

QIL(B) Explain the following terms. (any three).

1. Germ line mutation.
2. Reverse mutation.
3. Transversion mutation.
4. Suppressor mutation.
5. Silent mutation.
6. Induced mutation.

(6)

QIL(C) Answer any two of the following.

(12)

1. Write in brief about the mutation caused by Base modifying agents such as Nitrous acid and Hydroxyl amine.
2. Write in brief about repair mechanism by Photo reactivation and Alkylation damage.
3. Repair by Methyl-Directed Mismatch repair.
4. Write a note on SOS Response.

Q III (A) Explain the terms (any three)

(6)

1. Propositus
2. Cytological markers
3. Parental ditype
4. Heterokaryon
5. Linked genes
6. Transconfiguration

Q III B) Give symbols used in pedigree for (any two) of the following

(2)

1. Proposita
2. Carrier female
3. Male
4. Dizygotic twins

Q III C) Attempt (any two) of the following

(12)

1. Describe the formation of PD, NPD and TT tetrads at four strand chromatid stage for linked genes.
2. How will you establish gene order using a three point cross, explain with a suitable example
3. Solve:-A *Neurospora* strain that required arginine (arg) but can synthesize methionine (met +) for growth was mated to a strain (arg+ and met) following products were obtained. Compute the gene and centromere distance for the two genes

	1	2	3	4	5	6	7
Spore pair 1	arg +	arg met	arg met	arg +	arg +	arg met	arg met
Spore pair 2	arg +	arg met	arg +	+ met	+ met	+ +	arg +
Spore pair 3	+ met	+ +	+ met	arg met	arg +	arg met	+ met
Spore pair 4	+ met	+ +	+ +	++	+ met	+ +	+ +
TOTAL	45	10	10	5	15	5	10