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B.SC. PART I. PAPER II

CORE CONCEPT OF PTERIDOPHYTE
ORIGIN OF PTERIDOPHYTES

They are the earliest known vascular plants which originated in the silurian period of palaeozoic era and subsequently diversified and formed the dominant vegetation on earth during Devonian to Permian period. The pteridophytes are the successful colonisers on land habit. There are controversial views regarding their origin and evolution. There are two broad theories about their origin according to one pteridophytes have originated from algal ancestor, while the

Algal origin: Many scientists believe that pteridophytes have originated from algae. The concept of algal origin of pteridophytes is based on the similarity between algae and pteridophytes. This was probably a plant which grew along the ocean shores.

The shore line was slowly raised then it became benthic. It is believed that after a portion of the thallus penetrated the ground another portion became erect and formed the main axis. The land plants may have evolved from this hypothetical plant by the development of an epidermis and vascular tissues. Similarities between Bryophytes and Pteridophyta. In both groups heteromorphic life cycle. multicellular sex organs. Thalloid gametophytes. water necessary for fertilization. plant and spore surfaces are covered with cutin. motile and flagellated sperms.

modern studies of cell ultrastructure biochemical nature and molecular studies suggest that bryophytes are not the ancestor of vascular plants. It has been indicated that both the bryophytes and pteridophytes have evolved from green algal ancestors probably from green algal *coleochaete* closely related to Charophytes and mosses appear to be a sister group in the tracheophytes.