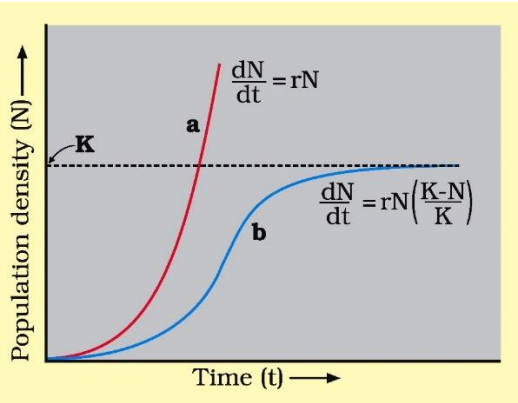
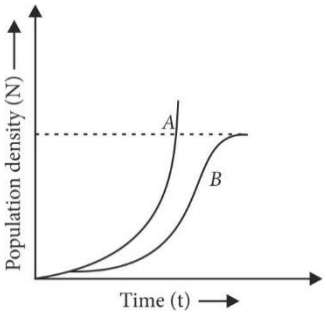
11. Polulation Growth Curve



Important questions based on it:

A. Study the graph given below and answer the questions that follow.

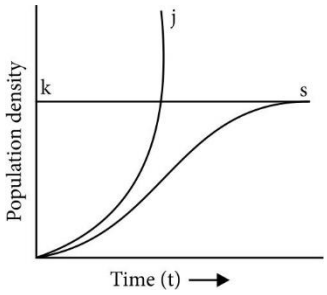


(a) Write the status of food and space in the curves A and B.

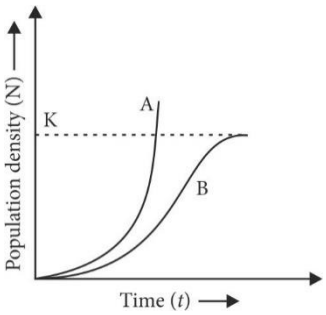
(b) In the absence of predators, which one of the two curves would appropriately depict the prey population?

(c) Time has been shown on X-axis and there is a parallel dotted line above it. Give the significance of this dotted line. (*Delhi 2014*)

B.



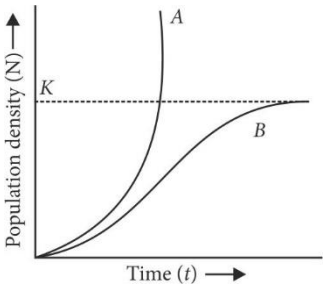
A forest hardly has any carnivores. Census of herbivorous mammals was taken and plotted as a graph shown above. Identify the curve that will explain the population growth of herbivores. Give reason to your answer. (AI 2013C)



C.

Study the population growth curves in the graph given below and answer the questions which follow:

i. Identify the growth curves '*A*' and '*B*'.
ii. Which one of them is considered a more realistic one and why?
iii. If $\frac{dN}{dt} = rN \frac{K - N}{K}$ is the equation of the logistic growth curve, what does *K* stand foriv.
iv. What is symbolised by *N*? (*Delhi 2008*)

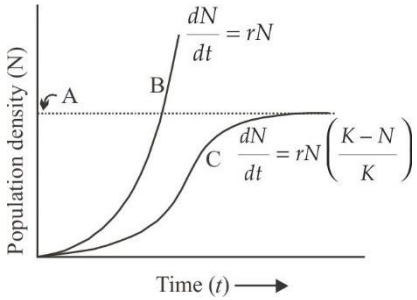


D.

Study the population growth curves shown below.

i. Identify curves '*A*' and '*B'*.
ii. Mention the conditions responsible for the curves respectively.
iii. Give the necessary equation for the curve '*B*'. (*AI 2008*)

E. Which is correctly labelled with respect to the given diagram?



(a) B : Logistic curve
(b) C : Carrying capacity
(c) C : Exponential curve
(d) A : Carrying capacity

(AIIMS)