COURSE PROGRAMME & COURSE OUTCOME

Dasmesh Institute of Research & Dental Sciences , Faridkot, Punjab

Programme	BDS Degree Course	Signature of the Principal
Title of the Award	Bachelor of Dental Surgery	
Modes of Study	Full time	
Teaching programme	5 years	
Awarding Institution	Baba Farid University of Dental Sciences, Faridkot	
Programme Benchmark	Dental Council of India, New Delhi	
Teaching Institution	Dasmesh Institute of Research & Dental Sciences, Faridkot	
Principal of the institution	Dr.SPS Sodhi	

Dr. S.P.S. Sodhi
Principal
Dasmesh Institute of Research & Dental Sciences, FARIDKOT

BDS Programme and Course outcome (CO)

- Bachelor of Dental Surgery is an undergraduate course that involves organization of five years of teaching programme. This course in complete, demonstrates amalgamation of the basic sciences, clinical dentistry combined with laboratory skills. Programme of the course is structured and integrated in such a way to allow smooth evolution from basic medical sciences in conjunction with laboratory skills and pre-clinical to clinical phase.
- The course consists of four years of competitive training and learning the art and science of dentistry with an additional year of internship.
- The first year consists of subjects common to basic medical sciences human anatomy, histology, embryology, physiology, biochemistry along with anatomy and histology of oral & dental tissues, further in second year subjects like pharmacology ,pathology, microbiology and then in third year oral pathology, general medicine and general surgery. Finally, in the fourth year all the technical aspects of dentistry like orthodontics, oral medicine radiology, conservative dentistry & endodontics, oral & maxillofacial surgery, periodontology, prosthodontics, paediatric dentistry and public health dentistry.
- The first, second and third year of the course is projected to provide an appreciation of normal human structure, development, function and behavior, leading to understanding of the disease, its prevention and treatment. The main objective is to offer the student a wider knowledge of the normal structure and functions of the

body, the alterations which take place in disease with particular reference to those conditions in which medical and dental co-operation is essential for proper management. Subjects dealing with oral biology and pathology to ensure a detailed knowledge of the structure and function of the dental and oral tissues. This enables the student to diagnose, prevent and treat the dental and oral diseases and disorders. At this stage, the student should also be made aware of required preclinical training for development of technical skills and psychological aspects of patient care with special reference to the relationship between dentist and the patient.

- The final year and internship of the course comprising the clinical and the technical aspects of dentistry actually prepare the student to undertake total oral and dental health care of the patients of all ages. The emphasis at this stage is on the prevention of the various dental diseases and how to preserve natural teeth with their supporting structures. The importance of various preventive methods is stressed. The significance of diagnosis of various dental and oral problems is emphasized along with treatment planning before actual treatment procedures are undertaken. At this time, in addition to acquiring knowledge, the students gain adequate clinical hands-on-experience in extractions and other minor oral surgical procedures, all aspects of conservative dentistry, endodontics, crown and bridge, provision of partial and complete dentures, various periodontal therapeutic procedures and use of removable orthodontic appliances. Familiarity with various radiological techniques, particularly intra-oral methods and proper interpretation of radiographs is essential part of this component of training and has applications in clinical diagnosis, forensic identification and age estimation. Towards the final stage of the clinical training, each student is involved in comprehensive oral health care or holistic approach to enable them to plan and treat patient as a whole, instead of piece-meal treatment provided in each specialty.
- The aim of undergraduate program is undoubtedly to produce a graduate competent in general dental practice. The commitment towards society as a whole is stressed along with the knowledge and treatment skills gained. Instruction in public health dentistry emphasizes the social aspect of health care, particularly oral health care, including the reason of the variation in oral and dental needs of different section of the society.

