

Science

(www.tiwariacademy.com)

(Chapter – 8) (How Do Organisms Reproduce?)

(Class – X)

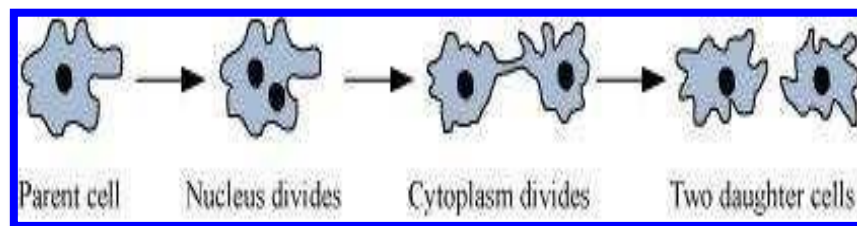
Page 133

Question 1:

How does binary fission differ from multiple fission?

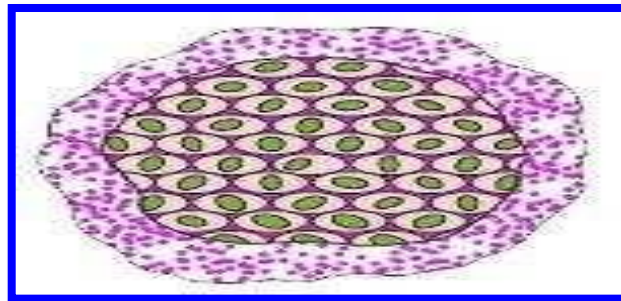
Answer 1:

In binary fission, a single cell divides into two equal halves. *Amoeba* and *Bacteria* divide by binary fission.



Binary fission in *Amoeba*

In multiple fission, a single cell divides into many daughter cells simultaneously. *Amoeba* and *Plasmodium* divide by multiple fission.



Multiple fission in *Plasmodium*

Question 2:

How will an organism be benefited if it reproduces through spores?

Answer 2:

There are many advantages, if an organism reproduces through spores.

Advantages of spore formation:

- Large numbers of spores are produced in one sporangium.
- Spores are distributed easily by air to far-off places to avoid competition at one place.
- Spores are covered by thick walls to prevent dehydration under unfavourable conditions.

Science

(www.tiwariacademy.com)

(Chapter – 8) (How Do Organisms Reproduce?)

(Class – X)

Question 3:

Can you think of reasons why more complex organisms cannot give rise to new individuals through regeneration?

Answer 3:

Simple organisms such as *Hydra* and *Planaria* are capable of producing new individuals through the process of regeneration. The process of regeneration involves the formation of new organisms from its body parts. Simple organisms can utilize this method of reproduction as their entire body is made of similar kind of cells in which any part of their body can be formed by growth and development.

However, complex organisms have organ-system level of organization. All the organ systems of their body work together as an interconnected unit. They can regenerate their lost body parts such as skin, muscles, blood, etc. However, they cannot give rise to new individuals through regeneration.

Question 4:

Which of the following is a plant hormone?

- (a) Insulin
- (b) Thyroxin
- (c) Oestrogen
- (d) Cytokinin

Answer 4:

(d) Cytokinin is a plant hormone.

Question 5:

Why is DNA copying an essential part of the process of reproduction?

Answer 5:

DNA (Deoxyribonucleic acid) copying is an essential part of reproduction as it passes genetic information from parents to offspring. It determines the body design of an individual. The reproducing cells produce a copy of their DNA through some chemical reactions and result in two copies of DNA. The copying of DNA always takes place along with the creation of additional cellular structure. This process is then followed by division of a cell to form two cells.

