



DIRECTORATE OF SCHOOL EDUCATION TAMILNADU

12NPCB04 (2023-24)	NEET PRACTICE QUESTIONS (TEST-4)	Class : XII Time : 1.15 hrs Total Marks : 240
-------------------------------------	---	--

Answer key

12th - BOTANY

- 31.D) Mendel carried out by hybridisation experiments on garden pea (*pisum sativum*) for 7 years from 1856 - 1863.
- 32.C) crossing of individuals having dominant phenotype with its homozygous recessive is a test cross, which can be represented as
F hybrid \times Homozygous recessive
- Thes, ratio of progeny is = 1 : 1
- 33.D) An organism with two identical alleles is homozygous. Homozygous have identical genes at the same louse on each member of a pair of homologous / chromosomes.
- 34.B) The ability of a gene to have multiple phenotypic effect because it influences a number of characters simultaneously is known as pleiotropy.
- 35.A) Genetics is the branch of biological science which deals with the mechanism of transmission of characters from parents to offsprings The term 'Genetics' was introduced by W. Bateson.
- 36.C) The F₁ hybrid plant is crossed with homozygous double recessive genotype is called dihybrid test cross. The ratio of the dihybrid test cross is 1 : 1 : 1 : 1

- 37.C) An allele which has the potential to cause the death of an organism is called "Lethal Allele". This lethal gene reported in *Antirrhinum* sp by E. Baur in 1907.
- 38.C) A gene which inhibits the expression of an active allele situated at different locus is called as inhibitory gene eg: lead colour in rice plant
- 39.A: Walking fern is named so because when its leaf tips come in contact with soil, form new plants as adventitious buds develop at tips. This helps in the spread of fern over a large soil, surface and thus the name 'walking fern'.
- 40.A : *Selaginella* Produces 2 types of spores, microspores and megaspores. Heterospory in the life cycle of *Selaginella* leads to the formation of seed habit.
- 41.D: *Pinus* is a monoecious plant, i.e, in *Pinus* the male and female cones or strobili are borne on the same plant
- 42.B: Gymnosperms show distinct alternation of generations. The saprophytic phase is not root, stem and leaves, so the number of chromosome in leaf cells is diploid ($2n = 16$). Double fertilization is absent in gymnosperms. In the endosperm develops before fertilization directly from the Megaspore so the number of chromosomes in endosperm will be 8 ($n = 8$).
- 43.D : Genera like *Selaginella* and *Salvinia* Produces 2 types of spores, macro and micro spores known as heterosporous. The Megaspore and micro spores germinate and give rise to female and male gametophytes, respectively.
- 44.A : These are considered as first true land plants. They were the first plants to acquire Vascular tissue namely xylem and Phloem, hence called as Vascular cryptogams.

45.A : In these pteridophytes Marsilea and Azolla are aquatic ferns.
Pteridium and Marattia are terrestrial ferns.





DIRECTORATE OF SCHOOL EDUCATION TAMILNADU

11NPCB04 (2023-24)	NEET PRACTICE QUESTIONS (TEST-4)	Class : XI Time : 1.15 hrs Total Marks : 240
-------------------------------	---	---

Answer key

11th - BOTANY

31. A: Walking fern is named so because when its lead tips come in contact with soil, form new plants as adventitious buds develop at tips. This helps in the spread of fern over a large soil, surface and thus the name 'walking fern'.
32. A : Selaginella Produces 2 types of spores, microspores and megaspores. Heterospory in the life cycle of selaginella leads to the formation of seed habit.
33. D: Pinus is a monoecious plant, i.e, in Pinus the male and female cones or strobili are borne on the same plant
34. B: Gymnosperms show distinct alternation of generations. The saprophytic phase is not root, stem and leaves, so the number of chromosome in leaf cells is diploid ($2n = 16$). Double fertilization is absent in gymnosperms. In the endosperm develops before fertilization directly from the Megaspore so the number of chromosomes in endosperm will be 8 ($n = 8$).
35. D : Genera like selaginella and Salvinia Produces 2 types of spores, macro and micro spores known as heterosporous. The Megaspore and micro spores germinate and give rise to female and male gametophytes, respectively.

36. A : These are considered as first true land plants. They were the first plants to acquire Vascular tissue namely xylem and Phloem, hence called as Vascular cryptogams.
37. A : In these pteridophytes Marsilea and Azolla are aquatic ferns. Pteridium and Marattia are terrestrial ferns.
38. A: Plectostele : xylem plates alternates with phloem plates
Actinostele : star shaped xylem core is surrounded by phloem is known as actinostele
Protostele : In this type phloem surrounds xylem
Solenostele : The stele is perforated at a place or places corresponding the origin of the Lead trace
39. C: woody stem climbers are called lianas most of the gymnosperms are evergreen, woody trees or shrubs, but some plants like Gnetum are lianas.
40. C: In Gymnosperm the endosperm (nutritive tissue) is haploid(n) and develop before fertilization.
41. B: Prof. Birbal Sahni (1891 – 1949) describes fossil plants from Rajmahal Hills of Eastern Bihar. Pentoxylon, Nipanioxylon are some of the from genera described by him.
42. D: Fertilized, ripened ovary is called fruit Bryophytes and pteridophytes are not flowering plants. So they don't have fruit. Gymnosperms are naked seed producing plants (ovules are not enclosed by ovary). Angiosperms are called closed seeded plants (ovules are enclosed by a protective cover called ovary)
43. D: Ulva (Alga) Riccia (Bryophytes), Adiantum (pteridophyte) are non-flowering plants. Mangifera is a angiospermic plant i.e. Ovules are enclosed by ovary.
44. D) Mendel carried out by hybridisation experiments on garden pea (pisum sativum) for 7 years from 1856 – 1863.

45. C) crossing of individuals having dominant phenotype with its homozygous recessive is a test cross, which can be represented as
F hybrid \times Homozygous recessive

Thes, ratio of progeny is = 1 : 1