SUBJECT WISE OUTCOMES	
NAME OF THE SUBJECT	**OUTCOME**
HUMAN ANATOMY	• The students should gain the knowledge and insight into the functional anatomy of the normal human head and neck, functional histology and an appreciation of the genetic basis of inheritance and disease. • Embryological development of human structures, so that relevant anatomical & scientific foundations are laid down for the clinical years of the BDS course. • Training in dissection of the cadaver and other organs and microscopic observation of body tissues
HUMAN PHYSIOLOGY & BIOCHEMISTRY	• Provide the student comprehensive knowledge of the organ systems of the body to facilitate an understanding of the physiological basis of health and disease. • The major objective of biochemistry is to provide a thorough knowledge on the biochemical basis of life processes relevant to the human system and to dental practice
DENTAL ANATOMY & HISTOLOGY	• The student is expected to appreciate the normal development, morphology, structure & functions of oral tissues & variations in different pathological/non-pathological states. • Training in the art of tooth carving • Microscopic observations of oral and dental structures • Understanding the processes of physiologic ageing in the dental tissues.
GENERAL PATHOLOGY & MICROBIOLOGY	• The student should be competent to apply the scientific study of disease processes, which result in morphological and functional alterations in cells, tissues and organs to the study of pathology and the practice of dentistry. • Understanding the basics of various branches of microbiology and be able to apply the knowledge relevantly.

	• Laboratory diagnostic skills of estimating values of blood and body fluids • Laboratory identification methods of microbes
GENERAL PHARMACOLOGY	• Teaching undergraduate students in pharmacology is to inculcate rational and scientific basis of therapeutics keeping in view of dental curriculum and profession.
DENTAL MATERIALS	• To learn and understand new material systems and changing concepts in the dental field. • Biological characteristics, the science of dental materials used in dentistry • Practical aspect of using dental materials
GENERAL MEDICINE	• Understand the importance of various diseases manifestation and treatment protocols • Oral manifestations of systemic diseases • Medical emergencies in dental practice.
GENERAL SURGERY	• To acquaint the student with various diseases, which may require surgical expertise and to train the student to analyse the history and be able to do a thorough physical examination of the patient.
ORAL PATHOLOGY	The student should be able to comprehend- • The different types of pathological processes that involve the oral cavity. • The manifestations of common diseases, their diagnosis & correlation with clinical pathological processes. • The oral manifestations of systemic diseases to help in correlating with systemic physical signs & laboratory findings. • Art of learning microscopic observation of pathological tissues and staining methodologies.
ORAL MEDICINE& RADIOLOGY	• To formulate a clinical diagnosis, order investigations, seek expert consultations to come to a final diagnosis

	• Chart out a proper treatment plan for patients with oral lesions. He/she must have a sound knowledge Interpretation of various radiographic images and formulate a differential diagnosis.
PROSTHODONTICS & CROWN & BRIDGE	• The graduate should be competent to carry out treatment of conventional complete and partial dentures • Removable and fixed types of crowns including full veneer crowns • Theory and practical aspects of dental implants
PEDIATRIC DENTISTRY	• Be able to instill a positive attitude and behaviour in children's towards oral health and understand the principles of prevention and preventive dentistry right from birth to adolescence. • Be able to guide and counsel the parents/guardian in regards to various treatment modalities including different facets of preventive dentistry. • Be able to treat dental diseases occurring in child patient.
PERIODONTICS	• Be able to diagnose the patient's periodontal problem, plan and perform appropriate periodontal treatment. • Be Competent to perform thorough oral prophylaxis, subgingival scaling, root planning and minor periodontal surgical procedures. • Be Familiar with concepts of osteointegration and basic surgical aspects of implantology.
ORTHODONTICS & DENTOFACIAL ORTHOPAEDICS	• Understand about normal growth and development of facial skeleton and dentition. • Able to diagnose the various malocclusion categories. • To plan and execute preventive and interceptive orthodontics. • To manage treatment of simple malocclusion such as anterior spacing using removable appliances.

