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B.Sc(H) PART I PAPER II

CORE CONCEPT OF BRYOPHYTE

AFFINITIES OF SPHAGNUM: Sphagnum shows resemblance with liverworts (Hepaticopsida), hornworts (Anthocerotopsida) and mosses. However, it passes certain characters in which it ~~posses~~ stands apart from all the three.

1. Resemblances to Hepaticopsida:

(i) The thalloid prothallium of Sphagnum resembles the juvenile stage of some asexuous Jungermanniales Metzgeriopsis pusilla, which also grows by the activity of a two-sided apical cell.

(ii) In the position development, form and dehiscence of antheridium Sphagnum resembles the asexuous Jungermanniales e.g. Poorella.

(iii) Sphagnum also resembles the asexuous Jungermanniales in position, origin and development of archegonium.

2. Resemblances to Anthocerotopsida.

- (i) Development of the archesporium ~~from~~ from amphithecium.
- (ii) The origin of columella from the whole of endothecium.
- (iii) Green tissue in the capsule.
- (iv) Absence of apical growth in the sporogonium.
- (v) large bulbous foot and rudimentary seta.

3. Resemblances to Bryopsida

- (i) Erect, leafy gametophore.
- (ii) Rhizoids with oblique seta.
- (iii) Growth of the leaf and sex organs by the activity of apical cells.
- (iv) presence of pseudopodium in Andreeales.
- (v) the stalk and massive venter of the archesporium.
- (vi) Dehiscence of capsule by a definite operculum.