

06/05/2015

BIOTECHNOLOGY-II S.Y.B.SC. SEM IV EXAM MARKS 75 2<sup>1/2</sup> HRS (80)

- All questions are compulsory.
- Draw diagram wherever necessary

Q I (A) Explain the terms (any three) (06)

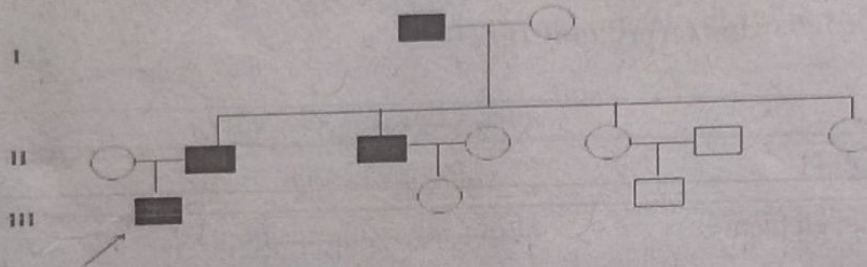
1. Proposita
2. Ascus
3. Tetratype
4. Heterokaryon
5. Linked genes
6. Cis configuration

Q I B) Give symbols used in pedigree for (any two) of the following (02)

1. Proband
2. Carrier female
3. Heterozygote Male
4. Dizygotic twins

Q I C) Attempt (any two) of the following (12)

1. Observe the following pedigree and answer the following questions:-



- Which individual is the proband?
- What is the mode of inheritance?
- What is holandric trait?
- What are the characteristics of the condition hypertrichosis?
- The hormone found in males for expressing secondary sexual characteristics?
- Why are males referred as hemizygous for Y chromosome?

2. Describe the formation of PD, NPD and TT tetrads at four strand chromatid stage for linked genes.

3. How will you establish gene order using a three point cross, explain with a suitable example

4. 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.

	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