Chapter 1. Reproduction in Organisms

Reproduction

1 Mark Questions

1.Name the vegetative propagules in the following:
(i)Agave (ii) Bryophyllum [Ail India 2014 C]

Ans.The vegetative propagules are as follow:
(i) In Agave – Bulbil
(ii) In Bryophyllum – Leaf buds/adventitious buds

2.Write the name of the organism that is referred to as 'Terror of Bengal'.
[Delhi 2014]

Ans. Water hyacinth is referred to as the 'Terror of Bengal'.

3.Give one example each of a fungus which reproduces by
(i) budding (ii) conidia [Delhi 2014 C]

Ans. Fungus that reproduces by
(i) budding – Yeast
(ii) conidia – Penicillium

4.Give one example of a plant that reproduces by
(i) runner (ii) offset [Delhi 2014 C]

Ans. Below is the example of a plant that reproduces by
(i) runner – Oxalis
(ii) offset – Pistia

5.Name an organism, where cell division in itself is a mode of reproduction.
[All India 2013; Foreign 2010]

Ans. In unicellular organisms like Amoeba, bacteria, etc., cell division in itself is a mode of reproduction

6.Name an alga that reproduces asexually through zoospores. Why are these reproductive units so called?[All India 2013]

Ans. Chlamydomonas is an alga that reproduces asexually through zoospores.Due to mobility (motile), these are referred to as zoospore.

7.Which one of the following statements is true for yeast?
(i)The cell divides by binary fission. One of them develops into a bud.
(ii)The cell divides unequally. The smaller cell develops into a bud.
(iii)The cell produces conidia which develop into a bud. [Delhi 2013 C]

Ans.Statement (ii) is true for yeast. The cell divides unequally. The smaller cell develops into a bud

8.How does Penicillium reproduce asexually? [Delhi 2013]

Ans. Penicillium reproduces asexually by conidia formation, which is quite commdn in fungi

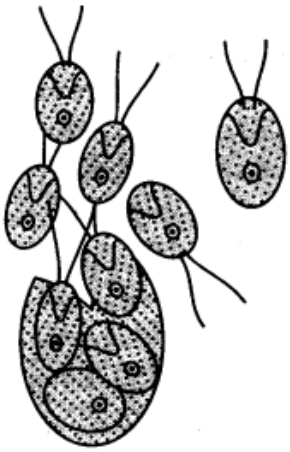
9.Offsprings produced by asexual reproduction are called clones. Justify giving two reasons. [hots; ah India 2010]

Ans. Offsprings produced by asexual reproduction are called clones, because
(i)they are morphologically similar to their parent.
(ii) they have same genetic composition as their parent.

10.Mention a characteristic feature and a function of zoospores in some algae. [All India 2010]

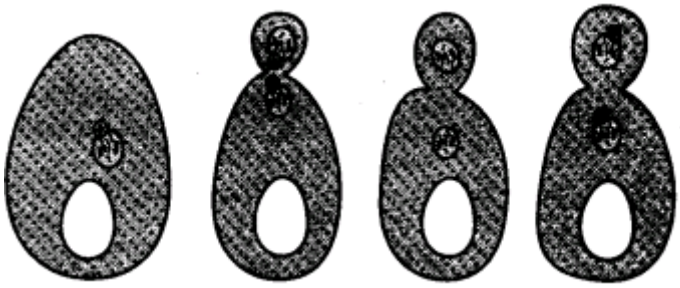
Ans.(i) **Characteristic feature** Zoospores are motile, microscopic and thin-walled
(ii)**Function** Zoospores are asexual reproductive structures, which help in multiplication of algae

11.Identify this reproductive structure and name the organism they are being released from. [Delhi 2010]



Ans. The reproductive structure in the figure are zoospores. These are released by Chlamydomonas for asexual reproduction.

12.Name the organism and the mode of reproduction represented in the diagram given below.[All India 2010]



Ans.Organism Yeast
Mode of reproduction Asexual by budding.

2 Marks Question

13.Banana crop is produced by farmers without sowing of seeds. Explain how the plant is propagated? [All India 2014 C]

Ans. Banana crop is cultivated by farmers through vegetative propagation**.**
For this purpose, a rhizome of banana is taken instead of a seed. Each piece from a rhizome is able to give rise to a new plant

Sexual Reproduction

1 Mark Questions

1.Give one example of an animal which exhibits oestrus cycle. [Delhi 2014 c]

Ans. Example of an animal that exhibits oestrus cycle is cow.