PUBLIC HEALTH DENTISTRY	• Be able to educate patients concerning the etiology and prevention of oral disease and encourage them to assure responsibility for their oral health. • Developing the knowledge of the organization and provision of health care in community and in the hospital service. • Enhancing the knowledge of the prevalence of common dental conditions in India and community based preventive measures. • Be able to administer hygiene instructions, topical fluoride therapy and fissure sealing.
CONSERVATIVE DENTISTRY & ENDODONTICS	• To diagnose and restore all carious lesions. • Be able to diagnose and appropriately treat pulpally involved teeth (pulp capping procedures). • Be competent to carry out small composite restorations. • Be able to perform RCT for anterior teeth. • Understand the principles of aesthetic dental procedures • Understand the practical aspects of apicoectomy
ORAL & MAXILLOFACIAL SURGERY	• Be able to diagnose, manage and treat patients with basic oral surgical problems • Art of performing minor oral surgical procedures under Local anesthesia like trans-alveolar extraction, frenectomy, oral Implantology. • To understand the theory and practice of maxillofacial trauma & fractures • Should be able to provide primary care and manage medical emergencies in the dental office.
MDS Programme	
Programme	MDS Degree Course
Specialities offered	• Conservative Dentistry & Endodontics • Paediatric Dentistry

	• Periodontology • Prosthodontics & Crown & Bridge • Oral & Maxillofacial surgery • Oral Medicine & Radiology • Orthodontics & Dentofacial Orthopaedics
Title of the Award	Masters of Dental Surgery
Modes of Study	Full time
Teaching programme	3 years
Awarding Institution	Baba Farid University of Dental Sciences, Faridkot
Programme Benchmark	Dental Council of India, New Delhi
Teaching Institution	Dasmesh Institute of Research & Dental Sciences, Faridkot
Principal of the institution	Dr.SPS Sodhi

MDS Programme and Course outcome (CO)

The period of training for the award of the MDS course shall be of three years duration for three academic years as full time candidates in the institution including the period of examination: Provided that the time period required for passing out of the MDS course shall be a maximum of six years from the date of admission in said course: Provided further that the duration of the post-graduate course for the post-graduate Diploma holders shall be of two years in the respective speciality. The syllabus and curriculum shall be the same as MDS Course in the concerned speciality except that they are not required (i) to undergo study and training in Basic Sciences and (ii) pass the PART-I Examination of MDS Course. However, they have to submit the dissertation work, as part of the post-graduate programme.

During the period, each student shall take part actively in learning and teaching activities design of training, by the institution. The teaching and learning activities in each speciality, shall be as under

- LECTURES
- JOURNAL REVIEW
- SEMINARS
- SYMPOSIUM
- CLINICAL POSTINGS
- CLINICO- PATHOLOGICAL CONFERENCE

• INTER-DEPARTMENTAL MEETINGS • TEACHING SKILLS • CONFERENCES / WORKSHOPS / ADVANCED COURSES • ROTATION AND POSTING IN OTHER DEPARTMENTS • DISSERTATION / THESIS	
Programme (Speciality) Specific Outcome (PSO)	
MDS IN CONSERVATIVE DENTISTRY & ENDODONTICS	
Applied Basic Science	• Students would be able to demonstrate understanding of basic sciences as relevant to conservative / restorative dentistry and Endodontics • Students would demonstrate infection control measures in the dental clinical environment and laboratories • Student would adopt ethical principles in all aspects of restorative and contemporary Endodontics including non-surgical and surgical Endodontics • Students would be able to demonstrate communication skills in particular to explain various options available management and to obtain a true informed consent from the patient • Students would be able to apply high moral and ethical standards while carrying on human or animal research
Conservative Dentistry	• Students would be able to describe aeitology, pathophysiology, diagnosis and management of common restorative situations, that will include contemporary management of dental caries, non-carious lesions and hypersensitivity • Students would be able to take proper chair side history, examine the patient and perform medical and dental diagnostic procedures; as well as perform relevant tests and interpret them to come to a reasonable diagnosis about the dental condition • Perform all levels of restorative work including Aesthetic procedures and treatment of complicated restorative

