

Paper II: - Technical Subject

1. Oral Diagnosis Medicine and Radiology
 - 1.1 Red and white lesions of oral cavity
 - 1.2 Pigmented lesions of oral cavity
 - 1.3 Modern diagnostic aids
 - 1.4 Oral manifestation of systematic disease
 - 1.5 Infections of oral cavity
 - 1.6 Ulcerative and vesiculobullous lesions
 - 1.7 Salivary gland disorders
 - 1.8 Orofacial pain dysfunction
 - 1.9 TMJ disorders
 - 1.10 Immunodeficiency diseases AIDS, Hepatitis
 - 1.11 Different syndromes with reference to orofacial regions
 - 1.12 Radiological interpretation of different images of bone and soft tissue, lesions of oro-facial structure including all types of oro-facial trauma

2. Orthodontics
 - 2.1 Growth and development of jaw, face, skull and teeth with special reference to growth modification and timing of treatment
 - 2.2 Interdisciplinary orthodontics
 - 2.3 Preventive and interceptive orthodontics
 - 2.4 Occlusion and malocclusion
 - 2.5 Role of TMJ, teeth, muscles and bone in stomatognathic system
 - 2.6 Surgical orthodontics
 - 2.7 Tissue response to orthodontics force
 - 2.8 Genetics-applied to orthodontics
 - 2.9 Different orthodontics and orthopaedics appliances
 - 2.10 Materials used in orthodontics
 - 2.11 Recent advances in orthodontics

3. Community
 - 3.1 Knowledge, attitude and practice of oral health
 - 3.2 Epidemiology of oral disease in Nepal
 - 3.2.1 National pathfinder surgery
 - 3.3 Nutrition and oral health education
 - 3.4 Fluoride
 - 3.5 Oral health education
 - 3.6 Motivation and incentives
 - 3.7 Oral health programmes and other national health programs
 - 3.8 National oral health policy
 - 3.9 Survey and case study
 - 3.10 Different orientation

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4. Oral and Maxillo-Facial Surgery and Anaesthesia

- 4.1 Oral and maxillo-facial surgery
 - 4.1.1 Extraction of teeth and management of complications which can occur during and after the extractions
 - 4.1.2 Diagnosis and Management of orofacial infections.
 - 4.1.3 Diagnosis and Management of common cysts of oral and maxillofacial area.
 - 4.1.4 Diagnosis and Management of common benign and malignant tumours of oral and maxillofacial area.
 - 4.1.5 Principles of Radiotherapy, chemotherapy and other adjuvant therapy in the management of malignant tumours
 - 4.1.6 Diagnosis and management of oral and maxillofacial injuries.
 - 4.1.7 Diagnosis and management/corrections of oro-facial defects.
 - 4.1.8 Different types of oral tissue biopsies
 - 4.1.9 Pre-prosthetic surgery
- 4.2 Anaesthesia
 - 4.2.1 Basic principles of administering safe general and local anaesthesia
 - 4.2.2 Indications and techniques of administering different types of block and infiltration anaesthesia
 - 4.2.3 Management of complications in local and general anaesthesia

5. General and oral pathology

- 5.1 Common laboratory tests and their normal values
- 5.2 Developmental disorders of teeth, oral cavity and maxillo-facial areas.
- 5.3 Common diseases of teeth and periodontium
- 5.4 Common cysts lesions of jaws- odontogenic and non-odontogenic.
- 5.5 Common benign and malignant tumours of oral maxillo-facial area
- 5.6 Oral pre-malignant lesions
- 5.7 Common diseases of salivary glands
- 5.8 Temporomandibular joint disorders
- 5.9 Haemorrhagic diseases related to oral cavity
- 5.10 Neurological disorders of face and oral cavity
- 5.11 Oral Manifestations of systematic diseases.

6. Dental Material

- 6.1 Physical and Biological properties of dental materials
- 6.2 Impression materials:
 - 6.2.1 Impression Compound
 - 6.2.2 Zinc Oxide Eugenol
 - 6.2.3 Alginate (Irreversible Hydrocolloid)
 - 6.2.4 Agar (Reversible Hydrocolloid)
 - 6.2.5 Elastomeric Impression Materials
- 6.3 Synthetic resins:
 - 6.3.1 Chemistry and properties
 - 6.3.2 As denture base materials

