Midterm control questions on discipline “**Biotechnology of Agricultural Plants**

*7M05109 Биотехнология Master Students*

Module **Plant biotechnology**

1. The aim of Plant biotechnology. Basic direction in Plant biotechnology. Cell technologies for receiving important products derived from plant material
2. History of Plant biotechnology
3. The scope of plant biotechnology
4. Describe of protoplast fusion and its use.
5. Characterize Plant Tissue Culture Micropropagation technologies of plants. Technology for production of virus-free plants.
6. Show Techniques and major Steps of Tissue Culture?
7. Types, Techniques and Process The application of plant tissue cultures
8. Present Seed Culture
9. Embryo Culture
10. Callus Culture
11. Describe the methods of organ culture
12. What is a Meristem Culture
13. Methods of Fertilization in vitro. Haploid technology
14. What is cell selection?f
15. Somatic Hybrids: Strategies | Biotechnology
16. Present the applications of cell culture
17. What is genetically Engineered Plants?
18. Describe a production of doubled haploid (DHs)
19. Show applications of doubled haploid (DHs) in plant breeding?
20. Show the steps of process genetic engineering
21. Characterize molecular cloning steps
22. Describe molecular cloning applications
23. Describe techniques create recombinant DNA
24. Show examples of sexual reproduction: natural
25. Give practical examples of selective breeding
26. Describe the process of hybridization
27. Describe the gene splicing
28. Show practical applications recombinant DNA technology
29. Show examples of genetically modified microorganisms
30. Howto use the restriction enzymes to make recombinant DNA
31. Describe the protocol of preparation of vector DNA
32. Describe *the main principles of choice of host organism*
33. For what purpose the vector is used?
34. What is a human artificial chromosome
35. Give practical examples of a bacterial artificial chromosome
36. Describe using bacteriophage
37. What is a cosmid
38. Give practical examples of yeast artificial chromosomes (YACs)
39. Give practical examples of use of plasmids
40. How to choice the host cells for replication of recombinant DNA