D.K.M.COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1.

ANIMAL BIOTECHNOLOGY

SECTION-A 2 MARKS

1. Define – animal biotechnology
2. Define – media
3. What is Natural media?
4. What is artificial media?
5. What are the physicochemical properties of culture media?
6. What is complete culture media?
7. Define- EMEM
8. Define- GMEM
9. Cryopreservation
10. Define – serum free media.
11. What is growth hormone?
12. What are the characteristics of cultured cells?
13. What is Cell adhesion?
14. What is cell proliferation?
15. What is cell differentiation?
16. What is animal cell culture?
17. Define- primary culture.
18. What is tissue marker?
19. What is contamination?
20. What are the sources of contamination?
21. What are the types of eradication?
22. GMO
23. What is cell line?
24. What are the applications of animal cell culture?
25. Cloning.
26. Define- RPMI

27. Genetic modification.
28. What is transgene?
29. What is promoter gene?
30. Define-gene knockout
31. YAC
32. What is Oncomouse?
33. What is animal bioreactor?
34. Embryonic stem cell
35. Define- cryopreservation
36. What is cloning?
37. What is xenotransplantation?
38. Define- vector
39. What is cloning vector?
40. DNA vaccines
41. What is Gene therapy?
42. Define- subunit vaccines
43. Define – recombinant vaccines
44. Define- live vaccines
45. Define – Anti-idiotypic vaccines
46. Define –vaccine
47. Define -DNA vaccines
48. Write any four examples of DNA vaccines.
49. Define – Cytotoxicity
50. Write any two thyroid hormones
51. Define- Probiotics
52. What is growth hormone?
53. What is gene?
54. Define- gene therapy
55. What are the types of gene therapy?
56. ELSI

SECTION-B 5 MARKS

1. Explain the primary culture.
2. What are the techniques for primary cell culture?
3. Explain the mechanical disaggregation.
4. Write short notes on enzymatic disaggregation.
5. Explain the enzymatic disaggregation?
6. Write short note on primary explants technique.
7. Explain the warm trypsinization.
8. Write short note on cold trypsinization.
9. Discuss about the limitations of trypsin disaggregation.
10. Explain the disaggregation of animal cell culture.
11. Write short notes on disaggregation by collagenase enzymes?
12. Explain the Secondary cell culture.
13. What are the types of contamination?
14. Explain the applications of animal cell culture.
15. What are the limitations of primary cell culture?
16. Write short notes on application of secondary cell culture.
17. Explain the detail about continuous cell lines.
18. Explain the finite cell lines.
19. Write short note on transgenic mice.
20. Explain the detailed about gene transfer methods.
21. Write short note on transgenic fish.
22. Explain the detailed about retroviral gene transfer methods.
23. Discuss about the microinjection methods.
24. Write short note on embryonic stem cell methods.
25. Explain the detailed about artificial insemination.
26. Write short note on invitro fertilization.
27. Discuss about the pregnancy diagnosis.
28. Write short note on sexing of embryos.
29. Explain the detailed about embryo splitting.
30. Discuss about the cryopreservation embryo.

31. Write short notes on cloning for conservation of endangered species.
32. Explain the detailed about the Cytotoxicity studies.
33. Write short note on cell viability assays.
34. Explain the detailed about the thyroid hormone production.
35. Discuss about the manipulation of wool growth.
36. What are the applications of animal as bioreactor?
37. What are the advantages and disadvantages of killed vaccines?
38. Discuss the manipulation of rumen microbial digestive system.
39. Describe the anti-idiotypic vaccines.
40. Discuss the applications of DNA vaccines.
41. Discuss the subunit vaccine production.
42. Explain the detailed about DNA vaccine applications.
43. Describe the recombinant vaccine.
44. Write short note on common viral diseases in humans.
45. Discuss about the parasitic diseases in animals.
46. Discuss the bacterial diseases in animals.
47. Describe the human genetic engineering and its risks.
48. Write short note on in-vivo gene therapy.
49. Describe the scaling up of animal cell cultures.
50. Describe the contamination sources, types and eradication.
51. Write short note on ethical, legal safety regulations.
52. Describe the transgenic fish.

SECTION-C 10 MARKS

1. Briefly explain the primary cell culture and methods.
2. What are the differences between the continuous cell lines and suspension cultures?
3. What are the applications of animal cell culture and cell lines?
4. What are the applications and limitations of secondary cell culture?
5. What are the pharmaceutical applications animal cell cultures?

6. What are the difference between the chemically defined and serum free media for cell culture?
7. Briefly describe the animal cell culture.
8. What is contamination? Different sources and types of contamination.
9. What is cryopreservation? Explain the cryopreservation of embryos.
10. Define –cloning and Explain the cloning for conservation of endangered species.
11. Briefly explain the therapeutic protein expression using transgenic animals.
12. Explain the transgenic animal strategies of gene transfer- transgenic mice, sheep, fish.
13. Explain the manipulation of reproduction in dairy animals and humans: Artificial insemination, invitro fertilization, embryo transfer and embryo cloning.
14. Describe the advantages and disadvantages of using serum free media for cell culture studies.
15. Discuss the technology behind the production of DNA vaccines to prevent animal diseases.
16. Discuss the technology behind the production of recombinant vaccines to prevent animal diseases.
17. Discuss the technology behind the production of live vaccines to prevent animal diseases.
18. Discuss the technology behind the production of killed vaccines to prevent animal diseases.
19. Discuss the technology behind the production of sub unit vaccines to prevent animal diseases.
20. Discuss the technology behind the production of anti-idiotypic vaccines to prevent animal diseases.
21. Discuss the technology behind the production of BCG vaccines to prevent animal diseases.

22. Discuss the principle and applications of the following in scaling up of animal cell culture.
23. Explain the production and applications of transgenic animals.
24. Explain the process of in-vitro fertilization.
25. Mention the applications of transgenic animals.
26. Describe in detail advantages and disadvantages of serum in ATC media.
27. What is secondary culture: explain the method of marinating any one specialized cell culture.
28. Describe the gene therapy- types and applications.

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