RAMA UNIVERSITY

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FACULTY OF ENGINEERING & TECHNOLOGY

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Course: B. Tech Biotechnology
Sub Code: BBT-515

Semester: 5th
Sub Name: Plant Biotechnology

LECTURE 1

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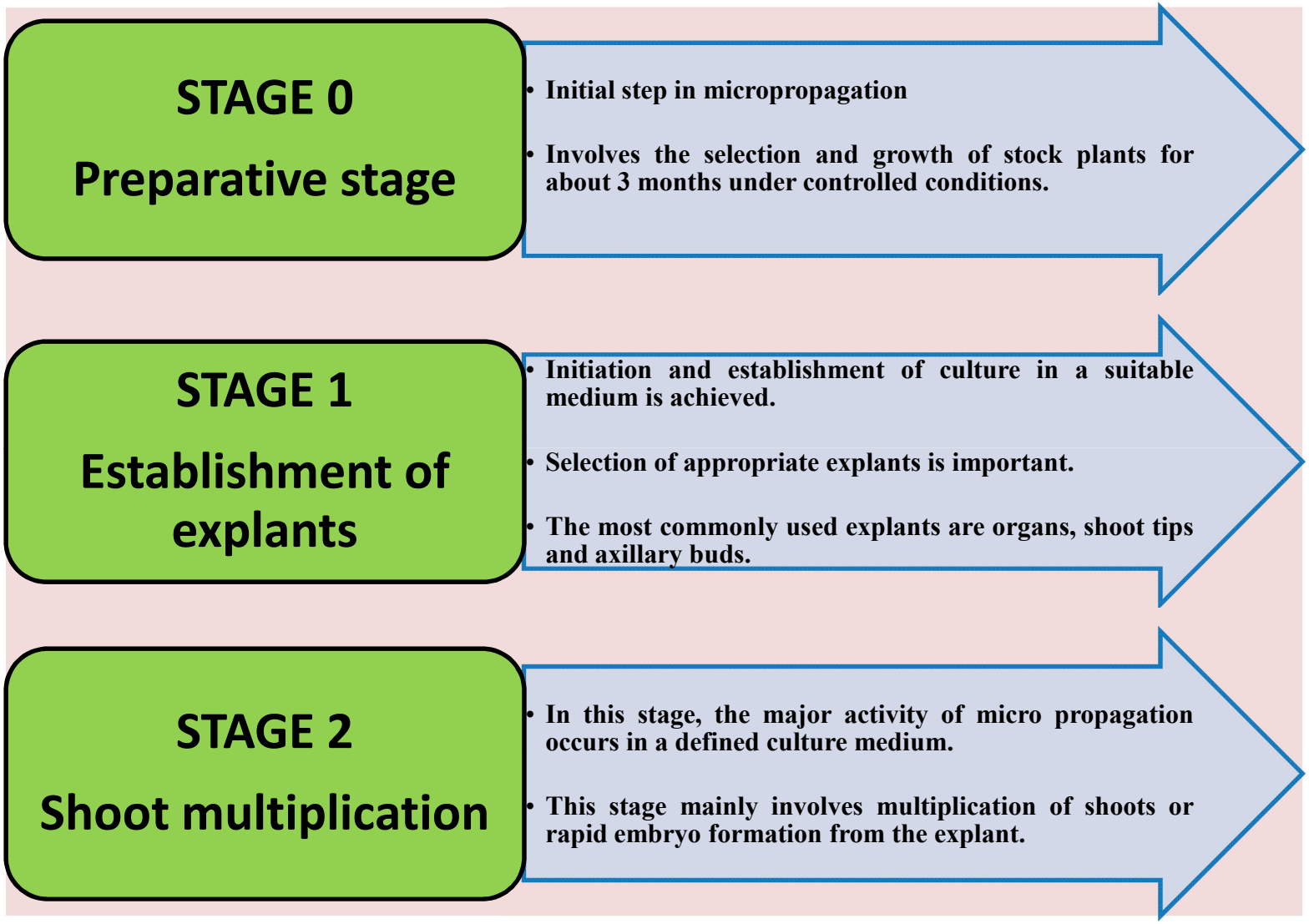
MICROPROPGATION

- Plants can be propagated by sexual (through generation of seeds) or asexual (through multiplication of vegetative parts) means.
- Clonal propagation refers to the process of asexual reproduction by multiplication of genetically identical copies of individual plants, where the term clone is used to represent a plant population derived from a single individual by asexual reproduction.
- In vitro clonal propagation through tissue culture is referred to as micro propagation.

