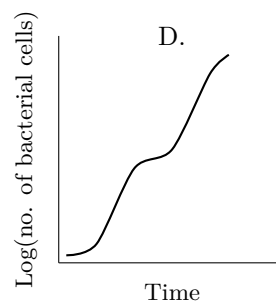
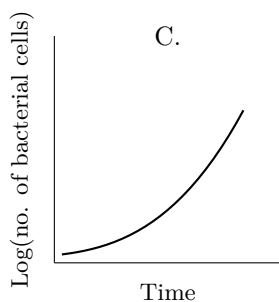
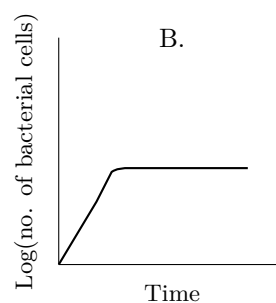
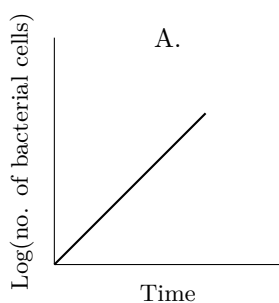


# Biology

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1. Offspring formed by sexual reproduction exhibit more variation than those formed by asexual reproduction because
  - A. each gamete has unique genetic composition.
  - B. sexual reproduction is a lengthy process.
  - C. genetic material comes from parents of two different species.
  - D. greater amount of DNA is involved in sexual reproduction.
2. In the human body which element is most abundant by weight and by number respectively?
  - A. carbon, hydrogen.
  - B. oxygen, hydrogen.
  - C. oxygen, carbon.
  - D. carbon, nitrogen.
3. Approximately how many cells of staphylococci will be able to fit in the volume of a human red blood cell?
  - A. 10.
  - B. 1000.
  - C. 10000.
  - D. 50000.
4. Although intracellular bacterial infection can be treated by giving an antibiotic that blocks protein synthesis, it doesn't affect human cells. Why?
  - A. Antibiotic molecules can't enter human cells.
  - B. Antibiotic gets degraded by human cell.
  - C. Human ribosomes are different from bacterial ribosomes.
  - D. Human genetic code is different from bacterial genetic code.
5. Which of the following groups of animals you would expect to evolve chemical defences against predators?
  - A. slow moving with hard shell.
  - B. sedentary without a hard shell.
  - C. burrowing.
  - D. arboreal.
6. Which of the following techniques will be useful for tracing the origin of Onge tribe in Andamans?
  - A. blood grouping.
  - B. mitochondrial DNA analysis.
  - C. DNA fingerprinting.
  - D. karyotyping.
7. Under which of the following conditions is Semelparous reproduction (where organisms produces all its offspring in a single reproductive event) is most likely to be favoured?
  - A. Adult survival rate is low.
  - B. Adult survival rate is high.
  - C. Breeding is perennial.
  - D. Breeding is seasonal.
8. Which of the following characters is seen only in prokaryotes and not in eukaryotes?
  - A. Antibiotic production.
  - B. Unicellular life.
  - C. Reproduction by budding.
  - D. Nitrogen fixation.

9. A scientist wants to express human protein Y in bacteria. For effective expression of this protein he should use
- promoter of human gene Y.
  - promoter of bacterial gene.
  - operator of any human gene.
  - operator of any bacterial gene.
10. During growth of an individual animal some components of the body grow in size but not in number (type 1) while some others increase in number but not in size (type 2). Which of the following is correct?
- type 1: bones and muscle cells; type 2: hair follicles, red blood cells and epithelial cells.
  - type 1: bones and red blood cells; type 2: hair follicles, muscle cells and epithelial cells.
  - type 1: hair follicles and muscle cells; type 2: bones, red blood cells and epithelial cells.
  - type 1: epithelial cells and bones; type 2: hair follicles, red blood cells and muscle cells.
11. Small mammals are not found in polar region because
- they have small surface to volume ratio.
  - they have large surface to volume ratio.
  - they cannot make burrows because of ice cover.
  - of scarcity of food.
12. Which of the following growth curves represents growth of bacteria in a culture medium that contains both glucose and lactose?



13. Most stable nucleic acid is
- DNA.
  - mRNA.
  - rRNA.
  - tRNA.
14. A matured mRNA has 300 bases with a single stop codon. What would be the length of the polypeptide synthesized from this mRNA?
- always 100 amino acids.
  - always 99 amino acids.
  - maximum of 99 amino acids.
  - maximum of 100 amino acids.

15. A diploid organism is heterozygous for four unlinked loci. How many types of gametes can be produced?
- A. 8.
  - B. 16.
  - C. 32.
  - D. 128.