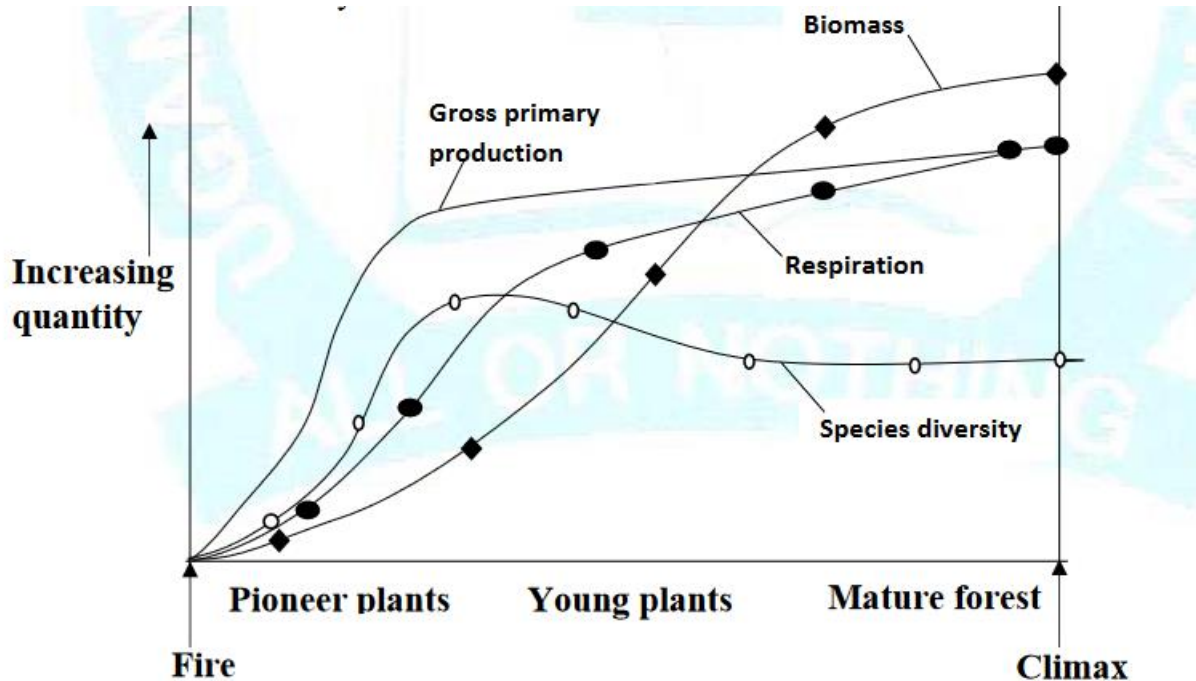


S.5 HOLIDAY WORK

ECOLOGY

The figure below shows the changes in a number of ecological parameters describing a succession following a forest fire, which proceed over a period of more than 100 years.



- (a) (i) write an expression to describe the relationship between gross primary production and respiration. (01 mark)
- (ii) Suggest reasons for the relationship between gross primary production and respiration over the succession period. (09 marks)
- (b) Explain the changes in the following ecological parameters
- (i) biomass (07 marks)
- (ii) species diversity (08 marks)
- (c) Using the information provided, state the characteristics of a climax community of the forest. (04 marks)
- (d) Explain why primary productivity of aquatic ecosystem is usually lower than that of terrestrial ecosystem. (04 marks)
- (e) Describe the effects fire would have on the fertility of the forest soil at start of succession. (07 marks)

Nutrition

- 2 a) What is meant by photorespiration?
- b) Describe how carbohydrates are synthesized in leaves of C4 plants such as maize
- c) What are the advantages of;
 - i. C3 pathway over C4 pathway.
 - ii. C4 pathway over C3 pathway