
MALWANCHAL UNIVERSITY, INDORE (MP)
Syllabus for MDS in PROSTHODONTICS AND CROWN & BRIDGE
Adapted from (Part III, Section 4) The Gazette of India,
Dental Council of India,
Master of Dental Surgery Course Regulations 2017

AIM:

To train the dental graduates so as to ensure higher level of competence in both general and specialty areas of Prosthodontics and prepare candidates with teaching, research and clinical abilities including prevention and after care in Prosthodontics – removable dental prosthodontics, fixed dental prosthodontics (Crown & Bridge), implantology, maxillofacial prosthodontics and esthetic dentistry.

GENERAL OBJECTIVES OF THE COURSE:

Training program for the dental graduates in Prosthetic dentistry– removable dental prosthodontics, fixed dental prosthodontics (Crown & Bridge), implantology, maxillofacial prosthodontics and esthetic dentistry and Crown & Bridge including Implantology is structured to achieve knowledge and skill in theoretical and clinical laboratory, attitude, communicative skills and ability to perform research with a good understanding of social, cultural, educational and environmental background of the society.

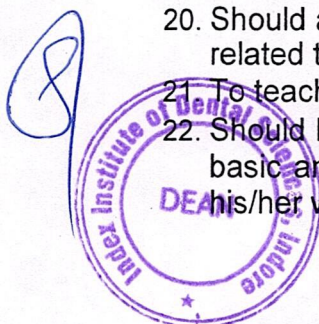
1. To have adequate acquired knowledge and understanding of applied basic and systemic medical sciences, both in general and in particularly of head and neck region.
2. The postgraduates should be able to provide Prosthodontic therapy for patients with competence and working knowledge with understanding of applied medical, behavioral and clinical science, that are beyond the treatment skills of the general BDS graduates and MDS graduates of other specialties,
3. To demonstrate evaluative and judgment skills in making appropriate decisions regarding prevention, treatment, after care and referrals to deliver comprehensive care to patients.

KNOWLEDGE:

The candidate should possess knowledge of applied basic and systemic medical sciences.

1. On human anatomy, embryology, histology, applied in general and particularly to head and neck, Physiology & Biochemistry, Pathology Microbiology & virology; health and diseases of various systems of the body (systemic) principles in surgery and medicine, pharmacology, nutrition, behavioral science, age changes, genetics, Immunology, Congenital defects & syndromes and Anthropology, Bioengineering, Bio-medical & Biological Principles
2. The student shall acquire knowledge of various Dental Materials used in the specialty and be able to provide appropriate indication, understand the manipulation characteristics, compare with other materials available, be adept with recent advancements of the same.

3. Students shall acquire knowledge and practice of history taking, Diagnosis, treatment planning, prognosis, record maintenance of oral, craniofacial and systemic region.
4. Ability for comprehensive rehabilitation concept with pre prosthetic treatment plan including surgical re-evaluation and prosthodontic treatment planning, impressions, jaw relations, utility of face bows, articulators, selection and positioning of teeth, teeth arrangement for retention, stability, esthetics, phonation, psychological comfort, fit and insertion.
5. Instructions for patients in after care and preventive Prosthodontics and management of failed restorations shall be possessed by the students.
6. Understanding of all the applied aspects of achieving physical, psychological well-being of the patients for control of diseases and / or treatment related syndromes with the patient satisfaction and restoring function of Cranio mandibular system for a quality life of a patient.
7. Ability to diagnose and plan treatment for patients requiring Prosthodontic therapy
8. Ability to read and interpret radiographs, and other investigations for the purpose of diagnosis and treatment planning.
9. The theoretical knowledge and clinical practice shall include principles involved for support, retention, stability, esthetics, phonation, mastication, occlusion, behavioral, psychological, preventive and social aspects of Prosthodontics science of Oral and Maxillofacial Prosthodontics and Implantology
10. Tooth and tooth surface restorations, Complete denture Prosthodontics, removable partial denture Prosthodontics, fixed prosthodontics and maxillofacial and Craniofacial Prosthodontics, implants and implant supported Prosthodontics, T.M.J. and occlusion, craniofacial esthetics, and biomaterials, craniofacial disorders, problems of psychogenic origin.
11. Should have knowledge of age changes, geriatric psychology, nutritional considerations and prosthodontic therapy in the aged population.
12. Should have ability to diagnose failed restoration and provide prosthodontic therapy and after care.
13. Should have essential knowledge on ethics, laws, and Jurisprudence and Forensic Odontology in Prosthodontics.
14. Should know general health conditions and emergency as related to prosthodontics treatment like allergy of various materials and first line management of aspiration of prosthesis
15. Should identify social, cultural, economic, environmental, educational and emotional determinants of the patient and consider them in planning the treatment.
16. Should identify cases, which are outside the area of his specialty / competence, refer them to appropriate specialists and perform interdisciplinary case management.
17. To advice regarding case management involving surgical and interim treatment
18. Should be competent in specialization of team management in craniofacial prosthesis design.
19. To have adequate acquired knowledge, and understanding of applied basic, and systemic medical science knowledge in general and in particular to head and neck regions.
20. Should attend continuing education programmes, seminars and conferences related to Prosthodontics, thus updating himself/herself.
21. To teach and guide his/her team, colleagues and other students.
22. Should be able to use information technology tools and carry out research both in basic and clinical areas, with the aim of publishing his/her work and presenting his/her work at various scientific forums.



Malwanchal University
Indore (M.P.)

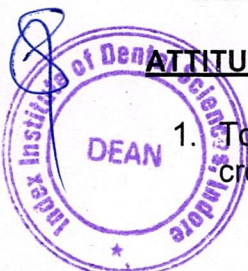
23. Should have an essential knowledge of personal hygiene, infection control, prevention of cross infection and safe disposal of waste, keeping in view the risk of transmission of potential communicable and transmissible infections like Hepatitis and HIV.
24. Should have an ability to plan and establish Prosthodontics clinic/hospital teaching department and practice management.
25. Should have a sound knowledge (of the applications in pharmacology, effects of drugs on oral tissues and systems of body and in medically compromised patients.

SKILLS:

1. The candidate should be able to examine the patients requiring Prosthodontic therapy, investigate the patient systemically, analyze the investigation results, radiographs, diagnose the ailment, plan the treatment, communicate it with the patient and execute it.
2. To understand the prevalence and prevention of diseases of craniomandibular system related to prosthetic dentistry.
3. The candidate should be able to restore lost functions of stomatognathic system like mastication, speech, appearance and psychological comforts by understanding biological, biomedical, bioengineering principles and systemic conditions of the patients to provide quality health care in the craniofacial regions.
4. The candidate should be able to demonstrate good interpersonal, communication skills **and** team approach in interdisciplinary care by interacting with other specialties including medical specialty for planned team management of patients for craniofacial & oral acquired and congenital defects, temporomandibular joint syndromes, esthetics, Implant supported Prosthetics and problems of Psychogenic origins.
5. Should be able to demonstrate the clinical competence necessary to carry out appropriate treatment at higher level of knowledge, training and practice skills currently available in their specialty area with a patient centered approach.
6. Should be able to interpret various radiographs like IOPA, OPG, CBCT and CT. Should and be able to plan and modify treatment plan based on radiographic findings
7. Should be able to critically appraise articles published and understand various components of different types of articles and be able to gather the weight of evidence from the same
8. To identify target diseases and create awareness amongst the population regarding Prosthodontic therapy.
9. To perform Clinical and Laboratory procedures with a clear understanding of biomaterials, tissue conditions related to prosthesis and have required dexterity & skill for performing clinical and laboratory all procedures in fixed, removable, implant, maxillofacial, TMJ and esthetics Prosthodontics.
10. To carry out necessary adjunctive procedures to prepare the patient before prosthesis like tissue preparation and preprosthetic surgery and to prepare the patient before prosthesis / prosthetic procedures
11. To understand demographic distribution and target diseases of Cranio mandibular region related to Prosthodontics.

ATTITUDES:

1. To adopt ethical principles in Prosthodontic practice, Professional honesty, credibility and integrity are to be fostered. Treatment to be delivered



[Signature]
 Registrar
 Malwanchal University
 Indore (M.P.)

- irrespective of social status, caste, creed or religion of patient.
2. Should be willing to share the knowledge and clinical experience with professional colleagues.
 3. Should develop an attitude towards quality, excellence, **non-compromising** in treatment.
 4. Should be able to self-evaluate, reflect and improve on their own.
 5. Should pursue research in a goal to contribute significant, relevant and useful information, concept or methodology to the scientific fraternity.
 6. Should be able to demonstrate **evidence-based** practice while handling cases
 7. Should be willing to adopt new methods and techniques in prosthodontics from time to time based on scientific research, which are in patient's best interest.
 8. Should respect patient's rights and privileges, including patient's right to information and right to seek second opinion.

COMMUNICATIVE ABILITIES:

1. To develop communication skills, in particular **and** to explain treatment options available in the management.
2. To provide leadership and get the best out of his / her group in a congenial working atmosphere.
3. Should be able to communicate in simple understandable language with the patient and explain the principles of prosthodontics to the patient. He/She should be able to guide and counsel the patient with regard to various treatment modalities available.
4. To develop the ability to communicate with professional colleagues through various media like Internet, e-mails, videoconferences etc. to render the best possible treatment. Should demonstrate good explanatory and demonstrating ability as a teacher in order to facilitate learning among students

COURSE CONTENTS:

The course content has been identified and categorized as essential knowledge given below.

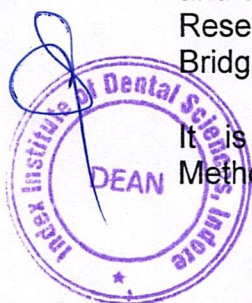
ESSENTIAL KNOWLEDGE:

The topics to be considered are Applied Basic Sciences, Oral and Maxillofacial Prosthodontics and Implantology

APPLIED BASIC SCIENCES:

Should develop thorough knowledge on the applied aspects of Anatomy, Embryology, Histology particularly head and neck, Physiology, Biochemistry, Pathology, Microbiology, Virology, Pharmacology, Health and systematic diseases principles in surgery medicine and Anesthesia, Nutrition, Behavioral sciences, age changes, genetics, Dental Material Science, congenital defects and Syndromes and Anthropology, Biomaterial Sciences, Bio-engineering and Bio-medical and Research Methodology as related to Masters degree Prosthodontics and Crown & Bridge including Implantology

It is desirable to have adequate knowledge in Bio-statistics, Research Methodology and use of computers to develop necessary teaching skills in the



15/12/22
 Registrar
 Malwanchal University
 Indore (M.P.)

specialty of Prosthodontics including crown and bridge.

APPLIED ANATOMY OF HEAD AND NECK:

General Human Anatomy –Gross Anatomy, anatomy of Head and Neck in detail: Cranial and facial bones, TMJ and function, muscles of mastication and facial expression, muscles of neck and back including muscles of deglutition and tongue, arterial supply and venous drainage of the head and neck, anatomy of the Para nasal sinuses in relation to the Vth cranial nerve. General considerations of the structure and function of the brain, brief considerations of V, VII, XI, XII, cranial nerves and autonomic nervous system of the head and neck. The salivary glands, Pharynx, Larynx Trachea, Oesophagus, Functional Anatomy of masticatory muscles, Deglutition, speech, respiration, and circulation, teeth eruption, morphology, occlusion and function. Anatomy of TMJ, its movements and myofacial pain dysfunction syndrome.

Embryology –Development of the face, tongue, jaws, TMJ, Paranasal sinuses, pharynx, larynx, trachea, esophagus, Salivary glands, Development of oral and Para oral tissues including detailed aspects of tooth formation.

Growth & Development –Facial form and Facial growth and development overview of Dentofacial growth process and physiology from foetal period to maturity and old age,. General physical growth, functional and anatomical aspects of the head, changes in craniofacial skeletal development, relationship between development of the dentition and facial growth.

Dental Anatomy –Anatomy of primary and secondary dentition, concept of occlusion, mechanism of articulation, and masticatory function. Detailed structural and functional study of the oral and Para oral tissues, normal occlusion, development of occlusion in deciduous mixed and permanent dentitions, root length, root configuration & tooth-numbering systems.

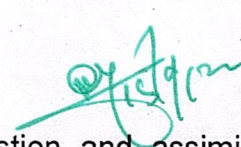
Histology –histology of enamel, dentin, cementum, periodontal ligament and alveolar bone, pulpal anatomy, histology and biological consideration. Salivary glands and Histology of epithelial tissues including glands.

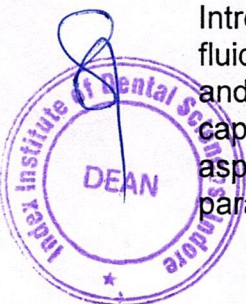
Histology of general and specific connective tissue including bone, , Salivary glands, Histology of skin, oral mucosa, respiratory mucosa, connective tissue, bone, cartilage, cellular elements of blood vessels, blood, lymphatics, nerves, muscles, tongue and tooth

Cell biology –Brief study of the structure and function of the mammalian cell Components of the cell and functions of various types of cells and their consequences with tissue injury

APPLIED PHYSIOLOGY AND NUTRITION:

Introduction, Mastication, deglutition, digestion and assimilation, Homeostasis, fluid and electrolyte balance, blood composition, volume, function, blood groups and hemorrhage, Blood transfusion, circulation, Heart, Pulse, Blood pressure, capillary and lymphatic circulation. Shock, respiration, control, anoxia, hypoxia, asphyxia, artificial respiration. Endocrine glands in particular reference to pituitary, parathyroid and thyroid glands and sex hormones. Role of calcium and Vit D in


Registrar
Malwanchal University
Indore (M.P.)



growth and development of teeth, bone and jaws. Role of Vit. A, C and B complex in oral mucosal and periodontal health. Physiology and function of the masticatory system. Speech mechanism, mastication, swallowing and deglutition mechanism, salivary glands and Saliva

Endocrines – General principles of endocrine activity and disorders relating to pituitary, thyroid, pancreas, parathyroid, adrenals, gonads, including pregnancy and lactation. Physiology of saliva, urine formation, normal and abnormal constituents, Physiology of pain, Sympathetic and parasympathetic nervous system, neuromuscular co-ordination of the stomatognathic system.

Applied Nutrition – General principles, balanced diet, effect of dietary deficiencies and starvation, Diet, digestion, absorption, transportation and utilization & diet for elderly patients.

APPLIED BIOCHEMISTRY:

General principles governing the various biological activities of the body, such as osmotic pressure, electrolytic dissociation, oxidation-reduction Carbohydrates, proteins, lipids and their metabolism, Enzymes, Vitamins, and minerals, Hormones, Blood, Metabolism of inorganic elements, Detoxification in the body & anti metabolites.

APPLIED PHARMACOLOGY AND THERAPEUTICS:

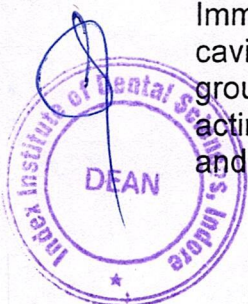
Dosage and mode of administration of drugs. Action and fate of drugs in the body, Drug addiction, tolerance and hypersensitive reactions, Drugs acting on the central nervous system, general anesthetics hypnotics, analeptics and tranquilizers. Local anesthetics, Chemotherapeutics and antibiotics, Antitubercular and anti-syphilitic drugs, Analgesics and antipyretics, Antiseptics, styptics, Sialogogues and anti-sialogogues, Haematinics, Cortisones, ACTH, insulin and other antidiabetics vitamins: A, D, B – complex group C, K etc. Chemotherapy and Radiotherapy. Drug regime for antibiotic prophylaxis and infectious endocarditis and drug therapy following dental surgical treatments like placement of implants, pre and peri prosthetic surgery

APPLIED PATHOLOGY:

Inflammation, repair and degeneration, Necrosis and gangrene, Circulatory disturbances, Ischaemia, hyperaemia, chronic venous congestion, oedema, thrombosis, embolism and infarction. Infection and infective granulomas, Allergy and hypersensitive reactions, Neoplasms; Classification of tumors, Carcinogenesis, characteristics of benign and malignant tumors, spread of tumors. Applied histo pathology and clinical pathology.

APPLIED MICROBIOLOGY:

Immunity, knowledge of organisms commonly associated with diseases of the oral cavity (morphology cultural characteristics etc) of strepto, staphylo, Clostridia group of organisms, Spirochaetes, organisms of tuberculosis, leprosy, diphtheria, actinomycosis and moniliasis etc. Virology, Cross infection control, sterilization and hospital waste management



Registrar
Malwanchal University
Indore (M.P.)

APPLIED ORAL PATHOLOGY:

Developmental disturbances of oral and Para oral structures, Regressive changes of teeth, Bacterial, viral and mycotic infections of the oral cavity. Dental caries, diseases of pulp and periapical tissues, Physical and chemical injuries of the oral cavity, oral manifestations of metabolic and endocrine disturbances, Diseases of the blood and blood forming organism in relation to the oral cavity, Periodontal diseases, Diseases of the skin, nerves and muscles in relation to the Oral cavity.

LABORATORY DETERMINATIONS:

Blood groups, blood matching, R.B.C. and W.B.C. count, Bleeding and clotting time, PT, PTT and INR Smears and cultures – urine analysis and culture. Interpretation of RBS, Glycosylated Hb, GTT

BIOSTATISTICS:

Characteristics and limitations of statistics, planning of statistical experiments, sampling, collection, classification and presentation of data (Tables, graphs, pictograms etc) & Analysis of data, parametric and non parametric tests

Introduction to Biostatistics - Scope and need for statistical application to biological data. Definition of selected terms – scale of measurements related to statistics, Methods of collecting data, presentation of the statistical diagrams and graphs.

Frequency curves, mean, mode of median, Standard deviation and co-efficient of variation, Correlation – Co-efficient and its significance, Binominal distributions normal distribution and Poisson's distribution, Tests of significance.

