



EXAM QUESTIONS ON DISCIPLINE
«MATERIALS SCIENCE AND FUNDAMENTALS OF MANUFACTURING
DENTURES»
for 1 course of 2023-2024 academic year
Medical Faculty for International Students (specialty 1-79 01 07 "Stomatology")

1. Organization of dental care in the Republic of Belarus.
2. Dentistry. 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 of the main room of the dental laboratory. Sanitary and hygienic standards and requirements.
7. Equipment of auxiliary rooms of the dental laboratory. Principles of organizing dental production, ensuring the safety of the dental technician.
8. Dentures: classification. Characteristics and indications for the use of fixed orthopedic dentures.
9. Dentures: classification. Characteristics and indications for the use of removable orthopedic dentures.
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 trays: types, rules for selecting an impression tray for the upper jaw.
13. Impression trays: types, rules for selecting an impression tray for the lower jaw.
14. Individual trays: types, indications for use. Materials for making individual trays.
15. Impressions: definition, requirements. Types of impressions.
16. Alginate impression materials: composition, properties, application, advantages, disadvantages.
17. C-type silicone impression materials: 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. Making solid models from gypsum and supergypsum: methods, tools, sequence of steps.
22. Types of plaster models. Making disassembled models from gypsum and supergypsum: methods, tools, sequence.
23. Auxiliary modeling materials: wax compositions (composition, properties, application).
24. Auxiliary modeling materials: wax compositions used in the manufacture of permanent orthopedic dentures.
25. Auxiliary modeling materials: wax compositions used in the manufacture of removable orthopedic dentures.
26. Auxiliary modeling materials: wax compositions used at the clinical stages of manufacturing fixed and removable orthopedic dentures.
27. Auxiliary modeling materials: ashless plastics (composition, properties, application).
28. Auxiliary refractory molding materials: composition, properties, application.
29. Model duplication: materials, equipment, sequence.
30. Characteristics and types of abrasive tools.
31. Processing of dentures: types, tools and equipment.
32. Equipment, tools and sequence of processing of metal dentures.
33. Equipment, tools and sequence of processing of plastic fixed dentures.
34. Equipment, tools and sequence of processing of plastic removable dentures.
35. Equipment, tools and sequence of processing of ceramic dentures.
36. Basic (structural) materials: alloys of noble metals used in dentistry. Composition, properties, application.
37. Basic (structural) materials: base metal alloys: cobalt-chromium and nickel-chromium alloys. Composition, properties, application.
38. Basic (structural) materials: iron-based alloys. Composition, properties, application.
39. Manufacturing of solid metal dentures. Equipment, materials, methods and sequence of stages.
40. Manufacturing of stamped metal dentures. Equipment, materials, methods and sequence of stages.
41. Manufacturing of dentures by milling, laser sintering, MIM technology.
42. Materials, methods, equipment and sequence of connecting metal parts of dentures.
43. Basic (structural) materials: hot polymerization plastics, types, requirements, application.
44. Basic (structural) materials: hot polymerization plastics for the manufacture of fixed dentures (composition, properties, application, advantages, disadvantages).
45. Basic (structural) materials: hot polymerization plastics for the manufacture of removable dentures (composition, properties, application, advantages, disadvantages).
46. Stages of maturation of plastic dough. Errors and methods for eliminating them.
47. Temperature regime of polymerization of plastics. Errors and methods for eliminating them.
48. Self-hardening plastics: composition, properties, indications for use, advantages, disadvantages.
49. Basic (structural) materials: thermoplastic and light cure polymer materials (composition, properties, application, advantages, disadvantages).