2.Write the two pre-fertilisation events from the list given below: Syngamy, Gametogenesis, Embryogenesis, Pollination[All India 2014 C]

Ans. Gametogenesis and pollination are pre-fertilisation events from the list.

3.In which two of the following organisms is the fertilisation external?
Bony fishes, Ferns, Frogs, Birds.[Delhi 2014 C]

Ans. Bony fishes and frogs are two organisms with external fertilisation.

4.Differentiate between oviparous and viviparous animals. [Delhi 2014 c]

Ans. In oviparous animals, embryo develops outside the body of female in eggs, e.g. reptiles On the contrary in viviparous animals, embryo develops inside body of female. They give birth to babies, e.g. humans.

5.Name the phenomenon and one bird, where the female gamete directly develops into a new organism.[All India 2013]

Ans. Parthenogenesis is the phenomenon in which a female gamete directly develops into a new organism. It is seen in some birds (Turkey), rotifers and honeybee**.**

6.Give the name of the common phenomenon with reference to reproduction in rotifers, honeybees and Turkeys. [Delhi 2013 c]

Ans. Parthenogenesis is the common phenomenon of with reference to reproduction in rotifers, honeybees and Turkeys.

7.Cucurbits and papaya plants bear staminate and pistillate flowers. Mention the categories they are put under separately on the basis of the type of flowers they bear.[HOTS; Delhi 2012]

Ans. Papaya is dioecious because the staminate and pistillate flowers are borne on two different plants, while cucurbits such as cucumber is monoecious because it bears both staminate and pistillate flowers on the same plant.

8.A list of three flowering plants is given below. Which ones out of them are:
(i)monoecious
(ii)bearing pistillate flowers
List Date palm, Cucurbits and Pea [Foreign 2011]

Ans. (i)Cucurbits are monoecious.
(ii) Date palm is dioecious, in which an individual plant bears pistillate flowers

9.Name the type of cell division that takes place in the zygote of an organism exhibiting haplontic life cycle. [Delhi 2011]

Ans. Meiosis is the type of cell division that takes place in zygote of an organism exhibiting haplontic life cycle**.**

10.A moss plant produces a large number of antherozoids but relatively only a few egg cells. Why? [Delhi 2010]

Ans. The antherozoids or male gametes in moss plants are motile and depend on water for transport towards female gametes (non-motile). During gamete transfer, large number of male gametes are lost. Thus, to ensure fertilisation,large number of male gametes are released to reach the non-motile female gametes.

11.Why are papaya and date palm plants said to be dioecious, whereas cucurbits and coconut palms monoecious, inspite of all of them bearing unisexual flowers?[HOTS; Foreign 2010]

Ans. Papaya and date palm plants are said to be dioecious because male and female flowers are borne on separate plants, whereas cucurbits and coconut palms are monoecious because male and female flowers are borne on the same plant.

12.What is the major difference you observe in the offsprings produced by asexual reproduction and in the progeny produced by sexual reproduction? [Delhi 2008]
Ans. Offsprings -produced by asexual reproduction are genetically identical to parents and to each other. On the contrary, progeny produced as a result of meiosis and gametic fusion in sexual reproduction show variations and differences from the two parents as well as among themselves.

2 Marks Questions

13.Coconut palm is monoecious,while date palm is dioecious. Why are they so called? [Delhi 2014]

Ans. Coconut palm is monoecious because both male and female flowers are borne on the same plant.Date palm is dioecious because these plants bears exclusively either male or female flowers.

14.Name any two organisms and the phenomenon involved where the female gamete undergoes development to form new organisms without fertilisation.[Foreign 2014]

Ans. Parthenogenesis is the phenomenon in which a female gamete directly develops into a new organism. It is seen in some birds (Turkey), rotifers and honeybee**.**

15.Why do algae and fungi shift to sexual mode of reproduction just before the onset of adverse conditions? [Delhi 2014]

Ans. Organisms such as fungi and algae switch to sexual mode of reproduction during adverse conditions because asexual reproduction produces a large population that may not survive due to lack of resources. Sexual reproduction also brings variation into the individuals, some of which might help the individuals to better adapt to the changed conditions and survive. This ensures the continuity of species.