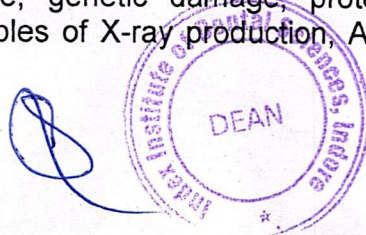
RESEARCH METHODOLOGY:

Understanding and evaluating dental research, scientific method and the behavior of scientists, understanding to logic – inductive logic – analogy, models, authority, hypothesis and causation,. Measurement and Errors of measurement, presentation of results, Reliability, Sensitivity and specificity diagnosis tests and measurements, Research Strategies, Observation, Correlation, Experimentation and Experimental design. Logic of statistical in(ter)ferences, balance judgements, judgement under uncertainty, clinical vs., scientific judgement, problems with clinical judgement, forming scientific judgements, the problem of contradictory evidence, citation analysis as a Means of literature evaluation, influencing judgement :

Protocol writing for experimental, observational studies, survey including hypothesis, PICO statement, aim objectives, sample size justification, use of control/placebo, standardization techniques, bias and its elimination, blinding, evaluation, inclusion and exclusion criteria.

APPLIED RADIOLOGY:

Introduction, radiation, background of radiation, sources, radiation biology, somatic damage, genetic damage, protection from primary and secondary radiation, Principles of X-ray production, Applied principles of radio therapy and after care.



Registrar
Malwanchal University
Indore (M.P.)

ROENTGENOGRAPHIC TECHNIQUES:

Intra oral, extra oral roentgenography, Methods of localization digital radiology and ultra sounds. Normal anatomical landmarks of teeth and jaws in radiograms, temporomandibular joint radiograms, neck radiograms.
Use of CT and CBCT in prosthodontics

APPLIED MEDICINE:

Systemic diseases and (its) their influence on general health and oral and dental health. Medical emergencies like syncope, hyperventilation, angina, seizure, asthma and allergy/anaphylaxis in the dental offices – Prevention, preparation, medico legal consideration, unconsciousness, respiratory distress, altered consciousness, seizures, drug related emergencies, chest pain, cardiac arrest, premedication, prophylaxis and management of ambulatory patients, resuscitation, applied psychiatry, child, adult and senior citizens.

APPLIED SURGERY & ANESTHESIA:

General principles of surgery, wound healing, incision wound care, hospital care, control of hemorrhage, electrolyte balance. Common bandages, sutures, splints, shifting of critically ill patients, prophylactic therapy, bone surgeries, grafts, etc, surgical techniques, nursing assistance, anesthetic assistance.

Principles in speech therapy, surgical and radiological craniofacial oncology, applied surgical ENT and ophthalmology.

APPLIED PLASTIC SURGERY:

Applied understanding and assistance in programs of plastic surgery for prosthodontics therapy.

APPLIED DENTAL MATERIALS:

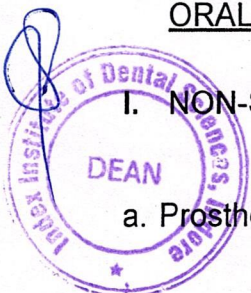
1. Students should have understanding of all materials used for treatment of craniofacial disorders – Clinical, treatment, and laboratory materials, associated materials, technical considerations, shelf life, storage, manipulations, sterilization, and waste management.
2. Students shall acquire knowledge of testing biological, mechanical and other physical properties of all materials used for the clinical and laboratory procedures in prosthodontic therapy.
 - a. Students shall acquire full knowledge and practice of Equipments, instruments, materials, and laboratory procedures at a higher level of competence with accepted methods.

All clinical practices shall involve personal and social obligation of cross infection control, sterilization and waste management.

ORAL AND MAXILLOFACIAL PROSTHODONTICS AND IMPLANTOLOGY:

I. NON-SURGICAL AND SURGICAL METHODS OF PROSTHODONTICS AND IMPLANTOLOGY

- a. Prosthodontic treatment for completely edentulous patients – complete dentures,



Handwritten signature and date '15/12/22' above a blue stamp that reads 'Registrar', 'Gachal University', 'Indore (M.P.)', and 'Malwa'.

immediate complete dentures, single complete dentures, tooth supported complete dentures & Implant supported Prosthesis for completely edentulous patients for typical and atypical cases.

- b. Prosthodontic treatment for partially edentulous patients: - Clasp-retained acrylic and cast partial dentures, transitional dentures, immediate dentures, intra coronal and extra coronal precision attachments retained partial dentures & maxillofacial prosthesis for typical and atypical cases.

Prosthodontic treatment for edentulous patients: - Complete Dentures and Implant supported Prosthesis.

Complete Denture Prosthesis – Definitions, terminologies, G.P.T., Boucher's clinical dental terminology

Scope of Prosthodontics – The Cranio Mandibular system and its functions, the reasons for loss of teeth, consequences of loss of teeth and treatment modality with various restorations and replacements

a) Edentulous Predicament, Biomechanics of the edentulous state, Support mechanism for the natural dentition and complete dentures, Biological considerations, Functional and Para functional considerations, Esthetic, behavioral and adaptive responses, Temporomandibular joints changes.

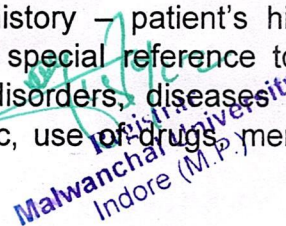
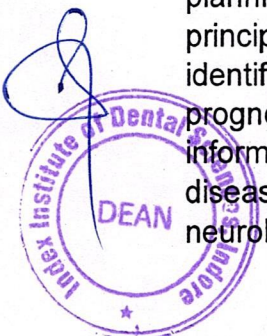
b) Effects of aging of edentulous patients –aging population, distribution and edentulism in old age, impact of age on edentulous mouth – Mucosa, Bone, saliva, jaw movements in old age, taste and smell, nutrition, aging, skin and teeth, concern for personal appearance in old age.

c) Sequelae caused by wearing complete denture –the denture in the oral environment – Mucosal reactions, altered taste perception, burning mouth syndrome, gagging, residual ridge (reduction) resorption, denture stomatitis, flabby ridge, denture irritation hyperplasia, traumatic Ulcers, Oral cancer in denture wearers, nutritional deficiencies, masticatory ability and performance, nutritional status and masticatory functions.

d) Temporomandibular disorders in edentulous patients –Epidemiology, etiology and management, Pharmacotherapy, Physical modalities, and Bio-behavioral modalities.

e) Nutrition Care for the denture wearing patient –Impact of dental status on food intake, Gastrointestinal functions, nutritional needs and status of older adults, Calcium and bone health, vitamin and herbal supplementation, dietary counseling and risk factor for malnutrition in patients with dentures and when teeth are extracted.

f) Preparing patient for complete denture patients –Diagnosis and treatment planning for edentulous and partially edentulous patients – familiarity with patients, principles of perception, health questionnaires and identification data, problem identification, prognosis and treatment identification data, problem identification, prognosis and treatment planning – contributing history – patient's history, social information, medical status – systemic status with special reference to debilitating diseases, diseases of the joints, cardiovascular disorders, diseases of the skin, neurological disorders, oral malignancies, climacteric, use of drugs, mental health –



mental attitude, psychological changes, adaptability, geriatric changes – physiologic, pathological, pathological and intra oral changes. Intra oral health - mucus membrane, alveolar ridges, palate and vestibular sulcus and dental health.

Data collection and recording, visual observation, radiography, palpation, measurement of sulci or fossae, extra oral measurement, the vertical dimension of occlusion, diagnostic casts.

Specific observations – existing dentures, soft tissue health, hard tissue health – teeth, bone.

Biomechanical considerations – jaw relations, border tissues, saliva, muscular development muscle tone, neuromuscular co-ordination, tongue, cheek and lips. Interpreting diagnostic findings and treatment planning.

g) Pre prosthetic surgery –Improving the patients denture bearing areas and ridge relations.

h) Non surgical methods –rest for the denture supporting tissues, occlusal correction of the old prosthesis, good nutrition, conditioning of the patients musculature.

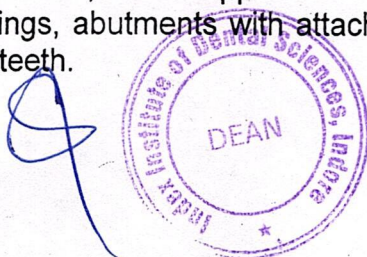
i) Surgical methods –Correction of conditions, that preclude optimal prosthetic function – hyperplastic ridge – epulis fissuratum and papillomatosis, frenular attachments and pendulous maxillary tuberosities, ridge augmentation, maxillary and mandibular oral implants, corrections of congenital deformities, discrepancies in jaw size, relief of pressure on the mental foramen, enlargement of denture bearing areas, vestibuloplasty, ridge augmentation, replacement of tooth roots with Osseo integrated denture implants.

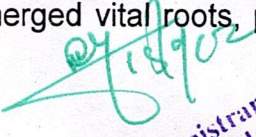
j) Immediate Denture –Advantages, Disadvantages, Contraindications,Diagnosis, treatment planning and Prognosis, Explanation to the patient, Oral examinations, Examination of existing prosthesis, Tooth modification, Prognosis, Referrals/adjunctive care, oral prophylaxis and other treatment needs.

First visit, preliminary impressions and diagnostic casts, management of loose teeth, custom trays, final impressions and master casts, two tray or sectional custom impression tray, location of posterior limit and jaw relation records, setting of the posterior denture teeth / verifying jaw relations and the patient try in.

Laboratory phase, setting of anterior teeth, Wax contouring, flasking and boil out, processing and finishing, surgical templates, surgery and immediate denture insertion, post operative care and patient instructions, subsequent service for the patient on the immediate denture.

k) Over dentures (tooth supported complete dentures)–indications and treatment planning, advantages and disadvantages, selection of abutment teeth, loss of abutment teeth, tooth supported complete dentures. Non-coping abutments, abutment with copings, abutments with attachments, submerged vital roots, preparations of the retained teeth.




Registrar
Malwanchal University
Indore (M.P.)

l) Single Dentures: Single Mandibular denture to oppose natural maxillary teeth, single complete maxillary denture to oppose natural Mandibular teeth to oppose a partially edentulous Mandibular arch with fixed prosthesis, partially edentulous Mandibular arch with removable partial dentures. Opposing existing complete dentures, preservation of the residual alveolar ridge, necessity for retaining maxillary teeth and preventing mental trauma.

m) Art of communication in the management of the edentulous predicament – Communication–scope, a model of communication, why communication is important? What are the elements of effective communication? special significance of doctor / patient communication, doctor behavior, The iatro sedative (doctor & act of making calm) recognizing and acknowledging the problem, exploring and identifying the problem, interpreting and explaining the problem, offering a solution to the problem for mobilizing their resources to operate in a most efficient way, recognizing and acknowledging the problem, interpreting and explaining the problem, offering a solution to the problem.

n) Materials prescribed in the management of edentulous patients - Denture base materials, General requirements of biomaterials for edentulous patients, requirement of an ideal denture base, chemical composition of denture base resins, materials used in the fabrication of prosthetic denture teeth, requirement of prosthetic denture teeth, denture lining materials and tissue conditioners, cast metal alloys as denture bases – base metal alloys.

o) Articulators – Evolution of concepts, Classification, selection, limitations, precision, accuracy and sensitivity, and Functions of the articulator and their uses. Recent advancements including virtual articulator.

p) Fabrication of complete dentures –complete denture impressions–muscles of facial expressions and anatomical landmarks, support, retention, stability, aims and objectives of preservation, support, stability, aesthetics, and retention. Impression materials and techniques – need of 2 impressions the preliminary impression and final impressions.

Developing an analogue / substitute for the maxillary denture bearing area – anatomy of supporting structures – mucous membrane, hard palate, residual ridge, shape of the supporting structure and factors that influence the form and size of the supporting bones, incisive foramen, maxillary tuberosity, sharp spiny process, torus palatinus, Anatomy of peripheral or limiting structures, labial vestibule, Buccal vestibule, vibrating lines. Preliminary and final impressions, impression making, custom tray and refining the custom tray, preparing the tray to secure the final impression, making the final impression, boxing impression and making the casts. Developing an analogue / substitute for the Mandibular denture bearing area-anatomy of supporting structure, crest of the residual ridge, buccal shelf, shape of supporting structure, mylohyoid ridge, mental foramen, genial tubercles, torus mandibularis, Anatomy of peripheral or limiting structure – labial vestibule, Buccal vestibule, lingual border, mylohyoid muscle, retromylohyoid fossa, sublingual gland region, alveolingual sulcus, Mandibular impressions – preliminary impressions, custom tray, refining, preparing the tray, final impressions.

q) Mandibular movements, Maxillo mandibular relations and concepts of occlusion – Gnathology, identification of shape and location of arch form–Mandibular and maxillary occlusion rims, level of occlusal plane and recording of trail denture base, tests to determine vertical dimension of occlusion, interocclusal & centric relation

records. Biological and clinical considerations in making jaw relation records and transferring records from the patients to the articulator, Recording of Mandibular movements – influence of opposing tooth contacts, temporomandibular joint, muscular involvements, neuromuscular regulation of Mandibular motion, the envelope of motion, rest position.

Maxillo – Mandibular relations – the centric, eccentric, physiologic rest position, vertical dimension, occlusion, recording methods – mechanical, physiological, Determining the horizontal jaw relation – Functional graphics, tactile or interocclusal check record method, Orientation / sagittal relation records, Arbitrary/ Hinge axis and face bow record, significance and requirement, principles and biological considerations and securing on articulators.

r) Selecting and arranging artificial teeth and occlusion for the edentulous patient – anterior tooth selection, posterior tooth selection, and principles in arrangement of teeth, and factors governing the position of teeth – horizontal & vertical relations. The inclinations and arrangement of teeth for aesthetics, phonetics and mechanics – to concept of occlusion.

s) The Try in –verifying vertical dimension, centric relation, establishment of posterior palatal seal, creating a facial and functional harmony with anterior teeth, harmony of spaces of individual teeth position, harmony with sex, personality and age of the patient, co-relating aesthetics and incisal guidance.

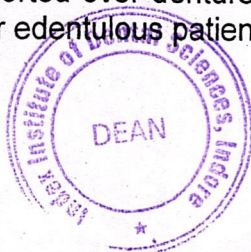
t) Speech considerations with complete dentures & speech production –structural and functional demands, neuropsychological background, speech production and the roll of teeth and other oral structures – bilabial sounds, labiodental(s) sounds, linguodental sounds, linguoalveolar sound, articulatoric characteristics, acoustic characteristics, auditory characteristics, linguopalatal and linguoalveolar sounds, speech analysis and prosthetic considerations.

u) Waxing contouring and processing the dentures their fit and insertion and after care –laboratory procedure–wax contouring, flasking and processing, laboratory remount procedures, **selective grinding**, finishing and polishing.

Critiquing the finished prosthesis – doctors evaluation, patients evaluation, friends evaluation, elimination of basal surface errors, errors in occlusion, interocclusal records for remounting procedures – verifying centric relation, eliminating occlusal errors.

Special instructions to the patient – appearance with new denture, mastication with new dentures, speaking with new dentures, oral hygiene with dentures, preservation of residual ridges and educational material for patients, maintaining the comfort and health of the oral cavity in the rehabilitated edentulous patients. Twenty-four hours oral examination and treatment and (preventive) Prosthodontic – periodontic recall for oral examination 3 to 4 months intervals and yearly intervals.

v) Implant supported Prosthesis for partially edentulous patients –Science of Osseo integration, clinical protocol (**diagnostic,surgical and prosthetic**) for treatment with implant supported over dentures, managing problems and complications. Implant Prosthodontics for edentulous patients: current and future directions.



Registrar
Malwanchal University
Indore (M.P.)

Implant supported prosthesis for partially edentulous patients – Clinical and laboratory protocol: Implant supported prosthesis, managing problems and complications

- Introduction and Historical Review
- Biological, clinical and surgical aspects of oral implants
- Diagnosis and treatment planning
- Radiological interpretation for selection of fixtures
- Splints for guidance for surgical placement of fixtures
- **Surgical and** Intra oral plastic surgery, if any
- Guided bone and Tissue regeneration consideration for implants fixture.
- Implant supported prosthesis for complete edentulism and partial edentulism
- Occlusion for implant supported prosthesis.
- Peri-implant tissue and Management of peri-implantitis
- Maintenance and after care
- Management of failed restoration.
- Work authorization for implant supported prosthesis – definitive instructions, legal aspects, delineation of responsibility.

Prosthodontic treatment for partially edentulous patients – Removable partial Prosthodontics –

a. Scope, definition and terminology, Classification of partially edentulous arches - requirements of an acceptable method of classification, Kennedy's classification, Applegate's rules for applying the Kennedy classification

b. Components of RPD –

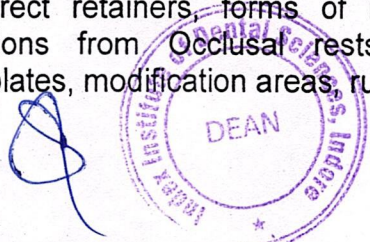
i) major connector–mandibular and maxillary

ii) minor connectors, design, functions & form and location of major and minor connectors, tissue stops, finishing lines, reaction of tissue to metallic coverage

iii) Rest and rest seats – form of the Occlusal rest and rest seat, interproximal Occlusal rest seats, internal Occlusal rests, possible movements of partial dentures, support for rests, lingual rests on canines and incisor teeth, incisal rest and rest seat.

iv) Direct retainers- Internal attachments & extracoronal direct retainers. Relative uniformity of retention, flexibility of clasp arms, stabilizing reciprocal clasp, criteria for selecting a given clasp design, the basic principles of clasp design, circumferential clasp, bar clasp, combination clasp and other type of retainers.

v) Indirect Retainers – denture rotation about an axis, factors influencing effectiveness of indirect retainers, forms of indirect retainers, auxiliary Occlusal rest, canine extensions from Occlusal rests, canine rests, continuous bar retainers and linguoplates, modification areas, rugae support, direct – indirect retention



Registrar
Malwanchal University
Indore (M.P.)

vi) Teeth and denture bases – types, materials, advantages and dis-advantages, indications and contraindications and clinical use.