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- 6.3.3 Repair and relining materials
 - 6.3.4 Tissue conditioners
 - 6.3.5 Soft liners
 - 6.4 Resins as restorative materials:
 - 6.4.1 Unfilled and filled resins
 - 6.4.2 Acid etch
 - 6.4.3 Bonding agent (conventional vs. new generation)
 - 6.4.4 Light cure
 - 6.5 Dental Implant material- history, types, materials used
 - 6.6 Welding, solders, soldering & brazing
 - 6.7 Dental casting alloys
 - 6.8 Waxes: different types of dental waxes used in dentistry
 - 6.9 Cavity varnishes, liners and bases
 - 6.10 Dental ceramics
 - 6.11 Abrasive and polishing agents
 - 6.12 Recent advances in dental materials.
7. **Prosthodontics**
- 7.1 Prosthodontics
 - 7.1.1 Nutrition and the denture-bearing tissues
 - 7.1.2 Reduction of Residual Ridges
 - 7.1.3 Mouth preparation for dentures
 - 7.1.4 Principles of edentulous impression making, preparation of casts, trays and temporary denture bases, methods of jaw relation registration and teeth selection
 - 7.1.5 Articulators in complete denture construction
 - 7.1.6 Principles of teeth arrangement and occlusion, try-in procedures
 - 7.1.7 Correction of occlusal discrepancies, denture insertion and adjustments, follow-up visits, sequel & management of ill-fitting dentures, rebasing and relining of dentures
 - 7.1.8 Principles of fabrication and management of:
 - 7.1.8.1 Single complete denture
 - 7.1.8.2 Immediate dentures
 - 7.1.8.3 Overdentures
 - 7.1.9 Implant dentures
 - 7.1.10 Recent advances in maxillofacial prostheses
 - 7.1.11 Removable Partial Dentures and interdisciplinary implications
 - 7.2 Crown and Bridge
 - 7.2.1 Principles, treatment planning and preparation of teeth for full/partial veneer crowns & replacement of missing teeth
 - 7.2.2 Provisional restorations
 - 7.2.3 Preparations for extensively damaged teeth & Periodontically weakened teeth
 - 7.2.4 Fluid control and soft tissue management
 - 7.2.5 Impression materials and procedures
 - 7.2.6 Construction of dies and working casts, direct and indirect techniques
 - 7.2.7 Metal-ceramic restorations
 - 7.2.8 All-ceramic restorations
 - 7.2.9 Resin-bonded Fixed Partial Dentures.

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- 7.3 Implant
 - 7.3.1 Diagnosis and Treatment planning
 - 7.3.1.1 Rationale for implants
 - 7.3.1.2 Implant success and failure: clinical assessment
 - 7.3.1.3 Prosthetic options in implant dentistry
 - 7.3.1.4 Medical evaluation & Diagnostic evaluation
 - 7.3.1.5 Dental evaluation: factors of force
 - 7.3.1.6 Natural abutment evaluation
 - 7.3.1.7 Prosthodontic considerations
 - 7.3.1.8 Treatment options for mandibular implant overdenture: an organized approach
 - 7.3.1.9 Treatment planning for edentulous maxillary posterior region.
 - 7.3.2 Fundamental Sciences
 - 7.3.2.1 Clinical biomechanics, tissue response & Biomaterials for dental implants.
 - 7.3.3 Implant Treatment
 - 7.3.3.1 Edentulous alveolar ridge maintenance and augmentation and restorative grafting
 - 7.3.3.2 Root form implants
 - 7.3.3.3 Density of bone: effect on treatment, planning, surgical approach, and healing
 - 7.3.3.4 Plate form implants
 - 7.3.3.5 Maxillary sinus lift
 - 7.3.3.6 Autogenous bone grafts for Endosteal implants: indications, success, and failures
 - 7.3.3.7 Progressive bone loading
 - 7.3.3.8 Maintenance of dental implants
 - 7.3.3.9 Pre-prosthetic surgical considerations for implants.
- 8. Periodontics
 - 8.1 Classification, etiology, and epidemiology of gingival and periodontal diseases
 - 8.2. Periodontal manifestation of systemic diseases
 - 8.3. Clinical diagnosis, diagnostic aid and recent advances
 - 8.4. Host defense mechanism
 - 8.5. Treatment plan and rationale for periodontal treatment
 - 8.6. Interdisciplinary Periodontics
 - 8.7. General principles of periodontal therapy including curettage, Gingivectomy, periodontal surgery, root planning, flap surgery, osseous surgery, GTR, mucogingival surgery and periodontal splints/pack
 - 8.8. Dental implant
 - 8.9. Endo-perio therapy
 - 8.10. Management of dentinal hypersensitivity
 - 8.11. Plaque control and its management.
- 9. Conservative and Endodontics
 - 9.1 Conservative dentistry
 - 9.1.1. Advanced diagnostic aids in Conservative and Endodontics

