first discovered by -----
- 5 Crossing over takes place during ----- stage
- 6 The gene present in Y chromosome are known as -----
- 7 Linkage between either dominant or recessive genes is known as -----
- 8 The jumping genes was first discovered by -----
- 9 A polymer of amino acid is known as -----
- 10 In India, the gamma garden is located at -----

II Write Short notes on any FIVE of the following (5x2=10)

- 1 Define Karyotype and idiogram
- 2 Differentiate penetrance and expressivity
- 3 Enumerate three different stages of mitosis
- 4 Define Mutagen with examples
- 5 Write a short note on chromosomal theory of inheritance
- 6 Chromosomal mechanism of sex determination and its types?
- 7 Crossing over and its types

III Answer any FIVE of the following. (5x4=20)

- 1 Explain Griffith's experiment – DNA , the genetic material
- 2 Explain about structural Chromosomal aberration
- 3 Describe multiple alleles in human blood group
- 4 Syndromes in human beings with reason
- 5 Quote different fixatives used in preservation of cellular elements
- 6 Explain the different classes of RNA with their role
- 7 Nilsson and Ehle's experiment in wheat about multiple factor hypothesis

IV Write an essay on any ONE of the following (1x10=10)

- 1 Describe different stages of meiosis with their significance
- 2 Describe the types of mechanisms used in sex determination in plants