Principles of removable partial Denture design – Bio mechanical considerations, and the factors influencing after mouth preparations – Occlusal relationship of remaining teeth, orientation of Occlusal plane, available space for restoration, arch integrity, tooth morphology, response of oral structure to previous stress, periodontal conditions, abutment support, tooth supported and tooth and tissue supported, need for indirect retention, clasp design, need for rebasing, secondary impression, need for abutment tooth modification, type of major connector, type of teeth selection, patients past experience, method of replacing single teeth or missing anterior teeth.

Difference between tooth supported and tissue supported partial dentures. Essentials of partial denture design, components of partial denture design, tooth support, tissue support, stabilizing components, guiding planes, use of splint bar for denture support, internal clip attachments, overlay abutment as support for a denture base, use of a component partially to gain support.

c. Education of patient

d. Diagnosis and treatment planning

e. Design, treatment sequencing and mouth preparation

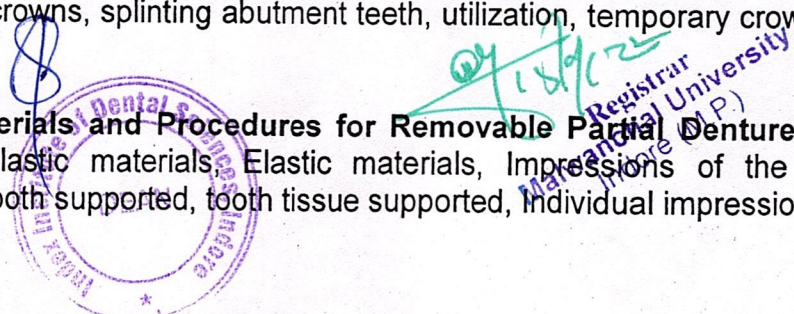
f. Surveying –Description of dental surveyor, purposes of surveying, Aims and objectives in surveying of diagnostic cast and master cast, Final path of insertion, factors that determine path of insertion and removal, Recording relation of cast to surveyor, measuring amount of retentive area Blocking of master cast – paralleled blockout, shaped blockout, arbitrary blockout and relief.

g. Diagnosis and treatment planning –Infection control and cross infection barriers – clinical and laboratory and hospital waste management, Objectives of prosthodontic treatment, Records, systemic evaluation, Oral examination, preparation of diagnostic cast, interpretation of examination data, radiographic interpretation, periodontal considerations, caries activity, prospective surgical preparation, endodontic treatment, analysis of occlusal factors, fixed restorations, orthodontic treatment, need for determining the design of components, impression procedures and occlusion, need for reshaping remaining teeth, reduction of unfavorable tooth contours, differential diagnosis : fixed or removable partial dentures, choice between complete denture and removable partial dentures, choice of materials

h. Preparation of Mouth for removable partial dentures –Oral surgical preparation, conditioning of abused and irritated tissues, periodontal preparation – objectives of periodontal therapy, periodontal diagnosis, control therapy, periodontal surgery.

i. Preparation of Abutment teeth –Classification of abutment teeth, sequence of abutment preparations on sound enamel or existing restorations, conservative restorations using crowns, splinting abutment teeth, utilization, temporary crowns to be used as abutment.

j. Impression Materials and Procedures for Removable Partial Dentures –Rigid materials, thermoplastic materials, Elastic materials, Impressions of the partially edentulous arch, Tooth supported, tooth tissue supported, individual impression trays.



k. Support for the Distal Extension Denture Base –Distal extension removable partial denture, Factors influencing the support of distal extension base, Methods of obtaining functional support for the distal extension base.

l. Laboratory Procedures –Duplicating a stone cast, Waxing the partial denture framework, Anatomic replica patterns, Spruing, investing, burnout, casting and finishing of the partial denture framework, making record bases, occlusion rims, making a stone occlusal template from a functional occlusal record, arranging posterior teeth to an opposing cast or template, arrangement of anterior teeth, waxing and investing the partial denture before processing acrylic resin bases, processing the denture, remounting and occlusal correction to an occlusal template, polishing the denture.

m. Initial placement, adjustment and servicing of the removable partial denture –adjustments to bearing surfaces of denture framework, adjustment of occlusion in harmony with natural and artificial dentition, instructions to the patient, follow – up services

n. Relining and Rebasing the removable partial denture –Relining tooth supported dentures bases, relining distal extension denture bases, methods of reestablishing occlusion on a relined partial denture.

o. Repairs and additions to removable partial dentures –Broken clasp arms, fractured occlusal rests, distortion or breakage of other components – major and minor connectors, loss of a tooth or teeth not involved in the support or retention of the restoration, loss of an abutment tooth necessitating its replacement and making a new direct retainer, Other types of repairs & repair by soldering.

p. Removable partial denture considerations in maxillofacial prosthetics – Maxillofacial prosthetics, intra oral prosthesis, design considerations, maxillary prosthesis, Obturators, speech aids, palatal lifts, palatal augmentations, mandibular prosthesis, treatment planning, framework design, class I resection, Class II resection, mandibular flange prosthesis, jaw relation records.

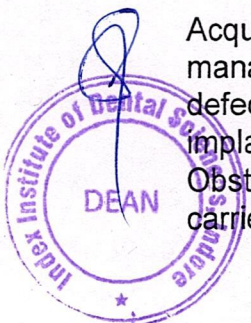
q. Management of failed restorations and work authorization details.

II. MAXILLOFACIAL REHABILITATION:

Scope, terminology, definitions, cross infection control and hospital waste management, work authorization.

Behavioral and psychological issues in Head and neck cancer, Psychodynamic interactions between clinician and patient. **Cancer Chemotherapy:** Oral Manifestations, Complications, and management, **Radiation therapy of head and neck tumors:** Oral effects, Dental manifestations and dental treatment: Etiology, treatment and rehabilitation (restoration).

Acquired defects of the mandible, acquired defects of hard palate, soft palate, clinical management of edentulous and partially edentulous maxillectomy patients, Facial defects, Restoration of speech, Velopharyngeal function, cleft lip and palate, cranial implants, maxillofacial trauma, Lip and cheek support prosthesis, Laryngectomy aids, Obstructive sleep apnoea, Tongue prosthesis, Oesophageal prosthesis, radiation carriers, Burn stents, Nasal stents, Vaginal and anal stents, Auditory inserts, Trismus



Registered
Malwanchal University
Indore (M.P.)

appliances, mouth controlled devices for assisting the handicapped, custom prosthesis, conformers, and orbital prosthesis for ocular and orbital defects. Osseo integrated supported facial and maxillofacial prosthesis. Resin bonding for maxillofacial prosthesis, cranial prosthesis Implant rehabilitation of the mandible compromise by radiotherapy, Prosthodontic treatment, Material and laboratory procedures for maxillofacial prosthesis.

III. OCCLUSION

EVALUATION, DIAGNOSIS AND TREATMENT OF OCCLUSAL PROBLEMS:

Scope, definition, terminology, optimum oral health, anatomic harmony, functional harmony, occlusal stability, causes of deterioration of dental and oral health. Anatomical, physiological, neuro – muscular, psychological considerations of teeth; muscles of mastication; temporomandibular joint; intra oral and extra oral and facial musculatures and the functions of Cranio mandibular system.

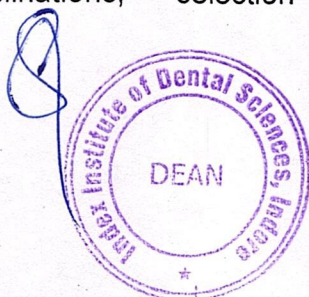
Occlusal therapy, the stomatognathic system, centric relation, vertical dimension, the neutral zone, the occlusal plane, differential diagnosis of temporomandibular disorders, understanding and diagnosing intra articular problems, relating treatment to diagnosis of internal derangements of TMJ, Occlusal splints. Selecting instruments for occlusal diagnosis and treatment, mounting casts, Pankey-Mann-Schuyler philosophy of complete occlusal rehabilitation, long centric, anterior guidance, restoring lower anterior teeth, restoring upper anterior teeth, determining the type of posterior occlusal contours, methods for determining the plane of occlusion, restoring lower posterior teeth, restoring upper posterior teeth, functionally generated path techniques for recording border movements intra orally, occlusal equilibration.

Bruxism, Procedural steps in restoring occlusion, requirements for occlusal stability, solving occlusal problems through programmed treatment planning, splinting, solving – occlusal wear problems, deep overbite problems, anterior overjet problems, anterior open bite problems. Treating – end to end occlusion, splaed anterior teeth, cross bite problems, Crowded, irregular, or interlocking anterior bite. Using Cephalometric for occlusal analysis, solving severe arch malrelationship problems, transcranial radiography, postoperative care of occlusal therapy.

IV. FIXED PROSTHODONTICS

Scope, definitions and terminology, classification and principles, design, mechanical and biological considerations of components – Retainers, connectors, pontics, work authorization.

- **Diagnosis and treatment planning** – patients history and interview, patients desires and expectations and needs, systemic and emotional health, clinical examinations – head and neck, oral – teeth, occlusal and periodontal, Preparation of diagnostic cast, radiographic interpretation, Aesthetics, endodontics considerations, abutment selection – bone support, root proximities and inclinations, selection of abutments for cantilever, pier



[Signature]
Registrar
Malwanchal University
Indore (M.P.)

[Type here]

abutments, splinting, available tooth structures and crown morphology, TMJ and muscles of mastication and comprehensive planning and prognosis.

- **Management of Carious teeth** –caries in aged population, caries control, removal caries, protection of pulp, reconstruction measure for compromised teeth – retentive pins, horizontal slots, retentive grooves, prevention of caries, diet, prevention of root caries and vaccine for caries.
- **Periodontal considerations** –attachment units, ligaments, prevention of gingivitis, periodontitis. Microbiological aspect of periodontal diseases, marginal lesion, occlusal trauma, periodontal pockets in attached gingiva, interdental papilla, gingival embrasures, gingival/periodontal prosthesis, radiographic interpretations of Periodontia, intraoral, periodontal splinting – Fixed prosthodontics with periodontially compromised dentitions, placement of margin restorations.
- **Biomechanical principles of tooth preparation** –individual tooth preparations - Complete metal Crowns – P.F.C., All porcelain – Cerestore crowns, dicor crowns, inceram etc. porcelain jacket crowns; partial 3/4, 7/8, telescopic, pin– ledge, laminates, inlays, onlays. Preparations for restoration of teeth– amalgam, glass ionomer and composite resins. Resin bond retainers, Gingival marginal preparations – Design, material selection, and biological and mechanical considerations – intracoronal retainer and precision attachments – custom made and prefabricated.
- **Isolation and fluid control** – Rubber dam application(s), tissue dilation–soft tissue management for cast restoration, impression materials and techniques, provisional restorations, interocclusal records, laboratory support for fixed Prosthodontics, Occlusion, Occlusal equilibration, articulators, recording and transferring of occlusal relations, cementing of restorations.
- **Resins, Gold and gold alloys, glass ionomer, restorations.**
- **Restoration of endodontically treated teeth, Stomatognathic Dysfunction and management**
- **Management of failed restorations**
 - **Osseo integrated supported fixed Prosthodontics** –Osseo integrated supported and tooth supported fixed Prosthodontics
- **CAD – CAM Prosthodontics**

V. TMJ – Temporomandibular joint dysfunction – Scope, definitions, and terminology

Temporomandibular joint and its function, Orofacial pain, and pain from the temporomandibular joint region, temporomandibular joint dysfunction, temporomandibular joint sounds, temporomandibular joint disorders, Anatomy



Registrar
Malwanchal University
Indore (M.P.)

[Type here]

related, trauma, disc displacement, Osteoarthritis/Osteoarthritis, Hyper mobility and dislocation, infectious arthritis, inflammatory diseases, Eagle's syndrome (Styloid – stylohyoid syndrome), Synovial chondromatosis, Osteochondrosis disease, Osteonecrosis, Nerve entrapment process, Growth changes, Tumors, Radiographic imaging

- Etiology, diagnosis and cranio mandibular pain, differential diagnosis and management of orofacial pain – pain from teeth, pulp, dentin, muscle pain, TMJ pain– psychologic, physiologic – endogenous control, acupuncture analgesia, Placebo effects on analgesia, Trigeminal neuralgia, Temporal arteritis
- Occlusal splint therapy – construction and fitting of occlusal splints, management of occlusal splints, therapeutic effects of occlusal splints, occlusal splints and general muscles performance, TMJ joint uploading and anterior repositioning appliances, use and care of occlusal splints.
- Occlusal adjustment procedures – Reversible – occlusal stabilization splints and physical therapies, jaw exercises, jaw manipulation and other physiotherapy or irreversible therapy – occlusal repositioning appliances, orthodontic treatment, Orthognathic surgery, fixed and removable prosthodontic treatment and occlusal adjustment, removable prosthodontic treatment and occlusal adjustment. Indication for occlusal adjustment, special nature of orofacial pain, Psychopathological considerations, occlusal adjustment philosophies, mandibular position, excursive guidance, occlusal contact scheme, goals of occlusal adjustment, significance of a slide in centric, Preclinical procedures, clinical procedures for occlusal adjustment.

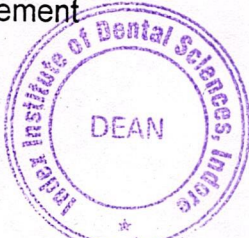
VI. ESTHETICS

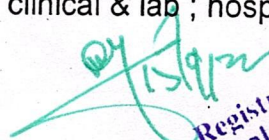
SCOPE, DEFINITIONS :

Morpho psychology and esthetics, structural esthetic rules –facial components, dental components, gingival components and physical components. Esthetics and its relationship to function – Crown morphology, physiology of occlusion, mastication, occlusal loading and clinical aspect in bio esthetic aspects, Physical and physiologic characteristic and muscular activities of facial muscle, perioral anatomy and muscle retaining exercises Smile – classification and smile components, smile design, esthetic restoration of smile, Esthetic management of the dentogingival unit, intraoral materials for management of gingival contours, and ridge contours, Periodontal esthetics, Restorations – Tooth colored restorative materials, the clinical and laboratory aspects, marginal fit, anatomy, inclinations, form, size, shape, color, embrasures & contact point.

Prosthodontic treatment should be practiced by developing skills, by treating various and more number of patients to establish skill to diagnose and treatment and after care with bio-mechanical, biological, bio-esthetics, bio-phonetics. All treatments should be carried out in more numbers for developing clinical skills.

- Infection control, cross infection barrier – clinical & lab ; hospital & lab waste management




Registrar
Malwanchal University
Indore (M P)

Teaching / Learning Activities:

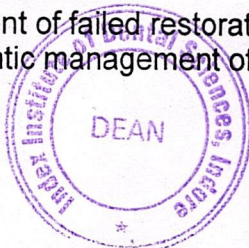
The post graduate is expected to complete the following at the end of :

I YEAR M.D.S.

- Theoretical exposure of all applied sciences
- **Pre-clinical** exercises involved in prosthodontic therapy for assessment
- Commencement of library assignment within six months
- To carry out short epidemiological study relevant to prosthodontics.
- Acquaintance with books, journals and referrals.
- To differentiate various types of articles published in and critically appraise based on standard reference guidelines.
- To develop the ability to gather evidence from published articles.
- To acquire knowledge of published books, journals and websites for the purpose of gaining knowledge and reference – in the field of **Oral and Maxillofacial Prosthodontics and Implantology**
- Acquire knowledge of instruments, equipment, and research tools in Prosthodontics.
- To acquire knowledge of Dental Material Science – Biological and biomechanical & bio-esthetics, knowledge of using material in laboratory and clinics including testing methods for dental materials.
- Submit a protocol for their dissertation before Institutional Review Board and Institutional Ethics Committee.
- Participation and presentation in seminars, didactic lectures.

II YEAR M.D.S.

- Acquiring confidence in obtaining various phases and techniques in removable and fixed prosthodontics therapy
- Acquiring confidence by clinical practice with sufficient number of patients requiring tooth and tooth surface restorations
- Fabrication of adequate number of complete denture prosthesis following, higher clinical approach by utilizing semi-adjustable articulators, face bow and graphic tracing.
- Understanding the use of dental surveyor and its application in diagnosis and treatment plan in R.P.D.
- Adequate number of R.P.D's covering all partially edentulous situations.
- Adequate number of Crowns, Inlays, laminates, **FDP (fixed dental prosthesis)** covering all clinical situations.
- Selection of cases and following principles in treatment of partially or complete edentulous patients by implant supported prosthesis.
- Treating single edentulous arch situations by implant supported prosthesis.
- Diagnosis and treatment planning for implant prosthesis.
- Ist stage and IInd stage implant surgery
- Understanding the maxillofacial **Prosthodontics, treating craniofacial and management of orofacial defects**
- Prosthetic management of TMJ syndrome
- Occlusal rehabilitation
- Management of failed restorations.
- Prosthodontic management of patient with psychogenic disorder



Dr. J. S. Jaiswal
Dean
Malwanchal University
Indore (M.P.)

[Type here]

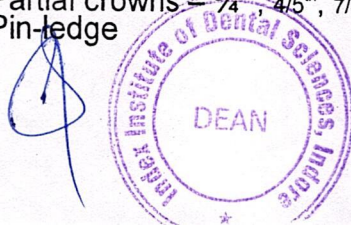
- Practice of child and geriatric prosthodontics.
- Participation and presentation in seminars, didactic and non didactic Teaching and Training students.

