

- NOTE: 1. All questions are compulsory.  
2. Figures to right indicate marks.  
3. Draw labelled diagrams wherever necessary.

**Q I Answer the following (Any Two)**

(20)

- 1) Define chromatography. Add a note on Paper Chromatography.
- 2) Define Microscopy. Explain with schematic diagram working of the Phase Contrast microscope.
- 3) Advantages & disadvantages of Paper & Thin Layer Chromatography.
- 4) Advantages & disadvantages of Electron Microscopy.

**Q II Answer the following (Any Two)**

(20)

- 1) Comment on biosynthesis of starch.
- 2) With suitable diagram explain Cyclic and Non cyclic photophosphorylation.
- 3) Classify carbohydrates with suitable examples.
- 4) Explain biodegradation of fructans.

**Q III Answer the following (Any Two)**

(20)

- 1) Explain in detail Prophase - I of Meiosis I.
- 2) Describe the role of plastids in Transmission of characteristic in plants.
- 3) What are Chromosomal aberrations? Explain the cytological and genetic effects of Deletion.
- 4) The following progeny was obtained from the cross

<u>R</u> <u>M</u> <u>C</u>	<u>r</u> <u>m</u> <u>c</u>
<u>r</u> <u>m</u> <u>c</u>	<u>r</u> <u>m</u> <u>c</u>
X	
R M C = 413	r M C = 161
R M c = 6	R m C = 47
	r m c = 426
	r m C = 3
	R m c = 170
	r M c = 54

Construct a map of genes RMC

**Q IV Write short notes on (Any Three)**

(15)

- 1) Partition Chromatography
- 2) Absorption spectra
- 3) Multiple Crossing over
- 4) Down's syndrome
- 5) Biosynthesis of cellulose
- 6) SEM

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