

## **Subject II**

**201-203**

### **Part A**

Give short answers to the following:

1. What is programmed cell death?
2. What is the role of signal transduction?
3. What is leaf senescence?
4. What are the conditions for sporulation of *Bacillus subtilis*?
5. What is gametogenesis?
6. What is double fertilization?
7. What is G<sub>1</sub> Phase in cell cycle?
8. What is cytoskeleton?
9. What is organogenesis?
10. Which embryonic layer further develops the muscles and brain?
11. What is opsonization?
12. Give two examples of inflammatory barriers
13. What are haptens
14. What is the role of MHC molecules?
15. What is inflammation?
16. What is the role of Cytotoxic T-cells in immune system?
17. Give two names of immunosuppressive drugs.

18. What are vaccines?
19. What are 3 examples of viral diseases?
20. What is stem cell?
21. What is solution?
22. Write is cytophotometry?
23. Define fluorescence.
24. Write full name of RCF.
25. What is the use of GM counter?
26. Define electrophoretic mobility.
27. What is flow cytometry
28. What is microtomy?
29. Define dialysis.
30. What is isotope?
31. Illustrate the development of
32. Shoot apex.
33. Flower development.
34. Spermatogenesis
35. Oogenesis

## Part B

Describe the following

1. Aging
2. Development of plant embryo
3. Write short note on following
4. Mating type switching in Yeast
5. Cell division cycle
6. Germ cell migration
7. Fertilization
8. Write notes on
9. B and T Lymphocytes.
10. Organs of the immune system.
11. ELISA
12. Western blotting
13. HIV / AIDS
14. Bacterial diseases.
15. Write short note on the following:
16. Ultra-flirtation
17. Types of buffers
18. Write shorts on the following
19. Fluorochromes

20. Ultracentrifugation
21. Write short notes on the following:
22. Partition chromatography
23. GC (Gas chromatography).
24. Write short notes on the following:
25. PAGE
26. Autoradiography.
27. Describe the gastrulation mechanism in invertebrates and vertebrates
28. Describe the mechanism of cell differentiation in vertebrates.
29. What is organogenesis Describe the process of organogenesis in invertebrates by giving suitable example,
30. Briefly describe the humoral and cellular components of the immune system.
31. What is autoimmunity? Describe evidence, mechanism and prevention of graft rejection
32. What is hypersensitivity Describe various types of hypersensitivity in detail.
33. Give a brief account of functions, components, activation regulation and deficiencies of complement system.
34. Briefly describe antibodies structure, types and functions,
35. What is microscopy? Define the principle and application of SEM and TEM.
36. What is spectroscopy Describe the basic principles and applications of UV-visible spectrophotometer

37. Section Define chromatography. Describe in detail about methodology of HPLC and ion chromatography

38. What is agarose gel electrophoresis? Describe the principle, methodology and application of 2Delectrophoresis