III YEAR M.D.S

- Clinical and laboratory practice continued from IInd year.
- Occlusion equilibration procedures – fabrication of stabilizing splint for parafunctional disorders, occlusal disorders and TMJ functions.
- Practice of dental, oral and facial esthetics
- The clinical practice of all aspects of Prosthodontic therapy for elderly patients.
- Implants Prosthodontics – Rehabilitation of Partial Edentulism, Complete edentulism and craniofacial rehabilitation.
- Failures in all aspects of Prosthodontics and their management and after care.
- Team management for esthetics, TMJ syndrome and Maxillofacial & Craniofacial Prosthodontics
- Management of Prosthodontic emergencies, resuscitation.
- Candidate should complete the course by attending a large number and variety of patients to master the prosthodontic therapy. This includes the practice management, examinations, treatment planning, communication with patients, clinical and laboratory techniques materials and instrumentation required in different aspects of prosthodontic therapy, Tooth and Tooth surface restoration, Restoration of root treated teeth, splints for periodontal rehabilitations and fractured jaws, complete dentures, R.P.D's, F.D.P's, Immediate dentures, over dentures, implant supported prosthesis, maxillofacial and body prosthesis, occlusal rehabilitation.
- Prosthetic management of TMJ syndrome
- Management of failed restorations
- Should complete and submit Main Dissertation assignment 6 months prior to examination.
- Candidates should acquire complete theoretical and clinical knowledge through seminars, symposium, workshops and reading.
- Participation and presentation in seminars, didactic lectures

PROSTHODONTIC TREATMENT MODALITIES

- 1) Diagnosis and treatment planning prosthodontics
- 2) Tooth and tooth surface restorations
 - Fillings
 - Veneers – composites and ceramics
 - Inlays- composite, ceramic and alloys
 - Onlay – composite, ceramic and alloys
 - Partial crowns – $\frac{3}{4}^{th}$, $\frac{4}{5}^{th}$, $\frac{7}{8}^{th}$, Mesial $\frac{1}{2}$ crowns
 - Pin-ledge



11/5/22
Registrar
Malwanchal University
Indore (M.P.)

[Type here]

- Radicular crowns
- Full crowns

3) Tooth replacements

	Partial	Complete
<ul style="list-style-type: none">• Tooth supported• Tissue supported	Fixed partial denture Interim partial denture Intermediate partial denture	Overdenture Complete denture Immediate denture
<ul style="list-style-type: none">• Tooth and tissue Supported	Cast partial denture Precision attachment	Immediate complete denture Overdenture
<ul style="list-style-type: none">• Implant supported	Cement retained Screw retained Clip attachment	Bar attachment Ball attachment
<ul style="list-style-type: none">• Tooth and implant Supported	Screw retained Cement retained	Screw retained Cement retained
<ul style="list-style-type: none">• Root supported	Dowel and core Pin retained	Over denture
<ul style="list-style-type: none">• Precision attachments<ul style="list-style-type: none">• Intra coronal attachments• Extra coronal attachments• Bar – slide attachments• Joints and hinge joint attachments		

4) Tooth and tissue defects (Maxillo- facial and Cranio-facial prosthesis)

A. Congenital Defects

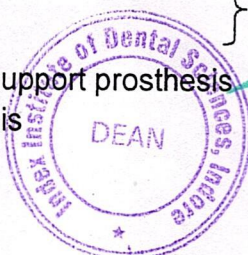
- a. Cleft lip and palate
- b. Pierre Robin Syndrome
- c. Ectodermal dysplasia
- d. Hemifacial microstomia
- e. Anodontia
- f. Oligodontia
- g. Malformed teeth

cast partial dentures
implant supported prosthesis
complete dentures
fixed partial dentures

B. Acquired defects

- a. Head and neck cancer patients – prosthodontic splints and stents
- b. Restoration of facial defects
 - Auricular prosthesis
 - Nasal prosthesis
 - Orbital prosthesis
 - Craniofacial implants
- c. Midfacial defects
- d. Restoration of maxillofacial trauma
 - e. Hemimandibulectomy
 - f. Maxillectomy
 - g. Lip and cheek support prosthesis
- h. Ocular prosthesis

cast partial denture
implant supported
complete dentures



Registered
Malwanchal University
Indore (M.P.)

[Type here]

- i. Speech and Velopharyngeal prosthesis
- j. Laryngectomy aids
- k. Esophageal prosthesis
- l. Nasal stents
- m. Tongue prosthesis
- n. Burn stents
- o. Auditory inserts
- p. Trismus appliances

5) T.M.J and Occlusal disturbances

- a. Occlusal equilibration
- b. Splints - Diagnostic
 - Repositioners / Deprogrammers
- c. Anterior bite planes
- d. Posterior bite planes
- e. Bite raising appliances
- f. Occlusal rehabilitation

6) Esthetic/Smile designing

- a. Laminates / Veneers
- b. Tooth contouring (peg laterals, malformed teeth)
- c. Tooth replacements
- d. Team management

7) Psychological therapy

- a. Questionnaires
- b. Charts, papers, photographs
- c. Models
- d. Case reports
- e. Patient counseling
- f. Behavioral modifications
- g. Referrals

8) Geriatric Prosthodontics

- a. Prosthodontics for the elderly
- b. Behavioral and psychological counseling
- c. Removable Prosthodontics
- d. Fixed Prosthodontics
- e. Implant supported Prosthodontics
- f. Maxillofacial Prosthodontics
- g. Psychological and physiological considerations

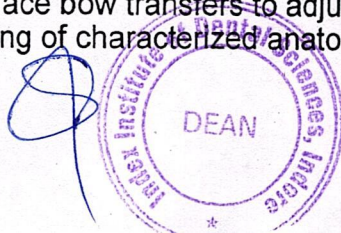
9) Preventive measures

- a. Diet and nutrition modulation and counseling
- b. Referrals

The bench work should be completed before the start of clinical work during the first year of the MDS Course

I. Complete dentures

- 1. Arrangements on adjustable articulator for
 - Class I
 - Class II
 - Class III
- 2. Various face bow transfers to adjustable articulators
- 3. Processing of characterized anatomical dentures



04/12/22
Registrar
Malwanchal University
Indore (M.P.)

[Type here]

II. Removable partial dentures

1. Design for Kennedy's Classification
(Survey, block out and design)
 - a. Class I
 - b. Class II
 - c. Class III
 - d. Class IV
2. Designing of various components of RPD
3. Wax pattern on refractory cast
 - a. Class I
 - b. Class II
 - c. Class III
 - d. Class IV
4. Casting and finishing of metal frameworks
5. Acrylisation on metal frameworks for Class I
Class III with modification

III. Fixed Partial Denture

1. Preparations on ivory teeth / natural teeth
 - FVC for metal
 - FVC for ceramic
 - Porcelain jacket crown
 - Acrylic jacket crown
 - PFM crown
 - $\frac{3}{4}$ th (canine, premolar and central)
 - $\frac{7}{8}$ th posterior
 - Proximal half crown
 - Inlay – Class I, II, V
 - Onlay – Pin ledged, pinhole
 - Laminates
2. Preparation of different die systems
3. Fabrication of wax patterns by drop wax build up technique
 - Wax in increments to produce wax coping over dies of tooth preparations on substructures
 - Wax additive technique
 - 3-unit wax pattern (maxillary and Mandibular)
 - Full mouth
4. Pontic designs in wax pattern
 - Ridge lap
 - Sanitary
 - Modified ridge lap
 - Modified sanitary
 - Spheroidal or conical
5. Fabrication of metal frameworks
 - Full metal bridge for posterior (3 units)
 - Coping for anterior (3 unit)
 - Full metal with acrylic facing
 - Full metal with ceramic facing
 - Adhesive bridge for anteriors
 - Coping for metal margin ceramic crown



Signature
Registrar
Malwanchal University
Indore (M.P.)

[Type here]

- Pin ledge crown
- 6. Fabrication of crowns
 - All ceramic crowns with characterisation
 - Metal ceramic crowns with characterisation
 - Full metal crown
 - Precious metal crown
 - Post and core
- 7. Laminates
 - Composites with characterisation
 - Ceramic with characterisation
 - Acrylic
- 8. Preparation for composites
 - Laminates
 - Crown
 - Inlay
 - Onlay
 - Class I
 - Class II
 - Class III
 - Class IV
 - Fractured anterior tooth

IV. Maxillofacial prosthesis

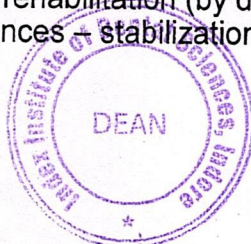
- Eye
- Ear
- Nose
- Face
- Body defects
 - Cranial
 - Maxillectomy
 - Hemimandibulectomy
 - Finger prosthesis
 - Guiding flange
 - Obturator

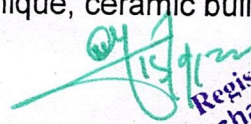
V. Implant supported prosthesis

1. Step by step procedures – **Surgical and** laboratory phase

VI. Other exercises

1. TMJ splints – stabilization appliances, maxillary and Mandibular repositioning appliances
2. Anterior disocclusion appliances
3. Chrome cobalt and acrylic resin stabilization appliances
4. Modification in accommodation of irregularities in dentures
5. Occlusal splints
6. Periodontal splints
7. Precision attachments – custom made
8. Over denture coping
9. Full mouth rehabilitation (by drop wax technique, ceramic build up)
10. TMJ appliances – stabilization appliances




Registrar
Malwanchal University
Indore (M.P.)

[Type here]

ESSENTIAL SKILLS:

*Key

O – Washes up and observes

A – Assists a senior

PA – Performs procedure under the direct supervision of a senior specialist

PI – Performs independently

The following list of procedures are expected of the post graduate to complete in the post graduate programme under faculty guidance [PA] or independently [PI]. Each of the following procedures should be evaluated for the competencies like critical thinking, patient centered approach, use of evidence based approach, professionalism, systems based practice approach and communication skills of the student. The mentioned numbers denote minimal requirement. However, the head of the department has the discretion to fix the quota and assess them systematically. There may be procedures which the student has observed [O] or assisted [A]. The student can however make his entry into his log book or portfolio wherein he/she can make his comments with remarks of the facilitator in the form of a feedback which would reinforce his learning.

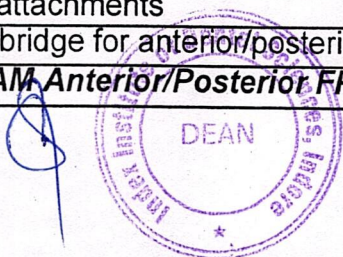
PROCEDURE	CATEGORY			
	O	A	PA	PI
Tooth and tooth surface restoration				
a) Composites – fillings, laminates, inlay, onlay				5
b) Ceramics – laminates, inlays, onlays				5
c) Glass Ionomer				5
CROWNS				

FVC for metal				10
FVC for ceramic				10
Precious metal crown or Galvanoformed crown	1	-	1	5
Intraradicular crowns (central, lateral, canine, premolar, and molar)		-	-	5
Crown as implant supported prosthesis	As many	5	5	5

FIXED PARTIAL DENTURES

Porcelain fused to metal (anterior and posterior)				10
Multiple abutments – maxillary and Mandibular full arch				5

Incorporation of custom made and prefabricated precision attachments			2	
Adhesive bridge for anterior/posterior				5
CAD – CAM Anterior/Posterior FPD				5

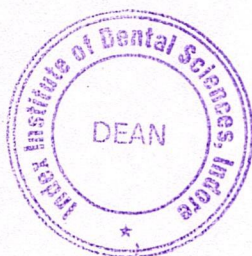


04/11/22
Registrar
Malwanchal University
Indore (M.P.)

[Type here]

Interim provisional restorations (crowns and FPDs)				for all crowns and bridges
Immediate fixed partial dentures (interim) with ovate pontic		-	-	5
Fixed prosthesis as a retention and rehabilitation means for acquired and congenital defects – maxillofacial Prosthetics				5
Implant supported prosthesis		-		1
Implant – tooth supported prosthesis		-		1
REMOVABLE PARTIAL DENTURE				
Provisional partial denture prosthesis				10
Cast removable partial denture (for Kennedy's Applegate classification with modifications)				3
Removable bridge with precision attachments and Telescopic crowns for anterior and posterior edentulous Spaces				1
Immediate RPD				5
Partial denture for medically compromised and Handicapped patients				2
COMPLETE DENTURES				
Anatomic characterized prosthesis (by using semi adjustable articulator)	-	-		25
Single dentures	-	-		5
Overlay dentures	-	-		5
Interim complete dentures as a treatment prosthesis for abused denture supporting tissues	-	-		5
Complete denture prosthesis (for abnormal ridge relation, ridge form and ridge size)	-	-		5

(Handwritten signature)

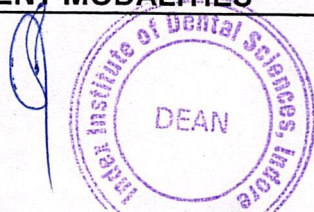


(Handwritten signature)
Registrar
Malwanchal University
Indore (M.P.)

Complete dentures for patients with TMJs syndromes	-	-		2
Complete dentures for medically compromised and handicapped patients	-	-		2
GERIATRIC PATIENTS				
Handling geriatric patients requiring nutritional counseling, psychological management and management of co-morbidity including xerostomia and systemic problems. Palliative care to elderly.				
IMPLANT SUPPORTED COMPLETE PROSTHESIS				
Implant supported complete prosthesis (maxillary and Mandibular)	-	-		1
MAXILLOFACIAL PROSTHESIS				

e.g. Guiding flange/ obturators/ Speech and palatal lift prosthesis/ Eye/ Ear/ Nose/ Face/Finger/Hand/Foot	5 different types as PI
--	-------------------------

TMJ SYNDROME MANAGEMENT				
Splints – periodontal, teeth, jaws	-	-	1	1
TMJ supportive and treatment prosthesis	-	-	1	1
Stabilization appliances for maxilla and mandible with freedom to move from IP to CRCP	-	-	-	1
In IP without the freedom to move to CRCP	-	-	-	1
Repositioning appliances, Anterior disocclusion appliances	-	-	-	1
Chrome cobalt and acrylic resin stabilization appliances for modification to accommodate for the irregularities in the dentition	-	-	-	1
Occlusal adjustment and occlusal equilibrium appliances	-	-	1	4
FULL MOUTH REHABILITATION				
Full mouth rehabilitation – restoration of esthetics and function of stomatognathic system	-	-	1	2
INTER-DISCIPLINARY TREATMENT MODALITIES				



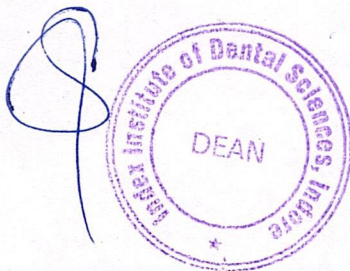
Handwritten signature
 Registrar
 Malviya University
 Indore (M.P.)

Inter-disciplinary management – restoration of Oro craniofacial defects for esthetics, phonation, mastication and psychological comforts	-	-	1	2
MANAGEMENT OF FAILED RESTORATION				
Tooth and tooth surface restorations	-	-	-	5
Removable prosthesis	-	-	-	5
Crowns and fixed prosthesis	-	-	-	5
Maxillofacial prosthesis	-	-	-	2
Implant supported prosthesis	-	-	-	1
Occlusal rehabilitation and TMJ syndrome	-	-	-	2
Restoration failures of psychogenic origin	-	-	-	2
Restoration failures to age changes	-	-	-	2

Shrestha

H.O.D.

Department of Prosthodontics
Index Institute of Dental Sciences, INDORE



15/9/22
Registrar
Malwanchal University
Indore (M.P.)

MALWANCHAL UNIVERSITY, INDORE (MP)

Syllabus for MDS in PERIODONTOLOGY

Adapted from (Part III, Section 4) The Gazette of India,

Dental Council of India,

Master of Dental Surgery Course Regulations 2017

PERIODONTOLOGY

OBJECTIVES:

The following objectives are laid out to achieve the goals of the course

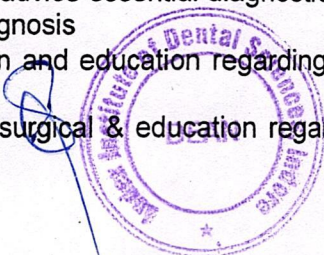
A) KNOWLEDGE:

Discuss historical perspective to advancement in the subject proper and related topics.

- Describe etiology, pathogenesis, diagnosis and management of common periodontal diseases with emphasis on Indian population
- Familiarize with the biochemical, microbiologic and immunologic genetic aspects of periodontal pathology
- Describe various preventive periodontal measures
- Describe various treatment modalities of periodontal disease from historical aspect to currently available ones
- Describe interrelationship between periodontal disease and various systemic conditions
- Describe periodontal hazards due to estrogenic causes and deleterious habits and prevention of it
- Identify rarities in periodontal disease and environmental/Emotional determinates in a given case
- Recognize conditions that may be outside the area of his/her Speciality/ competence and refer them to an appropriate Specialist
- Decide regarding non-surgical or surgical management of the case
- Update the student by attending courses, conferences and seminars relevant to Periodontics or by self-learning process.
- Plan out/ carry out research activity both basic and clinical aspects with the aim of publishing his/her work in scientific journals
- Reach to the public to motivate and educate regarding periodontal disease, its prevention and consequences if not treated
- Plan out epidemiological survey to assess prevalence and incidence of early onset periodontitis and adult periodontitis in Indian population (Regionwise)
- Shall develop knowledge, skill in the science and practice of Oral Implantology
- Shall develop teaching skill in the field of Periodontology and Oral Implantology
- Principles of Surgery and Medical Emergencies.
- To sensitize students about inter disciplinary approach towards the soft tissues of the oral cavity with the help of specialist from other departments.

