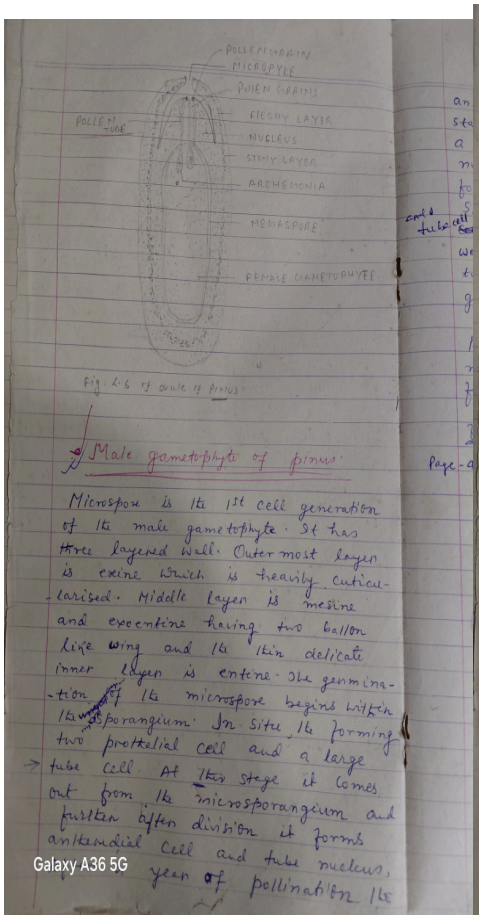
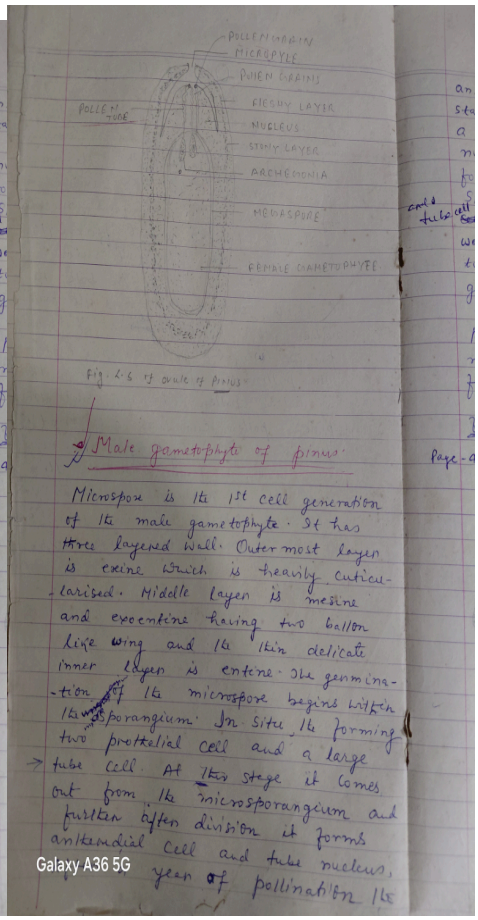


Fig. L.S of ovule of Pinus

Male gametophyte of pinus.

Microspore is the 1st cell generation of the male gametophyte. It has three layered wall. Outer most layer is exine which is heavily cuticularised. Middle layer is mesine and exocentine having two balloon like wing and the thin delicate inner layer is entine. The germination of the microspore begins within the microsporangium. In situ, it forming two prothelial cell and a large tube cell. At this stage it comes out from the microsporangium and further after division it forms antheridial cell and tube nucleus, year of pollination the



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Out of its three, degenerate and its remaining 1 farthest from micropyle matures and becomes megaspore or embryo Sac. After differentiation its megaspore mother cell is surrounded by a zone of modified nucella both cell. Foster and Gifford (1974) has called it as Sponge tissue.

Ovule in both its Case is orthotropus and its pollination is anemophilous but in pinus winged pollen grains enter its pollination process. In cycas there is clear pollen Chamber but in pinus pollen chambers are not so prominant like Cycates. No neck Canal cell is found in both its Case. No. of archegonia in pinus vary with its species but in cycas it is generally two. (Page-380, Fig-334,