- Micropropagation is the practice of rapidly multiplying stock plant material to produce a large number of progeny plants, using modern plant tissue culture methods.

- Micropropagation is used to multiply noble plants such as those that have been genetically modified or bred through conventional plant breeding methods. It is also used to provide a sufficient number of plantlets for planting from a stock plant which does not produce seeds, or does not respond well to vegetative reproduction.

TECHNIQUE OF MICROPROPAGATION



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STAGE 3

Rooting

- Transfer of shoots to a medium for rapid development into shoots.
- Sometimes, the shoots are directly planted in soil to develop roots.
- In vitro rooting of shoots is preferred while simultaneously handling a large number of species.

STAGE 4

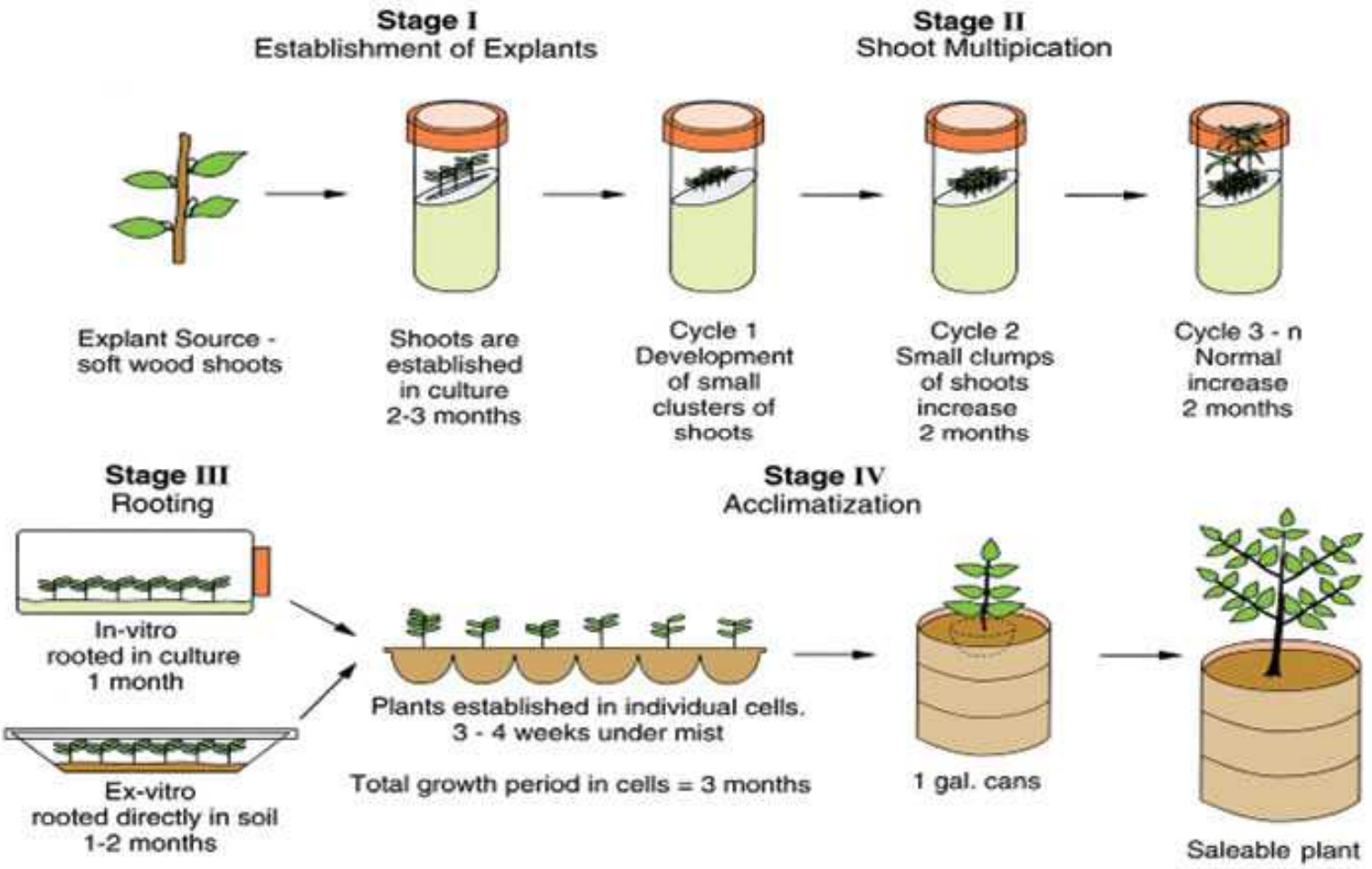
Acclimatization

- Establishment of plantlets in soil.
- Done by transferring the plantlets of stage 3 from the laboratory to the environment of greenhouse..

