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Question 1. What is the importance of DNA copying in reproduction?
Answer: DNA copying in reproduction is important for maintenance of body designs and features. Moreover, DNA copying leads to variations. Variation is useful for the survival of species.

Question 2. Why is variation beneficial to the species but not necessarily for the individual?
Answer: Population of organisms reside in well-defined places or niches in the ecosystem. However, niches can change because of reasons beyond the control of the organisms, e.g., temperature changes, water level changes, etc. If population of reproducing organisms suited to particular niche and if the niche is drastically altered, the population can be wiped out. However, if some variations are present in a few inAividuals in these populations, there will be chances for their survival. The surviving individual can further reproduce and develop a population according to the changed niche, Thus, variation is beneficial to the species but not necessarily for the individual.

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Question 1. How does binary fission differ from multiple fission ?
Answer: When two new daughter cells are formed as a result of fission. It is called binary fission, e.g., Amoeba.When many daughter cells are formed as a result of fission, this is called multiple fission, e.g., Malarial parasite.

Question 2. How will an organism be benefited if it reproduces through spores?
Answer: Spore formation is an asexual mode of reproduction. Spores formed are covered by
thick walls that protect them from adverse conditions. During favourable condition thick resistant wall breaks down and new organism grows from it.
Spores are very light weight and they easily get dispersed through winds which give them more variations and thus better chances of survival.

Question 3. Can you think of reasons why more complex organisms cannot give rise to new individuals through regeneration?
Answer: Complex organisms are not simply a random collection of cells where sPecialized cells are
organised as tissues, and tissues ale organised into organs which then have to be placed at definite
positions in the body. In such a carefully organised situation, it is not easy to develoP organism
through regeneration

Question 4. Why is vegetative propagation practised for growing some type of plants?
Answer: Vegetative propagation makes possible for the propagation of plants such as banana, orange, rose and jasmine that have lo6t the capacity to Produce seeds. Moreover, all plants produced through vegetative propagation are genetically similar to the parent plant.

Question 5. Why is DNA copying an essential part of the process of reproduction?
Answer: The process of reproduction results in the production of off springs which resemble to their parents. This means during the reproduction there must be a transfer of the blueprint of the body design from parent to the off springs. As we know DNA contains all the information that passes from parents to the next generation, so before reproduction, DNA is copied in the parent cell. Out of these two copies, one copy is passed to the newly formed individual.

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