

Department of Dental
Propaedeutics and Materials Science
2025-2026 academic year

at the meeting of the Department of Dental
Propaedeutics and Materials Science
(Protocol No. 16 dated 24.04.2026)

Docent
24.04.2026



N.A.Kranivets

**QUESTIONS FOR THE EXAM
in the discipline
"MATERIALS SCIENCE AND FUNDAMENTALS OF MANUFACTURING
DENTURES"
for 1st year students of the Faculty of Dentistry
and the Faculty of Medicine of foreign students
in the 2025-2026 academic year**

1. Organization of dental care in the Republic of Belarus.
2. Dentistry. The modern content of the discipline. Sections of dentistry.
3. Fundamentals of medical ethics and deontology.
4. Organization and equipment of the dental office.
5. Dental laboratory, purpose, structure, functional responsibilities of a dental technician.
6. Equipment and equipping of the main room of the dental laboratory. Sanitary and hygienic standards and requirements.
7. Equipment of auxiliary rooms of the dental laboratory. The principles of organization of dental production, ensuring the safety of dental technician.
8. Dentures: classification. Characteristics of non-removable orthopedic structures.
9. Dentures: classification. Characteristics of removable orthopedic structures.
10. Classification of materials for the manufacture of dentures. Characteristics and requirements for basic (structural) materials.
11. Auxiliary materials for the manufacture of dentures. Impression materials: classification, requirements, application.
12. Impression spoons: types, rules for selecting an impression spoon for the upper jaw.
13. Impression spoons: types, rules for selecting an impression spoon for the lower jaw
14. Individual spoons: types, indications for use. Materials for making individual spoons.
15. Impressions: definition, requirements. Types of prints.
16. Alginate impression materials: composition, properties, application, advantages, disadvantages.
17. Silicone impression materials of K (C) type: composition, properties, application, advantages, disadvantages.
18. A-type silicone impression materials: composition, properties, application, advantages, disadvantages.
19. Auxiliary materials: gypsum. Classification, composition, properties, application.

20. Types of plaster models. Requirements for plaster models.
21. Types of plaster models. Production of solid models from gypsum and super gypsum: methods, tools, sequence.
22. Types of plaster models. Production of collapsible models from gypsum and super gypsum: methods, tools, sequence.
23. Auxiliary modeling materials: wax compositions (composition, properties, application).
24. Auxiliary modeling materials: wax compositions used in the manufacture of non-removable orthopedic structures.
25. Auxiliary modeling materials: wax compositions used in the manufacture of removable orthopedic structures.
26. Auxiliary modeling materials: ash-free plastics (composition, properties, application).
27. Auxiliary refractory molding materials: composition, properties, application
28. Duplication of the model: materials, equipment, sequence.
29. Dental rotating instruments, classification, purpose.
30. Metal blade tools, classification, purpose.
31. Abrasive materials, characteristics, types of abrasive tools.
32. Denture treatment: types, tools and equipment.
33. Equipment, tools and sequence of processing of metal dentures.
34. Equipment, tools and processing sequence of plastic fixed dentures.
35. Equipment, tools, and processing sequence of plastic removable dentures.
36. Equipment, tools, and processing sequence of ceramic dentures.
37. Basic (structural) materials: alloys of precious metals used in dentistry. Composition, properties, and application.
38. Basic (structural) materials: base metal alloys: cobalt-chromium and nickel-chromium alloys. Composition, properties, and application.
39. Basic (structural) materials: iron-based alloys. Composition, properties, and application.
40. Casting technology. Model casting, equipment, materials, sequence.
41. Manufacture of stamped metal dentures. Equipment, materials, methods, and consistency.
42. Casting technology. Model-free casting, equipment, materials, sequence.
43. Materials, methods, equipment and the sequence of joining metal parts of dentures.
44. Basic (structural) materials: plastics of hot polymerization, types, requirements, application.
45. Main (structural) materials: hot-polymerized plastics for the manufacture of non-removable structures (composition, properties, application, advantages, disadvantages).
46. Basic (structural) materials: hot-polymerized plastics for the manufacture of removable structures (composition, properties, application, advantages, disadvantages).
47. Stages of plastic maturation. The temperature regime of plastic polymerization.
48. Self-hardening plastics: composition, properties, indications for use, advantages, disadvantages.
49. Basic (structural) materials: thermoplastic and photo-curable polymer materials (composition, properties, application, advantages, disadvantages).
50. Artificial teeth: materials, types, properties, application.
51. Feldspar ceramics: characteristics, composition, application.

