GANDHARA UNIVERSITY

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| SARDAR BEGUM DENTAL COLLEGE |
| FINAL YEAR BDS 2023-2024 |
|  |
| DEPARTMENT OF MEDICAL EDUCATION | SARDAR BEGUM DENTAL COLLEGE | GANDHARA UNIVERSITY |

**FROM THE DESK OF PRINCIPAL**

Health is a fast-evolving field and with new technologies taking over the traditionally man-dominated fields like radiology and robotic surgical suites assisted by Artificial Intelligence and learning are taking new dimensions with the help of Augmented Reality, we are indeed living in challenging time s. Today's student of Medicine and Dentistry will be in the field a decade from now, up against a disease burden that is as varied as the next strain of the Covid-19 Virus and as complicated as the genetic characteristic of Oral Cancer, the largest cancer amongst both genders in Pakistan and at the same time as unpredictable as the recent Covid-19 Pandemic.

It is therefore imperative that our curricula of the Medical and Dental Colleges be in tandem with the changing times with the ability to evolve with time, measuring up to the challenges thrown at the field of healing from the Ever-evolving diseases.

These Student Guidebooks are reviewed every year with the same concept in mind that our future Physician and Dental Surgeon be ready for the challenges that lie ahead.

In the end, I give you the same prayer as is mentioned in the Quran

Prof. Shaheed Iqbal

BDS, MDS

Oral & Maxillofacial Surgery

Principal Sardar Begum Dental College

Gandhara University,

Peshawar.

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We extend a warm and enthusiastic welcome as you embark on the final year of your BDS journey! This is an exceptional time for each and every one of you, as it represents the culmination of years of hard work, dedication, and passion for dentistry.

This final year will present you with a multitude of challenges, but it is through these challenges that you will grow and thrive. You will encounter a diverse range of dental cases, each presenting its own unique complexities and intricacies. Embrace these cases with confidence, as they will test your diagnostic abilities, treatment planning skills, and critical thinking capabilities.

In addition to refining your clinical skills, this year will also provide you with invaluable experiences in patient management. You will have the opportunity to engage with patients from all walks of life, ensuring their comfort, providing empathetic care, and delivering comprehensive treatment. Patient management skills are essential to becoming a well-rounded dental professional, and this year will be instrumental in developing these crucial abilities.

While your studies and clinical practice will demand your utmost attention, it is vital to prioritize well-being. Take time for self care, maintain a healthy work life balance and seek support when needed. Your physical and mental well being are integral to your success as a dental professional

Our mission is to provide all educational opportunities to our students. Therefore, on completion of the BDS program graduate will possess an appropriate foundation of knowledge, skills, and attitudes to be well prepared to practice safely and effectively

As a director DME I will be meeting with the facilitators to receive the feedback and will try to resolve any difficulties or problems faced during the block. Please do not hesitate to contact DME for any academic help. I wish you an enjoyable and learning experience with block 10.

A group of children walking

Description automatically generated with low confidence **Director DME: Dr. Marina Khan**

A stack of books with text on them

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**MODULE TEAM**

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| Module Coordinator Dr. Marina Khan  Director (Department of Medical Education)  [marinakahn@hotmail.com](mailto:marinakahn@hotmail.com) | | |
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| DEPARTMENT OF ORAL & MAXILOFACIAL SURGERY | Prof Dr. Jawad Ahmad Kundi  Prof Dr. Syed Murad Ali Shah  Prof Dr. Shahid Khattak  Assist Prof Dr. Fahad Qiam  Dr. Zeenia |
|  |  |  |
| DEPARTMENT OF OPERATIVE DENTISTRY | Prof. Dr. Shakeel Khattak  Prof Dr. Yasir Khattak  Senior Registrar Dr. Khizar  Dr. Asma  Dr. Sajida  Dr. Haris  Dr. Maham |
|  |  |
| DEPARTMENT OF PROSTHODONTICS | Prof Dr Ali Chughtai  Assist Prof. Dr. Marriya Khalid  Assist Prof. Dr. Ehtesham Khan  Dr. Hammad Mian  Dr. Jawad |
|  |  |  |
| DEPARTMENT OF ORTHODONTICS | Prof Dr. Imran Tajik  Prof Dr. Nazir Ahmad  Assistant Prof Dr. Arsalan Hamid  Assistant Prof Dr. Haider Zahid  Senior Registrar Dr. Saira Bilal  Dr. Anam Arbab  Dr. Saman Baseer |
|  |  |
| DEPARTMENT OF PEDODONTICS | Associate Prof Dr. Faisal Saeed  Senior Registrar Dr Natasha  Dr. Hafsa |
| DEPARTMENT OF  MEDICAL EDUCATION | Assistant Prof Dr. Marina Khan  Assistant Prof Dr. Syed Junaid  Dr. Aalia Zaib  Dr. Usama Zeb |

**DEPARTMENT OF MEDICAL EDUCATION**

High-quality medical /dental education is a vital prerequisite for high-quality patient care. Dental education’s aim is to supply society with a knowledgeable, skilled, and up-to-date cadre of professionals who put patient care above self-interest, along with developing their expertise over the course of a lifelong career.

The department of Dental Education has expanded beyond the classroom all around the world and quality patient care is learned by the bedside teaching and with the practical introduction of clinical cases in preclinical years. The Dental Education department ensures that the educational content synchronizes with the learning strategies, the assessment tools and provides effective feedback to enhance the learning process. The department of Dental Education at Sardar Begum Dental College is interested in raising the standards of the teaching by continuously developing a pool of trained faculty members. For this purpose, interactive sessions and hands-on workshops are constantly designed, focusing on current and effective modes of evidence-based teaching and assessment tools. It fosters flexible and a learner-centered approach during teaching. Self-reflection and critique of teaching techniques are also vital in propelling an institute towards excellence. Our Dental Education department aims to achieve that and more.

**DEPARTMENT OF ORAL & MAXILLOFACIAL SURGERY**

Welcome to the oral and maxillofacial surgery department, an integral part of your final year BDS clerkship experience! This department plays a vital role in the comprehensive field of dentistry, focusing on the diagnosis and treatment of various diseases, injuries, and deformities of the face, jaws, mouth, and associated structures.

Oral and maxillofacial surgery is a specialized branch that requires a deep understanding of both dentistry and medicine. As you embark on this journey, you will witness the remarkable combination of surgical expertise, dental knowledge, and compassionate patient care.

The primary objective of the oral and maxillofacial surgery department is to equip you with the necessary skills and knowledge to manage a wide range of oral and maxillofacial conditions. Throughout your clerkship, you will have the opportunity to observe, assist, and, in some cases, even perform procedures under the guidance of experienced surgeons.

