Sex linked

X- linked

X- linked Recessive ♀

$X^+ X^+$ (Normal)

$X^+ X^c \Rightarrow$ Normal but carrier

$X^c X^c \Rightarrow$ Affected

♂ → $X^+ Y$

$X^c Y$

Eye colour in drosophila

1. $X^+ X^+$ (Homozygous female) Red colour eyes
2. $X^+ X^w$ Heterozygous Red colour female
3. $X^w X^w$ Homozygous White colour female (eyes)
4. $X^+ Y$

Sex linked AD/AR

X-linked (Dominant) ⇒ XLD

X^+ Dominant (Disease)

X^a Re

♂ X^+Y

♂ X^aY

♀ X^+X^+ ✓ Affected

♀ X^+X^a Affected

♀ X^aX^a ⇒ Normal

X-linked Recessive. ⇒ XLR

X^+ (Dominant)

X^a Recessive (disease)

♂ X^+Y Normal

♂ X^aY affected

♀ X^+X^+ ⇒ Normal

♀ X^+X^a ⇒ Normal but carrier

♀ X^aX^a ⇒ affected

eg – Haemophilia

G6PD

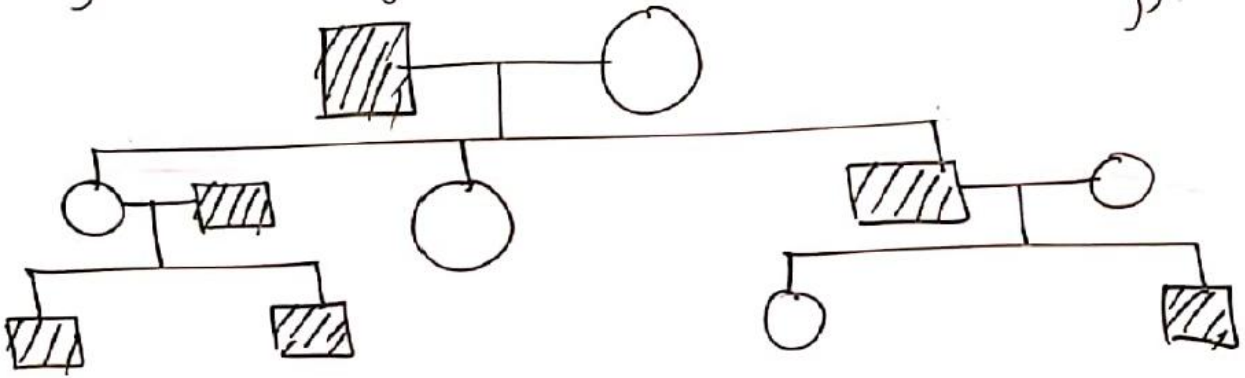
Colourblindness

→ Mus

Sex linked AD/AR

Q// Y-linked (Hypertrichosis) → only male
Holendric character

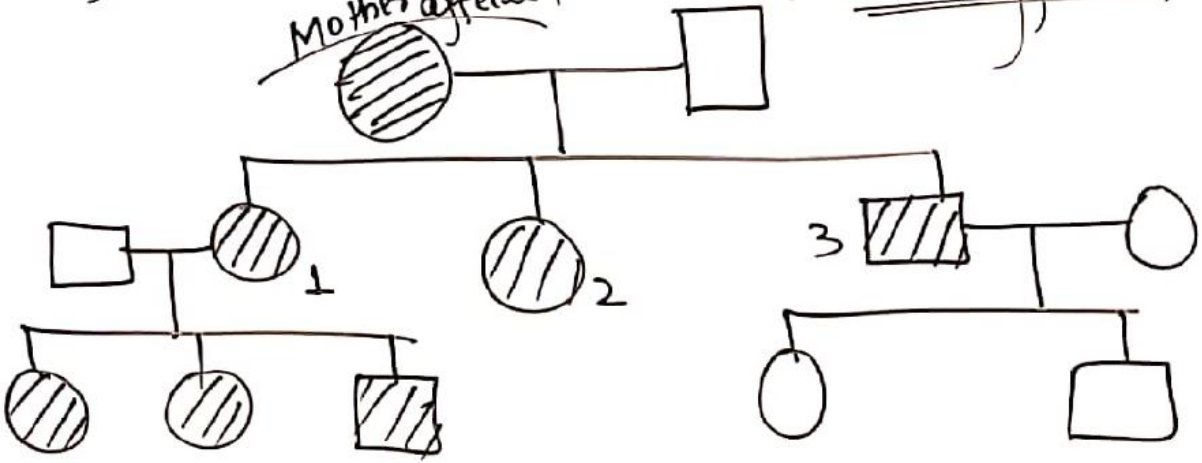
Q If father affected than all Son should affected