52. Glass ceramics: characteristics, types, composition, application.
53. Modern methods of manufacturing ceramic dentures.
54. Color scale, tooth color determination and ceramic type selection.
55. Teeth. Groups of teeth according to age, morphological and functional characteristics.
56. Macroscopic morphology of teeth. General morphofunctional characteristics (parts, surfaces, signs of teeth).
57. Characteristics of the relief elements of the tooth crown.
58. Dental formula and its types.
59. Characteristics of the relief surfaces of the crowns of the central incisors of the upper jaw.
60. Characteristics of the relief surfaces of the crowns of the lateral incisors of the upper jaw
61. Characteristics of the relief surfaces of the crowns of the central incisors of the lower jaw.
62. Characteristics of the relief surfaces of the crowns of the lateral incisors of the lower jaw.
63. Characteristics of the relief of the crown surfaces of the canines of the upper jaw.
64. Characteristics of the relief of the crown surfaces of the canines of the lower jaw.
65. Characteristics of the relief of the crown surfaces of the first premolars of the maxilla.
66. Characteristics of the relief of the crown surfaces of the second premolars of the maxilla.
67. Characteristics of the relief of the crown surfaces of the first premolars of the mandible.
68. Characteristics of the relief of the surfaces of the crowns of the second premolars of the mandible.
69. Characteristics of the relief of the surfaces of the crowns of the first molars of the maxilla.
70. Characteristics of the relief of the surfaces of the crowns of the second molars of the maxilla.
71. Characteristics of the relief of the surfaces of the crowns of the first molars of the lower jaw.
72. Characteristics of the relief of the surfaces of the crowns of the second molars of the mandible.
73. Classifications of cavities according to Black and Courland.
74. General characteristics of tabs. Classification, requirements, advantages, disadvantages.
75. Basic (structural) materials for the manufacture of tabs. Classification of methods of manufacturing tabs from various materials.
76. Clinical and laboratory stages of manufacturing inlays from metal alloys.
77. Clinical and laboratory stages of manufacturing ceramic inlays.
78. General characteristics of veneers. Classification, requirements, advantages, disadvantages.
79. Basic (structural) materials for the manufacture of veneers. Methods of making veneers from various materials.
80. Clinical and laboratory stages of manufacturing ceramic veneers.
81. General characteristics of artificial crowns, types, requirements, basic (structural) materials for the manufacture of artificial crowns. advantages and disadvantages.

82. Clinical and laboratory stages of manufacturing a stamped crown.
83. Clinical and laboratory stages of manufacturing a solid-cast crown.
84. Clinical and laboratory stages of plastic crown manufacturing.
85. Clinical and laboratory stages of ceramic crown manufacturing.
86. Clinical and laboratory stages of manufacturing a ceramic metal crown.
87. Classification of dental row defects. Types of dentures to eliminate dental defects.
88. Bridge-like prostheses: characteristics, types, requirements, advantages, disadvantages.
89. Clinical and laboratory stages of manufacturing a stamped-soldered bridge prosthesis.
90. Clinical and laboratory stages of manufacturing a solid-cast bridge prosthesis.
91. Clinical and laboratory stages of manufacturing a plastic bridge prosthesis.
92. Clinical and laboratory stages of manufacturing a metal-ceramic bridge prosthesis.
93. Partial removable plate prostheses: characteristics, requirements, advantages, disadvantages.
94. The boundaries of the bases of partial removable plate prostheses on the upper and lower jaws.
95. Bent retaining clamp and support-retaining elements of partial removable plate prostheses, requirements, advantages, disadvantages.
96. Clinical and laboratory stages of manufacturing partial removable plate prostheses.
97. Materials and sequence of modeling wax bases with bite rollers on the upper jaw in the manufacture of partial and complete removable plate prostheses.
98. Materials and sequence of modeling wax bases with bite rollers on the lower jaw in the manufacture of partial and complete removable plate prostheses.
99. Replacement of wax composition of removable dentures with plastic, equipment, tools, materials.
100. Dentures, characteristics, requirements, advantages, disadvantages.
101. Basic elements of dentures, materials, characteristics.
102. The main elements of the prosthetic arm frame, characteristics.
103. Ney's clamping system. Characteristics of the support-retaining clamp and their functional purpose.
104. Prosthetic braces. It's a clamping system. Type 1 clamp according to Her.
105. Dentures. It's a clamping system. Type 2 clamp on It.
106. Dentures. It's a clamping system. Type 3 clamp on It.
107. Dentures. It's a clamping system. Type 4 clamp on It.
108. Dentures. It's a clamping system. A type 5 clamp on It.
109. Parallelometry. Equipment, purpose, and methods of parallelometry.
110. Clinical and laboratory stages of manufacture of dentures.
111. General characteristics of complete removable dentures. The main elements of complete removable dentures, materials.
112. The boundaries of the bases of complete removable plate prostheses on the upper and lower jaws.
113. Clinical and laboratory stages of manufacturing complete removable plate prostheses.
114. Principles and sequence of artificial teeth placement in wax compositions of complete removable plate prostheses.
115. Repair of bases of partial and complete removable plate prostheses, materials and methods.