The oral and maxillofacial surgery department is a multidisciplinary field, closely collaborating with other departments such as prosthodontics, periodontics, orthodontics, and radiology. This collaborative approach ensures a comprehensive and holistic treatment plan for patients, addressing not only their oral and maxillofacial concerns but also considering their overall well-being.

During your time in this department, you will also learn the importance of effective communication and patient management skills. You will witness how oral and maxillofacial surgeons interact with patients, provide pre- and post-operative care, and educate individuals about their treatment options. This aspect of your clerkship will enable you to develop a patient-centered approach and enhance your ability to address their concerns and expectations.

We hope that your time in the oral and maxillofacial surgery department will be enriching and transformative, as you acquire valuable clinical skills, broaden your knowledge base and develop a profound appreciation for the intricacies of this specialized field. Embrace the learning oppurtunites, engage with experienced faculty, and sieze every moment to refine your skills as future dental practitioner

**DEPARTMENT OF PROSTHODONTICS**

Prosthetic dentistry is the branch of dentistry pertaining to the restoration and maintenance of oral functions, comfort, appearance and health of the patient by restoration of teeth and/or replacement of the missing structures with removable and fixed dental prosthesis. It also encompasses the treatment of lost maxillofacial structures as well as management of patients with implant prosthesis. An understanding of the choice of material and technique is crucial in delivering a high standard of prosthetic care.

It is imperative for the student to have knowledge regarding instruments, handling of the patient, clinical and laboratory procedures. It will prepare the students to work independently as competent dental health professionals by imparting basic prosthetic care.

Students will be given academic and clinical training experience of prosthetic clinical procedures pertaining to removable prosthodontics. The knowledge will be built on the previous background understanding of dental materials and laboratory procedures. Fixed Prosthodontics will be taught on simulators to train them to work on live patients in internship. However, teaching of Implantology and Maxillofacial Prosthodontics will be limited to basic clinical principles and techniques

**DEPARTMENT OF ORTHODONTICS**

Welcome to the Orthodontic Department, an exciting part of your final year BDS clerkship experience! This department focuses on the diagnosis, prevention, and treatment of malocclusions and irregularities in dental and facial structures. Orthodontics plays a vital role in enhancing the aesthetics and functionality of the dentition.

During your clerkship, you will explore the fascinating world of orthodontics, learning about the principles, techniques, and appliances used to correct dental and skeletal discrepancies. The Orthodontic Department aims to equip you with a comprehensive understanding of orthodontic diagnosis, treatment planning, and the implementation of various orthodontic interventions.

Orthodontics involves the management of various conditions, including crowded teeth, protruding or retruded jaws, malocclusions, and jaw asymmetry. You will have the opportunity to observe and actively participate in the assessment, treatment planning, and placement of orthodontic appliances such as braces, aligners, and functional appliances.

The primary goal of the Orthodontic Department is to provide you with the knowledge and skills necessary to diagnose and manage malocclusions effectively. You will learn about the different orthodontic techniques and treatment modalities, including fixed orthodontic appliances, removable appliances, and interceptive orthodontics in growing patients.

Throughout your time in this department, you will witness the importance of meticulous records, careful treatment planning, and the monitoring of patients' progress. You will gain insights into the assessment of facial and dental aesthetics, occlusion, and the harmonious relationship between the jaws.

Orthodontics is a dynamic and patient-centered field that requires effective communication and empathy. You will observe how orthodontists establish rapport with patients, understand their concerns, and educate them about the orthodontic process. This aspect of your clerkship will enhance your ability to provide personalized care and ensure that patients are active participants in their treatment journey.

The Orthodontic Department also emphasizes the integration of orthodontic care with other dental disciplines. You will witness how orthodontists collaborate with departments such as prosthodontics, periodontics, oral and maxillofacial surgery, and pediatric dentistry to provide comprehensive and multidisciplinary treatment for complex cases.

**DEPARTMENT OF OPERATIVE DENTISTRY**

Welcome to the Operative Dentistry Department, an essential component of your final year BDS. *This department focuses on the diagnosis, prevention, and treatment of dental caries and other conditions affecting the teeth*. Operative dentistry plays a crucial role in restoring and preserving the functionality and aesthetics of the dentition.

Throughout your clerkship, you will delve into the intricacies of dental restorations, learning the principles, techniques, and materials involved in the art and science of operative dentistry. The Operative Dentistry Department aims to provide you with a comprehensive understanding of the fundamental concepts and practical skills necessary to deliver high-quality dental care.

Operative dentistry encompasses a wide range of procedures, including cavity preparation, restoration placement, direct and indirect restorations, and esthetic dentistry. You will have the opportunity to observe and actively participate in various aspects of operative dentistry, gaining hands-on experience in the use of dental instruments, materials, and modern technologies.

The primary objective of the Operative Dentistry Department is to equip you with the knowledge and skills required to assess and treat dental caries effectively. You will learn how to identify carious lesions, formulate treatment plans, and implement conservative and minimally invasive approaches to restore tooth structure.

During your time in this department, you will witness the importance of attention to detail, precision, and the preservation of healthy tooth structure. You will learn about different restorative materials, adhesive techniques, and the use of dental technologies

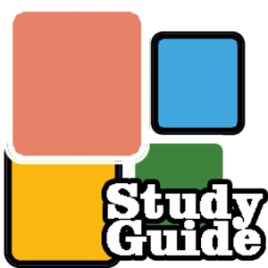
Effective communication and patient management skills are integral to operative dentistry. You will witness how operative dentists establish trust, educate patients about oral health, and address their concerns and expectations. Developing these skills will enable you to provide comprehensive care and ensure patient satisfaction.

## 

## LIST OF ABBREVIATIONS

|  |  |
| --- | --- |
| **DME** | Department of Medical Education |
| **LGIS** | Large Group Interactive Session |
| **SGD** | Small Group Discussion |
| **SDL** | Self-Directed Learning |
| **DSL** | Directed Self Learning |
| **MCQ** | Multiple Choice Question |
| **SAQ** | Short Answer Question |
| **OSCE** | Objective Structured Clinical Exam |

**STUDY GUIDE:**

This study guidebook was designed by combining the efforts of all topics throughout the year to give dentistry students at SBDC a resource material that highlights significant components of the curriculum. By providing students control over their learning, the study guide aims to promote self-regulated lifelong learning.

In regard to the course content, the study guide provides an overview of the anticipated course outcomes and objectives. The assessment approach is also customized to the intuitional strategy.