B) SKILLS:

- Take a proper clinical history, thorough examination of intra oral, extra oral, medical history evaluation, advice essential diagnostic procedures and interpret them to come to a reasonable diagnosis
- Effective motivation and education regarding periodontal disease maintenance after the treatment
- Perform both non-surgical & education regarding periodontal disease, maintenance after the treatment



Dr. MAGESH KUMAR S MDS
PROFESSOR & HEAD
DEPARTMENT OF PERIODONTICS
INDEX INSTITUTE OF DENTAL SCIENCES

Registrar
Malwanchal University
Indore (M.P.)

- Perform both non-surgical and surgical procedures independently
- Provide Basic Life Support Service (BLS) recognizes the need for advance life support and does the immediate need for that.
- Human values, ethical practice to communication abilities
- Adopt ethical principles in all aspects of treatment modalities; Professional honesty & integrity are to be fostered. Develop Communication skills to make awareness regarding periodontal disease Apply high moral and ethical standards while carrying out human or animal research, Be humble, accept the limitations in his/her knowledge and skill, and ask for help from colleagues when needed, Respect patients rights and privileges, including patients right to information and right to seek a second opinion.
- To learn the principal of lip repositioning and Perio esthetic surgeries.

COURSE CONTENTS:

PART-I:

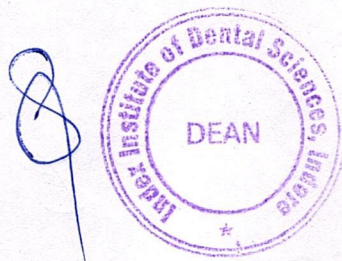
APPLIED BASIC SCIENCES

APPLIED ANATOMY:

1. Development of the Periodontium
2. Micro and Macro structural anatomy and biology of the periodontal tissues
3. Age changes in the periodontal tissues
4. Anatomy of the Periodontium
 - Macroscopic and microscopic anatomy
 - Blood supply of the Periodontium
 - Lymphatic system of the Periodontium
 - Nerves of the Periodontium
5. Temporomandibular joint, Maxillae and Mandible
6. Tongue, Oropharynx
7. Muscles of mastication / Face
8. Blood Supply and Nerve Supply of Head & Neck and Lymphatics.
9. Spaces of Head & Neck

PHYSIOLOGY:

1. Blood
2. Respiratory system – knowledge of the respiratory diseases which are a cause of periodontal diseases (periodontal Medicine)
3. Cardiovascular system
 - a. Blood pressure
 - b. Normal ECG
 - c. Shock
4. Endocrinology – hormonal influences on Periodontium
5. Gastrointestinal system
 - a. Salivary secretion – composition, function & regulation
 - b. Reproductive physiology
 - c. Hormones – Actions and regulations, role in periodontal disease
 - d. Family planning methods
6. Nervous system
 - a. Pain pathways
 - b. Taste – Taste buds, primary taste sensation & pathways for sensation
7. Hemostasis



by 15/12/22
 Registrar
 Malwanchal University
 Indore (M.P.)

BIOCHEMISTRY:

1. Basics of carbohydrates, lipids, proteins, vitamins, enzymes and minerals
2. Diet and nutrition and periodontium
3. Biochemical tests and their significance
4. Calcium and phosphorus

PATHOLOGY:

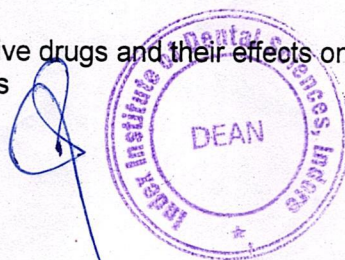
1. Cell structure and metabolism
2. Inflammation and repair, necrosis and degeneration
3. Immunity and hypersensitivity
4. Circulatory disturbances – edema, hemorrhage, shock, thrombosis, embolism, infarction and hypertension
5. Disturbances of nutrition
6. Diabetes mellitus
7. Cellular growth and differentiation, regulation
8. Lab investigations
9. Blood

MICROBIOLOGY:

1. General bacteriology
 - a. Identification of bacteria
 - b. Culture media and methods
 - c. Sterilization and disinfection
2. Immunology and Infection
3. Systemic bacteriology with special emphasis on oral microbiology – staphylococci, genus actinomyces and other filamentous bacteria and aggregate bacteria
4. Virology
 - a. General properties of viruses
 - b. Herpes, Hepatitis, virus, HIV virus
5. Mycology
 - a. Candidiasis
6. Applied microbiology
7. Diagnostic microbiology and immunology, hospital infections and management

PHARMACOLOGY:

1. General pharmacology
 - a. Definitions – Pharmacokinetics with clinical applications, routes of administration including local drug delivery in Periodontics
 - b. Adverse drug reactions and drug interactions
2. Detailed pharmacology of
 - a. Analgesics – opiod and non-opiod
 - b. Local anesthetics
 - c. Haematinics and coagulants, Anticoagulants
 - d. Vit D and Calcium preparations
 - e. Antidiabetics drugs
 - f. Steroids
 - g. Antibiotics
 - h. Antihypertensive
 - i. Immunosuppressive drugs and their effects on oral tissues
 - j. Antiepileptic drugs



Handwritten signature in green ink
Malwanchal University
Indore (M.P.)

3. Brief pharmacology, dental use and adverse effects of
 - a. General anesthetics
 - b. Antipsychotics
 - c. Antidepressants
 - d. Anxiolytic drugs
 - e. Sedatives
 - f. Antiepileptics
 - g. Antihypertensives
 - h. Antianginal drugs
 - i. Diuretics
 - j. Hormones
 - k. Pre-anesthetic medications
4. Drugs used in Bronchial asthma, cough
5. Drug therapy of
 - a. Emergencies
 - b. Seizures
 - c. Anaphylaxis
 - d. Bleeding
 - e. Shock
 - f. Diabetic ketoacidosis
 - g. Acute Addisonian crisis
6. Dental Pharmacology
 - a. Antiseptics
 - b. Astringents
 - c. Sialogogues
 - d. Disclosing agents
 - e. Antiplatelet agents
7. Fluoride pharmacology

BIOSTATISTICS:

1. Introduction, definition and branches of biostatistics
2. Collection of data, sampling, types, bias and errors
3. Compiling data-graphs and charts
4. Measures of central tendency (mean, median and mode), standard deviation and variability
5. Tests of significance (chi square test, t-test and z-test) Null hypothesis

PART II

PAPER 1

ETIOPATHOGENESIS:

1. Classification of periodontal diseases and conditions
2. Epidemiology of gingival and periodontal diseases
3. Defense mechanisms of gingiva
4. Periodontal microbiology
5. Basic concepts of inflammation and immunity
6. Microbial interactions with the host in periodontal diseases
7. Pathogenesis of plaque associated periodontal diseases
8. Dental calculus
9. Role of iatrogenic and other local factors
10. Genetic factors associated with periodontal diseases
11. Influence of systemic diseases and disorders of the periodontium
12. Role of environmental factors in the etiology of periodontal disease

Signature
 Registrar
 Malwanchal University
 Indore (M.P.)

13. Stress and periodontal diseases
14. Occlusion and periodontal diseases
15. Smoking and tobacco in the etiology of periodontal diseases
16. AIDS and periodontium
17. Periodontal medicine
18. Dental hypersensitivity

PAPER-II

CLINICAL AND THERAPEUTIC PERIODONTOLOGY AND ORAL IMPLANTOLOGY

Please note:

Clinical Periodontology includes gingival diseases, periodontal diseases, periodontal instrumentation, diagnosis, prognosis and treatment of periodontal diseases.

(i) GINGIVAL DISEASES

1. Gingival inflammation
2. Clinical features of gingivitis
3. Gingival enlargement
4. Acute gingival infections
5. Desquamative gingivitis and oral mucous membrane diseases
6. Gingival diseases in the childhood

(ii) PERIODONTAL DISEASES

1. Periodontal pocket
2. Bone loss and patterns of bone destruction
3. Periodontal response to external forces
4. Masticatory system disorders
5. Chronic periodontitis
6. Aggressive periodontitis
7. Necrotising ulcerative periodontitis
8. Interdisciplinary approaches
 - Orthodontic
 - Endodontic

(iii) TREATMENT OF PERIODONTAL DISEASES

- A. History, examination, diagnosis, prognosis and treatment planning
 1. Clinical diagnosis
 2. Radiographic and other aids in the diagnosis of periodontal diseases
 3. Advanced diagnostic techniques
 4. Risk assessment
 5. Determination of prognosis
 6. Treatment plan
 7. Rationale for periodontal treatment
 8. General principles of anti-infective therapy with special emphasis on infection control in periodontal practice
 9. Halitosis and its treatment
 10. Bruxism and its treatment
- B. Periodontal Instrumentation
 1. Periodontal Instruments
 2. Principles of Instrumentation
- C. Periodontal therapy
 1. Preparation of tooth surface
 2. Plaque control
 3. Anti microbial and other drugs used in periodontal therapy and wasting diseases of teeth



Handwritten signature in green ink.

**Registrar
Malwanchal University
Indore (M.P.)**

4. Periodontal management of HIV infected patients
 5. Occlusal evaluation and therapy in the management of periodontal diseases
 6. Role of orthodontics as an adjunct to periodontal therapy
 7. Special emphasis on precautions and treatment for medically compromised patients
 8. Periodontal splints
 9. Management of dentinal hypersensitivity
- D. Periodontal surgical phase – special emphasis on drug prescription
1. General principles of periodontal surgery
 2. Surgical anatomy of periodontium and related structures
 3. Gingival curettage
 4. Gingivectomy technique
 5. Treatment of gingival enlargements
 6. Periodontal flap
 7. Osseous surgery (resective and regenerative)
 8. Furcation; Problem and its management
 9. The periodontic – endodontic continuum
 10. Periodontic plastic and esthetic surgery
 11. Recent advances in surgical techniques
- E. Future directions and controversial questions in periodontal therapy
1. Future directions for infection control
 2. Research directions in regenerative therapy
 3. Future directions in anti-inflammatory therapy
 4. Future directions in measurement of periodontal diseases
- F. Periodontal maintenance phase
1. Supportive periodontal treatment
 2. Results of periodontal treatment

(iv) ORAL IMPLANTOLOGY

1. Introduction and historical review
2. Biological, clinical and surgical aspects of dental implants
3. Diagnosis and treatment planning
4. Implant surgery
5. Prosthetic aspects of dental implants
6. Diagnosis and treatment of Peri implant complications
7. Special emphasis on plaque control measures in implant patients
8. Maintenance phase

(v) MANAGEMENT OF MEDICAL EMERGENCIES IN PERIODONTAL PRACTICE

Periodontology treatment should be practiced by various Treatment plans and more number of patients to establish skill for diagnosis and treatment and after care with bio-mechanical, biological, bio-esthetics, bio-phnetics and all treatment should be carried out in more number for developing clinical skill.



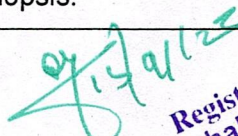
Registrar
Malwanchal University
 Indore (M.P.)

TEACHING / LEARNING ACTIVITIES:

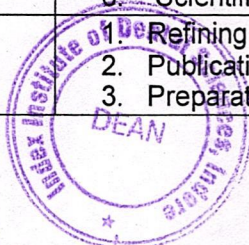
The post graduate is expected to complete the following at the end of :

S.NO	Year Wise	ACTIVITIES WORKS TO BE DONE
1.	Module 1 (First Year)	<p>Orientation to the PGprogram Pre-clinical work (4months)</p> <p>a. Dental</p> <ol style="list-style-type: none">1. Practice of incisions and suturing techniques on the typodontmodels.2. Fabrication of bite guards andsplints.3. Occlusal adjustment on the casts mounted onthe articulator4. X-ray techniques andinterpretation.5. Local anaesthetictechniques.6. Identification of Common PeriodontalInstruments.7. To learn science of Periodontal Instruments maintance (Sharpening , Sterlization andStorate)8. Concept of Biologicalwidth <p>a. Typhodont Exercise</p> <ol style="list-style-type: none">(i) Class II Filling with Band and WedgeApplication(ii) Crowncuttings <p>b. Medical</p> <ol style="list-style-type: none">1. Basic diagnostic microbiology and immunology, collection and handling of sample and culture techniques.2. Introduction to genetics,bioinformatics.3. Basic understanding of cell biology and immunological diseases. <p>Clinical work</p> <ol style="list-style-type: none">1. Appliedperiodontalindices 10 cases2. Scaling and root planning:- with Proper writtenhistory<ol style="list-style-type: none">a. Manual 20Casesb. Ultrasonic 20Cases3. Observation / assessment of all periodontal procedures includingimplants
2.	Module 2 (First Year)	<ol style="list-style-type: none">1. Interpretation of various bio-chemicalinvestigations.2. Practical training and handling medical emergencies and basic life support devices.3. Basic biostatistics – Surveying and dataanalysis. <p>Clinical</p> <ol style="list-style-type: none">1. Case history andtreatmentplanning 10cases2. Root planning 50cases3. Observation / assessment of all periodontal procedures includingimplant.4. Selection of topic for Library dissertation and submission of Dissertation Synopsis.




Registrar
Malwanchal University
Indore (M.P.)

3.	Module 3 (First Year)	Minor surgical cases 20 cases (i) Gingival Depigmentation 03 Cases (ii) Gingival Curettage no limits (iii) ENAP 1 Case (iv) Gingivectomy/Gingivoplasty 5 cases (v) Operculectomy 3 cases Poster Presentation at the Specialty conference
4.	Module 4 (Second Year)	Clinical work 1. Case history and treatment planning 10 cases 2. Occlusal adjustments 10 cases 3. Periosplints 10 cases 4. Local drug delivery techniques 5 cases 5. Screening cases for dissertation
5.	Module 5 (Second Year)	1. Periodontal surgical procedures. a. Basic flap procedures 20 cases 2. Periodontal plastic and esthetic 10 cases a. Increasing width of attached gingival 5 cases b. Root coverage procedures / Papilla Preservation and Reconstruction 5 cases c. Crown lengthening procedures 5 cases d. Frenectomy 5 cases e. Vestibuloplasty 5 cases 3. Furcation treatment (Hemisection, Root section, Tunneling) 5 cases 4. Surgical closure of diastema. 2 cases
6.	Module 6 (Third Year)	1. Ridge augmentation procedures 5 cases 2. Implants Placements and monitoring 5 cases 3. Sinus lift procedures 2 cases 4. Case selection, preparation and investigation of implants. 5. Interdisciplinary Periodontics 2 each (i) Ortho – Perio (ii) Endo – Perio (iii) Restorative Perio (iv) Preprosthetic (v) Crown Prep 6. Osseous Surgery 2 each (i) Resective (ii) Regenerative 7. Scientific paper/ poster presentation at the conference.
7.	Module 7 (Third Year)	Clinical work 1. Flap surgeries & regenerative techniques 25 cases (using various grafts & barrier membranes) 2. Assistance / observation of advanced surgical procedure 5 each 3. Micro Surgery 5 each 4. Record maintenance & follow-up of all treated cases including implants. 5. Submission of dissertation – 6 months before completion of III year. 6. Scientific paper presentation at conferences.
8.	Module 8 (Third Year)	1. Refining of surgical skills. 2. Publication of an article in a scientific journal. 3. Preparation for final exams.



Registrar
Malwanchal University
Indore (M.P.)

9.	Module 9 (Third Year)	1. Preparation for finalexams. 2. University exam
----	----------------------------------	--

Note: Maintenance of Work Diary / Check list / Log books as prescribed.

ASSESSMENT EXAMINATION:

In addition to regular evaluation, log book etc., Assessment examination should be conducted after every 3 modules & progress of the student monitored.

MONITORING LEARNING PROGRESS:

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only helps teachers to evaluate students, but also students to evaluate themselves. The monitoring is to be done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment be done using checklists that assess various aspects.

SCHEME OF EXAMINATION:

Part-II:

Paper-I,
Paper-II
Paper-III

300 Marks (100 Marks foreachPaper)

Written examination shall consist of Basic Sciences Paper (Part-I) of three hours duration and should be conducted at the end of First year of MDS course.

Part-II Examination will be conducted at the end of Third year of MDS course.

Part-II Examination will consist of Paper-I, Paper-II & Paper-III, each of three hours duration.

Paper-I & Paper-II shall consist of two long answer questions carrying 25 marks each and five questions carrying 10markseach.

Paper-III will be on Essays. In Paper-III three Questions will be given and student has to answer any two questions. Each question carries 50 marks. Questions on recent advances may be asked in any or all the papers.

Distribution of topics for each paper will be asfollows:

Part-I: Applied Basic Sciences: Applied Anatomy, Physiology, & Biochemistry, Pathology, Microbiology, Pharmacology, Research Methodology and Biostatistics.

Part-II

Paper I: Normal Periodontal structure, Etiology & Pathogenesis of Periodontal diseases, epidemiology as related toPeriodontics

Paper II: Periodontal diagnosis, therapy & OrallImplantology

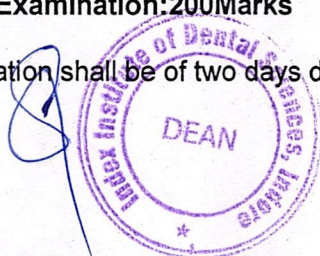
Paper III: Essays (descriptive and analyzing typequestions)

**The topics assigned to the different papers are generally evaluated under those sections. However a strict division of the subject may not be possible and some overlapping of topics is inevitable. Students should be prepared to answer overlapping topics.*

A. Practical / ClinicalExamination:200Marks

The clinical examination shall be of two days duration

1st day



[Signature]
Registrar
Malwanchal University
Indore (M.P.)

