

Reproduction in Organisms Important Questions With Answers

NEET Biology 2023

1. Following table summarises the differences between self-fertilisation and cross-fertilisation. Pick out the wrong difference

a)

Self-fertilisation	Cross-fertilisation
It is uniparental.	It is biparental.

b)

Self-fertilisation	Cross-fertilisation
It involves the fusion of male and female gametes of the same parent.	It involves the fusion of two gametes produced by different parents

c)

Self-fertilisation	Cross-fertilisation
Examples: Pheretima, Periplaneta	Examples: Taenia, Rana tigrina.

d) none of these

Solution : -

Self-fertilisation occurs in Taenia, while crossfertilisation occurs in Pheretima, Periplaneta and Rana tigrina.

2. Meiosis does not occur in

- a) **asexually reproducing diploid individuals** b) sexually reproducing haploid individuals
 c) sexually reproducing diploid individuals d) all of these

Solution : -

Meiosis does not occur in asexually reproducing individuals. There is only mitotic cell division and multiplication occurs rapidly. On the other hand, sexual reproduction involves both meiosis and mitosis.

3. Strobilanthus kunthiana

- a) Flowers once in 12 months b) Has blue flowers found in plains of Gujarat and Karnataka
c) Last flowered in September-October 2006 d) Is annual plant with the presence of recovery phase

4. Read the following statements and select the correct ones.

- (i) Conidia are the asexual propagules restricted to Kingdom Fungi.
 (ii) A piece of potato tuber having at least one eye (or node) is capable of giving rise to a new plant.
 (iii) Ginger propagates vegetatively with the help of its underground roots
 (iv) Fleshy buds which take part in vegetative propagation are called bulbils, present in Dioscorea, Agave, etc.
 a) (ii) and (iii) b) (i) and (iv) **c) (i), (ii) and (iv)** d) (i), (ii) and (iii)

Solution : -

Ginger propagates vegetatively with the help of rhizome. Rhizomes are main underground stems which store food for perennation during unfavourable conditions. These have buds for formation of new aerial shoots during favourable conditions.

5. Which of the following statements is incorrect?

- a) Earthworms and leeches are hermaphrodite animals
- b) Young ones of animals showing external fertilisation receive little or no parental care
- c) If the egg is not fertilised, it is thrown out of the body along with the lining of the uterus as menstrual flow
- d) Sex organs in human beings are formed at puberty**

Solution : -

Sex organs in human are formed before birth (during embryonic development)

6. Read the following statements and select the correct option.

Statement 1: In pea plant, transfer of pollen grains to the stigma is easy

Statement 2: In cross pollinating plants, pollination does not take place

- a) Both statements 1 and 2 are correct.
- b) Statement 1 is correct but statement 2 is incorrect.**
- c) Statement 1 is incorrect but statement 2 is correct
- d) Both statements 1 and 2 are incorrect.

Solution : -

in pea, anthers and stigma are present close to each other therefore pollination is easy while in cross pollinating plants pollination takes place with the help of an external agency

7. In ginger vegetative propagation occurs through

- a) Runners
- b) Rhizome**
- c) Offsets
- d) Bulbils

8. Which of the following groups is formed only of the hermaphrodite organisms?

- a) Earthworm, tapeworm, housefly, frog
- b) Earthworm, tapeworm, sea horse, housefly
- c) Earthworm, leech, sponge, roundworm
- d) Earthworm, tapeworm, leech, sponge**

Solution : -

In some lower animals, both male and female sex organs are present in the same individual, such animals are called hermaphrodite, monoecious or bisexual, e.g., tapeworm, earthworm, leech, sponge, etc.

9. Select the incorrect statement.

- a) Amoeba and Paramecium reproduce by binary fission
- b) Buds are produced due to unequal division in parent body
- c)

Encystation refers to the formation of two layered hard covering around Amoeba during unfavourable condition

- d) Spores are formed due to multiple fission in sporulation.

Solution : -

During encystation, Amoeba forms three layered hard covering around itself.

