

Quadrant II – Transcript and Related Materials

Programme: Bachelor of Science (First Year)

Subject: Botany

Paper Code: BOC-102

Paper Title: Biodiversity II (Vascular Plants).

Unit 2: Gymnosperms.

Module Name: Reproduction in Cycas part II.

Module No: 29

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Notes

Pollination & Pollen tube germination

- The microspores (pollens) are light in weight and are carried by wind (Anemophily) and caught by viscous liquid drop secreted by ovule's micropyle end.
- The pollination drop is dehydrated and the pollen grains are sucked into the pollen chamber.
- Pollen grains take rest for some time in pollen chamber.
- Intine grows out of exine and forms a pollen tube.
- Pollen tube acts as haustorium as well as a sperm carrier.
- Pollen tube elongates and grows into the tissue of nucellus.

Fertilization

- Fertilization is Siphonogamous.

- Pollen grain reaches the archegonial chamber by pollination.
- The wall of the pollen grain protrudes towards the archegonial chamber.
- The pollen grain bursts and release antherozoids into the archegonial chamber.
- Antherozoid enter the oosphere.
- Male nucleus unites with the oosphere nucleus.
- Fertilized oosphere secretes a thick wall and becomes the oospore.
- Oospore develops embryo.

Seed

- A mature embryo is straight and has a short hypocotyl.
- Embryonal axis has plumule at one end and radicle at the other.
- Radicle is covered by coleorhiza.
- Number of cotyledons may be 2-3.
- Nucellus is completely absorbed in the seed.
- Mature seed is large 2.5-5 cm wide and usually orange or red in colour.
- Germination is hypogeal type.