Seat No.	

B.Sc. (Part - III) (Semester - V) (Revised) Examination, November - 2018
BOTANY (Paper - X)
Genetics and Analytical Techniques in Plant Science
Sub. Code: 65837

Day and Date : Tuesday, 13 - 11 - 2018 **Total Marks : 40**
Time : 12.00 p.m. to 2.00 p.m.

Instructions : **1)** **All questions are compulsory.**
2) **Draw neat labelled diagrams wherever necessary.**
3) **Figures to the right indicates full marks.**

Q1) Rewrite the following sentences by choosing correct alternative. **[8]**

a) The size, shape and morphology of chromosomes of an organism constitute _____.

i) Phenotype ii) Genotype
iii) Karyotype iv) All above

b) The genomic formula of trisomic is _____

i) 2n – 1 ii) 2n + 1
iii) 2n – 3 iv) n + 1

c) Natural mutations occur _____

i) spontaneously ii) artificially
iii) chemically iv) by all methods

d) _____ is used as clearing agent in microtomy technique.

i) Alcohol ii) Xylene
iii) Acetic acid iv) Nitric acid

e) _____ plays an important role in extrachromosomal inheritance.

i) Nucleus ii) Nucleolus
iii) Cytoplasm iv) Ribosome

P.T.O.

f) The quantitative inheritance was well studied by _____

i) T.H. Morgan ii) Ehle and East

iii) Mendel iv) Corren's

g) _____ involves two main phases i.e. stationary and mobile phase

i) Microtomy ii) Microphotography

iii) Microscopy iv) Chromatography

h) The first electron microscope was designed by _____

i) Watson and Crick ii) Knoll and Ruska

iii) Jonsen and Hans iv) Hatch and Slack

Q2) Attempt any two of the following. **[16]**

a) What is extranuclear inheritance? Describe plastid inheritance in Mirabilis jalapa.

b) What is mutation? Describe different physical and chemical mutagenes used to induce mutations in plants.

c) Explain mechanism of sex determinations.

Q3) Attempt any four of the following. **[16]**

a) Hardy - Weinberg's law

b) Aneuploidy.

c) Deletion.

d) Micrometry.

e) TLC.

f) Microphotography.

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