10. Read the following statements and select the incorrect one.

- a) Cucurbits and coconuts are monoecious plants
- b) Papayas and date palms are dioecious plants
- c) Leeches and tapeworms are bisexual animals
- d) Sponges and coelenterates are unisexual animals**

Solution : -

Sponges and coelenterates, both are hermaphrodite or bisexual animals.

11. The Eyes, of the potato tuber are _____

- a) root buds
- b) flower buds
- c) shoot buds
- d) axillary buds**

Solution : -

The 'Eyes' of potato tuber are axillary buds. Tuber is modified underground stem which oval or spherical in having no adventitious roots. It contains a number of depressions called eyes. Each eye is a node consist of 1-3 axillary buds in the axils of small scaly leaves.

12. Select the mismatched pair of organism and its mode of multiplication.

a)

Organism	Mode of multiplication
Agave, Oxalis	Bulbils

b)

Organism	Mode of multiplication
Amoeba, Paramecium	Binary fission

c)

Organism	Mode of multiplication
Chlamydomonas, Ulothrix	Sporangiospores

d)

Organism	Mode of multiplication
Adiantum caudatum	Adventitious buds present at leaf tips

Solution : -

Sporangiospores are non-motile spores produced inside the sporangia. They are generally dispersed by wind and germinate to produce new mycelium (e.g., Rhizopus, Mucor, etc). In Chlamydomonas and Ulothrix, zoospores are formed.

13. Select the wrong statement:

a) Anisogametes differ either in structure, function or behaviour.

b) In Oomycetes female gamete is smaller and motile, while male gamete is larger and non_motile.

c) Chlamydomonas exhibits both isogamy and anisogamy and Fucus shows oogamy.

d) Isogametes are similar in structure, function and behaviour.

Solution : -

(i) In oomycetes female gamete is small and motile, while male gamete is larger and non-motile. This statement is wrong. It contains water moulds, white rusts and downy mildews. Isogametes are those in which both male and female gametes are similar in structure, function and behavior. Eg. Ulothrix, Chlamydomonas, Spirogyra. Anisogametes are those in which one gamete is larger and non-motile and other is motile and smaller.
 (ii) Oogamy is the fusion of motile sperm with non motile egg.
 (iii) These two gametes differ both morphologically as well as physiologically e. g. Chlamydomon., Fucus, Chara, Volvox etc.

14. Select the option which arranges the given organisms in ascending order of their life span.

a) Parrot < Crow < Butterfly < Banyan tree b) Butterfly < Crow < Parrot < Crocodile

c) Fruit fly < Crocodile < Parrot < Banyan tree d) Parrot < Tortoise < Dog < Crow

15. Assertion: Algae and fish produce a large number of gametes.

Reason: Algae and fish show internal fertilisation.

a) If both assertion and reason are true and reason is the correct explanation of assertion

b) If both assertion and reason are true but reason is not the correct explanation of assertion

c) If assertion is true but reason is false d) If both assertion and reason are false**Solution : -**

In most aquatic organisms, such as a majority of algae and fishes as well as amphibians, syngamy occurs in the external medium (water) i.e, outside the body of the organism. This type of gametic fusion is called external fertilisation. Organisms exhibiting external fertilisation show great synchrony between the sexes and release a large number of gametes into the surrounding medium (water) in order to enhance the chances of syngamy. A major disadvantage is that the offspring are extremely vulnerable to predators threatening their survival upto adulthood.

16. Asexual reproduction is seen in members of Kingdom

a) Monera b) Planta c) Animalia **d) all of these.**

17. Read the following statements about 'Terror of Bengal' and select the correct ones.

(i) 'Terror of Bengal' is the name given to water hyacinth (Eichhornia), an algae

(ii) Eichhornia was introduced in India due to its aesthetic value

(iii) Eichhornia drains oxygen from the water which leads to death of fishes

- a) (i) and (ii) b) (i) and (iii) c) (ii) and (iii) **d) (i), (ii) and (iii)**

Solution : -

Water hyacinth or "Terror of Bengal" is an aquatic plant which is one of the most invading weeds found growing in the standing water. It is also called as "blue devil" as it takes oxygen from the water which causes death of fishes. This plant was introduced in India for its beautiful flowers and shape of leaves. It can propagate vegetatively at a fast rate and spread all over the water body in a short time. It is very difficult to remove it from the water body.

