EDUCATIONAL INSTITUTION
«BELARUSIAN STATE MEDICAL UNIVERSITY»

THE DEPARTMENT OF PHARMACEUTICAL TECHNOLOGY
WITH ADVANCED TRAINING AND RETRAINING COURSE

APPROVED at the Department Session
Protocol No6 of January 20, 2026

CALENDAR-THEMATIC PLAN
OF PRACTICAL LESSONS FOR EDUCATIONAL DISCIPLINE
«PHARMACEUTICAL BIOTECHNOLOGY»

II semester 2025/2026 ed. year (6 educational semester)

№	Тема	Дата
1.	Pharmaceutical biotechnology as a science and field of production	30.01.2026
2.	Improvement of biological objects by methods of selection, directed mutagenesis, and cellular engineering	06.02.2026
3.	Improvement of biological objects by methods of genetic engineering. Study of the basic principles of recombinant DNA technology	13.02.2026
4.	Genomics and proteomics. Medicines for gene therapy	20.02.2026
5.	Molecular mechanisms of intracellular regulation of metabolism of biological objects and their use in the biosynthesis of target products	27.02.2026
6.	Final lesson on topics «Improvement of biological objects by methods of selection, directed mutagenesis, and cellular engineering», «Improvement of biological objects by methods of genetic engineering. Study of the basic principles of recombinant DNA technology», «Genomics and proteomics. Medicines for gene therapy», «Molecular mechanisms of intracellular regulation of metabolism of biological objects and their use in the biosynthesis of target products»	06.03.2026
7.	The biotechnological process of drug production and its features. Pre-fermentation stages	13.03.2026
8.	The biotechnological process of drug production and its features. Fermentation	20.03.2026
9.	The biotechnological process of drug production and its features. Post-fermentation stages	27.03.2026
10.	Final lesson on topics «The biotechnological process of drug production and its features. Pre-fermentation stages», «The biotechnological process of drug production and its features. Fermentation», «The biotechnological process of drug production and its features. Post-fermentation stages»	03.04.2026
11.	Biotechnology of antibiotics, probiotics, amino acids	10.04.2026
12.	Production of enzyme preparations and vitamins	17.04.2026
13.	Biotechnology of recombinant proteins (using the example of protein and polypeptide hormones)	24.04.2026
14.	Biotechnology of steroid hormones	01.05.2026
15.	Immunobiotechnology. Immunoglobulin preparations (polyclonal antibodies): characteristics, technology, field of application. Technology of traditional and modern vaccines. Medicines for the treatment and prevention of viral AIDS	08.05.2026

16.	Immunobiotechnology. Technology of monoclonal antibodies. Receiving immunotherapeutic thrombolytics and anticoagulants, anti-cancer drugs. Interferons and interleukins: biological role, production methods	15.05.2026
17.	Features of cell culture in advanced complex eukaryotes. Phytobiotechnology	22.05.2026

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