A successful curriculum has a significant impact on the final product, as well as on society as a whole. This study guide was carefully designed with the PMC curriculum and rules in mind, and Gandhara University stakeholders and faculty members worked hard to personalize it to the needs of students. They are further working to build, implement, and exercise a well-built curriculum in light of changing demographic needs and disease prevalence in our society. Throughout the construction of the study guide, students' feedback was received and included. Curriculum is a living, dynamic entity that is constantly changing. With each passing day, we hope to improve it. This selfless effort on the part of the entire faculty serves as a beacon for our wonderful students.

Each module in this block has been created to cater the gap between basic and clinical subjects through pre-clinical learning. The block is divided into two modules in which the students are exposed to a variety of basic and clinical subjects. The integrated curriculum is enforced through interactive lectures, small group discussion, community outreach programs along with rotations at preclinical laboratory. The course content pertinent to each module will be addressed in problem-based scenarios and student will work collaboratively towards its solution..



**AIMS OF THE STUDY GUIDE**

It is an aid to:

* Inform students how student learning program of the BLOCK-wise module has been organized
* Help students organize and manage their studies throughout the module
* Guide students on assessment methods, rules, and regulations
* Communicates information on organization and management of the module. This will help the student to contact the right person in case of difficulty.
* Defines the objectives which are expected to be achieved at the end of the module.
* Identifies the learning strategies such as lectures, small group teachings, clinical skills and demonstration, tutorial that will be implemented to achieve the module objectives.
* Provides a list of learning resources such as books, computer assisted learning programs, web- links, and journals, for students to consult in order to maximize their learning.
* Highlights information on the contribution of continuous and block examinations on the student's overall performance.
* Includes information on the assessment methods that will be held to determine every student's achievement of objectives.
* Focuses on information pertaining to examination policy, rules, and regulations.

**ORGANIZATION OF MODULAR CURRICULUM**



**FINAL YEAR BDS**

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| **Block-10** | | **Exam Block 10** | **Block-11** | | **Exam Block11** | **Block-12** | | **Exam Block 12** | **Final Exam** |
| **Module**  **19**  **Clinical Dentistry I** | **Module**  **20**  **Clinical Dentistry II** | **Module**  **21**  **Clinical Dentistry III** | **Module**  **22**  **Clinical Dentistry IV** | **Module**  **23**  **Clinical Dentistry V** | **Module**  **24**  **Clinical Dentistry VI** |

**BLOCK 12**

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* + - * **GENERAL OUTCOME**
* By end of this block the students of final year BDS will be able to
* **KNOWLEDGE**
* Describe the steps in diagnosis and management of Temporomandibular Disorders
* State and Differentiate the types of Temporomandibular Disorders
* Discuss conservative and surgical treatment options with their indications & contraindications
* Have knowledge about recent advancements in the management of Temporomandibular disorders
* Definition, causes & C/F
* Diagnosis,non surgical & surgical treatment
* Discuss principles of surgical endodontics
* Describe management of periapical pathology
* Indication & types
* Incision, flaps & techniques
* Types, classification & healing pattern
* Classification, favorable & unfavorable fractures, diagnostic aids
* Maxillomandibular fixation tech, ORIF incision
* ORIF, Paediatric fractures & condylar fractures
* Enlist the requirements of an acceptable casts
* Armamentarium for cast pouring and Die making
* Available Die materials
* Know different types of cast and die systems
* Define overdenture
* Enlist indications and contraindications of overdenture
* Enlist advantages and disadvantages of overdenture
* Comprehend selection of abutment teeth
* Enlist steps of overdenture procedure
* Classify abutment types
* Define Pontics
* Categorize the Considerations for Different Pontic Designs
* Enlist the Biological Considerations for Pontics of FPDs
* Enlist the Mechanical Considerations for Pontics of FPDs
* Enlist the Esthetic Considerations for Pontics of FPDs
* Classify different Types of Pontics for FPDs
* Identify major objectives of endodontic access.
* Discuss the general principles for endodontic access.
* Describe why straight-line access is critical.
* Explain the importance of pulp horn removal in anterior teeth.
* Draw the outline form of access preparation of all teeth.
* Define working length.
* Discuss the significance of working length.
* List various methods of working length determination.
* Explain working length determination by both radiographic method and apex locator
* Describe objectives of cleaning and shaping of the root canal system.
* Enlist properties of an ideal irrigants.
* Discuss various endodontic irrigants.
* Enlist intracanal medicaments.
* Describe techniques for manual and engine-driven preparation of root canals.
* Explain different techniques of canal preparation.
* Discuss how to determine the appropriate size of the master apical file.
* Explain the aims of pediatric dentistry
* Discuss the outline of treatment planning
* Understand the step wise approach in providing orthodontic treatment planning
* Know the general objectives of orthodontic treatment
* Understand the basic orthodontic strategies for correction of skeletal and dental malocclusions
* Learn how orthodontic treatment can be provided in collaboration with other specialities.
* Identify different class I malocclusions
* Know how to manage dental crowding
* Gain an understanding of spacing and their management in orthodontics
* Understand the types and aetiology of deep-bite
* Discuss different approaches for deep bite correction
* Familiar with aetiological factors, types and management of open bite malocclusion
* Describe aetiology, classification and management of Cross-bites
* Discuss the features and management of bi-maxillary proclination
* Recognize types of supernumerary teeth and their management
* Know about hypodontia/oligodontia and their management
* Classify odontogenic and non- odontogenic Cysts and tumuors
* Discuss the classification of cysts affecting oral and maxillofacial
* region
* Describe surgical management of cysts and cyst like lesions of the
* oral and maxillofacial area
* Classify odontogenic tumors of oral and maxillofacial region
* Diagnose Odontogenic tumors on patients on the basis of clinical
* features
* Describe surgical management of benign lesions in oral soft tissues
* Discuss principles of surgical management of jaw tumors
* Discuss resections types and their indications in the jaw tumor
* List methods of reconstruction of jaws
* C/F ,investigations & diagnosis management
* Classify Zygomatic Complex (ZMC) fractures
* Discuss causes, signs, symptoms and investigations for ZMC fractures
* Discuss management options & complications of ZMC fracture
* Define luting agents
* Requirements expected from the luting agents
* Know the steps for Try in and cementation of crown and bridge
* Classify types of Luting agents
* Enlist the advantages and precautions related to different types of luting agents
* Enlist the Armamentarium for post cementation Hygiene maintenance of a fixed restorations
* Know the consequences related to non-maintenance of fixed restoration hygiene
* Know Different methods for the removal of fixed restoration
* Know when to record jaw relation
* Know centric relation and maximum intercuspation
* Know 5 methods of recording jaw relation
* Discuss digitally fabricated complete denture
* Evaluate the endodontically treated teeth
* Considerations for restoring the endodontically treated anterior teeth
* Considerations for restoring the endodontically treated posterior teeth
* Diagnose and classify impacted canines
* Know etiological factors of impactions
* Assess impacted canine position in jaw bone
* Familiar with interceptive treatment of displaced canines
* Understand treatment options of impacted canines
* Explain stepwise management of impacted canines
* Have an understanding of canine transpositions and transmigrations and their management
* Enlist indications of orthognathic surgical procedures
* Know the aims of pre-surgical and post-surgical orthodontics
* Familiar with sequence of treatment in orthognathic surgical cases
* Discuss different surgical procedures for correction of maxillary and mandibular skeletal deformities
* Learn about the lower border osteotomy (genioplasty)
* Enumerate various soft tissue surgical procedures.
* Diagnose facial asymmetry
* Discuss various etiological factors of facial asymmetry
* Familiar with dentofacial deformities /syndromes causing facial asymmetry
* Understand the basic principles in management of facial asymmetry
* Discuss the indications and contraindications of periapical surgery.
* Review the procedures involved in periapical surgery.
* Enlist the indications of root amputation, hemisection and bicuspidization.
* Discuss the patient selection criteria for endodontics surgery.
* Explain the different steps involved in the endodontic Surgery.
* Explain special features of endodontically treated teeth.
* Understand ferrule effect.
* Discuss the post selection criteria for an endodontically treated tooth.
* Explain the steps involved in endodontic post space preparation.
* Enlist the steps of gutta percha removal.
* Discuss the importance of overall treatment plan before initiating any treatment.
* Classify longitudinal tooth fractures.
* List the causes of cracked tooth.
* Describe the clinical features, diagnosis and treatment of cracked teeth.
* Enlist the causes of fractured cusp.
* Describe the clinical features, diagnosis and treatment of fractured cusp.
* List the causes of vertical root fracture.
* Describe the clinical features, diagnosis, and treatment of vertical root fracture.