18. Vegetative reproduction of Agave occurs through _____
a) rhizome b) stolon **c) bulbils** d) sucker

Solution : -

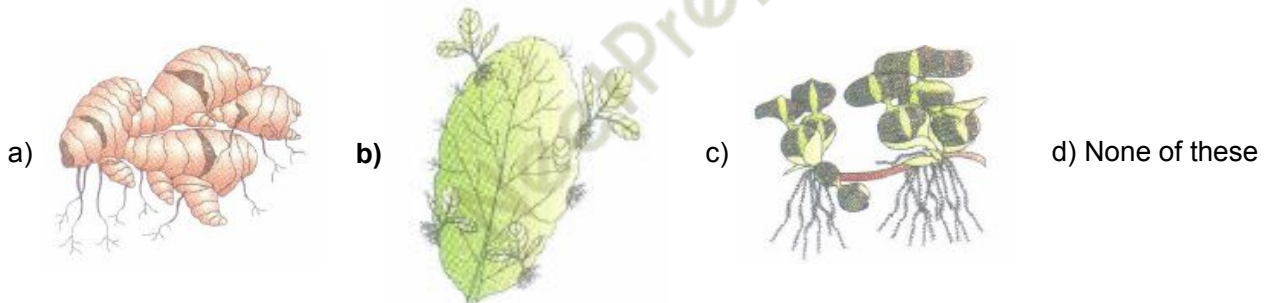
vegetative propagation of Agave occurs by burbils. These are condensed axillary bud capable of giving rise to shoots, i.e. independent plant

19. Which of the following statements is not correct regarding oviparous animals?
a) Females lay fertilised/unfertilised eggs at a safe place
b) Development of zygote takes place outside the female's body
c) Examples of oviparous animals are all birds, most reptiles and egg-laying mammals. **d) None of these**
20. Leaf buds are found in
a) Agave b) Chlorophytum **c) Bryophyllum** d) Narcissus
21. Senescent phase of an organism's life span can be recognised by
a) slow metabolism reproduction b) cessation c) decreased immunity **d) all of these**

Solution : -

The terminal irreversible stage at of ageing is. called senescence. This is the last phase of life span, that ultimately leads to death. This phase can be recognised by slow metabolism, cessation of reproduction and decreased immunity.

22. In which of the following plants, vegetative propagation occurs by adventitious buds?



Solution : -

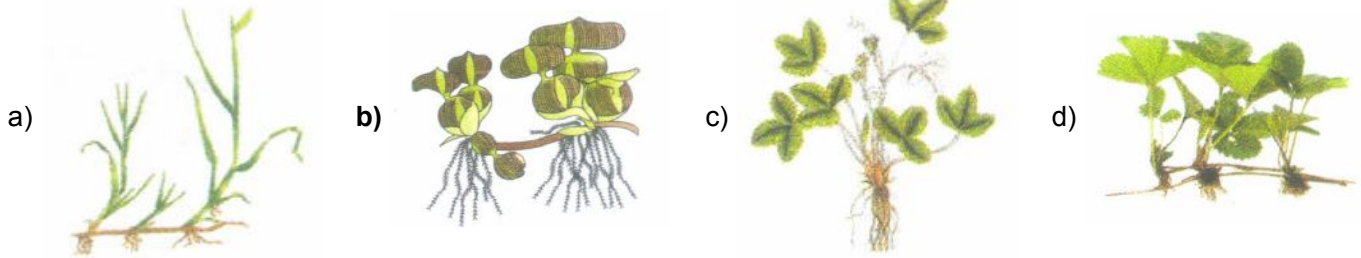
Bryophyllum (figure b) propagates vegetatively by adventitious leaf buds. Leaves of Bryophyllum carry on photosynthesis, their usual function, but in addition they have the capacity to produce one or more plants from the notches in their margins. It is also observed in Kalanchoe

23. Assertion: In perennial plant species, it is difficult to define vegetative, reproductive and senescent phases.
Reason: Perennial plants have very short life span.
a) If both assertion and reason are true and reason is the correct explanation of assertion
b) If both assertion and reason are true and reason is the correct explanation of assertion
c) If assertion is true but reason is false. d) If assertion is true but reason is false.

