

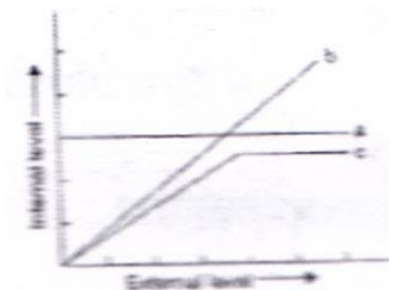
## ORGANISM AND POPULATION

1. What is **wrong** about xerophytes?
  - 1) Sunken stomata
  - 2) Small spiny leaves
  - 3) thick cuticle
  - 4) Large number of stomata
  
2. Animal that can tolerate wide range of salinity are called
  - 1) stenohaline
  - 2) euryhaline
  - 3) anadromous
  - 4) catadromous
  
3. Competition for food, light and space is most severe between two
  - 1) closely related species growing in the same area
  - 2) closely related species growing in different habitats
  - 3) distantly related species growing in the different habitats.
  - 4) Distantly related species growing in different habitats.
  
4. Carrying capacity of environment is determined by
  - 1) birth rate
  - 2) death rate
  - 3) limiting resources
  - 4) population growth
  
5. If there is a large gap between birth rate and death rate in Haryana, we can infer that Haryana would tend to have
  - 1) more of old men
  - 2) Low rate of fertility
  - 3) More school going children
  - 4) low dependency ratio.
  
6. What is the most important factor for the success of an animals population?
  - 1) natality
  - 2) unlimited food
  - 3) adaptability
  - 4) inter specific activity
  
7. If in a population, rate of addition of new members is higher than the rate of loss of individuals, the graph prepared shows.
  - 1) declined growth
  - 2) exponential growth
  - 3) zero population growth
  - 4) none of these
  
8. The association between Rhizobium and roots of leguminous plants is
  - 1) parasitism
  - 2) symbiosis
  - 3) commensalisms
  - 4) predation
  
9. Interaction in which one partner is benefited and other is unaffected is called.
  - 1) amensalism
  - 2) scavenging
  - 3) commensalisms
  - 4) symbiosis
  
10. A tiny free floating animals in surface water constitute
  - 1) phytoplankton
  - 2) symbionts
  - 3) benthos
  - 4) zooplankton



21. Natality is characteristic of a population which means.
- 1) The total number of individuals present per unit area at a given time.
  - 2) The increase in number of individuals in a population under given environmental condition.
  - 3) Loss of individuals due to death in a population under given environmental conditions.
  - 4) The movement of individuals into and out of population.
  - 5) Each population has three different age groups.
22. The formula for exponential growth is
- 1)  $dt/dN=dt$
  - 2)  $rN/dN=dt$
  - 3)  $rN/dN =dt$
  - 4)  $dN/dt =rN$
23. Consider the following four statements (i-v) about certain desert animals such as Kangaroo rat.
- i) They have dark colour and high rate of reproduction and excrete solid urine.
  - ii) They do not drink water, breath at a slow rate to conserve water and have their body covered with thick hairs.
  - iii) They feed on dry seeds and do not require drinking water
  - iv) They excrete very concentrated urine and do not use water to regulate body temperature which two of the above statements for such animals are true?
- 1) i) and ii)
  - 2) iii) & iv)
  - 3) ii) and iii)
  - 4) iii) and i)
24. Reduction in vascular tissue, mechanical tissue and cuticle is characteristic of
- 1) Xerophytes
  - 2) mesophytes
  - 3) epiphytes
  - 4) hydrophytes.
25. Niche is defined as the
- 1) Position of species in a community in relation to other species
  - 2) place where organism live
  - 3) lace where organism lives and performs its duty
  - 4) place where population perform their duties
26. The figure given below is a diagrammatic representation of response of organisms to abiotic factors. What do a, b and c represent respectively.

- | a                    | b                 | c                 |
|----------------------|-------------------|-------------------|
| 1) Partial regulator | Regulator         | Conformer         |
| 2) Regulator         | Conformer         | Partial regulator |
| 3) Confirmer         | Regulator         | Partial regulator |
| 4) Regulator         | Partial regulator | Conformer.        |



27. Which one of the following is most appropriately defined?
- 1) Parasite is an organism which always lives inside the body of other organism and may kill it.
  - 2) Host is an organism which provides food to another organism.
  - 3) Amensalism is a relationship in which one species is benefited whereas the other is unaffected.
  - 4) Predator is an organism that catches and kills other organism for food.
28. Which one of the following is a xerophytes plant in which stem is modified into a flat, green and succulent structure?
- 1) Acacia
  - 2) Opuntia
  - 3) Casuarina
  - 4) Hydrilla
29. A large regional unit characterized by a major vegetation type and associated fauna found in a specific climate zone constitutes.
- 1) ecosystem
  - 2) biological community
  - 3) biome
  - 4) habitat
30. Who is considered as the 'Father of Ecology' in India?
- 1) Ramdeo Misra
  - 2) M.S. Swaminathan
  - 3) P. Maheshwari
  - 4) S.L. Mehta
31. Which one of the following is categorized as a parasite in true sense?
- 1) the Cuckoo (Koel) lays its eggs in crow's nest.
  - 2) the female Anopheles bites and sucks blood from humans
  - 3) Human foetus developing inside the uterus drawn nourishment from the mother
  - 4) Head louse living on the human scalp as well as laying eggs on human hair.
32. Consider the following four conditions (1-4) and select the correct pairs of them as adaptation to environment in desert lizards.
- 1) burrowing in soil to escape high temperature
  - 2) losing heat rapidly from the body during high temperature.
  - 3) bask in sun when temperature is low
  - 4) insulating body due to thick fatty dermis.
- Option:
- 1) 1,2
  - 2) 3,4
  - 3) 1, 3
  - 4) 2, 4
33. The logistic population growth, is expressed by the equation.
- 1)  $dN/dt = rN$
  - 2)  $dN/dt = rN \left( \frac{N-k}{N} \right)$
  - 3)  $dt/dN = Nr \left( \frac{k-N}{k} \right)$
  - 4)  $dN/dt = rN \left( \frac{k-N}{k} \right)$