STAGE 5

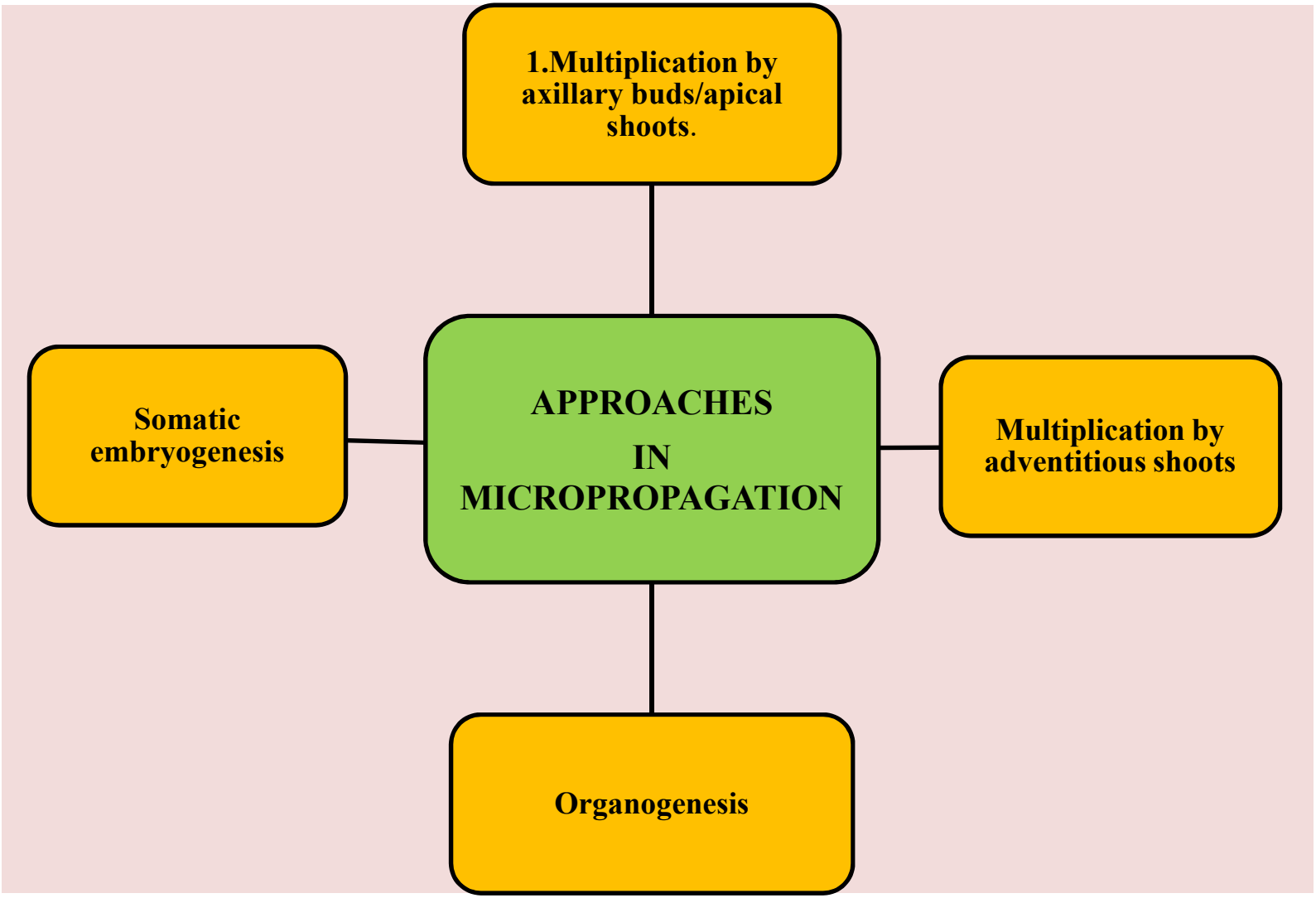
- In this stage, the major activity of micro propagation occurs in a defined culture medium.
- Stage 2 mainly involves multiplication of shoots or rapid embryo formation from the explant.

STAGES OF MICROPROPOGATION



https://microbenotes.com/micropropagation-stages-types-applications-advantages-limitations/

APPROACHES INVOLVED IN MICROPROPAGATION



QUIZ