

Biotechnology BSc vi<sup>th</sup> semester, Dr Pawanika Chandola

1. In plant tissue culture, what is the term ORGANOGENESIS means?

- A. Formation of callus culture
- B. Formation of root & shoot from callus culture
- C. **Genesis of organ**
- D. None of the above

2. The growth of plant tissues in artificial media is called

- A. Gene expression
- B. Transgenesis
- C. **Plant tissue culture**
- D. Cell hybridization

3. Is an excised piece of leaf or stem tissue used in micropropagation.

- A. microshoot
- B. medium
- C. **explant**
- D. scion

4. The phenomenon of the reversion of mature cells to the meristematic state leading to the formation of callus is known as

- A. redifferentiation
- B. **dedifferentiation**
- C. either (a) or (b)
- D. none of these

5. Micro propagation involves

- A. vegetative multiplication of plants by using micro-organisms.
- B. vegetative multiplication of plants by using small explants.**
- C. vegetative multiplication of plants by using microspores.
- D. Non-vegetative multiplication of plants by using microspores and megaspores

6. In sterilization process by using autoclave temperature should be

- A. 125° C
- B. 121° C**
- C. 135° C
- D. 122° C

7. Agar is extracted from

- A. marine algae**
- B. fungi
- C. tree species
- D. soil

8. Solidifying agent used in plant tissue culture is

- A. Nicotinic acid
- B. Cobaltous chloride
- C. EDTA
- D. Agar**

9. At what temperature do denaturation of DNA double helix takes place?

- A) 60°
- B) 54°

C) 74°

**D) 94**

10. DNA fingerprinting was developed by

A) Francis Crick

B) Khorana

**C) Alec Jeffrey**

D) James Watson

11. PCR is an abbreviation for

A. Protein Change Reaction

**B. Polymerase Chain Reaction**

C. Positive Charge Reaction:

D. Preliminary Change Rate

12. Southern blotting involves

**A. electrophoresis of DNA molecules and then blotting the separated DNA bands followed by incubation**

B. electrophoresis of DNA molecules and then blotting the separated RNA bands followed by incubation

C. electrophoresis of DNA molecules followed by incubation

D. electrophoresis of RNA molecules and then blotting the separated RNA bands followed by incubation

13. What technique can be used to determine the murderer who left blood with the victim?

A. DNA sequencing

B. PCR amplification

C. Western blot

**D. RFLP mapping**

14. DNA fragments in a restriction digest can be separated by electrophoresis in

A. poly acrylamide

**B. agarose gel**

C. both (a) and (b)

D. none of these

15. Autoclave is a equipment used to

**A Sterilize the things**

B. Heat the things

C. Inoculate the things

D. Transfer the things

16. Which of the following technique is suitable for identifying mRNA molecule in a sample

A. Western blotting

B. Southern blotting

**C. Northern blotting**

D. Eastern blotting

17. VNTRs used in DNA fingerprinting are

A. Variable number transcription repeats

**B. Variable number of tandem repeats**

C. Variable number tRNA repeat

D. None of the above

18. What is the main principle of fingerprinting

A. Every individual same composition has a of VNTRs

**B. Every individual different composition has a of VNTRs**

C. Every individual has partially different composition of VNTRs

D. none of the above

19. 2. The technique to distinguish the individuals based on their DNA print patterns is called

- A. DNA fingerprinting
- B. DNA profiling
- C. Molecular fingerprinting
- D. **All of these**

20. Concept of invitro cell culture was developed by

- A. Hanning
- B. Knop
- C. **Haberlandt**
- D. Kotte and Robin

21. HEPA Filters are found in

- A. Autoclave
- B. Refrigerator
- C. Hot air oven
- D. **Laminar air flow**

22. Full form of HEPA IS

- A. Heavy effective particulate air
- B. **High efficiency particulate air**
- C. High efficiency pure air
- D. None of the above

23. Callus is

- A. an organized mass of cells
- B. **an unorganized mass of cells**
- C. a differentiated cell mass
- D. None of the above

24. Somatic embryogenesis from the explants without the formation of callus is called

- A. **Direct embryogenesis**
- B. Indirect embryogenesis
- C. invitro embryogenesis
- D. None of the above

25. Repair or replacement of faulty genes with healthy versions, carried out by introducing DNA containing the functional gene into a patient is called

- A. Gene replacement
- B. **Gene therapy**
- C. DNA therapy
- D. None of the above

26. Technology which produces large numbers of identical antibodies (also called monoclonal antibodies) is called

- A. Gene production
- B. **Hybridoma Technology**
- C. Gene technology
- D. None of the above

27. Monoclonal antibodies are

- A. Homogenous antibodies
- B. **Monoclonal antibodies**
- C. Uniform antibodies
- D. None of the above

28. Plant regeneration from the unfertilised egg cells or other haploid cells of the female gametophyte (embryo sac) in the cultures of unpollinated ovaries or ovules is called

- A. Androgenesis
- B. Gynogenesis**
- C. Organogenesis
- D. Embryogenesis

29. What is the name of naturally occurring Auxin in plant?

- A. 1-naphthaleneacetic acid (NAA)
- B. 2,4-Dichlorophenoxyacetic acid (2,4-D)
- C. Indole 3-acetic acid (IAA)**
- D. 1-naphthoxyacetic acid (NOA)

30. Which of the following is NOT a plant growth regulator?

- a) Auxin
- b) Cytokinins
- c) Gibberellic acid
- d) Polyphenols**