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- 9.1.2. Modern development and advanced knowledge of restorative materials, procedures, cutting tools, drugs and chemicals used in conservative dentistry
- 9.1.3. New methods of sterilization in Conservative and Endodontics
- 9.1.4. Principles of tooth preparation for complex restorations
- 9.1.5. Principles of restoration of
 - 9.1.5.1 Badly broken down teeth
 - 9.1.5.2 Endodontically treated teeth
- 9.1.6. Pathologic and non-pathologic lesions of the hard tissue of the teeth, advanced knowledge of etiology, diagnosis, treatment and prevention.
- 9.1.7. Management of dentin hypersensitivity
- 9.1.8. Management of discolored teeth
- 9.1.9. Considerations during restorations
 - 9.1.9.1 Isolation
 - 9.1.9.2 Gingival tissue management
 - 9.1.9.3 Occlusion
- 9.1.10. Managing elderly patients, requiring restorative and endodontics services, especially medically, physically and psychologically compromised elderly
- 9.1.11. Aesthetic Dentistry
- 9.1.12. Infection control in Conservative and Endodontics

9.2 Endodontics

- 9.2.1 Diseases of pulp and periapical tissues, advanced knowledge of etiology, diagnosis, treatment and management of pulpally involved teeth
- 9.2.2 Advanced knowledge of root canal instruments, their sterilization and use
- 9.2.3 Advanced knowledge of materials used in endodontics.
- 9.2.4 Basic and advanced procedures for root canal preparation
- 9.2.5 Advanced Techniques of root canal obturation
- 9.2.6 Diagnosis and management of Endodontic emergencies
- 9.2.7 Management of
 - 9.2.7.1 Traumatic injuries
 - 9.2.7.2 Root resorptions
 - 9.2.7.3 Perforations
 - 9.2.7.4 Fractured instruments in the canal
 - 9.2.7.5 Calcified orifices and canals
- 9.2.8 Endodontic surgeries
- 9.2.9 Interdisciplinary Endodontics
- 9.2.10 Geriatric endodontics
- 9.2.11 Radiology as related to Conservative and Endodontics
- 9.2.12 Endodontic failures and retreatment
- 9.2.13 Recent advances in Conservative and Endodontics

10. Pedodontics

- 10.1. Nutrition and Diet
- 10.2. Behavior Management: Non - pharmacological & Pharmacological methods.

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- 10.3. Child Abuse & Dental Neglect
- 10.4. Conscious Sedation, Deep Sedation & General Anesthesia in Pediatric Dentistry: (Including Other Drugs, Synergic & Antagonistic Actions of Various Drugs Used In children)
- 10.5. Preventive Pedodontics
- 10.6. Microbiology & Immunology as related to Oral Diseases in Children
- 10.7. Advanced knowledge of Restorations, Endodontics, Periodontal management, and management of traumatic injuries in children
- 10.8. Oral Habits in Children
- 10.9. Interceptive Orthodontics
- 10.10. Dental care of Children with special needs
- 10.11. Oral manifestations of Systemic Conditions in Children & their Management
- 10.12. Management of Minor Oral Surgical Procedures in Children
- 10.13. Dental Radiology as related to Pediatric Dentistry
- 10.14. Advanced knowledge of Pediatric Oral Medicine & Clinical Pathology
- 10.15. Congenital Abnormalities in Children
- 10.16. Dental Emergencies in Children and their Management.
- 10.17. Dental Health Education & School Dental Health Programmes
- 10.18. Dental health concepts- Effects of civilization and environment, Dental Health delivery system, Public Health measures related to children along with principles of Pediatric Preventive Dentistry

Sample Questions

I General Subject

Critical Analysis and Problem solving

1. A 35 year old businesswoman reports you with missing mandibular left central incisor and wants to replace with most conservative approach. What are the different treatment modalities for such patient and what could be the best possible treatment for her?

(15 marks)

II Technical Subject

Critical Analysis and Problem solving

1. A 35 year old male presents with a complaint of painless soft mass at palatal side of right upper molars growing slowly for last 7 years. All upper teeth are vital & periodontium of all teeth are healthy. Systemic examination revealed no abnormality. What is the possible diagnosis? What investigation would you like to do? How would you treat the case?

(20 marks)