Exam Questions of Genetically Engineering

1. Biotechnological methods for determining species sustainability and the rope in modern evolution of organisms.
2. Usage of gene engineering methods as factors of species variability.
3. Experimental methods of obtaining chimerical animals under laboratory conditions.
4. The role of somatic hybridization to produce chimerical organisms.
5. The role of biotechnological methods to create new agricultural plants resistant to harmful insects.
6. Usage of Ti-plasmids of Acrobacterium tumefascens to create genetically modified products (GMO).
7. Promoters, terminators and gene reporters are in charge of genetic functions of genes.
8. Transgenic plants and animals which modified by methods of genetically engineering.
9. Methods of creation of vector molecules for site-directed protein synthesis.
10. The main principles of separation plants, animal and bacterial genes to synthesize artificial genes.
11. Global climate change as a result of environmental factors and usage of model biological systems for its assessment.
12. Internal and external factors of historical climate change and their role in organic evolution.
13. Community as a elementary carrier of evolution process on the Earth.
14. Describe the following methods and terms: DNA-sequence and DNA-methylation,
15. Describe the main principles of Southern-blotting and Northern-blotting,
16. Give some examples of successful gene therapy of human heredity diseases.
17. Chromosomal and gene human diseases and prospects of usage of methods of genetically engineering.
18. Chromosomal analysis as a prenatal diagnostic method of heredity diseases.
19. Modern methods of chromosomal analysis to diagnose heredity abnormalities (bio-chipping).
20. The main dogma of molecular biology and its modern condition.
21. Discribe chromosomal and gene engineering methods. (morphological, cytogenetically and molecular-genetically)
22. Theoretical issue of fundamental aspects of genetically engineering (chromosomal and gene engineering methods)
23. Experimental basic for plant and animal biotechnology.
24. Genetic assessment of organisms modified by methods of chromosomal and gene engineering.
25. Genetically basic of hereditary and its assessment. Individual and groups evaluation.
26. Principles and methodology of the introduction an additional chromosome and obtaining new forms and supplemented lines.
27. Consider the introduction of instructional techniques into the genome of a particular species or varieties of any additional pairs of chromosomes of another species
28. View the methods of changing and addition a separate chromosome and gene analyses.
29. The main principles of PCR.
30. Epigenetic therapy. Cancer diseases as a result of DNA-methylation
31. History of genetically engineering. Review.
32. Role of biotechnology methods in medical genetics. Review.
33. Chromosomal and genomic diseases. Modern data explanation.
34. Practical methods of heredity human research (population, twin-method, biochemical and cytogenetic)
35. Monogenic and polygenic human diseases
36. Micronuclear test. It’s heredity specifies that the impression.
37. Gene expression. Molecular mechanisms of this process.
38. Molecular research methods in biotechnology.
39. Evaluation of genetically consequence of genomic and chromosomal mutations.
40. Patients with genetic diseases and modern investigations in human hereditary by biochemical methods.