Mula Education Society's

Arts, Commerce and Science College, Sonai.

M.Sc. II (Botany)

BODP 244- Plant Tissue Culture Technology

1. Synthetic seed is produced by encapsulating somatic embryo with

A. sodium chloride
B. sodium alginate
C. sodium acetate
D. sodium nitrate

2. Hormone pair required for a callus to differentiate are

A. auxin and cytokinin
B. auxin and ethylene
C. auxin and absiccic acid
D. cytokinins and gibberllin

3. The most widely used chemical for protoplast fusion, as fusogens, is

A. Manitol
B. Sorbitol
C. Mannol
D. Poly ethylene glycol (PEG)

4. Growth hormone producing apical dominance is

A. Auxin
B. Gibberellin
C. Ethylene
D. Cytokinin

5. To obtain haploid plant, we culture

A. Entire anther
B. Nucleus
C. Embryo
D. Apical bud

6. Haploid plants are produced in large numbers by

A. Anther culture
B. Ovary culture
C. Both a and b
D. Embryo culture

7. The most common solidifying agent used in micropropagation is
A. agar
B. dextran
C. Mannan
D. all of these

8. The culturing of cells in liquid agitated medium is called
A. liquid culture
B. micro propagation
C. Agar culture
D. suspension culture

9. Which of the following is best suited method for production of virus free plants
A. Embryo culture
B. Meristem culture
C. Ovule culture
D. Anther culture

10. Batch cultures are type of suspension culture where
A. Medium is continuously replaced
B. Medium is loaded only at the beginning
C. No depletion of medium occurs
D. Cellular wastes are continuously removed and replaced

11. The production of secondary metabolites requires the use of _____.

A. Meristem

B. Protoplast

C. Axillary buds

D. Cell suspension

12. In-plant tissue culture, the callus tissues are generated into a complete plantlet by altering the concentration_____.

A. Sugars

B. Hormones

C. Amino Acids

D. Vitamins and minerals

13. What is Callus?

A. Tissues that grow to form an embryoid

B. An unorganised actively dividing the mass of cells maintained in a culture

C. An insoluble carbohydrate

D. A tissue that grows from an embryo

14. Laminar airflow is used for the following reasons except:

A. Preparing media

B. Transferring explants

C. Aseptic transfer

D. For culture growth

15. Selection of culture media depends on_____

A. Type of plant species used

B. Time for preparation of culture media

C. Cost for preparation

D. Maintenance of culture media

16. Activated charcoal is used in nutrition media to _____

A. Absorb toxic substances

B. Absorb moisture

C. Absorb elements

D. Absorb microbes

17. Calcium used In nutrition media is the main component of _____part of plant cell

A. Mitochondria

B. Endoplasmic reticulum

C. Golgi bodies

D. Cell wall and cell membrane

18. Zinc as micronutrient is used in culture media for _____

A. Protein synthesis

B. DNA replication

C. Enzyme synthesis

D. For photosynthesis

19. The following are the plant material used for tissue culture EXCEPT**:**

A. Tissues

B. Cells

C. Protoplasts

D. Flower

20. What is an explant?

A. A part of plant grown under soil

B. Any part of a plant taken out and grown in a test tube

C. A specific part of a plant grown in a test tube

D. Leaves grew under test tube

21. What is protoplast?

A. Cell wall + Plasma membrane

B. Plant cell – cell wall

C. Cytoplasm + cell wall

D. Plasma membrane – cytoplasm

22. Which of the following is not related to embryo culture?

A. Growth of embryos on culture medium

B. Developing seedlings

C. Multiplication of rare plants

D. Making virus-free plants

23. Which of the following is not an application of tissue culture?

A. Rapid Clonal Propagation

B. Somaclonal Variations

C. Embryo rescue

D. Transgenic plants

24. In a callus culture

A. increasing level of cytokinin to a callus induces shoot formation and increasing level of auxin promote root formation
B. increasing level of auxin to a callus induces shoot formation and increasing level of cytokinin promote root formation
C. auxins and cytokinins are not required
D. only auxin is required for root and shoot formation

25. Subculturing is similar to propagation by cuttings because
A. it separates multiple microshoots and places them in a medium
B. it uses scions to produce new microshoots
C. they both use in vitro growing conditions
D. all of the above