



GOVERNMENT OF KERALA
DIRECTORATE OF MEDICAL EDUCATION
DIPLOMA IN DENTAL MECHANIC COURSE REGULAR EXAMINATION
MAY 2023

DMC-F-I-MAY- 2023

Max.marks: 75

Time -3hrs.

PART-I Paper-I
APPLIED PHYSICS APPLIED CHEMISTRY AND MECHANICS

(Answer section A & B separately and draw diagrams where ever necessary)

SECTION-A

- I. What is a simple machine. Explain various simple machines of relevance in prosthodontics (5+8=13)
- II. Define heat. Explain the mechanisms of heat transmission in solids, liquids and gases with suitable examples. (3+10=13)
- III. Write short notes on : (3x4=12)
 - a. Tests for hardness
 - b. Surface tension
 - c. Measurement of temperature

SECTION-B

- I. Differentiate between tarnish and corrosion. Explain in detail wet and dry corrosion. (5+8=13)
- II. Enumerate the general characteristics of metals. Differentiate between metals and non metals. Write in detail about various metals and alloys used in dentistry. (2+4+6=12)
- III. Write short notes on : (3x4=12)
 - a. Chemical stages of addition polymerization
 - b. Valency
 - c. Differentiate between physical and chemical changes

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PART-I Paper-II
DENTAL MECHANICS
(Answer Section A&B separately and Draw diagrams where ever necessary)

SECTION A

- I** Discuss the arrangement of teeth in class I molar relation on a mean value articulator (13)
- II** Explain in detail the step by step procedure for beading, boxing and casting of an impression. Add a note on possible causes for an inaccurate cast? (11+2=13)
- III** Write short notes on : (3x4=12)
- a. Occlusal Rims
 - b. Types of Posterior Teeth.
 - c. Festooning

SECTION-B

- I.** Define Surveyor? Enumerate the parts of a surveyor? Explain the steps for surveying a master cast? (1+2+8=12)
- II.** What is a Direct Retainer? Classify Direct Retainers? Discuss in detail the different types of direct retainers? (1+2+9=13)
- VI.** Write short notes on: (3x4=12)
- a. Denture Bases of RPD
 - b. Applegates Rules
 - c. Occlusal Rests

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PART-I Paper-III
Applied Oral Anatomy

(Answer Section A&B separately and Draw diagrams where ever necessary)

SECTION A

- I** Draw and explain all the surfaces of the crown of Permanent Mandibular right first premolar. (12)
- II** Enumerate muscles of mastication. Describe the origin, insertion and action of each (13)
- III Write short notes :**
- a. Ridges and Grooves (6)
- b. Tooth numbering systems (7)

SECTION-B

- I** Draw and explain all the surfaces of the crown of permanent right maxillary first molar (13)
- II** Describe the differences between maxillary central and lateral incisors (12)
- III** Write short notes : (2x6=12)
- a. Occlusal surfaces of maxillary first premolar
- b. Compensatory curves

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PART-II Paper-I
DENTAL MECHANICS
(Answer section A & B separately and Draw diagrams wherever necessary)

SECTION A

- I What is Pontic? Describe various types of Pontics. (3+10=13)
- II. Define die and cast. Classify and discuss different die systems, advantages and disadvantages. (2+2+9=13)
- III. Short Noses: (3x4=12)
- a. Extracoronal restorations
 - b. Gingival finish lines
 - c. Cast duplication

SECTION-B

- I. Define and classify Orthodontic appliances. What are the parts of removable orthodontic appliance? Explain the functions of each component (2+3+3+5=13)
- II. What is casting machine? Mention different types of casting machines. Write in detail about centrifugal casting machines. (2+10=12)
- III. Write Short Notes: (3x4=12)
- a. Different zones of flame used for melting alloys during casting
 - b. Begg's retainer
 - c. Z spring

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PART-II Paper-II
DENTAL METERIALS AND METALLURGY
(Answer Section A&B separately and Draw diagrams where ever necessary)

SECTION A

- I Describe polymerization mechanisms of heat cure resins. Add a note on stages in addition polymerization (3+10=13)
- II Classify casting defects. Add a note on porosities in dental casting (3+10=13)
- III Write short notes on: (3x4=12)
- a. Galvanic corrosion
 - b. Reversible Hydrocolloids
 - c. Inlay wax

SECTION-B

- IV. Explain heat treatment of gold alloys? (12)
- V. Classify dental investment materials. Write the composition, role played by each component and techniques to compensate for casting shrinkage. (3+10=13)
- VI. Write short notes on : (3x4=12)
- a. Classification and uses of dental porcelain
 - b. Separating medium
 - c. Casting machines

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Part II - Paper III

BASIC KNOWLEDGE OF COMPUTER & MEDICAL RECORDS MANGNAGEMENT
(Draw diagrams wherever necessary)

- I.** Fill in the blanks: (5x1 = 5)
- a. The location of a resource on the internet is given by its
 - b. The term HTTP stands for
 - c. The term WAN stands for
 - d. is the permanent memory that is not lost on turning off the power.
 - e. Is the main page of a website that appears when you open the website
- II.** Write short notes on : (5x4 = 20)
- a. Internet service provide
 - b. Output devices
 - c. CAD CAM
 - d. Search engines
 - e. Responsibilities of medical records librarian
- III.** Write briefly on : (5x6 = 30)
- a. Memory of computer
 - b. Networking of computers
 - c. MS word
 - d. E-mail
 - e. Differentiate between analog and digital computers
- IV.** Explain in detail: (2x10 = 20)
- a. Database management software
 - b. Component parts of a computer- Explain in detail.

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