	procedures
Endodontics	• Students would be able to describe aeitology, pathophysiology, periapical diagnosis and management of common endodontic situations that will include contemporary management of trauma and pulpal pathoses including endo-periodontal situations. • Students would be able to master differential diagnosis and recognize conditions that may require multidisciplinary approach or a clinical situation outside the realm of the specialty, which he or she should be able to recognize and refer to appropriate specialist • Students would undertake complete patient monitoring including preoperative as well as post operative care of the patient. • Students would perform all levels of surgical and non -surgical Endodontics including endodontic endoosseous implants,retreatement as well as endodontic -periodontal surgical procedures as part of multidisciplinary approach to clinical condition • Students would be able to manage acute pulpal and pulpo periodontal situations
Long Essay	• Students would diagnose , plan and execute challenging clinical cases requiring comprehensive management strategies using contemporary materials and techniques in the specialty of conservative dentistry and endodontics
PAEDIATRIC DENTISTRY	
Applied Basic Sciences	• Student should be able to understand applied Anatomy, genetics, Applied Physiology, Applied Pathology, Nutrition, Dietics, Growth & Development, Cariology and Fluoride. • Student will be get acquainted with 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 • Student should be able develop an attitude of Counselling in Paediatric Dentistry • Student should be able to do Case History Recording, Outline of

	principles of examination, diagnosis & treatment planning.
Clinical Pedodontics	• Student should be competent to treat dental diseases which are occurring in child patient. Student should be able to manage to repair and restore the lost / tooth structure to maintain harmony between both hard and soft tissues of the oral cavity. • Student should be able to manage the disabled children effectively and efficiently, tailored to the needs of individual requirement and conditions. • Student should be able to acquire skills in managing efficiency life threatening condition with emphasis on basic life support measure. • Student should able to develop an attitude to adopt ethical principles in all aspects of Paediatric dental practice along with professional honesty and integrity.
Preventive and Community Dentistry as applied to Paediatric Dentistry	• Student should be able to create a good oral health in the child with Installing a positive attitude and behaviour in children • Student should able to understand the principles of prevention and preventive dentistry right from birth to adolescence • Student should able to guide and counsel the parents in regards to various treatment modalities including different facets of preventive dentistry • Student should able to deliver care irrespective of the social status, cast, creed, and religion of the patients. • Student should able to share the knowledge and clinical experience with professional colleagues with own willingness.
Essay	• For a given case,the student after a critical assessment should able to adopt new methods and techniques of Paediatric dentistry that is developed time to time, based on scientific researches, which are in the best interest of the child and patient. • Student should able to respect child patient's rights and privileges, including child patient's right to information and right to seek a second opinion.
PERIODONTOLOGY	

Applied basic sciences	• Should have abroad overview of the current research and methods used in studying problems in periodontal disease. • Should have an understanding of the broad range of infection diseases affecting the oral cavity. • Should have an understanding the clinical and biological factors to be considered in the appropriate use of antimicrobial drugs. • Be aware of the contemporary principles and practices of laboratory diagnostic techniques and interpretation of laboratory reports. • Should have an understanding of hospital acquired infections and infections in the compromised host • Should have a basic knowledge on research methodology ,biostatistics and be able to apply it in various research projects as well as dissertations.
Normal periodontal structure and etiopathogenesis and epidemiology	• Should have a understanding on the normal structure of periodontium and the contributing etiological factors resulting in the pathogenesis of periodontal diseases and be able to apply this knowledge in the diagnosis. • Should be able to record indices and plan out epidemiological survey to assess the prevalence and incidence of early onset periodontitis and adult periodontitis in Indian Population
Periodontal Diagnosis, Therapy and Oral Implantology	• Should have a sound knowledge of the etiopathogenesis and apply it in diagnosing various periodontal diseases and should be familiar with various periodontal therapies available to treat those cases. • Should have an updated knowledge on the recent advancements and be able to modify their treatment accordingly. • Develop knowledge skill and the science of oral implantology. Should be aware of the various designs and placement of oral implants and follow up of implant restorations.
Descriptive Analysing Type question	• Should be knowledgeable to provide clinical care for patients with complex problems that are beyond the treatment skills of general dentist and demonstrate evaluative and judgment skills in making appropriate decision regarding prevention, correction and referral to deliver comprehensive care to patients.

