KERALA AGRICULTURAL UNIVERSITY

B.Sc (Hons.) Agriculture Programme – 2011 Admission
Ist Semester Final Examination – February / March 2012

Title   : Pbgn 1102   Marks : 80

Course : Principles of Genetics and Cytogenetics (2+1)   Time : 3 Hours

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I. Fill up the blanks   (10 x 1 = 10)

1. Among the various radiations .... Is a very potent and most commonly used physical mutagen.
2. The molecular model of DNA was proposed by.........................
3. In a mitotically dividing cell, the daughter chromosomes start moving to opposite poles at .... stage
4. .... are referred to as the power houses of cells
5. Proteins are made up of a chain of ....
6. A plant with more than two sets of chromosomes (genomes) is called.................
7. Germplasm theory was proposed by ....
8. The Mendelian dihybrid F2 ratio is ....
9. In cells, the actual sites of protein synthesis are the ....
10. During protein synthesis............ carry amino acids to the sites of protein synthesis

II. Write short notes on ANY TEN of the following   (10 x 3 = 30)

1. Penetrance and expressivity
2. Linkage maps
3. Mendels law of independent assortment and its significance
4. Quantitative traits
5. Autopoly ploidy
6. Multiple alleles
7. Spontaneous mutations and its origin
8. Degeneracy of genetic code
9. Interference and coincidence (in linkage
10. Supplementary gene action
11. Chemical mutagens
12. Homologous chromosomes

III. Write short essays on ANY SIX of the following   (6 x 5 = 30)

1. History and development of genetics
2. Induced mutations and its significance
3. Lac operon and its function
4. Structure and function of mitochondria
5. Evolution of wheat
6. Significance of crossing over and factors affecting it
7. DNA structure and replication
8. Significance of meiosis

IV. Write an essay on ANY ONE of the following   (1 x 10 = 10)

1. Structural aberrations of chromosomes, their origin and significance in plants
2. Cytoplasmic inheritance, its characteristics and difference from chromosomal inheritance