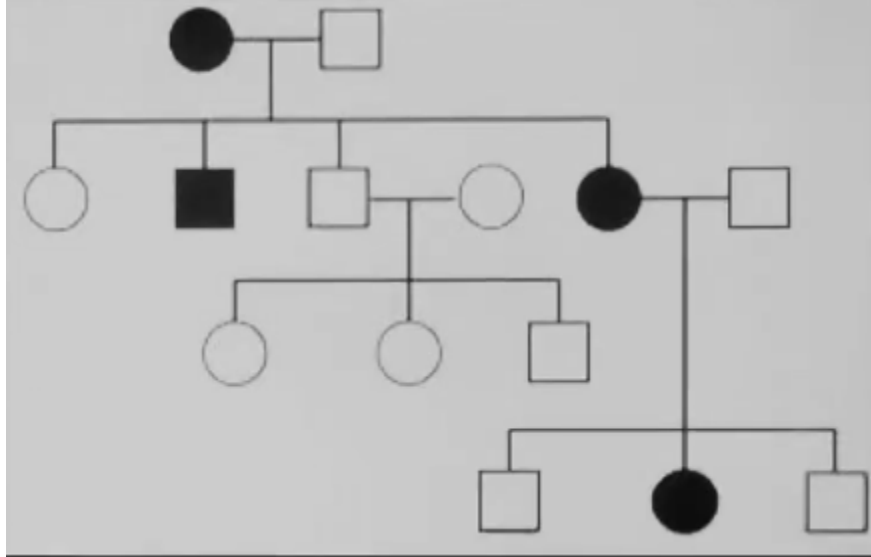# NEET 2024 Botany Predicted Question Paper 1

Ques.1 The given is a representative pedigree analysis of:

- A. Autosomal dominant trait
- B. Autosomal recessive trait
- C. Sickle-cell anaemia
- D. None of the above

Ques.2 Given below are two statements:
Statement I: Sturtevant coined the term "recombination" to describe the physical association of genes on a chromosome and "linkage" for the generation of parental gene combinations.
Statement II: Alfred Sturtevant used the frequency of recombination as a measure of the distance between genes and mapped their position on the chromosome.
In the light of above statements, choose the most appropriate answers from the options given below :

- A. Both Statement I and Statement II are correct
- B. Both Statement I and Statement II are incorrect
- C. Statement I is correct but Statement II is incorrect
- D. Statement I is incorrect but Statement II is correct

Ques.3 Which of the following most appropriately describes Sickle-cell anemia?
- A. This is an autosome linked dominant trait.
- B. The disease is controlled by a single pair of allele, HbA.
- C. Homozygous (HbAHb^) individuals appear apparently unaffected but they are carrier of the disease

D. The defect is caused by the substitution of Glu by Val at the 6th position of the β - globin chain of the hemoglobin molecule.

Ques.4 Given below are two statements:
Statement I: In a polygenic trait the phenotype reflects the contribution of each allele, i.e., the effect of each allele is additive.
Statement II: There are instances where a single gene can exhibit multiple phenotypic expression, and such a gene is called a pleiotropic gene.
In the light of above statements, choose the most appropriate answers from the options given below :

A. Both Statement I and Statement II are correct
B. Both Statement I and Statement II are incorrect
C. Statement I is correct but Statement II is incorrect
D. Statement I is incorrect but Statement II is correct

Ques.5 Match the following

	Column I		Column II
A	Interval between mitosis and initiation of DNA replication.	i	Go phase
B	The period during which DNA synthesis/replication takes place.	ii	G_1 phase 1
C	Proteins are synthesised in preparation for mitosis while cell growth continues.	iii	S phase
D	The cells that do not divide enter an inactive stage	iv	G_2 phase

A. A-iv, B-ii, C-iii, D-i
B. A-iii, B-ii, C-iv, D-i
C. A-ii, B-iii, C-iv, D-i
D. A-ii, B-iv C-iii D-i

Ques.6 Given below are two statements: One is labelled as Assertion A and the others labelled as Reason R.
Assertion: Chromosomes behave differently during mitosis (equational division) and meiosis (reduction division).
Reason: Chromosomes and genes occur in pairs.
In the light of above statements, choose the most appropriate answers from the options given below :

A. Both A and R are true and R is the correct explanation of A.
B. Both A and R are true but R is NOT the correct explanation of A.
C. A is true but R is false.
D. Both A and R are false.