	• Should be able to analyze various clinical scenarios and apply their knowledge accordingly.
ORAL & MAXILLOFACIAL SURGERY	
Applied basic sciences	The student would be knowledgeable about: • Development and growth of face, teeth and jaws, Age changes and evaluation of mandible in detail • Congenital abnormality of orofacial regions • Surgical anatomy of scalp , temple and face • Anatomy and its applied aspects of triangles of neck and deep structures of neck • Cranial facial bones and surrounding soft tissues • Cranial nerves • Tongue • Temporal and infratemporal region and Temperomandibular joint in detail • Orbits and its contents • Muscles of face and neck • General consideration of the structure and function of brain and applied anatomy of intracranial venous sinuses • Cavernous sinus and superior sagital sinus • Brief consideration of autonomous nervous system of head and neck • Functional anatomy of mastication, Deglutition and Speech • Respiration and circulation • Tooth and its surrounding structures • Cross – sectional Anatomy of the head and neck, as applied in CT, MRI Interpretation • Salivary glands – Anatomy, Embryology and Histology **APPLIED PHYSIOLOGY** • Nervous system – physiology of nerve conduction, pain pathway, sympathetic and parasympathetic nervous system, hypothalamus and mechanism of controlling body temperature.
	• Blood - its composition hemostasis, blood dyscrasias and its

	management, hemorrhage and its control, blood grouping, cross matching, blood component therapy, complications of blood transfusion, blood substitutes, auto transfusion, cell savers. • Digestive system - composition and functions of saliva, mastication, deglutition, digestion, assimilation, urine formation, normal and abnormal constituents. • Respiratory system – respiration control of ventilation, anoxia, asphyxia, artificial respiration, hypoxia – type and management • CVS - cardiac cycle, shock, heart sounds, blood pressure, hypertension • Endocrinology - metabolism of calcium , endocranial activity and disorder relating thyroid gland, parathyroid gland, adrenal gland, pituitary gland, pancreas and gonads. • Nutrition – general principles balanced diet, effect of dietary deficiency, protein energy malnutrition, nutritional assessment, metabolic responses to stress, need for nutritional support ,entrails nutrition, roots of access to GIT, parenteral nutrition, access to central veins, nutritional support 8. Fluid and electrolytic balance / acid base metabolism – the body fluid compartment, metabolism of water and electrolytes, factors maintaining hemostasis causes for treatment of acidosis and alkalosis. **APPLIED PATHOLOGY** • Inflammation – acute and chronic inflammation, repair and regeneration, necrosis and gangrene and role of component system in acute inflammation, role of arachidonic acid and its metabolites in acute inflammation, growth factors in acute inflammation role of NSAIDS in inflammation, cellular changes in radiation injury and its manifestations. • Wound management - wound healing factors influencing healing, properties of suture materials, and appropriate uses of sutures. • Hemostasis - role of endothelium in thrombogenesis, arterial and venous thrombi, disseminated intravascular coagulation. • Hypersensitivity - shock and pulmonary failure, types of shock, diagnosis, resuscitation, pharmacological support, ARDS and its