### **LEARNING METHODOLOGIES**

The following teaching / learning methods are used to promote better understanding:

* Large Group Interactive Lectures
* Small Group Discussion
* Practical
* Skills session
* E-Learning
* Self-Directed Learning

### LARGE GROUP INTERACTIVE LECTURES (LGIS)

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In large group, the lecturer introduces a topic or common clinical conditions and explains the underlying phenomena through questions, pictures, videos of patients'

Case- Based Discussions

Case-Based Discussion is a strategy in which learning is focused around a clinical scenario. List of questions is developed regarding the case under discussion and students are encouraged to discuss their ideas and answer the questions applying relevant basic or clinical knowledge acquired during the course. Usually, common clinical cases are selected for discussions.

Clinical Rotations

Students are assigned 3 months of rotation in department of Oral & Maxillofacial Surgery, Prosthodontics, Operative Dentistry, Orthodontics and Paedodontics. Students are directed to observe patients in orientation week and then perform clinical procedure under supervision of seniors. Students are encouraged to assist

**SELF DIRECTED LEARNING SDL:**

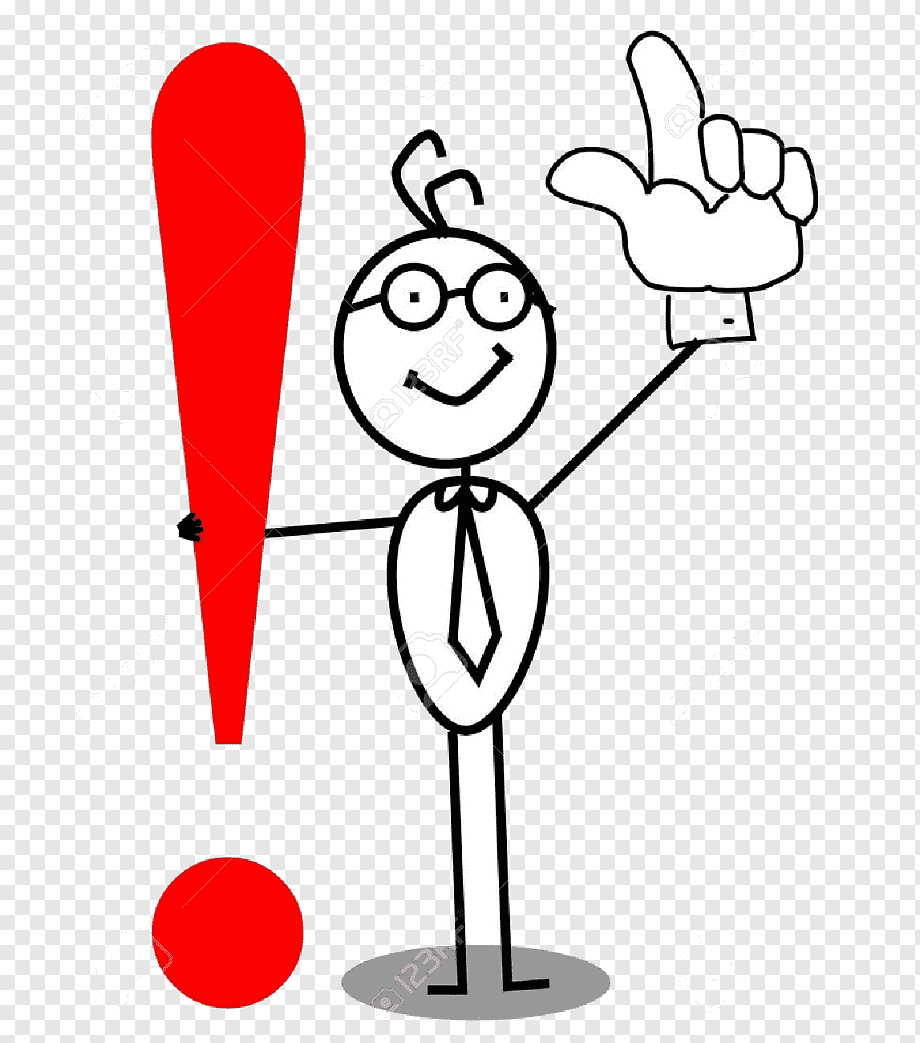
Students assume responsibilities of their own learning through individual study, sharing and discussing with peers, seeking information from Learning Resource Center, teachers, and resource persons within and outside the college. Students can utilize the time within the college scheduled hours of self-study.

**E-LEARNING:**

E-Learning is a strategy by which learning occurs through the utilization of electronic media, typically the Internet. The basic aspects of medical professionalism and ethics will be addressed through an e-learning course.