Ques.7 Identify the incorrect statement regarding the given diagrammatic view of stage in mitosis.
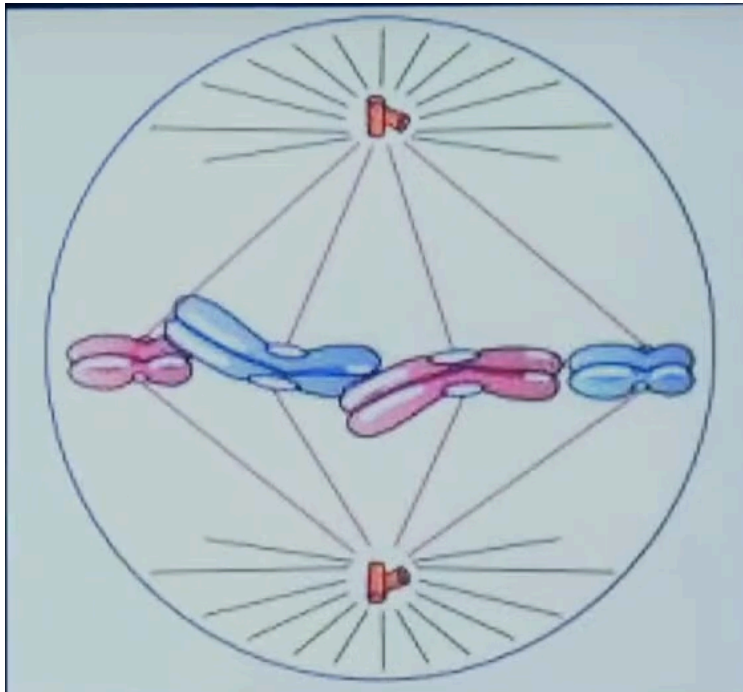
A. Spindle fibres attach to kinetochores of chromosomes.
B. Chromatids move to opposite poles.
C. Chromosomes are moved to spindle equator.
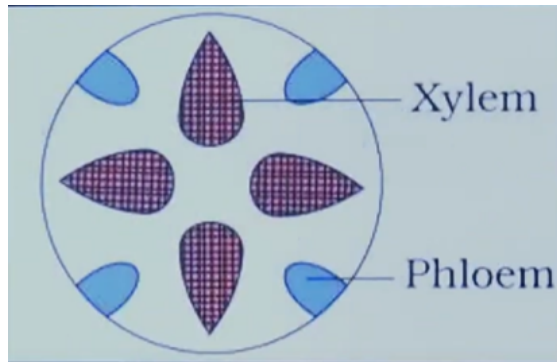D. Chromosomes get aligned along the cell plate through spindle fibers to both poles.

Ques.8 Match the following

	Column I		Column II
A	Floridean Starch	i	Chlorophhyceae
B	Starch	ii	Phaeophyceae
C	Mannitol, laminarin	iii	Rhodophyceae

A. A-iii, B-i, C-ii
B. A-i, B-iii, C-ii
C. A-ii, B-iii, C-i

D. A-iii, B-ii, C-i

Ques.9 The given type of vascular bundles are commonly seen in:

A. Flowers
B. Leaves
C. Stems
D. Roots

Ques.10 Given below are two statements:
Statement I: The reaction center is not the same in both photosystem I and II.
Statement II: In PS II, the reaction centre chlorophyll a has an absorption peak at 680 nm, hence is called P680
In the light of above statements, choose the most appropriate answers from the options given below :

A. Both Statement I and Statement II are correct
B. Both Statement I and Statement II are incorrect
C. Statement I is correct but Statement II is incorrect
D. Statement I is incorrect but Statement II is correct