	causes and prevention, ventilation and support • Neoplasia - classification of tumours, carcinogens and carcinogenesis, spread of tumors, characteristics of benign and malignant tumors, grading and staging of tumours various laboratory investigation. • Chromosomal abnormalities with orofacial manifestations. • Basics of immunology – primary and acquired immunodeficiencies.
Minor Oral Surgery and Trauma	The students would be well trained in the assessment and management of: • Basic Exodontia • Complicated Exodontia • Surgical management of Impacted teeth • Ectopically positioned and unerupted teeth • Tooth Reimplantation and Transplantation • Surgical uprighting and Repositioning • Principles of Endodontic Microsurgery • Periodontal Considerations for Oral Surgery • Procedures Involving the Dentogingival Junction • Pediatric Dentoalveolar Surgery • Lasers in Oral and Maxillofacial Surgery • Complications of Dento-alveolar Surgery The students would be able to diagnose and manage Medical emergencies like, prevention and management of altered consciousness (syncope, orthostatic hypotension, seizures, diabetes mellitus, adrenal insufficiency), hypersensitivity reactions, chest discomfort, and respiratory difficulty The students would be knowledgeable about • Diagnosis and Preoperative Management of Head and Neck Injuries • Basic Principles of Treatment: Hard and Soft Tissue injuries • The students would be acquainted with the knowledge and clinical skills in the management of • Dento-alveolar Injuries • Mandibular Fractures

	• Temporomandibular Joint Region Injuries • Zygomatic Complex Fractures • Orbital Trauma • Mid face Injuries • Frontal Sinus Fractures and associated Injuries • Nasal Injuries • Soft Tissue Injuries • Special Soft Tissue Injuries • Avulsive Hard Tissue Injuries • Maxillofacial Injuries in Children • Maxillofacial Injuries in the Elderly • Complex Facial Trauma Patient
Maxillofacial Surgery	The students would be acquainted with the knowledge and clinical skills in the management of • **Salivary gland:** Sialography, Salivary fistula and management diseases of salivary gland - developmental disturbances, cysts, inflammation and sialolithiasis, Mucocele and Ranula,Tumors of salivary gland and their management, Staging of salivary gland tumors, Parotidectomy • **Temporomandibular Joint**: Etiology, history signs, symptoms, examination and diagnosis of temporo mandibular joint disorders, Ankylosis and management of the same with different treatment modalities, MPDS and management, Condylectomy - different procedures, Various approaches to TMJ, Recurrent dislocations • **Etiology and Management Oncology**: Biopsy, Management of pre-malignant tumors of head and neck region, Benign and Malignant tumors of Head and Neck region, Staging of oral cancer and tumor markers Management of oral cancer, Radial Neck dissection, Modes of spread of tumors, Diagnosis and management of tumors of nasal, paranasal, neck, tongue, cheek, maxilla and mandible Radiation therapy in maxillofacial regions,Lateral neck swelling • **Orthognathic surgery:** Diagnosis and treatment planning, Cephalometric analysis, Model surgery, Maxillary and mandibular repositioning procedures, Segmental osteotomies, Management of

	apertognathia, Genioplasty, Distraction osteogenesis • **Cysts and tumor of oro facial region**: Odontogenic and non-Odonfogenic tumors and their management ,Giant lesions of jawbone, Fibro osseous lesions of jawbone, Cysts of jaw • **Laser surgery:** The application of laser technology in surgical tr eatment of lesions • **Cryosurgery**: Principles, applications of cryosurgery in surgical management • **Cleft lip and palate surgery:** Detailed knowledge of the development of the face,head and neck, Diagnosis and treatment planning Current concepts in the management of cleft lip and palate deformity Knowledge of Naso endoscopy and other diagnostic techniques in the evaluation of speech and hearing Concept of multidisciplinary team management • **Aesthetic facial surgery:** Detailed knowledge of the structures of the face and neck including skin and underlying soft tissue, Diagnosis and treatment planning of deformities and conditions affecting facial skin, Underlying facial muscles, bone. Eyelids external ear Surgical management of post acne scarring, facelift, blepharoplasty, otoplasty,facial bone recontouring, etc • **Craniofacial surgery:** Basic knowledge of developmental anomalies of the face, head and neck, Basic concepts in the diagnosis and planning of various head and neck anomalies including facial clefts, craniosynostosissyndromes, etc. Current concept in the management of craniofacial anomalies. • **Implantology:** Principles for the surgical placement of endosseous implants, sub periosteal implants, the trans mandibular implant reconstruction system, single-tooth replacement in oral implantology, posterior implant restorations for partially edentulous patients, maxillary sinus grafts and implants, surgical implant failures, soft tissue considerations
Essay	• The students would be able to diagnose, meticulously plan and manage competently various conditions in maxillofacial surgery including challenging cases.