Case discussion

- Long case -One
- Shortcase -One

Periodontal surgery – Periodontal Surgery on a previously prepared case after getting approval from the examiners

2nd day

Post-surgical review and discussion of the case treated on the 1st day

Presentation of dissertation & discussion

All the examiners shall participate in all the aspects of clinical examinations / Viva Voce

Distribution of Marks for Clinical examination (recommended)

a) Long Case discussion	75		
b) 1 short case	25		
c) Periodontal surgery	1.	Anesthesia	10
	2.	Incision	20
	3.	Post Surgery Evaluation	25
	4.	Sutures	10
	5.	Pack (if any)	10
Post – operative review	25		
Total	200		

C. Viva Voce :
Marks

100

i. Viva-Voce examination: 80 Marks

All examiners will conduct viva-voce conjointly on candidate's comprehension, analytical approach and expression, interpretation of data and communication skills. It includes all components of course contents. It includes presentation and discussion on dissertation also.

ii. Pedagogy Exercise: 20 Marks

A topic will be given to each candidate in the beginning of clinical examination. He/she is asked to make a presentation on the topic for 8-10 minutes.



Dr. MAGESH K. AR. S MDS
PROFESSOR & HEAD
DEPARTMENT OF PERIODONTICS
INDEX INSTITUTE OF DENTAL SCIENCES
INDORE

[Signature]

Registrar
Malwanchal University
Indore (M.P.)
Registrar
Malwanchal University
Indore (M.P.)

MALWANCHAL UNIVERSITY, INDORE (M.P.)
Syllabus for MDS –ORAL & MAXILLOFACIAL SURGERY

Adapted from

[Part III- SEC.4] THE GAZETTE OF INDIA

ORAL AND MAXILLOFACIAL SURGERY

SURGERY OBJECTIVES:

The training program in Oral and Maxillofacial Surgery is structured to achieve the following five objectives-

- Knowledge
- Skills
- Attitude
- Communicative skills and ability
- Research

Knowledge:

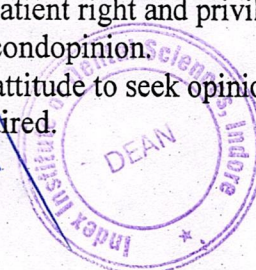
- To have acquired adequate knowledge and understanding of the etiology, pathophysiology and diagnosis, treatment planning of various common oral and Maxillofacial surgical problems both minor and major in nature
- To have understood the general surgical principles like pre and post surgical management, particularly evaluation, post surgical care, fluid and electrolyte management, blood transfusion and post surgical pain management.
- Understanding of basic sciences relevant to practice of oral and maxillofacial surgery
- Able to identify social, cultural, economic, genetic and environmental factors and their relevance to disease process management in the oral and Maxillofacial region.
- Essential knowledge of personal hygiene and infection control, prevention of cross infection and safe disposal of hospital waste keeping in view the high prevalence of hepatitis and HIV.

Skills:

- To obtain proper clinical history, methodical examination of the patient, perform essential diagnostic procedures and order relevant laboratory tests and interpret them and to arrive at a reasonable diagnosis about the surgical condition.
- To perform with competence minor oral surgical procedures and common maxillofacial surgery. To treat both surgically and medically the problems of the oral and Maxillofacial and the related area.
- Capable of providing care for maxillofacial surgery patients.

Attitude:

- Develop attitude to adopt ethical principles in all aspect of surgical practice, professional honesty and integrity are to be fostered. Surgical care is to be delivered irrespective of the social status, caste, creed or religion of the patient.
- Willing to share the knowledge and clinical experience with professional colleagues.
- Willing to adopt new techniques of surgical management developed from time to time based on scientific research which are in the best interest of the patient
- Respect patient right and privileges, including patients right to information and right to seek a second opinion.
- Develop attitude to seek opinion from an allied medical and dental specialists as and when required.



Dr. Satish Karandikar
Professor & Head
Dept. of Oral & Maxillofacial Surgery
Index Institute of Dental Sciences, Indore

Registrar
Malwanchal University
Indore (M.P.)

Communication Skills:

- Develop adequate communication skills particularly with the patients giving them the various options available to manage a particular surgical problem and obtain a true informed consent from them for the most appropriate treatment available at that point of time
- Develop the ability to communicate with professional colleagues.
- Develop ability to teach undergraduates.

COURSE CONTENT:

The speciality of Oral & Maxillofacial Surgery deals with the diagnosis and management of the diseases of stomatognathic system, jaw bones, cranio-maxillofacial region, salivary glands and temporomandibular joints etc. Within this framework it also supports many vital organs like eye, oropharynx, nasopharynx and major blood vessels and nerves. The traumatic injuries of maxillofacial skeleton are independently managed by Oral & Maxillofacial Surgeons. Whenever there are orbital injuries the ophthalmologists are trained only to tackle injuries of the eye ball (globe) but if there are associated injuries of the orbital skeleton, the Maxillofacial Surgeon is involved in its re-construction. Similarly, nasal bone fracture may be managed by ENT surgeons. Most of the time nasal bone fractures are associated with fractures of the maxilla, mandible and zygomatic bones which are being managed by Oral & Maxillofacial Surgeons. The maxillofacial facial injuries at times are associated with head injuries also. The Oral & maxillofacial Surgeon is involved in the management of cleft lip & cleft palate, orthognathic surgery, micro vascular surgery, reconstructive and oncological surgical procedures of maxillofacial region. The speciality of Oral & Maxillofacial Surgery is a multi disciplinary speciality and needs close working in co-ordination with Neurosurgeons, Oncosurgeons, Ophthalmologists, ENT Surgeons and Plastic Surgeons. The Oral & Maxillofacial Surgeons, Ophthalmologist, ENT Surgeons, Plastic Surgeons, Neuro-Surgeons and Oncologists complement each other by performing Surgical Procedures with their respective expertise and knowledge thereby benefiting the patients and students of the respective specialities.

The program outline addresses both the knowledge needed in Oral and Maxillofacial Surgery and allied medical specialties in its scope. A minimum of three years of formal training through a graded system of education as specified will equip the trainee with skill and knowledge at its completion to be able to practice basic oral and Maxillofacial surgery competently and have the ability to intelligently pursue further apprenticeship towards advanced Maxillofacial surgery.

The topics are considered as under:-

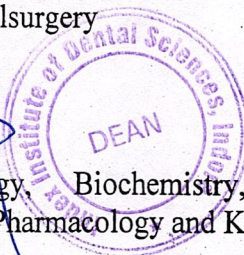
- A) Applied Basic sciences
- B) Oral and Maxillofacial surgery
- C) Allied specialties

A) Applied Basic Sciences:

Applied Anatomy, Physiology, Biochemistry, General and Oral Pathology and Microbiology, Pharmacology and Knowledge in Basic Statistics.

Applied Anatomy:

1. Surgical anatomy of the scalp, temple and face
2. Anatomy of the triangles of neck and deep structures of the neck
3. Cranial and facial bones and its surrounding soft tissues with its applied aspects in maxillofacial injuries.



04/15/12
Registrar
Malwanchal University
Indore (M.P.)

4. Muscles of head and neck; chest , lower and upper extremities (in consideration to grafts/flaps)
5. Arterial supply, venous drainage and lymphatics of head andneck
6. Congenital abnormalities of the head andneck
7. Surgical anatomy of the cranialnerves
8. Anatomy of the tongue and its appliedaspects
9. Surgical anatomy of the temporal and infratemporalregions
10. Anatomy and its applied aspects of salivary glands, pharynx, thyroid and parathyroid gland, larynx, trachea,esophagus
11. Tooth eruption, morphology, andocclusion.
12. Surgical anatomy of thenose.
13. The structure and function of the brain including surgical anatomy of intra cranial venous sinuses.
14. Autonomous nervous system of head andneck
15. Functional anatomy of mastication, deglutition, speech, respiration andcirculation
16. Development of face, paranasal sinuses and associated structures and their anomalies
17. TMJ: surgical anatomy andfunction

Physiology:

1. Nervoussystem

- Physiology of nerve conduction, pain pathway, sympathetic and parasympathetic nervous system, hypothalamus and mechanism of controlling bodytemperature

2. Blood

- Composition
- Haemostasis, various blood dyscrasias and management of patients with the same
- Hemorrhage and itscontrol
- Capillary and lymphaticcirculation.
- Blood grouping, transfusingprocedures.

3. Digestivesystem

- Saliva - composition and functions ofsaliva
- Mastication, deglutition, digestion, assimilation
- Urine formation, normal and abnormalconstituents

4. Respiration

- Control of ventilation, anoxia, asphyxia, artificialrespiration
- Hypoxia – types andmanagement

5. CardioVascularSystem

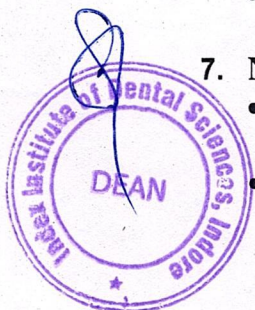
- Cardiac cycle,
- Shock
- Heartsounds,
- Bloodpressure,
- Hypertension:

6. Endocrinology

- General endocrinal activity and disorder relating to thyroidgland,
- Parathyroid gland, adrenal gland, pituitary gland, pancreas andgonads:
- Metabolism ofcalcium

7. Nutrition

- General principles of a balanced diet, effect of dietary deficiency, protein energy malnutrition, Kwashiorkor, Marasmus.
- Fluid and Electrolytic balance in maintaining haemostasis and significance in minor and major surgicalprocedures.



[Signature]
 Registrar
 Malwanchal University
 Indore (M.P.)

Biochemistry:

- General principles governing the various biological activities of the body, such as osmotic pressure, electrolytes, dissociation, oxidation, reduction etc.
- General composition of the body
- Intermediary metabolism
- Carbohydrates, proteins, lipids, and their metabolism
- Nucleoproteins, nucleic acid and nucleotides and their metabolism
- Enzymes, vitamins and minerals
- Hormones
- Body and other fluids.
- Metabolism of inorganic elements.
- Detoxification in the body.
- Antimetabolites.

Pathology:

1. Inflammation –

- Repair and regeneration, necrosis and gangrene
- Role of component system in acute inflammation,
- Role of arachidonic acid and its metabolites in acute inflammation,
- Growth factors in acute inflammation
- Role of molecular events in cell growth and intercellular signaling cell surface receptors
- Role of NSAIDs in inflammation,
- Cellular changes in radiation injury and its manifestation:

2. Haemostasis

- Role of endothelium in thrombogenesis,
- Arterial and venous thrombi,
- Disseminated Intravascular coagulation

3. Shock:

- Pathogenesis of hemorrhagic, neurogenic, septic, cardiogenic shock
- Circulatory disturbances, ischemia, hyperemia, venous congestion, edema, infarction

4. Chromosomal abnormalities:

- Marfan's Syndrome, Ehler's Danlos Syndrome, Fragile X-Syndrome

5. Hypersensitivity:

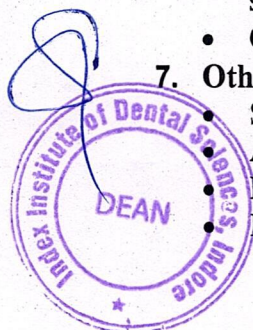
- Anaphylaxis, type 2 hypersensitivity, type 3 hypersensitivity and cell mediated reaction and its clinical importance, systemic lupus erythematosus.
- Infection and infective granulomas.

6. Neoplasia:

- Classification of tumors.
- Carcinogenesis and carcinogens- chemical, viral and microbial
- Grading and staging of cancers, tumor Angiogenesis, Paraneoplastic syndrome, spread of tumors
- Characteristics of benign and malignant tumors

7. Others:

- Sex linked agammaglobulinemia.
- AIDS
- Management of immunodeficiency patients requiring surgical procedures
- De George Syndrome



04/05/22 Registrar
Malwanchal University
Indore (M.P.)

- Ghons complex, post primary pulmonary tuberculosis – pathology and pathogenesis.

Oral Pathology:

- Developmental disturbances of oral and Para oralstructures
- Regressive changes ofteeth.
- Bacterial, viral and mycotic infections of oralcavity
- Dental caries,, diseases of pulp and periapicaltissues
- Physical and chemical injuries of the oralcavity
- Oral manifestations of metabolic and endocrinaldisturbances
- Diseases of jawbones andTMJ
- Diseases of blood and blood forming organs in relation to oralcavity
- Cysts of the oralcavity
- Salivary gland diseases
- Role of laboratory investigations in oralsurgery

Microbiology:

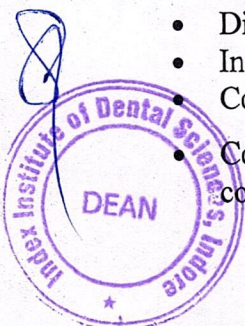
- Immunity
- Knowledge of organisms commonly associated with diseases of oralcavity.
- Morphology cultural characteristics of strepto, staphylo, pneumo, gono, meningo, clostridium group of organisms, spirochetes, organisms of TB, leprosy, diphtheria, actinomycosis andmoniliasis
- Hepatitis B and itsprophylaxis
- Culture and sensitivitytest
- Laboratorydeterminations
- Blood groups, blood matching, RBC and WBCcount
- Bleeding and clotting time etc, smears andcultures,
- Urine analysis andcultures.

Applied Pharmacology and Therapeutics:

1. Definition of terminologiesused
2. Dosage and mode of administration ofdrugs.
3. Action and fate of drugs in thebody
4. Drug addiction, tolerance and hypersensitivityreactions.
5. Drugs acting on theCNS
6. General and local anesthetics, hypnotics, analeptics, andtranquilizers.
7. Chemo therapeutics andantibiotics
8. Analgesics and antipyretics
9. Antitubercular and antisiphiliticdrugs.
10. Antiseptics, sialogogues andantisialogogues
11. Haematinics
12. Antidiabetics
13. Vitamins A, B-complex, C, D, E,K

B) Oral and MaxillofacialSurgery:

- Evolution of Maxillofacialsurgery.
- Diagnosis, history taking, clinical examination,investigations.
- Informed consent/medico-legalissues.
- Concept of essential drugs and rational use ofdrugs.
- Communication skills with patients- understanding, clarity in communication, compassionate explanations and giving emotional support at the time of suffering

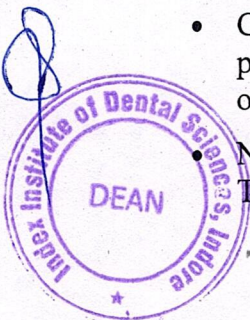


24/11/2020
Registrar
Malwanchal University
Indore (M.P.)

and bereavement

- Principles of surgical audit – understanding the audit of process and outcome. Methods adopted for the same. Basic statistics.
- Principles of evidence based surgery- understanding journal based literature study; the value of textbook, reference book articles, value of review articles; original articles and their critical assessment, understanding the value of retrospective, prospective, randomized control and blinded studies, understanding the principles and the meaning of various Bio-statistical tests applied in these studies.
- Principles of surgery- developing a surgical diagnosis, basic necessities for surgery, aseptic technique, incisions, flap designs, tissue handling, hemostasis, dead space management, decontamination and debridement, suturing, edema control, patient general health and nutrition.
- Medical emergencies – Prevention and management of altered consciousness, hyper sensitivity reaction, chest discomfort, respiratory difficulty.
- Pre operative workup – Concept of fitness for surgery; basic medical work up; work up in special situation like diabetes, renal failure, cardiac and respiratory illness; risk stratification
- Surgical sutures, drains
- Post operative care- concept of recovery room care Airway management, Assessment of Wakefulness, management of cardiovascular instability in this period, Criteria for shifting to the ward, pain management
- Wound management- Wound healing, factors influencing healing, basic surgical techniques, Properties of suture materials, appropriate use of sutures.
- Surgical Infections – Asepsis and antisepsis, Microbiological principles, Rational use of antibiotics, special infections like Synergistic Gangrene and Diabetic foot infection, Hepatitis and HIV infection and cross infection.
- Airway obstruction/management – Anatomy of the airway, principles of keeping the airway patent, mouth to mouth resuscitation Oropharyngeal airway, endotracheal intubation, Cricothyroidectomy, Tracheostomy.
- Anesthesia – stages of Anesthesia, pharmacology of inhalation, intravenous and regional anesthetics, muscle relaxants.
- Facial pain; Facial palsy and nerve injuries.
- Pain control – acute and chronic pain, cancer and non-cancer pain, patient controlled analgesia
- General patient management – competence in physical assessment of patients of surgery, competence in evaluation of patients presenting with acute injury, particularly to maxillofacial region. Competence in the evaluation of management of patients for Anesthesia
- Clinical oral surgery – all aspects of dento alveolar surgery
- Pre-prosthetic surgery – A wide range of surgical reconstructive procedures involving their hard and soft tissues of the edentulous jaws.
- Temporomandibular joint disorders – TMJ disorders and their sequelae need expert evaluation, assessment and management. It is preferable to be familiar with diagnostic and therapeutic arthroscopic surgery procedures.
- Tissue grafting – Understanding of the biological mechanisms involved in autogenous and heterogeneous tissue grafting.
- Reconstructive oral and maxillofacial surgery – hard tissue and soft tissue reconstruction.
- Cyst and tumors of head and neck region and their management – including principles of tumor surgery, giant cell lesion of jaw bones, fibro osseous lesions of jaw.

• Neurological disorders of maxillofacial region- diagnosis and management of Trigeminal Neuralgia, MPDS, Bells palsy, Frey's Syndrome, Nerve injuries

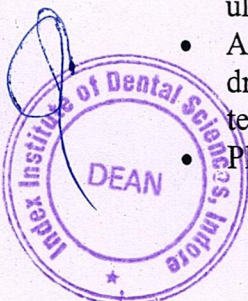


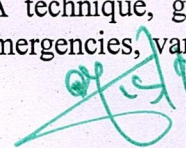
Registrar
Malwanal University
Indore (M.P.)