Solution : -

Perennial plants live for many years i.e., they have a very long life span. Hence, it becomes very difficult to define and study their vegetative, reproductive and senescent phases

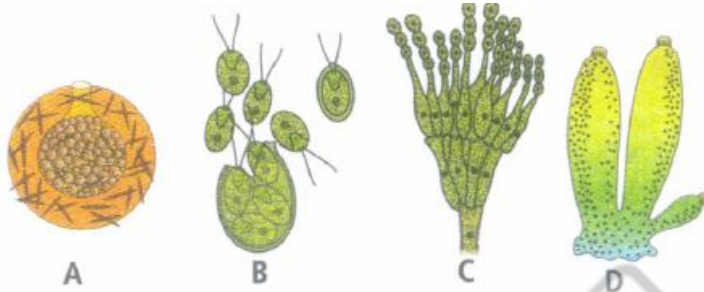
24. This plant was introduced in India because of its beautiful flowers and shape of leaves but it became a notorious weed in Indian water bodies. Identify this plant.



Solution : -

Eichhornia or water hyacinth was introduced in India for its beautiful flowers and shape of leaves but since it vegetatively propagates rapidly, it became notorious weed later on.

25. Study the following figures and select the correct statements regarding these



(i) A shows mode of asexual reproduction in sponges through internal buds.

(ii) B shows sexual reproduction through zoospores in Chlamydomonas.

(iii) C shows asexual reproduction through fragmentation in Penicillium.

(iv) D shows external budding in Sycon.

a) (i) and (ii) b) (i) and (iii) c) (ii), (iii) and (iv) d) (i) and (iv)

Solution : -

B shows asexual reproduction through zoospores in Chlamydomonas. C shows asexual reproduction through conidiospores in Penicillium

26. Life begin in all sexually reproducing organisms as a

a) **single-celled zygote** b) double-celled zygote c) haploid zygote d) haploid gametes

Solution : -

Every sexually reproducing organism, including human beings begin life as a single celled zygote

27. Assertion: Embryogenesis is the development of embryo from the zygote

Reason: Cell divisions increase the number of cells in the developing embryo

a) If both assertion and reason are true and reason is the correct explanation of assertion

b) If both assertion and reason are true but reason is not the correct explanation of assertion

c) If assertion is true but reason is false d) If both assertion and reason are false

Solution : -

Embryogenesis refers to the process of development of embryo from the zygote. During embryogenesis, zygote undergoes cell division (mitosis) and cell differentiation. While cell divisions increase the number of cells in the developing embryo; cell differentiation helps groups of cells to undergo certain modifications to form specialised tissues and organs to form an organism

28. Which of the following organisms has the highest number of chromosomes?

a) Housefly b) Butterfly **c) Ophioglossum** d) Onion

Solution : -

Ophioglossum is a fern having highest number of chromosomes. Chromosomes number in meiocyte ($2n$) = 1260.
Chromosome number in gamete (n) = 630.

29. Oestrous cycle is reported in
a) **cows and sheep** b) humans and monkeys c) chimpanzees and gorillas d) none of these.

Solution : -

Oestrous cycle occurs in non-primates such as cow, sheep, rat, deer, etc.

30. Assertion: Reproduction enables the continuity of the species generation after generation
Reason: Reproduction is a biological process in which an organism gives rise to young ones similar to itself
a) **If both assertion and reason are true and reason is the correct explanation of assertion**
b) If both assertion and reason are true but reason is not the correct explanation of assertion
c) If assertion is true but reason is false d) If both assertion and reason are false

Solution : -

Reproduction is a biological process in which an organism produces young ones (offspring) like itself. It is one of the most important characteristics of the living organisms. Reproduction maintains the continuity of species by producing the same form over generations

31. Single celled animals are said to be immortal because
a) they grow indefinitely in size b) they can tolerate any degree of change in temperature
c) they can reproduce throughout their life span **d) they continue to live as their daughter cells**

Solution : -

No individual is immortal except some single-celled organisms (e.g., Amoeba). It is due to the fact that they divide and continue to live as their daughter cells.