50. Artificial teeth: materials, types, properties, application.
51. Materials and sequence for making an individual trays.
52. Feldspathic ceramics: characteristics, composition, application.
53. Glass ceramics: characteristics, types, composition, application.
54. Modern methods of manufacturing ceramic dentures.
55. Color scale, determination of tooth color and selection of ceramic type.
56. Teeth. Groups of teeth according to age, morphological and functional characteristics.
57. Macroscopic morphology of teeth. General morphofunctional characteristics (parts, surfaces, signs of teeth).
58. Characteristics of relief elements of the tooth crown.
59. Dental formula and its types.
60. Characteristics of the relief of the surfaces of the crowns of the central incisors of the upper jaw.
61. Characteristics of the relief of the surfaces of the crowns of the lateral incisors of the upper jaw.
62. Characteristics of the relief of the surfaces of the crowns of the central incisors of the lower jaw.
63. Characteristics of the relief of the surfaces of the crowns of the lateral incisors of the lower jaw.
64. Characteristics of the relief of the surfaces of the crowns of the canines of the upper jaw.
65. Characteristics of the relief of the surfaces of the crowns of the canines of the lower jaw.
66. Characteristics of the relief of the surfaces of the crowns of the first premolars of the upper jaw.
67. Characteristics of the relief of the surfaces of the crowns of the second premolars of the upper jaw.
68. Characteristics of the relief of the surfaces of the crowns of the first premolars of the lower jaw.
69. Characteristics of the relief of the surfaces of the crowns of the second premolars of the mandible.
70. Characteristics of the relief of the surfaces of the crowns of the first molars of the upper jaw.
71. Characteristics of the relief of the surfaces of the crowns of the second molars of the upper jaw.
72. Characteristics of the relief of the surfaces of the crowns of the first molars of the lower jaw.
73. Characteristics of the relief of the surfaces of the crowns of the second molars of the lower jaw.
74. Classification of cavities by Black, Kurlyandsky.
75. General characteristics of inlays. Classification, requirements, advantages, disadvantages.
76. Requirements for the cavities formation for various types of inlays.
77. Basic (constructional) materials for the manufacture of inlays. Classification of manufacturing methods of inlays from various materials.
78. Clinical and laboratory steps of metal inlays manufacturing.
79. Clinical and laboratory steps of ceramic inlays manufacturing.
80. Stages of inlays manufacturing from polymer materials.

81. Mistakes in the inlays manufacturing at the stage of taking impressions and cast production, methods for eliminating them.
82. General characteristics of veneers. Classification, requirements, advantages, disadvantages.
83. Basic (constructional) materials for the veneers manufacturing. Methods for veneers manufacturing from various materials.
84. Clinical and laboratory steps of ceramic veneers manufacturing.
85. Stages of veneers manufacturing from polymer materials
86. Mistakes in the veneers manufacturing at the stage of taking impressions and cast production, methods for eliminating them.
87. General characteristics of artificial crowns, types, requirements, advantages, disadvantages.
88. Basic (constructional) materials for the artificial crowns manufacturing. Methods for artificial crowns manufacturing from various materials.
89. Clinical and laboratory steps of stamped crown manufacturing.
90. Mistakes in the stamped crown manufacturing at the stage of taking impressions and cast production, methods for eliminating them.
91. Clinical and laboratory steps of full cast metal crown manufacturing.
92. Mistakes in the full cast metal crown manufacturing at the stage of taking impressions and cast production, methods for eliminating them.
93. Clinical and laboratory steps of plastic crown manufacturing.
94. Mistakes in the plastic crown manufacturing at the stage of taking impressions and cast production, methods for eliminating them.
95. Clinical and laboratory steps of ceramic crown manufacturing.
96. Mistakes in the ceramic crown manufacturing at the stage of taking impressions and cast production, methods for eliminating them.
97. Clinical and laboratory steps of PFM crown manufacturing.
98. Mistakes in the PFM crown manufacturing at the stage of taking impressions and cast production, methods for eliminating them.
99. Classification of dentition defects. Types of dentures to eliminate dentition defects.
100. Dental bridges: characteristics, types, requirements, advantages, disadvantages.
101. Clinical and laboratory steps of stamped soldered dental bridge manufacturing.
102. Mistakes in the stamped soldered dental bridge manufacturing at the stage of taking impressions and cast production, methods for eliminating them.
103. Clinical and laboratory steps of full cast metal dental bridge manufacturing.
104. Mistakes in the full cast metal dental bridge manufacturing at the stage of taking impressions and cast production, methods for eliminating them.
105. Clinical and laboratory steps of plastic dental bridge manufacturing.
106. Mistakes in the plastic dental bridge manufacturing at the stage of taking impressions and cast production, methods for eliminating them.
107. Clinical and laboratory steps of ceramic dental bridge manufacturing.
108. Mistakes in the ceramic dental bridge manufacturing at the stage of taking impressions and cast production, methods for eliminating them.
109. Clinical and laboratory steps of PFM dental bridge manufacturing.
110. Mistakes in the PFM dental bridge manufacturing at the stage of taking impressions and cast production, methods for eliminating them.

