

## Topic :- Organisms & Populations

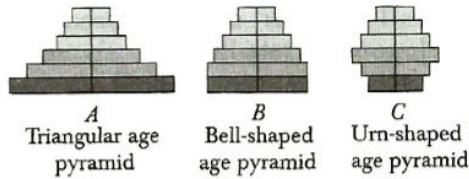
- When two related populations occupy geographically or spatially separate areas, they are called
  - Allopatric population
  - Quantum population
  - Saltational population
  - Parapatric population
- The maximum growth rate occurs in
  - Stationary phase
  - Senescent phase
  - Lag phase
  - Exponential phase
- If  $b = 65$  and  $d = 45$ ,  $N = 100$  then find out  $dN/dt$ 
  - 2000
  - 1000
  - 200
  - 100
- Interspecific interaction could be
  - Beneficial
  - Detrimental
  - Neutral
  - All of these
- The human liverfluke, a nematode parasite, depends on two intermediate hosts (snail and pig) to complete its life cycle
  - The malaria parasite needs a vector (mosquito) to spread to other hosts
  - The female mosquito is not considered parasite, however it needs our blood for reproduction
  - In case of brood parasitism, the eggs of parasitic birds (*e.g.*, cuckoo) are not detected and ejected from the nest because of parasite's eggs resemble the hosts eggs in morphology and colour
  - A population of frogs protected from all predators would increase indefinitely.Which statements are correct?
  - I and II
  - II and III
  - III, IV and V
  - I, II, III and IV
- The relationship between the alga *Microcystis* and the surroundings fauna correspond to
  - Amensalism
  - Parasitism
  - Predation
  - Exploitation
- The logistic population growth model  $\frac{dN}{dt} = rN\left(\frac{K-N}{N}\right)$ , describes a populations growth when an upper limit to growth is assumed. This upper limit of growth is known as population ...A... and as 'N' gets larger,  $\frac{dN}{dt}$  ...B...
  - A-carrying capacity; B-decrease
  - A-carrying capacity; B-increases
  - A-reproductive fitness; B-increases
  - A-reproductive fitness; B-decreases
- Climate is the

- a) Average weather      b) Dynamic weather      c) Static weather      d) None of these

9. Basic unit of ecological hierarchy is

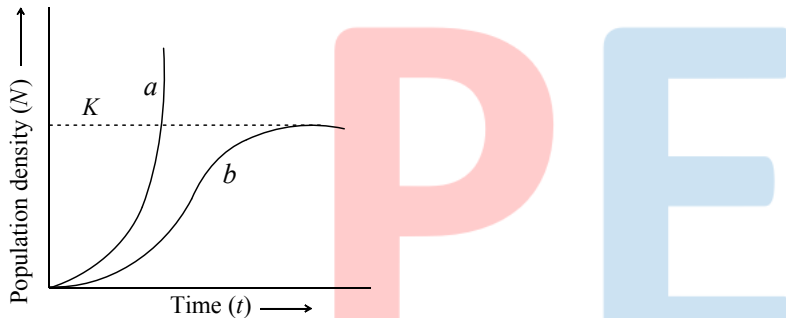
- a) Species      b) genus      c) Population      d) Individual organism

10. Age pyramid *A, B* and *C* indicates



- a) A-Expanding population, B-Stable population, C-Declining population  
 b) A-Expanding population, B-Declining population, C-Stable population  
 c) A-Stable population, B-Declining population, C-Expanding population  
 d) A-Declining population, B-Stable population, C-Expanding population

11. Which option is correct for curve *a* and *b*?



- | Equation for Curve (a)     | equation for curve (b)                         | Type of curve (a) | Type of curve (b)  |
|----------------------------|--|-------------------|--|
| a) $\frac{dN}{dt} = r - N$ | $\frac{dN}{dt} = rN\left(\frac{N-K}{K}\right)$ | Exponential curve | b) $\frac{dN}{dt} = rN$ $\frac{dN}{dt} = rN\left(\frac{K-N}{K}\right)$ Exponential curve |
| Logistic curve             |  |                   | Logistic curve   |
| $\frac{dN}{dt} = rN$       | $\frac{dN}{dt} = rN\left(\frac{K-N}{K}\right)$ | S-shaped curve    | d) Both (b) and (c)  |
| c) J-shaped curve          |  |                   |  |

12. Population is the total number of

- a) Interbreeding individuals of a species found in particular place  
 b) Interbreeding individuals of a species found in same geographical area  
 c) Interbreeding individuals of a species found in different geographical area  
 All of the above

13. Ecotype is

- a) Equivalent to the ecotone and niche  
 b) Genetically distinct adapted population to a particular habitat of a species  
 c) Phenotypically adapted population to a particular habitat

- d) All are correct statement regarding ecotype
14. American lakes visiting flamingoes and resident fishes compete for their common food ...A... in the lake resources ...B... limiting for competition to occur; in interference competition, the feeding efficiency of one species might be ...C... due to the interfering and inhibitory presence of the other species, even if resources (food and space) are abundant  
Choose the correct option for A, B and C  
a) A-zooplankton, B-need to be, C-increased  
b) A-zooplankton, B-need not be, C-reduced  
c) A-phytoplankton, B-need to be, C-rReduced  
d) A-phytoplankton, B-need to be, C-increased
15. Mass of living matter at a trophic level in an area at any time is called  
a) Detritus                      b) Humus                      c) Standing state                      d) Standing crop
16. The term 'Niche' was first used by  
a) Elements                      b) Grinnel                      c) Warming                      d) Odum
17. Which competition is more intense?  
a) Intraspecific competition                      b) Interspecific competition  
c) Both (a) and (b)                      d) Predation
18. Newly developed pathogens are more damaging to host because host are called  
a) Distant pathogen                      b) Cronic pathogen  
c) Instant pathogen                      d) Genetic improved pathogens
19. Find  $dN/dt$  for exponential growth for previous question  
a) 3                      b) 4                      c) 5                      d) 6
20. In the association between two organisms, if one organism is benefitted and the other is not benefitted, this relationship is known as  
a) Symbiotism                      b) Mutualism                      c) Commensalism                      d) parasitism