32. Which of the following statement(s) is not correct?
a) Offspring produced by the asexual reproduction are called clones.
b) Microscopic, motile asexual reproductive structures are called zoospores
c) In potato, banana, and ginger, the plantlets arise from the internodes present in the modified stem.
d) Water hyacinth growing in the standing water drains oxygen from water that leads to the death of fishes

Solution : -

Tuber are underground modification of stem. From the buds, called eyes present on the nodes, new plant lets emerge

33. Read the following statements and select the correct option
Statement 1 : Many plants are propagated vegetatively even though they bear seeds
Statement 2 : Sweet potatoes multiply vegetatively by root tubers
a) **Both statements 1 and 2 are correct** b) Statement 1 is correct but statement 2 is incorrect
c) Statement 1 is incorrect but statement 2 is correct. d) Both statements 1 and 2 are incorrect

Solution : -

Vegetative propagation is the formation of new plants from vegetative units such as buds, tubers, rhizomes, etc. This method produces a large number of population of clones in short time. It preserves purity, resistance and good qualities of race/variety indefinitely. Fleshy roots (root tubers) which develop adventitious buds also take part in vegetative propagation, e.g., sweet potato.

34. Offspring formed by sexual reproduction exhibit more variation than those formed by asexual reproduction because
a) sexual reproduction is a lengthy process
b) gametes of parents have qualitatively different genetic composition
c) genetic material comes from parents of two different species
d) greater amount of DNA is involved in sexual reproduction

Solution : -

Sexual reproduction occurs in almost all types of animals and mostly in higher plants. It is usually biparental. Daughter organisms genetically differ from the parents, it produces variations, hence it contributes to evolution.

35. Which one of the following is wrong about Chara?

- a) Upper oogonium and lower round antheridium b) Globule and nucleolus present on the same plant
c) Upper antheridium and lower oogonium d) Globule is male reproductive structure

36. Fleshy buds produced in the axil of leaves, which grow to form new plants when shed and fall on ground, are called _____.

- a) bulbs **b) bulbils** c) tubers d) offsets

37. There are various types of reproduction. The type of reproduction adopted by an organism depends on

- a) the habitat and morphology of the organism b) morphology of the organism
c) morphology and physiology of the organism
d) the organism's habitat, physiology and genetic makeup.

Solution : -

There are various types of reproduction, both asexual (fission, budding, etc.) and sexual (internal and external). The type of reproduction an organism undergoes depends ultimately on its genetic makeup which influences its physiology. Habitat also influences the type of reproduction that an organism undergoes.

38. A dandelion produces seeds without meiosis or fertilisation. The adult sporophyte forms diploid, rather than haploid, megaspores that develop into ovules containing diploid, rather than haploid nuclei. One of the nuclei in each ovule becomes an egg and develops directly, without fertilisation, into an embryo that is genetically identical to its parent. This type of reproduction is called:

- a) parthenogenesis, which is a form of apomixis.** b) parthenogenesis, which is a form of amphimixis.
c) adventive embryony, which is a form of apomixis. d) agamospermy, which is a form of amphimixis.

Solution : -

Apomixis (Gk. apo-without, mix is-mixing) is a mode of reproduction which does not involve formation of zygote through gametic fusion. Apomixis, is thus asexual reproduction. Parthenogenesis (Gk. parthenos - virgin, genesis - produce) refers to development of an egg/ovum into a complete individual without fertilisation.

39. Which of the following has the longest life span?

- a) Banyan tree** b) Tortoise c) Parrot d) Elephant

Solution : -

Banyan tree has the longest life span (200-300 years).

40. Monoecious plant of Chara shows occurrence of _____

- a) stamen and carpel of the same plant b) upper antheridium and lower oogonium on the same plant
c) upper oogonium and lower antheridium on the same plant
d) antheridiophore and archegoniophore on the same plant

Solution : -

Monoecious plant of Chara shows occurrence of upper oogonium and lower antheridium on the same plant.