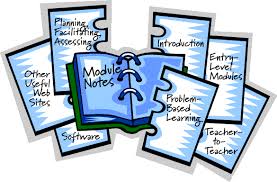
**RULES AND REGULATIONS**

We will be making the journey through BLOCK 12 in 12 weeks. Therefore, this course includes an intensive coursework load. Class attendance and participation are extremely important to your learning and are considered in the evaluation of your course grade. If there is anything that the module team can do to assist you during the course, please feel free to contact them. Attendance will be monitored during the different teaching activities. If your attendance is less than 75%, you will not be allowed to sit for both block and annual examination.



All examinations must be taken on the date scheduled. No student will be allowed to enter the examination area after the examination starts. There will be a block exam at the end of each block and each block will cover two modules. There will be a total of 3 block examination and the 30% weightage of these block exam will be added to the 70 % of the annual professional exam as an internal assessment.

**MODULE - 23**



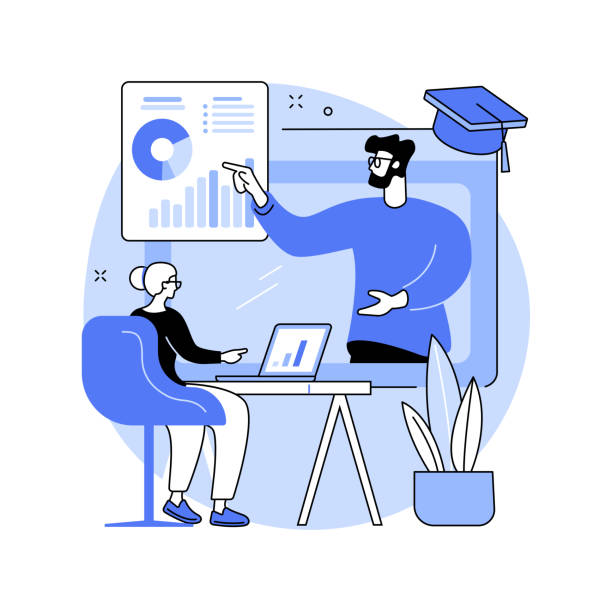
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| **ORAL AND MAXILLOFACIAL SURGERY** | | |
| **S.NO** | **TOPICS** | **LEARNING OBJECTIVE** |
|  | TMJ disorders & ankylosis | Describe the steps in diagnosis and management of Temporomandibular Disorders  State and Differentiate the types of Temporomandibular Disorders  Discuss conservative and surgical treatment options with their indications & contraindications  Have knowledge about recent advancements in the management of Temporomandibular disorders |
|  | Oro-antral communications | Definition, causes & C/F  Diagnosis,non surgical & surgical treatment |
|  | Surgical endodontics- | Discuss principles of surgical endodontics  Describe management of periapical pathology  Indication & types  Incision, flaps & techniques |
|  | Mandibular fractures | Types, classification & healing pattern  Classification, favorable & unfavorable fractures, diagnostic aids  Maxillomandibular fixation tech, ORIF incision  ORIF, Paediatric fractures & condylar fractures |
|  | Mid-Face | Classify Mid-face fractures   Discuss causes, signs, symptoms and management of mid face  fractures  Discuss the complication of mid face fracture |

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| **PROSTHODONTICS** | | |
| **S.NO** | **TOPICS** | **LEARNING OBJECTIVE** |
|  | Cast & dies preparation | * Enlist the requirements of an acceptable casts * Armamentarium for cast pouring and Die making * Available Die materials * Know different types of cast and die systems |
|  | Over denture | * Define overdenture * Enlist indications and contraindications of overdenture * Enlist advantages and disadvantages of overdenture * Comprehend selection of abutment teeth * Enlist steps of overdenture procedure * Classify abutment types |
|  | Pontic designs | * Define Pontics * Categorize the Considerations for Different Pontic Designs * Enlist the Biological Considerations for Pontics of FPDs * Enlist the Mechanical Considerations for Pontics of FPDs * Enlist the Esthetic Considerations for Pontics of FPDs * Classify different Types of Pontics for FPDs |
|  | Direct retainers | * Define retainers and it types * Know classification of retainers * Know Principles of Clasp fabrication * Know Requirements of Clasp * Know how to select a direct retainer according to patient |
|  | Immediate denture | * Define immediate denture * Classify types of immediate denture * Enlist advantages of immediate denture * Enlist disadvantages of immediate denture * Enlist indications of immediate denture * Enlist contraindication of immediate denture * Enlist indications of each type of immediate denture * Differentiate between types of immediate denture * Plan for immediate denture * Explain steps for immediate denture fabrication * Prescribe sequential follow up appointments and related denture adjustments |
|  | Indirect retainers | * Define Indirect retainer * Know its functions * Know the method of placement of indirect retainer * Know the forms of indirect retainer |
|  | Shade selection | * Define Shade * Know different systems for Colour Description * Know different equipments for shade matching * Enlist the factors which can affect the shade matching * Latest trends in Smile pattern setting/ Designing |
|  | Digitally fabricated complete denture-I  Conventional vs digital technique |  |
|  | Denture base | * Know the ideal requirements of a denture base * Know Types of denture bases   Know Advantages/ Disadvantages, indications/ contraindications of acrylic and metal denture base |
|  | Resin bonded bridges(RBB)-I | * Define Resin bonded Prosthesis * know Different types of Resin bonded bridges * enlist the Indications/ Contraindications, Advantages and Disadvantages of different types of Resin Bonded Bridges |
|  | Fiber reinforced composite bridges | * Know the Fibers Reinforced Composite Bridges * Enlist the Indications and Contraindications of Fiber reinforced composite bridges * Fabrication steps of Fiber reinforced composite Bridges |

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| **OPERATIVE DENTISTRY** | | |
| **S.NO** | **TOPICS** | **LEARNING OBJECTIVE** |
|  | Endodontic access & length determination | * Identify major objectives of endodontic access. * Discuss the general principles for endodontic access. * Describe why straight-line access is critical. * Explain the importance of pulp horn removal in anterior teeth. * Draw the outline form of access preparation of all teeth. * Define working length. * Discuss the significance of working length. * List various methods of working length determination. * Explain working length determination by both radiographic method and apex locator |
|  | Cleaning & shaping | * Describe objectives of cleaning and shaping of the root canal system. * Enlist properties of an ideal irrigants. * Discuss various endodontic irrigants. * Enlist intracanal medicaments. * Describe techniques for manual and engine-driven preparation of root canals. * Explain different techniques of canal preparation. * Discuss how to determine the appropriate size of the master apical file. |
|  | Obturation | * Describe the objectives of obturation. * List the ideal properties of obturating materials. * Discuss the core obturating materials. * Explain the ideal properties of sealers. * Enlist the type of sealers. * Discuss different obturation techniques. * Recognize clinical criteria that determine when to obturate. * Describe the clinical steps in obturation. |
|  | Non surgical retreatment | * Identify the causes of nonhealing of initial endodontic treatment. * Enumerate the indications for nonsurgical retreatment. * Illustrate the contraindications for nonsurgical retreatment. * Discuss the treatment options when considering retreatment. * Discuss various techniques of post removal. * Describe various methods of removal of obturating materials. * Enlist basic material and techniques used for retreatment . * Explain the step-by-step procedure for retreatment. * Discuss the risks and benefits of retreatment options. |