	• They would be knowledgeable about conventional and recent advances in the diagnosis and management of oral and maxillofacial conditions. • The students would be well versed in basic surgical techniques and knowledgeable about the advanced skills required in maxillofacial surgery.
ORAL MEDICINE & RADIOLOGY	
Applied Anatomy, Physiology, Pathology and Pharmacology	On completion of the course • The student would demonstrate sound theoretical knowledge and understanding of basic relevant sciences namely, the applied anatomy of the face and oral cavity, the basic physiologic processes, pathologic processes and the basics of pharmacologic applications • The student would be proficient in physical examination of the patient, identification of normal and abnormal functioning of the various systems of the body
Diagnosis, diagnostic methods and imageology and Applied Oral Pathology	On completion of the course • The student would possess ample understanding and knowledge of diagnosis and diagnostic methods, ionizing radiation, its applications in dentistry and its limitations. • The student would be proficient in detailed physical examination of the oral and paraoral structures, identification of pathologies and techniques involved in conventional and advanced diagnostic radiographic examination. • Apply high moral and ethical standards while carrying out clinical and radiographic examinations.
Oral Medicine, therapeutics and laboratory investigations.	On completion of the course • The student would be proficient in describing the etiology, pathophysiology, principles of diagnosis and management of common oro facial disorders. • The student would be proficient in formulating a differential diagnosis and investigations plan and frame the treatment strategy. • The student would develop communication skills and ability to

	explain the disease process to the patient and to obtain a informed consent from the patient.
Essay	On completion of the course, • The student would be proficient in effectively and freely analyzing the problem presented by recalling factually. • The student would be an expert at synthesizing ideas and rendering a suitable opinion of the problem presented.
ORTHODONTICS & DENTOFACIAL ORTHOPADEICS	
Applied Basic Sciences	• **Applied Anatomy** Under anatomy they would have learnt about Prenatal and post natal growth of head, bone growth, assessment of growth and development, muscles of mastication, Development of dentition and occlusion. • **Applied Physiology** Under Physiology they would have learnt about Endocrinology and its disorders, Calcium and its metabolism, Nutrition-metabolism and their disorders, Muscle physiology, craniofacial biology, bleeding disorders. • **Dental Materials** Under Dental Materials they would have learnt about Gypsum products, impression materials, acrylics, composites, banding and bonding cements, wrought metal alloys, orthodontic arch wires, elastics, applied physics, specification and tests methods, survey of all contemporary and recent advances of above. • **Genetics** Under Genetics they would have learnt about Cell structure, DNA, RNA, protein synthesis, cell division, Chromosomal abnormalities, Principles of orofacial genetics, Genetics in malocclusion, Molecular basis of genetics, Studies related to malocclusion, Recent advances in genetics related to malocclusion, Genetic counselling, Bioethics and relationship to Orthodontic management of patients • **Physical Anthropology** Under Physical Anthropology they would have learnt about