34. Consider the following statement (A-D) each with one or two blanks

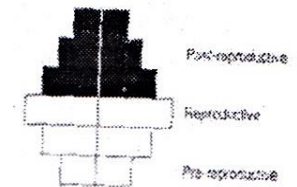
- A) Bears go into \_\_\_\_ (1) \_\_\_\_\_ during winter to \_\_2\_\_ cold weather
- B) A conical age pyramid with a broad base represents \_\_ (3) \_\_\_ human population.
- C) A wasp pollinating a figure flower is an example of \_\_ (4) \_\_\_\_
- D) An are with high level of species richness is know as \_\_ (5) \_\_\_\_

Which one of the following options, gives the correct fill ups for the respective blank numbers from (1) to (5) in the statements?

- 1) (3) –expanding (4)-commensalism (5)- biodiversity park
- 2) (1) hibernation(2) escape (3) expanding (5)-hot spot
- 3) (3) –stable, (4) –commensalism (5) marsh
- 4) (1) aestivation (2) –escape(3) escape (3) stable (4) mutualism

35. What type of human population is represented by the following age pyramid?

- 1) expanding population
- 2) vanishing population
- 3) Stable population
- 4) declining population.



36. A. population growing in a habitat with limited resources show four phase of growth in the following sequence.

- 1) acceleration-declaration-lag phase-asymptote
- 2) asymptote- acceleration- declaration lag phase.
- 3) lag phase-acceleration-declaration asymptote
- 4) acceleration- lag phase-declaration-asymptote.

37. Resemblance of an organism to another for protection and hiding is

- 1) Mimicry
- 2) Predation
- 3) Adaptation
- 4) Camouflage

38. The basic unit of study in ecology is

- 1) population
- 2) organism
- 3) community
- 4) species.

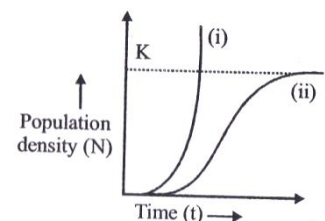
39. People who have migrated from the planes to an area adjoining Rohtang Pass about six months back

- 1) have more RBCs and their haemoglobin has a lower binding affinity to O<sub>2</sub>
- 2) Are not physically fit to play games like football.
- 3) Suffer from altitude sickness with symptoms like nausea fatigue etc.
- 4) have the usual RBC count but their haemoglobin has very high binding affinity to O<sub>2</sub>

40. Study the population growth curves shown in the above diagram.

Which options is the best for curve (i) and (ii)?

- |         |                   |                   |
|---------|-------------------|-------------------|
| Sl. No. | Type of (i) Curve | Type of ii curve  |
| 1       | Logistic Curve    | Exponential curve |





46. Assume that you have been studying a population of cattails at the edge of a pond. After 10 years of observations, you notice that the population has remained steady. What is the most likely explanation?
- 1) The birth rate and death rate are both increasing at the same rate.
  - 2) The pond is drying up.
  - 3) The carrying capacity of pond has been reached.
  - 4) Nutrients levels in pond are fluctuating.
47. When certain exotic species are introduced into geographical area, they become invasive and start spreading fast because
- 1) They have high reproductive rate.
  - 2) They produce chemicals to inhibit the growth of other organisms.
  - 3) There is no competition.
  - 4) The invaded land does not have its natural predators.
48. Which of the following adaptation do not lessen the impact of predation?
- 1) Some species of insects and frogs are camouflaged.
  - 2) Some animals are poisonous.
  - 3) Monarch butterfly is highly distasteful due to having certain chemical in their bodies.
  - 4) Different feeding habits of finches.
49. Mac Arthur observed that five closely related species of Warblers living on the same tree were able to avoid competition and co-exist due to
- 1) cooperation in their foraging efforts
  - 2) Behavioral differences in their foraging activities.
  - 3) Different kinds of insects they eat.
  - 4) All of these.
50. The Abingdon tortoise in Galapagos Islands became extinct within a decade after goats were introduced on the island, apparently due to
- 1) Lower intrinsic rate of goat.
  - 2) The greater browsing efficiency of the goats.
  - 3) Limiting resource
  - 4) Superiority of the goat.