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B.Sc. PART-I PAPER-II

CORE CONCEPT OF PTERIDOPHYTES

Ophioglossum - III

Gametophyte: spores is an unit of gametophytic stage. spores occur in large numbers (1500 to 15000) and each of them is endowed with an exine and an intine. The exine is pitted moderately thick often sculptured but colourless. The spore on germination produces a subterranean gametophyte. The gametophyte does not grow beyond the rudimentary stage if it does not get infected with a mycorrhizal fungus at an early few-celled stage. The mature gametophyte is irregularly cylindrical to conical and branched and unbranched. The growing apex grows by a single apical cell with 3 or 4 cutting faces and this growth is indefinite. The prothallus may be long living or annual. It is brown with little differentiation of

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tissue except that the axial cells may be a little elongated. The epiphytic fungus is located in the inner tissue of the lower part only. There is no rhizoid and chlorophyll may develop may if some part gets exposed to light. Antheridia and Archegonia are formed on the surface indiscriminately intermingled and scattered. They arise from superficial cells. The antheridium develops as in other Eusporangiates with a jacket initial and a spermatogenous initial and the final triangular opercular cell in the single layered jacket disintegrates to form an opening. The androcytes and sperm mother cells form two sperms each, each of which receives a blepharoplast as in Isoetes. The archegonia also develop as in other cases. The primary canal cell rarely divides to form two neck canal cells. The ventral canal cell disintegrates as it is formed. The neck barely protrudes out of the thallus.

New Sporophyte: Zygote (2x) is the first cell of sporophyte.