Cytoplasmic inheritance
or
Maternal inheritance

If mother affected all offspring ⇒ Affected

If Father affected than any offspring is never affected)



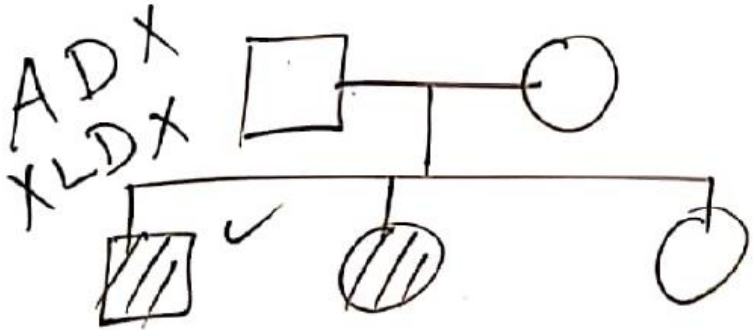
Pedigree Analysis

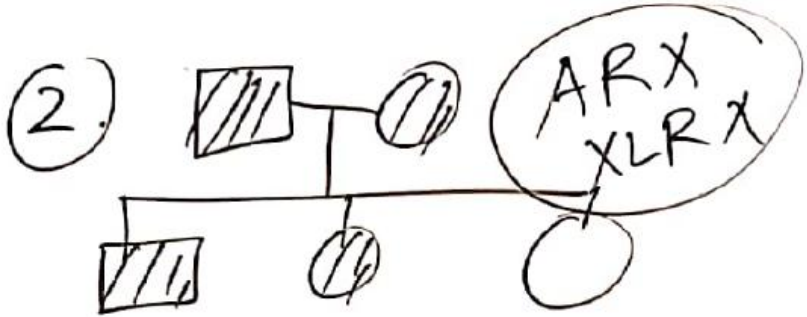
Step (1) ⇒ If both parents are (normal) any one child affected than AD and XLD - donot

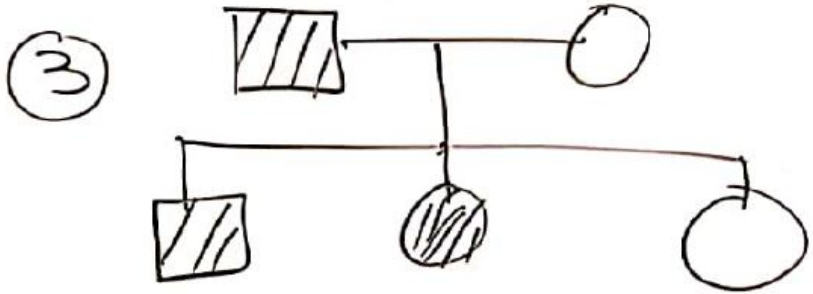
Step (2) If both parents are affected and any one child normal than AR and XLR not possible.

Step (3) XLR does not possible
- Father normal but daughter affected
- Mother affected than son - Normal

Step (4) XLD does not possible
- Father affected but daughter normal.
- Mother normal than son - affected


ADX
XLDX


2
ARX
XLRX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