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| **ORTHODONTICS** | | |
| **S.NO** | **TOPICS** | **LEARNING OBJECTIVE** |
|  | Treatment Planning in orthodontics | * Understand the step wise approach in providing orthodontic treatment planning * Know the general objectives of orthodontic treatment * Understand the basic orthodontic strategies for correction of skeletal and dental malocclusions * Learn how orthodontic treatment can be provided in collaboration with other specialities. |
|  | **Class I Malocclusion**  Crowding/Spacing  Open bite/Deep bite  Cross bites/Arch expansion  Bimaxillary proclination/Supernumerary teeth/hypodontia/oligodontia | * Identify different class I malocclusions * Know how to manage dental crowding * Gain an understanding of spacing and their management in orthodontics * Understand the types and aetiology of deep-bite * Discuss different approaches for deep bite correction * Familiar with aetiological factors, types and management of open bite malocclusion * Describe aetiology, classification and management of Cross-bites * Discuss the features and management of bi-maxillary proclination * Recognize types of supernumerary teeth and their management * Know about hypodontia/oligodontia and their management |
|  | Class II Malocclusions | * Describe the prevalence, types, aetiology and features of class II malocclusion * Understand the diagnosis of class II malocclusions * Familiar with aims and treatment strategies of class II malocclusion in growing and non-growing patients * Discuss treatment methods of class II malocclusions * Explain treatment plan and retention protocol for class II malocclusions. * Gain knowledge about different appliances used in treating class II malocclusions |
|  | Class III Malocclusions | * Describe the prevalence, types, aetiology and features of class III malocclusion * Understand diagnosis of class III malocclusion * Know treatment aims and strategies of class III in growing and non-growing patients * Discuss different treatment methods of class III malocclusions * Gain knowledge about different appliances used in treatment of class III malocclusion |

**MODULE 24**



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| **ORAL AND MAXILLOFACIAL SURGERY** | | |
| **S.NO** | **TOPICS** | **LEARNING OBJECTIVE** |
| **1** | Odontogenic cysts & tumors-Management | * Classify odontogenic and non- odontogenic Cysts and tumuors * Discuss the classification of cysts affecting oral and maxillofacial * region * Describe surgical management of cysts and cyst like lesions of the * oral and maxillofacial area * Classify odontogenic tumors of oral and maxillofacial region * Diagnose Odontogenic tumors on patients on the basis of clinical * features * Describe surgical management of benign lesions in oral soft tissues * Discuss principles of surgical management of jaw tumors * Discuss resections types and their indications in the jaw tumor * List methods of reconstruction of jaws |
| **2** | Oral cancer | * C/F ,investigations & diagnosis management |
| **3** | Zygomatico-maxillary complex fractures | * Classify Zygomatic Complex (ZMC) fractures * Discuss causes, signs, symptoms and investigations for ZMC fractures * Discuss management options & complications of ZMC fracture |
| **4** | Dental Implants | * History, * implant types, * implant surfaces, * osseointegration & its proponents * Indications, contraindications, variable of successful implants * Crucial distances & treatment planning for single tooth replacement |
| **5** | Osteo-radio-necrosis | * Discuss the concept of osteoradionecrosis its clinical features,non surgical and surgical management |
| **6** | MRONJ | * Classify medication that can cause MRONJ * Principles of management of MRONJ |
| **7** | CLP | * State clinical features of Cleft lip and palatae afflicted patients,the functional and esthetic problems associated with it * Tabulate the different treatment types and their timings |
| **8** | Orthognathic Surgery | * Discuss the evaluation of patient for orthognathic surgery. * Classify orthognathic skeletal deformities. * Identify indications of the surgical procedures required to correct * abnormalities in maxilla and mandible * Discuss distraction osteogenesis * Enlist postoperative complications |

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| **PROSTHODONTICS** | | |
| **S.NO** | **TOPICS** | **LEARNING OBJECTIVE** |
|  | Try in,luting & cementation of crown & FPD | * Define luting agents * Requirements expected from the luting agents * Know the steps for Try in and cementation of crown and bridge * Classify types of Luting agents * Enlist the advantages and precautions related to different types of luting agents * Enlist the Armamentarium for post cementation Hygiene maintenance of a fixed restorations * Know the consequences related to non-maintenance of fixed restoration hygiene * Know Different methods for the removal of fixed restoration |
|  | Jaw relation | * Know when to record jaw relation * Know centric relation and maximum intercuspation * Know 5 methods of recording jaw relation |
|  | Digitally fabricated complete denture | * Discuss digitally fabricated complete denture |
|  | Restorations of endodontically treated teeth | * Evaluate the endodontically treated teeth * Considerations for restoring the endodontically treated anterior teeth   Considerations for restoring the endodontically treated posterior teeth |
|  | Laboratory steps of fabrication of removal partial denture | * Know step by step all stages in fabrication of removable partial denture |
|  | Veneers | * Define veneers * Enlist different materials for the Veneer fabrication * Different types of Veneers * Enlist the indications and Contraindications for Veneers * Preparation Steps for Veneer * Techniques for Veneer fabrication * Procedural steps for veneer cementation |
|  | Trial adjustment & insertion of removable partial denture | * Know how to do trial of metal framework * Know methods to adjust removable partial denture at the time of insertion |
|  | Designing partially dentate arches | * Know Designing principles of removable partial dentures * Design partially dentate maxillary arch   (Kennedy Class I, II, III and IV)   * Design partially dentate mandibular arch   (Kennedy Class I, II, III and IV) |
|  | Introduction to maxillofacial prosthodontics | * Know the domains of Maxillofacial Prosthodontics * Know different types of Maxillofacial Prosthesis |
|  | Introduction to Prosthodontic implantology | * Components of Implant retained crown/ Fixed partial denture * Know the different Types of Implants * Define Osseointegration * Know the factors affecting Osseointegration * Indications/ Contraindications of Implants * Considerations for Implant Placement |

