

QUIZ: IMPORTANCE OF VARIATION

1. Why should an individual organism waste energy on a process like reproduction which it does not need to stay alive?
 - (a) To release excess energy stored by it
 - (b) To have genetic improvement
 - (c) To perpetuate its own kind
 - (d) To provide variation

2. The basic event in reproduction is
 - (a) Creation of cell
 - (b) Creation of DNA copy
 - (c) Creation of a chromosome
 - (d) Expenditure of energy

3. Which of the following statement is incorrect?
 - (a) Variations are useful for the survival of the species
 - (b) Drug resistance in bacteria is an example for variations
 - (c) The inbuilt tendency for variation during reproduction is the basis for evolution
 - (d) The products of sexual reproduction are genetically identical and similar to the parent

4. The scientific name of bread mould is
 - (a) *Spirogyra*
 - (b) *Bryophyllum*
 - (c) *Rhizopus*
 - (d) *Planaria*

Answers:

1. (c)

Explanation: An organism reproduces to perpetuate its own kind. If it does not reproduce, over a period of time it gets eliminated and not seen.

2. (b)

Explanation: During reproduction (vegetative/sexual) cells undergo division. Each cell contains DNA. Copies of the DNA are made during cell division, and effectively a cell divides to give rise to two cells, each having a copy of DNA. Some times during DNA copying (replication) errors may occur which lead to variations. Variations also occur due to unequal distribution of chromosomes, chromosomal aberrations and crossing over during meiosis.

Polyploids with odd number of sets of chromosomes (triploid, pentaploid etc) reproduce only by vegetative or asexual means.

3. (d)

Explanation: The off spring produced by sexual reproduction contain DNA acquired from both the parents. Also during gametogenesis (meiosis) crossing over occurs.

4. (c)