41. Offsets are produced by

- a) Parthenocarpy **b) Mitotic divisions** c) Meiotic divisions d) Parthenogenesis

Solution : -

Offset is a vegetative part of a plant formed by mitotic divisions

42. Simple plants such as algae reproduce through special reproductive structures i.e.

- a) Zoospore** b) Conidia c) Buds d) Gemma

43. Life span could be 60 years in all of the following, except
a) Dog b) Horse c) Elephant d) Crocodile
44. Asexual reproduction is the _____ method of reproduction in organisms that have a relatively simple organisation _____ like and _____
 Fill in the blanks in the above statement.
 a) rare, plant, bacteria b) common, plant, bacteria **c) common, algae, fungi** d) rare, algae, fungi

45. Which one of the following is correctly matched?
 a) Chlamydomonas-Conidia b) Yeast-Zoospores **c) Onion-Bulb** d) Ginger-Sucker

Solution : -

The bulbs are underground condensed shoots which have one or more buds that give rise to new plants. Onion is vegetatively propagated by bulbs

46. Read the following statements and select the correct option.

Statement 1: Viviparous animals give better protection to their offspring.

Statement 2: In viviparous animals, young ones, after attaining a certain stage of growth, are delivered out of the body of female organism.

- a) Both statements 1 and 2 are correct** b) Statement 1 is correct but statement 2 is incorrect
 c) Statement 1 is incorrect but statement 2 is correct d) Both statements 1 and 2 are incorrect

Solution : -

In oviparous animals such as reptiles and birds, fertilised eggs are covered by hard calcareous shell and are laid in a safe place. After incubation period, young ones hatch out. In viviparous animals such as majority of mammals including human beings, the zygote develops into a young one inside the body of the female individual. After a certain growth, the young ones are delivered by the female individual. Due to proper care and protection, the chances of survival of young ones are more in viviparous individuals.

47. Off springs of oviparous animals are at greater risk of survival as compared to those of viviparous animals because:

- a) proper embryonic care and protection is absent** b) embryo does not develop completely
 c) progenies are of smaller size d) genetic variations do not occur

Solution : -

In oviparous animals such as reptiles and birds, fertilised eggs are covered by hard calcareous shell and are laid in a safe place. After incubation period, young ones hatch out. In viviparous animals such as majority of mammals including human beings, the zygote develops into a young one inside the body of the female individual. After a certain growth, the young ones are delivered by the female individual. Due to proper care and protection, the chances of survival of young ones are more in viviparous individuals.

48. Match the column I with column II

	Column I		Column II
(P)	External fertilisation	(i)	Earthworm
(Q)	Internal fertilisation	(ii)	Cockroach
(R)	Bisexual	(iii)	Frogs and Fishes
(S)	Unisexual	(iv)	Birds and mammals

- a) P-(iv), Q-(iii), R-(i), S-(ii) b) P-(iv), Q-(iii), R-(ii), S-(i) c) P-(iii), Q-(iv), R-(ii), S-(i)
d) P-(iii), Q-(iv), R-(i), S-(ii)

49. Which one of the following statements is not correct?

- a) Offspring produced by the asexual reproduction are called clone.**
 b) MicroGopic, motile asexual reproductive structures are called zoospores.
 c) In potato, banana and ginger, the plantlets arise from internodes present in the modified stem.
 d) Water hyacinth, growing in the standing water, drains oxygen from water that leads to the death of fishes

Solution : -

Statement 'C' is wrong because in banana, potato and ginger new plantlets arise always from the nodes of the modified stem.

50. In which one pair-both are plants can be vegetatively propagated by leaf pieces?

- a) Agave and Kalanchoe **b) Bryophyllum and Kalanchoe** c) Asparagns and Bryophyllum
d) Chrysanthemum and agave

Solution : -

Leaves of various plants develop or possess adventitious buds for vegetative propagation e.g. bryophyllum, Kalanchoe, Adiantum caudatum.