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| **OPERATIVE DENTISTRY** | | |
| **S.NO** | **TOPICS** | **LEARNING OBJECTIVE** |
|  | Endodontic Surgery | * Discuss the indications and contraindications of periapical surgery. * Review the procedures involved in periapical surgery. * Enlist the indications of root amputation, hemisection and bicuspidization. * Discuss the patient selection criteria for endodontics surgery. * Explain the different steps involved in the endodontic Surgery. |
|  | Post endodontic restorations | * Explain special features of endodontically treated teeth. * Understand ferrule effect. * Discuss the post selection criteria for an endodontically treated tooth. * Explain the steps involved in endodontic post space preparation. * Enlist the steps of gutta percha removal. * Discuss the importance of overall treatment plan before initiating any treatment. |
|  | Longitudinal tooth fractures | * Classify longitudinal tooth fractures. * List the causes of cracked tooth. * Describe the clinical features, diagnosis and treatment of cracked teeth. * Enlist the causes of fractured cusp. * Describe the clinical features, diagnosis and treatment of fractured cusp. * List the causes of vertical root fracture. * Describe the clinical features, diagnosis, and treatment of vertical root fracture. |
|  | Tooth discoloration | * Identify the causes of tooth discoloration. * Enlist treatment options for discolored tooth/teeth. * Classify bleaching treatments. * Discuss micro abrasion and macro abrasion. |
|  | Endo-Perio diseases | * Identify the anatomic pathways of communication between the pulp and periodontal ligament. * Describe the effects of pulpal diseases and endodontic procedures on the periodontium. * Identify the etiologic factors associated with endodontic periodontal diseases. * Distinguish clinically endodontic and periodontal diseases. * Develop the differential diagnosis. * Defend your treatment requirements and sequence them according to your diagnosis. |

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| **ORTHODONTICS** | | |
| **S.NO** | **TOPICS** | **LEARNING OBJECTIVE** |
|  | Impacted Canines | * Diagnose and classify impacted canines * Know etiological factors of impactions * Assess impacted canine position in jaw bone * Familiar with interceptive treatment of displaced canines * Understand treatment options of impacted canines * Explain stepwise management of impacted canines * Have an understanding of canine transpositions and transmigrations and their management |
|  | Surgical Orthodontics | * Enlist indications of orthognathic surgical procedures * Know the aims of pre-surgical and post-surgical orthodontics * Familiar with sequence of treatment in orthognathic surgical cases * Discuss different surgical procedures for correction of maxillary and mandibular skeletal deformities * Learn about the lower border osteotomy (genioplasty) * Enumerate various soft tissue surgical procedures. |
|  | Facial asymmetry | * Diagnose facial asymmetry * Discuss various etiological factors of facial asymmetry * Familiar with dentofacial deformities /syndromes causing facial asymmetry * Understand the basic principles in management of facial asymmetry |
|  | Cleft lip & palate: Orthodontic management | * Understand the aetiology and classification of cleft lip and palate (CLAP) * Describe skeletal, dental and soft issue features of cleft lip and palate * Understand the diagnosis and overall multidisciplinary management of cleft lip and palate * Discuss the role of Orthodontist in the management of cleft lip and palate. |
|  | Orthodontic emergencies & side effects of treatment | * Identify various side effects of orthodontic treatment * Know how to prevent/avoid these side effects * Familiar with common orthodontic emergencies encountered in general dental practice. * Discuss management of orthodontic emergencies |
|  | Retention & relapse | * Define retention and relapse * Understand the aetiology of relapse * Discuss different types of retainers, their indications, designs, fabrication and clinical management * Familiar with various adjunctive procedures used to prevent relapse in orthodontics |
|  | Growth anomalies & syndromes | * Enlist different teratogens affecting growth and development * Discuss the aetiology, clinical features and diagnosis of growth anomalies and syndromes involving head & neck region * Have an understanding of the basic principles of treatment of these anomalies/syndromes |
|  | Adult/Adjunctive orthodontics | * Appreciate the problems specially related to adult orthodontic patients. * Identify the goals of adult orthodontic treatment. * Understand the basic principles of adult orthodontic treatment. * Describe various adjunctive orthodontic procedures. * Know periodontal and psychological considerations in adult orthodontic patients. * Know the finishing and retention protocols in adult patients. |

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**ASSESSMENT METHODS FOR BLOCK EXAM:**

Evaluation is a continuous process comprising of block examination and annual university examination. Students will be evaluated throughout the year. The internal assessment will contribute towards the ﬁnal examination scores.

Multiple examination methods including MCQs, SAQs, OSPE and viva will be used. In line with PMC stipulation, the pass/fail marks for the test and examination will be 50%.

There will be a block exam at the end of each block.

**Theory (knowledge)**:

MCQs (Multiple Choice Questions) and SAQs (Short Answer Questions) are used to assess the theory part for the block exam.

**MCQ:**

* + - * A MCQ has a statement or clinical scenario followed by four options (likely answers).
      * After reading the statement/scenario student select ONE, the most appropriate answer/response from the given list of options.
      * Correct answer carries one mark, and incorrect ‘zero mark’. There is NO negative marking.

**SAQ:**

SAQ are open ended questions that requires students to create an answer. They are commonly used in examinations to access the basic knowledge and understanding of a topic.

**OSPE**:

Objective Structured Practical Examination (See the proposed plan of OSPE)

It may comprise between 12- 25 stations.

The content may assess application of knowledge, or practical skills.

Student will complete task in deﬁne time at one given station.

All the students are assessed on the same content by the same examiner in the same allocated time.

A structured examination will have observed, unobserved, interactive and rest stations.

**OBSERVED AND INTERACTIVE STATIONS:**

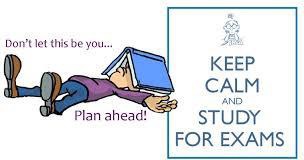
They will be assessed by internal or external examiners through the task or viva.

**UNOBSERVED STATION:**

It will be static station in which students will have to answer the questions related to the given pictures, models or specimens on the provided response sheet.

**REST STATION:**

It is a station where no task is given, and during this time student can organize his/her thoughts.