- Maxillofacial trauma – basic principles of treatment, primary care, diagnosis and management of hard and soft tissue injuries, Comprehensive management including polytraumapatient
- Assessment of trauma-multiple injuries patient, closed abdominal and chest injuries, penetrating injuries, pelvic fractures, urological injuries, vascularinjuries.
- Orthognathic surgery – The trainee must be familiar with the assessment and correcting of jawdeformities
- Laser surgery – The application of laser technology in the surgical treatment of lesions amenable to suchtherapy
- Distraction osteogenesis in maxillofacialregion.
- Cryosurgeries – Principles, the application of cryosurgery in the surgical management of lesions amenable to suchsurgeries.
- 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 nasal endoscopy and other diagnostic techniques in the evaluation of speech and hearing, concept of multi disciplinary teammanagement.
- Aesthetic facial surgery – detailed knowledge of structures of face & neck including skin and underlying soft tissues, diagnosis and treatment planning of deformities and conditions affecting facial skin, underlying facial muscles, bone, eyelids, external ear etc., surgical management of post acne scaring, face lift, blepharoplasty, otoplasty, facial bone recountouringetc.
- Craniofacial surgery – basic knowledge of developmental anomalies of face, head and neck, basics concept in the diagnosis and planning of various head and neck anomalies including facial cleft, craniosynostosis, syndromes, etc., Current concepts in the management of craniofacialanomalies.
- Head and neck oncology – understanding of the principles of management of head and neck oncology including various pre cancerous lesions, Experience in the surgical techniques of reconstruction following ablative surgery.
- Micro vascularsurgery.
- Implantology – principles, surgical procedures for insertion of various types of implants.
- Maxillofacial radiology/ radiodiagnosis
- Other diagnostic methods and imagingtechniques

C) AlliedSpecialties:

- General medicine: General assessment of the patient including children with special emphasis on cardiovascular diseases, endocrinal, metabolic respiratory and renal diseases, Blooddyscrasias
- General surgery: Principles of general surgery, exposure to common general surgicalprocedures.
- Neuro – surgery: Evaluation of a patient with head injury, knowledge & exposure of various Neuro – surgicalprocedures
- ENT/Ophthalmology: Examination of ear, nose, throat, exposure to ENT surgical procedures, ophthalmic examination and evaluation, exposure to ophthalmic surgicalprocedures.
- Orthopedic: basic principles of orthopedic surgery, bone diseases and trauma as relevant to Maxillofacial surgery, interpretation of radiographs, CT, MRI and ultrasound
- Anesthesiology: Evaluation of patients for GA technique, general anesthetic drugs use and complications, management of emergencies, various IV sedation techniques.
- Plastic Surgery- BasicPrinciples




 Registrar
 Malwanchal University
 Indore (M.P.)

TEACHING / LEARNING ACTIVITIES:

The post graduate is expected to complete the following at the end of :

I Year

Study of applied basic sciences including practicals (wherever necessary), basic computer sciences, exodontia, seminars on basic topics, selection of dissertation topic, library assignment topic, attending O.T, ward rounds, Medical Record keeping, Pre-clinical exercises, preparation of synopsis and its submission within the six months after admission to the university as per calendar of events.

Rotation and postings in other departments:

General medicine	- 1 month
General surgery	- 1 month
Ophthalmology	- 15 days
Neuro Surgery	- 15 days
ENT	- 15 days
Orthopedic	- 15 days
Plastic Surgery	- 15 days
Casualty	- 15 days
Anesthesia (ICU)	- 15 days
Radiology (CT, MRI, USG)	- 15 days

II Year

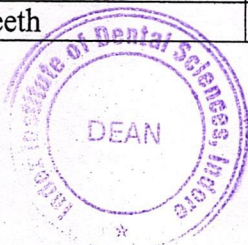
- Minor oral surgery and higher surgical training
- Submission of library assignment
- Oncology posting – 1 month

III Year

- Maxillofacial surgery
- Submission of dissertation to the university, six months before the final examination.

It is desirable to enter general surgical skills and operative procedures that are observed, assisted or performed in the log book in the format as given below:-

Sl.No	Procedure	Category	Number
1	Injection I.M. and I.V.	PI	50, 20
2	Minor suturing and removal of sutures	PI	N,A
3	Incision & drainage of an abscess	PI	10
4	Surgical extraction	PI	15
5	Impacted teeth	PI, A	30, 20



Registrar
Malwanchal University
Indore (M.P.)

6	Pre prosthetic surgery- corrective procedures ridge extension ridge reconstruction	P I A A	10 3 3
7	OAF closure	PI, A	3,2
8	Cyst enucleation	PI,A	5,5
9	Mandibular fractures	PI,A	10,10
10	Peri-apical surgery	PI,A	5
11	Infection management	PI,A	3,3
12	Biopsy procedures	PI, A	10, 3
13	Removal of salivary calculi	A	3
14	Benign tumors	A	3,3
15	mid face fractures	PI,A	3,5
16	Implants	PI,A	5,5
17	Tracheotomy	A	2
18	Skin grafts	PI,A	2,2
19	Orthognathic surgery	A,O	3,5
20	Harvesting bone & cartilage grafts Iliac crest Rib Calvarial Fibula	A,O A,O A,O A,O	3,5 3,3 2,2 2,2
21	T.M. Joint surgery	A	3
22	Jaw resections	A,O	3,5
23	Onco surgery	A,O	3,3
24	Micro vascular anastomosis	A,O	2,2
25	Cleft lip & palate	A,O	3,5
26	Distraction osteogenesis	A,O	2,3
27	Rhinoplasty	A,O	2,3
28	Access osteotomies and base of skull surgeries	A,O	1,3
29	Emergency Management for OMFS Patients in Casualty / Accident & Emergency	PI,O	5,5

PI:- Performed

Independently A:- Assisted

O:- Observed

Monitoring Learning Progress:

It is essential to monitor the learning progress to each candidate through continuous appraisal and regular assessment. It not only helps teachers to evaluate students, but also students to evaluate themselves. The monitoring to be done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment be done using checklists that assess various aspects. Checklists are given in Section IV.



(Handwritten signature)
Registrar
Malwanchal University
Indore (M P)

Paper wise distribution of syllabus:

PART- I:

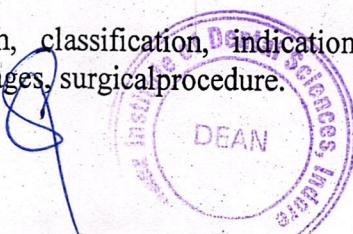
Applied Basic Sciences

PART-II:

Paper- I: Minor Oral Surgery and Maxillofacial

Trauma Minor Oral Surgery:

- **Principles of Surgery:** Developing A Surgical Diagnosis, Basic Necessities For Surgery, Aseptic Technique, Incisions, Flap Design Tissue Handling, Haemostasis, Dead Space Management, Decontamination And Debridement, Suturing, Oedema Control, Patient General Health And Nutrition.
- **Medical Emergencies:** Prevention and management of altered consciousness (syncope, orthostatic hypotension, seizures, diabetes mellitus, adrenal insufficiency), hypersensitivity reactions, chest discomfort, and respiratory difficulty.
- **Examination and Diagnosis:** Clinical history, physical and radiographic, clinical and laboratory diagnosis, oral manifestations of systemic diseases, implications of systemic diseases in surgical patients.
- **Haemorrhage and Shock:** Applied physiology, clinical abnormalities of coagulation, extra vascular hemorrhage, and hemorrhagic lesions, management of secondary hemorrhage, shock.
- **Exodontia:** Principles of extraction, indications and contraindications, types of extraction, complications and their management, principles of elevators and elevators used in oral surgery.
- **Impaction:** Surgical anatomy, classification, indications and contraindications, diagnosis, procedures, complications and their management.
- **Surgical aids to eruption of teeth:** Surgical exposure of unerupted teeth, surgical repositioning of partially erupted teeth.
- **Transplantation of teeth**
- **Surgical Endodontics:** Indications and contraindications, diagnosis, procedures of periradicular surgery
- **Preprosthetic Surgery:** Requirements, types (alveoloplasty, tuberosity reduction, mylohyoid ridge reduction, genial reduction, removal of exostosis, vestibuloplasty)
- **Procedures to Improve Alveolar Soft Tissues:** Hypermobility tissues- operative / sclerosing method, epulis fissuratum, frenectomy and frenotomy
- **Infections of Head and Neck:** Odontogenic and non Odontogenic infections, factors affecting spread of infection, diagnosis and differential diagnosis, management of facial space infections, Ludwig angina, cavernous sinus thrombosis.
- **Chronic infections of the jaws:** Osteomyelitis (types, etiology, pathogenesis, management) osteoradionecrosis
- **Maxillary Sinus:** Maxillary sinusitis – types, pathology, treatment, closure of Oro – antral fistula, Caldwell- luc operation
- **Cysts of the Orofacial Region:** Classification, diagnosis, management of OKC, dentigerous, radicular, non Odontogenic, ranula
- **Neurological disorders of the Maxillofacial Region:** Diagnosis and management of trigeminal neuralgia, MPDS, bell's palsy, Frey's syndrome, nerve injuries.
- **Implantology:** Definition, classification, indications and contraindications, advantages and disadvantages, surgical procedure.
- **Anesthesia**



Malwanchal University
Indore (M.P.)

Local Anesthesia:

Classification of local anesthetic drugs, mode of action, indications and contra indications, advantages and disadvantages, techniques, complications and their management.

General Anesthesia:

Classification, stages of GA, mechanism of action, indications, and contra indications, advantages and disadvantages, post anesthetic complications and emergencies, anesthetic for dental procedures in children, pre medication, conscious sedation, legal aspects for GA

Maxillofacial Trauma:

- Surgical Anatomy of Head and Neck.
- Etiology of Injury.
- Basic Principles of Treatment
- Primary Care: resuscitation, establishment of airway, management of hemorrhage, management of head injuries and admission to hospital.
- Diagnosis: clinical, radiological
- Soft Tissue Injury of Face and Scalp: classification and management of soft tissue wounds, injuries to structure requiring special treatment.
- Dento Alveolar Fractures: examination and diagnosis, classification, treatment, prevention.
- Mandibular Fractures: classification, examination and diagnosis, general principles of treatment, complications and their management
- Fracture of Zygomatic Complex: classification, examination and diagnosis, general principles of treatment, complications and their management.
- Orbital Fractures: blow out fractures
- Nasal Fractures
- Fractures of Middle Third of the Facial Skeleton: emergency care, fracture of maxilla, and treatment of Le Fort I, II, III, fractures of Naso-orbito-ethmoidal region.
- Ophthalmic Injuries: minor injuries, non-perforating injuries, perforating injuries, retro bulbar hemorrhage, and traumatic optic neuropathy.
- Traumatic Injuries To Frontal Sinus: diagnosis, classification, treatment
- Maxillofacial Injuries in Geriatric and Pediatric Patients.
- Gun Shot Wounds and War Injuries
- Osseointegration in Maxillofacial Reconstruction
- Metabolic Response to Trauma: neuro endocrine responses, inflammatory mediators, clinical implications
- Healing of Traumatic Injuries: soft tissues, bone, cartilage, response of peripheral nerve to injury
- Nutritional consideration following Trauma.
- Tracheostomy: indications and contraindications, procedure, complications and their management.

Paper – II :Maxillofacial Surgery

a) Salivary gland

- Sialography
- Salivary fistula and management
- Diseases of salivary gland – developmental disturbances, cysts, inflammation and sialolithiasis



Registrar
Malwanchal University
Indore (M.P.)

- Mucocele and Ranula
- Tumors of salivary gland and their management
- Staging of salivary gland tumors
- Parotidectomy

b) Temporomandibular Joint

- Etiology, history signs, symptoms, examination and diagnosis of temporomandibular 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

c) 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
- Radical 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 swellings

d) Orthognathicsurgery

- Diagnosis and treatment planning
- Cephalometric analysis
- Model surgery
- Maxillary and mandibular repositioning procedures
- Segmental osteotomies
- Management of apertognathia
- Genioplasty
- Distraction osteogenesis

e) Cysts and tumors of oro facial region

- Odontogenic and non-Odontogenic tumors and their management
- Giant Cell lesions of jawbone
- Fibro osseous lesions of jawbone
- Cysts of jaw

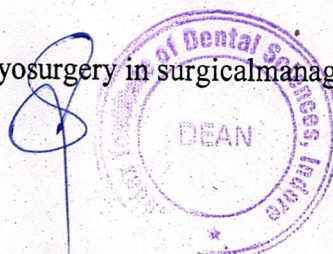
f) Lasersurgery

- The application of laser technology in surgical treatment of lesions

g) Cryosurgery

- Principles, applications of cryosurgery in surgical management

h) Cleft lip and palate surgery



18/9/22
 Registrar
 Malwanchal University
 Indore (M.P.)

- 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

i) 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

j) 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, craniosynostosis, syndromes, etc.
- Current concept in the management of Craniofacial anomalies

Paper – III : Essays (descriptive and analyzing type questions)

Scheme of Examination:

A. Theory: Part-I: Basic Sciences Paper	-	100 Marks
Part-II: Paper-I, Paper-II & Paper-III	-	300 Marks
		(100 Marks for each Paper)

Written examination shall consist of Basic Sciences Paper (Part-I) of three hours duration and should be conducted at the end of First year of MDS course. Part-II Examination will be conducted at the end of Third year of MDS course. Part-II Examination will consist of Paper-I, Paper-II & Paper-III, each of three hours duration. Paper-I & Paper-II shall consist of two long answer questions carrying 25 marks each and five questions carrying 10 marks each. Paper-III will be on Essays. In Paper-III three Questions will be given and student has to answer any two questions. Each question carries 50 marks. Questions on recent advances may be asked in any or all the papers. Distribution of topics for each paper will be as follows:*

PART-I: Applied Basic Sciences: Applied Anatomy, Physiology, & Biochemistry, Pathology, Microbiology, Pharmacology, Research Methodology and Biostatistics.

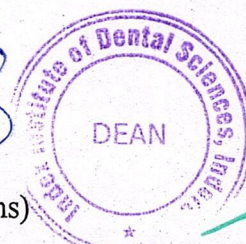
PART- II

Paper – I : Minor Oral Surgery and Maxillofacial Trauma

Paper – II : Maxillofacial Surgery

Paper – III : Essays (descriptive and analyzing type questions)

**The topics assigned to the different papers are generally evaluated under those sections. However a strict division of the subject may not be possible and some overlapping of topics is inevitable. Students should be prepared to answer overlapping topics.*



Registrar
Machanlal University
Indore (M.P.)

B. Practical /ClinicalExamination - **200Marks**

1. MinorOralSurgery - **100 Marks**

Each candidate is required to perform the minor oral surgical procedures under local anaesthesia. The minor surgical cases may include removal of impacted lower third

molar, cyst enucleation, any similar procedure where students can exhibit their professional skills in raising the flap, removing the bone and suturing the wound.

2. Case presentation and discussion: **100 Marks**

(a) One long case - **60 Marks**

(b) Two short cases - **40 Marks**
(20 marks each)

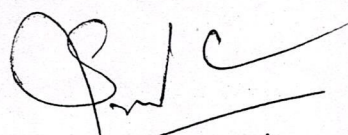
C. Viva Voce - **100 Marks**


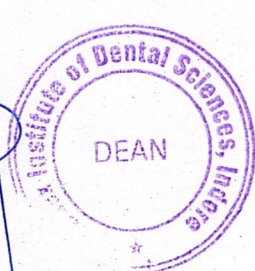
i. Viva-Voce examination: **80 Marks**

All examiners will conduct viva-voce conjointly on candidate's comprehension, analytical approach, expression, interpretation of data and communication skills. It includes all components of course contents. It includes presentation and discussion on dissertation also.

ii. Pedagogy: **20 Marks**

A topic be given to each candidate in the beginning of clinical examination. He/she is asked to make a presentation on the topic for 8-10 minutes.


Dr. Satish Karandikar
Professor & Head
Dept. of Oral & Maxillofacial Surgery
Index Institute of Dental Sciences, Indore



DEAN


Registrar
Malwanchal University
Indore (M.P.)

MALWANCHAL UNIVERSITY, INDORE (M.P.)**Syllabus for MDS Part I and Part II****CONSERVATIVE DENTISTRY AND ENDODONTICS**

Adapted from

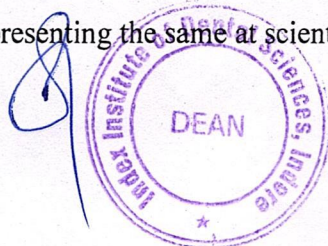
[Part III- SEC.4] THE GAZETE OF INDIA: EXTRAORDINARY**1. OBJECTIVES:**

The following objectives are laid out to achieve the goals of the course. These are to be achieved by the time the candidate completes the course. These objectives may be considered under the following subtitles.

Knowledge:

At the end of 36 months of training, the candidates should be able to:

- Describe etiology, pathophysiology, periapical diagnosis and management of common restorative situations, endodontic situations that will include contemporary management of dental caries, management of trauma and pulpal pathosis including periodontal situations.
- Demonstrate understanding of basic sciences as relevant to conservative / restorative dentistry and Endodontics.
- Identify social, economic, environmental and emotional determinants in a given case or community and take them into account for planning and execution at individual and community level.
- Ability to master differential diagnosis and recognize conditions that may require multi disciplinary 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.
- Update himself by self-study and by attending basic and advanced courses, conferences, seminars, and workshops in the specialty of Conservative Dentistry-Endodontics-Dental Materials and Restorative Dentistry.
- Ability to teach/guide, colleagues and other students. Use information technology tools and carry out research both basic and clinical with the aim of his publishing his work and presenting the same at scientific platform.



[Signature]
Registrar
Malwanchal University
Indore (M.P.)