111. Partial plastic removable dentures: characteristics, requirements, advantages, disadvantages.
112. The base borders of partial plastic removable dentures on the upper and lower jaws.
113. Retaining and supporting-retaining elements of partial plastic removable dentures, types, requirements, advantages, disadvantages.
114. Clasps, clasp lines, selection of the number and location of retaining and supporting-retaining elements of partial plastic removable dentures.
115. Clinical and laboratory steps of partial plastic removable dentures manufacturing.
116. Materials and sequence of wax bases with occlusal rims modeling on the upper jaw in the partial and complete plastic removable dentures manufacturing.
117. Materials and sequence of wax bases with occlusal rims modeling on the lower jaw in the partial and complete plastic removable dentures manufacturing.
118. Principles and sequence of placement of artificial teeth in wax compositions of partial plastic removable dentures.
119. Methods of changing wax compositions of removable dentures into plastic. Types of plaster placement of wax compositions in a flask.
120. Mistakes in the partial plastic removable dentures manufacturing at the stage of taking impressions and cast production, methods for eliminating them.
121. Bugel partial removable denture (full-cast, clasp), general characteristics, requirements, advantages, disadvantages.
122. Basic elements of bugel partial removable denture (full-cast, clasp), dentures, characteristics.
123. Basic elements of framework of bugel partial removable denture (full-cast, clasp), characteristics.
124. Ney's clasp system. Characteristics of supporting-retaining clasps and their functional purpose.
125. Bugel partial removable denture (full-cast, clasp). Ney's clasp system. I clasp type by Ney.
126. Bugel partial removable denture (full-cast, clasp). Ney's clasp system. II clasp type by Ney.
127. Bugel partial removable denture (full-cast, clasp). Ney's clasp system. III clasp type by Ney.
128. Bugel partial removable denture (full-cast, clasp). Ney's clasp system. IV clasp type by Ney.
129. Bugel partial removable denture (full-cast, clasp). Ney's clasp system. V clasp type by Ney.
130. Surveying. Equipment, purpose, methods of surveying.
131. Clinical and laboratory steps of bugel partial removable denture (full-cast, clasp) manufacturing.
132. Mistakes in the bugel partial removable denture (full-cast, clasp) manufacturing at the stage of taking impressions and cast production, methods for eliminating them.
133. General characteristics of complete removable dentures. Basic elements of complete removable dentures.
134. The base borders of complete plastic removable dentures on the upper and lower jaws.

135. Clinical and laboratory steps of complete plastic removable dentures manufacturing.

136. Principles and sequence of placement of artificial teeth in wax compositions of complete plastic removable dentures.

137. Mistakes in the complete plastic removable dentures manufacturing at the stage of taking impressions and cast production, methods for eliminating them.

138. Materials and methods for repairing retaining and supporting-retaining elements of removable dentures.

139. Materials and methods for repairing fractures of the bases of partial and complete plastic removable dentures.