	Evolutionary development of dentition, Evolutionary development of jaws • **Pathology** Under Pathology they would have learnt about inflammation, and necrosis • **Biostatistics** Under Biostatistics they would have learnt about Statistical principles, Sampling and Sampling technique, Experimental models, design and interpretation, Development of skills for preparing clear concise and cognent scientific abstracts and Publication. • **Applied research methodology in Orthodontics** Under Applied research methodology in Orthodontics they would have learnt about Experimental design, Animal experimental protocol, Principles in the development, execution and interpretation of methodologies in Orthodontics, Critical Scientific appraisal of literature.
Diagnosis & Treatment planning	• **Orthodontic history** Under Orthodontic History they would have learnt about Historical perspective, Evolution of orthodontic appliances, Pencil sketch history of Orthodontic peers, History of Orthodontics in India. • **Concepts of occlusion and esthetics** Under this, the students would learn about Structure and function of all anatomic components of occlusion, Mechanics of articulation, Recording of masticatory function, Diagnosis of Occlusal dysfunction, Relationship of TMJ anatomy and pathology and related neuromuscular physiology. • **Etiology and Classification of malocclusion** Under this, the students would learn about, a comprehensive review of the local and systemic factors in the causation of Malocclusion and Various classifications of malocclusion. • **Dentofacial Anomalies** Under this, the students would learn about, anatomical, physiological and pathological characteristics of major groups of

	developmental defects of the orofacial structures . • **Child and Adult Psychology** Under this, the students would learn about Stages of child development, Theories of psychological development, Management of child in orthodontic treatment, Management of handicapped child, Motivation and Psychological problems related to malocclusion / orthodontics, Adolescent psychology, Behavioral psychology and communication. • **Diagnostic procedures and treatment planning in orthodontics** Under this, the students would learn about Stages of child development, Theories of psychological development, Management of child in orthodontic treatment, Management of handicapped child, Motivation and Psychological problems related to malocclusion / orthodontics, Adolescent psychology, Behavioral psychology and communication. • **Cephalometrics** Under this the student would learn about, Instrumentation, Image processing, Tracing and analysis of errors and applications, Radiation hygiene, Advanced Cephalometrics techniques, Comprehensive review of literature, Video imaging principles and application. • **Practice management in Orthodontics** Under this the student would learn about, Economics and dynamics of solo and group practices, Personal management, Materials management, Public relations, Professional relationship, Dental ethics and jurisprudence, Office sterilization procedures, Community based Orthodontics
Clinical Orthodontics	• **Myofunctional Appliances** The students will be capable of diagnosing and interpreting the knowledge obtained to treat developing malocclusion at a younger age. • **Dentofacial Orthopaedics** The students will develop acumen to identify and deliver treatment regimes using orthopaedic appliances to the

	appropriate cases. • **Cleft Lip & Palate Rehabilitation** The students will be trained to treat the CLCP cases with empathy starting with Naso alveolar moulding at the infant stage and then systematically treat the malocclusion using removable / fixed orthodontics during the mixed & permanent dentition by harmonizing the treatment plan with the other members og the multidisciplinary cleft team. • **Biology of tooth movement** Basic understanding of the applied anatomy & physiology regarding to tooth & its surrounding structures will be inculcated into the student, so that the results of application of orthodontic forces can be understood and clinically used. • **Orthodontics/ Orthognathic Surgery** Students will be thoroughly trained in conjoint diagnosis & treatment planning of cases requiring surgical intervention. • **Ortho/ Perio/ Prostho inter relationship** Students will be trained in treating complicated cases requiring a multidisciplinary approach in patient management. • **Basic Principles of mechano therapy** Students will be trained in designing , construction , fabrication & management of cases using both removable & fixed orthodontics . • **Applied preventive aspects in Orthodontics** A comprehensive view of diagnosing & preventing caries, periodontal diseases to maintain proper inter arch relationship. • **Interceptive orthodontics** Students will be trained in growth guidance, diagnosing & treatment planning of early malocclusion both at mixed/ permanent dentition. • **Retention & relapse** Inculcating the acumen to analyze post treatment stability to prevent any replase.
Essay	• **Recent Advances** The Students would be trained in above mentioned topics in

	detail, so that the student would know the recent updates along with the previous literature available.