**ASSESSMENT GRID FOR BLOCK EXAM**

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| **Component from BLOCK EXAM= Theory and Practical: 140+140**  **Component from Internal Assessment= Theory and Practical 60+60**  **Theory=600 Marks Practical=600**  **Total Marks: 1200** | | | | | | | | | | | | | | | | | | |
| **MODULE/BLOCK** | | | **BLOCK – X** | | | | | **BLOCK – XI** | | | | | | **BLOCK – XII** | | | | |
| **Module- 19** | | **Module-20** | | | **Module-21** | | | **Module-22** | | | **Module-23** | | | **Module-24** | |
| **Professional Examination** | **Theory Marks** | | **100** | | **100** | | | **100** | | | **100** | | | **100** | | | **100** | |
| **200** | | | | | **200** | | | | | | **200** | | | | |
| **Practical Marks (OSPE)** | | **200** | | | | | **200** | | | | | | **200** | | | | |
| **Internal Assessment-IA** | | **Theory: 60 Practical:60** | | | | | **Theory: 60 Practical:** | | | | | | **Theory: 60 Practical:60** | | | | |
| **Subject wise distribution** | **Subjects** | **MCQ#** | **SAQs#** | **OSCE Stations** | **viva** | | **MCQ#** | **SAQs**  **#** | | **OSPE Stations#** | **viva** | | **MCQs**  **#** | **SAQs**  **#** | | **OSPE Stations** | **viva** |
| **OMFS** | **23** | **3** | **5** | **15** | | **23** | **3** | | **5** | **15** | | **23** | **3** | | **5** | **15** |
| **OPERATIVE** | **23** | **3** | **5** | **15** | | **23** | **3** | | **5** | **15** | | **23** | **3** | | **5** | **15** |
| **ORTHODONTICS** | **23** | **3** | **5** | **15** | | **23** | **3** | | **5** | **15** | | **23** | **3** | | **5** | **15** |
|  | **PROSTHODONTICS** | **23** | **3** | **5** | **15** | | **23** | **3** | | **5** | **15** | | **23** | **3** | | **5** | **15** |
|  | TOTAL# | **92**  **(I mark each)** | **12**  **(4 marks each)** | **20(4 marks each)**  **=80** | 60 | | **92**  **(I mark each**) | **12**  **(4 marks each)** | | **20(4 marks each)=80** | **60** | | **92**  **(I mark each)** | **12**  **(4 marks each)** | | **20**  **(4 marks each)=80** | **60** |
|  | **Total** | **92** | **48** | **140** | | | **92** | **48** | | **140** | | | **92** | **48** | | **140** | |
| **Total(theory+practiacl)** | | **140** | | **140** | | | **140** | | | **140** | | | **140** | | | **140** | |
|  | **Internal Assessment** | | **60** | | **60** | | **60** | | | **60** | | | **60** | | | **60** | | |
| **Total marks** | | **200** | | **200** | | **200** | | | **200** | | | **200** | | | **200** | | |
| **Total Marks** | | **400** | | | | **400** | | | | | | **400** | | | | | |
| **Grand total** | **1200** | | | | | | | | | | | | | | | | | |

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| **THEORY INTERNAL ASSESSMENT**  **15 MARKS** | | | **PRACTICAL INTERNAL ASSESSMENT**  **15 MARKS** | | |
| **ATTENDANCE**  **5 MARKS** | **ASSIGNMENTS AND PRESENTATIONS**  **5 MARKS** | **BEHAVIOUR /DISCIPLINE**  **5 MARKS** | **ATTENDANCE**  **5 MARKS** | **LOGBOOK**  **10 MARKS** | |
| 91 and above  5 marks  B/W 86% to 90%=  4 marks  B/W 81% to 85%=  3 marks  76% to 80%= 2 marks  75%= 1 mark | Grade A=5 marks  Grade B= 3 marks  Grade C= 1 mark  No assignments or presentations =0 marks | No misbehave or warning in lectures = 5 marks  Written warning given to student = 0 marks | Above 90%=  5 marks  B/W 85% to 90%=  4 marks  B/W 80% to 85%=  3 marks  75% to 80%= 2 marks  Upto 75%= 1 mark  Below 75 % = 0 marks | Complete and timely signed =10 marks  Completed and late submission=5 marks  Incomplete or no logbook =0 marks (additional criteria student will not be allowed to appear for the exam) | |
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**INTERNAL ASSESSMENT MARKS DISTRIBUTION**

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| **LEARNING RESOURCES** | |
| **SUBJECT** | **RESOURCES** |
| **Oral & Maxillofacial Surgery** | Contemporary oral & maxillofacial surgery by James hupp, Edward Ellis and Myron Tucker  Fractures of Facial Skeleton by MIcheal Perry, Andrew Brown and Peter Bank  Handbook of local anesthesia by Stanley Melamed  Essentials of dental radiography and radiology by Eric Whaites and Nicholas drage |
| **ORTHODONTICS** | **Recommended Textbooks**:  · Contemporary Orthodontics. by William R Profit  · An introduction to Orthodontics. by Laura Mitchells  **Reference Books**:  · Orthodontics: Current Principles and Techniques By Graber  · Esthetics and biomechanics in orthodontics by Nanda  · Textbook of orthodontics by Bishara  · Orthodontic and orthopaedic treatment in the mixed dentition By McNamara |
| **OPERATIVE DENTISTRY & ENDODONTICS** | Pathways of the Pulp  Endodontics: Principles and Practice  Sturdevants Art & Science of Operative Dentistry  Fundamentals of Operative Dentistry: a contemporary approach  Pickard’s manual of Operative Dentistry |
| **PROSTHODONTICS** | Mc Cracken Removable Partial Prosthodontics 13th Ed  Stewarts Clinical Removable Partial Prosthodontics 4th Ed  Contemporary Fixed Prosthodontics 6th Ed  Fundamentals of Fixed Prosthodontics 4th Ed  Prosthodontics treatment of edentulous Patient 14th Ed  Complete Denture Prosthodonticsby John Joy Manapplil 3rd Ed |
| **PEDIATRIC DENTISTRY** | Recommended text book  A manual of Pediatric Dentistry Andlaw R.J & Rocl W.P  Reference Books  Pediatric Dentistry ( infancy through Adolescence)-Pinkham  Pediatric Dentistry-Welbury  Dentistry for Child & Adolescence- Mc.Donald |

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| **OTHER LEARNING RESOURCES** | |
| **Hands-on Activities/ Practical** | Students will be involved in Practical sessions and hands-on activities that link with the foundation module to enhance the learning. |
| **Labs** | Utilize the lab to relate the knowledge to the specimens and models available. |

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| **Skill Labs** | A skills lab provides the simulators to learn the basic skills and procedures. This helps build the confidence to approach the patients. |
| **Videos** | Video familiarize the student with the procedures and protocols to assist patients. |
| **Computer Lab/CDs/DVDs**  **/Internet Resources** | To increase the knowledge students should utilize the available internet resources and CDs/DVDs. This will be an additional advantage to increase learning. |
|  | SDL is scheduled to search for information to solve cases, read through different resources and discuss among the peers and with the faculty to clarify the concepts. |