[Signature]
HOD
Department of Conservative Dentistry
And Endodontics
Index Institute of Dental Sciences, Indore

Skills:

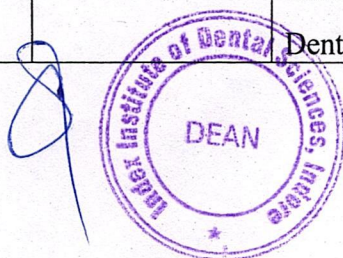
- Take proper chair side history, examine the patient and perform medical and dental diagnostic procedures as well as perform relevant tests and interpret to them to come to a reasonable diagnosis about the dental condition in general and Conservative Dentistry – Endodontics in particular and undertake complete patient monitoring including preoperative as well as post operative care of the patient.
- Perform all levels of restorative work, surgical and non-surgical Endodontics as well as endodontic-periodontal surgical procedures as part of multidisciplinary approach to the clinical condition.
- Provide basic life saving support in emergency situations. • Manage acute pulpal and Pulpo- periodontal situations.
- Have a thorough knowledge of infection control measures in the dental clinical environment and laboratories.
- Should have proper knowledge of sterilization procedures Human Values, Ethical Practice and Communication Abilities
- Adopt ethical principles in all aspects of restorative and contemporary Endodontics including non-surgical and surgical Endodontics.
- Professional honesty and integrity should be the top priority.
- Dental care has to be provided regardless of social status, caste, creed or religion of the patient.
- Develop communication skills in particular to explain various options available for management and to obtain a true informed consent from the patient.
- Apply high moral and ethical standards while carrying on human or animal research.
- He/She shall not carry out any heroic procedures and must know his limitations in performing all aspects of restorative dentistry including Endodontics. Ask for help from colleagues or seniors when required without hesitation.
- Respect patient's rights and privileges including patients right to information.



[Handwritten signature in green ink]
Registrar
Malwanchal University
Indore (M.P.)

COURSE CONTENTS:**PART 1 – APPLIED BASIC SCIENCES****I ANATOMY**

SN O.	TOPIC	DETAILS
1	Applied Anatomy of Head and Neck	Development of face, paranasal sinuses and the associated structures and their anomalies, cranial and facial bones, TMJ anatomy and function, arterial and venous drainage of head and neck, muscles of face and neck including muscles of mastication and deglutition, brief consideration of structures and function of brain. Brief consideration of all cranial nerves and autonomic nervous system of head and neck. Salivary glands, Functional anatomy of mastication, deglutition and speech. Detailed anatomy of deciduous and permanent teeth, general consideration in physiology of permanent dentition, form, function, alignment, contact, occlusion. • Internal anatomy of permanent teeth and its significance.
2	Applied histology	Histology of skin, oral mucosa, connective tissue, bone, cartilage, blood vessels, lymphatics, nerves, muscles, tongue. Anatomy and Development of Teeth
3	Enamel	Development and composition, physical characteristics, chemical properties, structure. Age changes and clinical considerations.
4	Dentin	development, physical and chemical properties, structure type of dentin, innervations, age and functional changes and clinical considerations.
5	Pulp	Development, histological structures, innervations, functions, regressive changes, clinical considerations. Dentin and pulp complex.

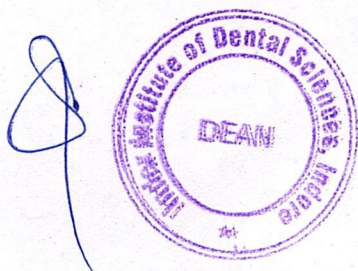


Registrar
Malwanchal University
Indore (M.P.)

6	Cementum	composition, cementogenesis, structure, function, clinical considerations.
7	Pulp morphology	Internal Anatomy of permanent teeth, anatomy of root apex and its implications in endodontic treatment.
8	Periodontal ligament	Development, structure, function and clinical considerations.
9	Salivary glands	Structure, function, clinical considerations.

II APPLIED PHYSIOLOGY

SNO.	TOPIC	DETAILS
1	Mastication	Deglutition, digestion and assimilation, fluid and electrolyte balance.
2	Blood	Composition, volume, function, blood groups, haemostasis, coagulation, blood transfusion, circulation, heart, pulse, blood pressure, shock.
3	Respiration	Control, anoxia, hypoxia, asphyxia, artificial respiration.
4	Endocrinology	General principles of endocrine activity and disorders relating to pituitary, thyroid, parathyroid, adrenals including pregnancy and lactation.
5	Physiology of saliva	composition, function, clinical significance.
6	Vitamins and Minerals	Clinical significance of vitamins, diet and nutrition – balanced diet.
7	Physiology of pain	Sympathetic and Para sympathetic nervous system, pain pathways, physiology of pulpal pain, Odontogenic and non Odontogenic pain, pain disorders – typical and atypical.



(Handwritten Signature)
Registrar
Malwanchal University
Indore (M.P.)

III Biochemistry

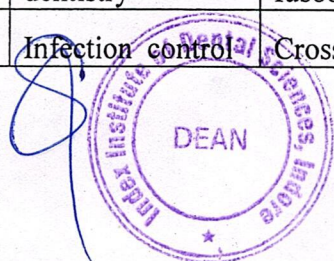
Biochemistry such as osmotic pressure, electrolytic dissociation, oxidation, reduction etc. Carbohydrates, proteins, lipids and their metabolism, nucleoproteins, nucleic acid and their metabolism. Enzymes, vitamins and minerals, metabolism of inorganic elements, detoxification in the body, anti metabolites, chemistry of blood lymph and urine.

IV Pathology

Sno.	Topic	Details
1	Inflammation	Repair, degeneration, necrosis and gangrene.
2	Circulatory disturbances	Ischemia, hyperemia, edema, thrombosis, embolism, infarction, allergy and hypersensitivity reaction.
3	Neoplasms	Classifications of tumors, characteristics of benign and malignant tumors, spread of tumors. Blood dyscrasias
5	Oral Pathology.	Developmental disturbances of oral and Para oral structures, dental caries, regressive changes of teeth, pulp, periapical pathology, pulp reaction to dental caries and dental procedures. Bacterial, viral, mycotic infections of the oral cavity.

V Microbiology

Sno.	Topic	Details
1	Pathways of pulpal infection	Oral flora and micro organisms associated with endodontic diseases, pathogenesis, host defense, bacterial virulence factors, healing, theory of focal infections.
2	Microbes relevance to dentistry	strepto, staphylococci, lactobacilli, cornyebacterium, actinomycetes, clostridium, neisseria, vibrio, bacterioids, fusobacteria, spirochetes, mycobacterium, virus and fungi.
3	Infection control	Cross infection, infection control, infection control

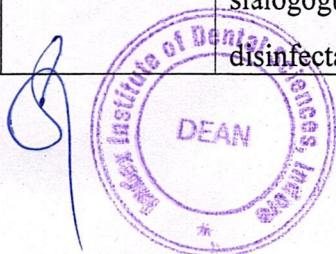


Registrar
Malwanchal University
Indore (M.P.)

		procedure, sterilization and disinfection.
4	Immunology	Antigen antibody reaction, allergy, hypersensitivity and anaphylaxis, auto immunity, grafts, viral hepatitis, HIV infections and aids.
5	Identification and isolation of microorganisms from infected root canals.	
6	Culture medium and culturing technique (Aerobic and anaerobic interpretation and antibiotic sensitivity test).	

VI Pharmacology

Sno.	Topic	Details
1	Fundamentals	Dosage and route of administration of drugs, actions and fate of drug in body, drug addiction, tolerance of hypersensitivity reactions.
2	Local anesthesia	Agents and chemistry, pharmacological actions, fate and metabolism of anaesthetic, ideal properties, techniques and complications.
3	General anesthesia	Pre medications, neuro muscular blocking agents, induction agents, inhalation anesthesia, and agents used, assessment of anesthetic problems in medically compromised patients. anesthetic emergencies
4	vitamins and minerals	A, B, C, D, E, K IRON
5	Drugs in relevance with dentistry	Antihistamines, corticosteroids, chemotherapeutic and antibiotics, drug resistance, haemostasis, and haemostatic agents, anticoagulants, sympathomimetic drugs, anti sialogogue, immunosuppressants, drug interactions, antiseptics, disinfectants, anti viral agents, drugs acting on CNS.



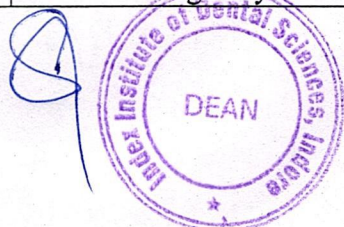
Registrar
Malwanchal University
Indore (M.P.)

VII Biostatistics

Sno.	Topic	Details
1	Biostatistics	Introduction, Basic concepts, Sampling, Health information systems – collection, compilation, presentation of data. Use of computers.
2	Elementary statistical methods	Presentation of statistical data, Statistical averages – measures of central tendency, measures of dispersion, Normal distribution
3	Tests of significance	Parametric and non – parametric tests (Fisher exact test, Sign test, Median test, Mann Whitney test, Kruskal Wallis one way analysis, Friedmann two way analysis, ANOVA, Regression analysis), Correlation and regression.
4	Research Methodology	Essential features of a protocol for research in humans • Experimental and non-experimental study designs. Ethical considerations of research.

VIII Applied Dental Materials

Sno.	Topic
1	Physical and mechanical properties of dental materials, biocompatibility.
2	Impression materials
3	<p>Detailed study of various restorative materials</p> <ul style="list-style-type: none"> • Restorative resin and recent advances in composite resins, • bonding- recent developments • tarnish and corrosion • dental amalgam • direct filling gold • casting alloys



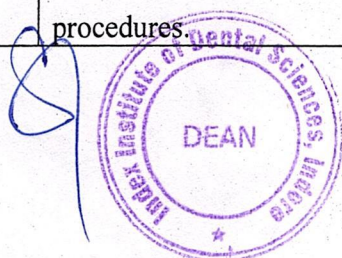
[Signature]
 Registrar
 Malwanchal University
 Indore (M.P.)

	<ul style="list-style-type: none"> • inlay wax • die materials • investments • casting procedures • defects • dental cements for restoration and pulp protection (luting, liners, bases) cavity varnishes. • Dental ceramics-recent advances, finishing and polishing materials.
4	Dental burs – design and mechanics of cutting – other modalities of tooth preparation. Methods of testing biocompatibility of materials used.

Part II

Conservative Dentistry (paper I)

Sno.	Topics
1	Examination, diagnosis and treatment plan
2	Occlusion as related to conservative dentistry, contact, contour, its significance. Separation of teeth, matrices, used in conservative dentistry.
3	Dental caries- epidemiology, recent concept of etiological factors, pathophysiology, histopathology, diagnosis, caries activity tests, prevention of dental caries and management – recent methods
4	Hand and rotary cutting instruments, development of rotary equipment, speed ranges, hazards.
5	Dental burs and other modalities of tooth preparation- recent developments (air abrasions, lasers etc.)
6	Infection control procedures in conservative dentistry, isolation equipments etc.
7	Direct concepts in tooth preparation for amalgam, composite, GIC and restorative techniques, failures and management.
8	Biologic response of pulp to various restorative materials and operative procedures

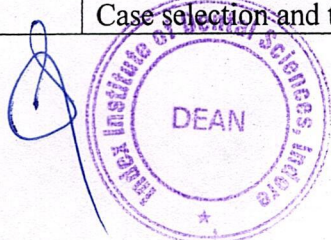


Registrar
Malwanchal University
Indore (M.P.)

9	Direct and indirect composite restorations
10	Indirect tooth colored restorations- ceramic, inlays and onlays, veneers, crowns, recent advances in fabrication and gingival tissue management.
11	Impression procedures used for indirect restorations.
12	Cast metal restorations, indications, contraindications, tooth preparation for class II inlay, onlay, full crown restorations. Restorative techniques, direct and indirect methods of fabrication including materials used for fabrication like inlay wax, investment materials and casting.
13	Direct gold restorations.
14	Recent advances in restorative materials.
15	Esthetics including smile design
16	Management of non-carious lesions.
17	Management of discolored tooth
18	Minimal intervention dentistry.
19	Recent advances in restoration of endodontically treated teeth and grossly mutilated teeth.
20	Hypersensitivity-theories, causes and management
21	Lasers in Conservative Dentistry.
22	CAD-CAM in restorative dentistry.
23	Digital imaging and its applications in restorative dentistry.
24	Clinical Photography.

Endodontics (paper II)

1	Rationale of endodontics.
2	Pulp and periapical pathology.
3	Pathobiology of periapex.
4	Diagnostic procedures – Orofacial dental pain emergencies: endodontic diagnosis and management, recent advances used for diagnosis.
5	Case selection and treatment planning.



Registrar
Malwanchal University
Indore (M.P.)

6	Endodontic microbiology.
7	Infection control procedures used in Endodontics (aseptic techniques such as rubber dam, sterilization of instruments etc.)
8	Endodontic emergencies and management.
9	Access cavity preparation – objectives and principles
10	Endodontic instruments and instrumentation – recent developments, detailed description of hand, rotary, sonic, ultra sonic etc.
11	Working length determination, cleaning and shaping of root canal system and recent developments in techniques of canal preparation.
12	Root canal irrigants and intra canal medicaments.
13	Obturation materials, techniques and recent advances.
14	Traumatic injuries and management – endodontic treatment for young permanent teeth.
15	Endodontic surgeries, recent developments in technique and devices and wound healing.
16	Endo-perio interrelationship and management.
17	Lasers in Endodontics.
18	Multidisciplinary approach to endodontic situations.
19	Radiology and CBCT in endodontic practice.
20	Procedural errors in endodontics and their management.
21	Endodontic failures and retreatment.
22	Resorptions and its management.
23	Microscopes and Microsurgery in endodontics.
24	Single visit endodontics, current concepts and controversies.
25	Regenerative Endodontics

Paper-III: Essays (descriptive and analyzing type question)



[Signature]
 Registrar
 Malwanchal University
 Indore (M.P.)

TEACHING / LEARNING ACTIVITIES:

The post graduate is expected to complete the following at the end of :

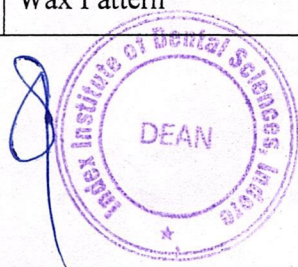
The following is the minimum required to be completed before the candidate can be considered eligible to appear for final MDS exam.

First Year• **Pre Clinical Work – Conservative and Endodontics****Exercise 1: Preclinical work on Typhodont teeth**

S No.	Exercise	Quota
1	Class II Amalgam Cavities	
	a) Conservative	03
	b) Conventional	03
2	Inlay cavity preparation	Premolars and molars – MO, DO, MOD - 02
	Wax Pattern Fabrication	
	Casting	
3	Onlay preparation on molars	02
	Wax Pattern Fabrication	
	Casting	
4	Full Crown -	
	a. Anterior	02(01 to be processed)
	b. Posterior	02(01 to be processed)

Exercise 2: Pre Clinical work on natural teeth –

S No.	Exercise	Quota
1.	Wax Carving	All permanent teeth
2.	Amalgam Cavities	
	a) Conservative	02
	b) Conventional	02
3.	Inlay Cavity preparation	molars and
	Wax Pattern	premolars MO, DO,

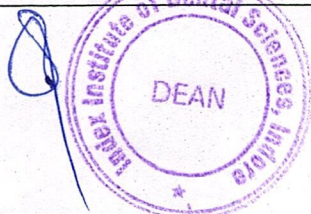


Signature
Registrar
Malwanchal University
Indore (M.P.)

	Casting	and MOD -05
4.	Complex amalgam restoration	02
5.	Onlay cavity preparation- molars	02
	Wax Pattern	02
	Casting	01
6.	Full Crown- Posterior	Molars and Premolars -04
	Metal	
	PFM	
	All Ceramic	
7.	Full Crown- Anterior	03
	PFM	
	Composite	
	All Ceramic	
8.	Veneers –Anterior teeth	02
9.	Composite	05 each
	a. Composite Restoration(Class I,II,III & V)	
	b. Inlay (Class I & II)	
	c. Veneer	
	d. Diastema Closure	
	e. Angle Buildups	02 each

Exercise 3: Endodontic Exercises:–

S.no.	Exercise	Quota
1.	Sectioning of teeth	All maxillary and mandibular teeth (vertical & horizontal)
2.	Access cavity preparation	All maxillary and mandibular teeth
3.	Access cavity preparation, BMP and Obturation	



Registrar
Malwanchal University
Indore (M.P.)

a.	Anterior	3 maxillary and 3 mandibular - 06
	Conventional Prep	02
	Step back Prep.	02
	Crown down Prep.	02
	Obturation	03(2 lateral compaction and 1 thermoplasticized)
b.	Premolar -	04 (2 upper and 2 lower) obturation 1 each
c.	Molars -	06 03 upper - 2 first molars and 1 second molar 03 lower - 2 first molars and 1 second molar) obturation 1 each
4.	Post and core preparation and fabrication	
a.	Post and core - Anterior	10
	Prefabricated	05
	Custom Made	05
b.	Post and core - Posterior	02
	Prefabricated	05
	Custom Made	02
5.	Removable Dies	04

Note : Technique work to be completed in the first four months
Clinical work:

A	Composite restorations	30
B	GIC Restorations	30
C	Complex amalgam restorations	05
D	Composite inlay + veneers (direct and indirect)	10



[Handwritten signature]
 Registrar
 Malwanchal University
 Indore (M.P.)

E	Ceramic jacket crowns	05
F	Post and core for anterior teeth	10
G	Bleaching vital	05
	Bleaching non -vital	05
H	RCT Anterior	20
I	Endo surgery – observation and assisting	05

Presentation of:

- Seminars – 5 seminars by each student – should include topics in dental materials, conservative dentistry and endodontics
- Journal clubs – 5 by each student
- Submission of synopsis at the end of 6 months
- Library assignment work
- Internal assessment – theory and clinicals.

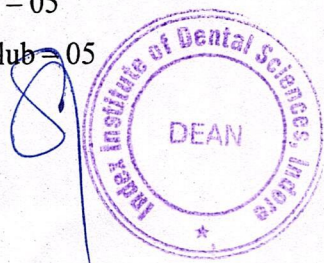
Second Year:

Clinical Work:

1	Ceramic jacket crowns	10
2	Post and core for anterior teeth	10
3	Post and core for posterior teeth	05
4	Composite restoration	15
5	Full crown for posterior teeth	15
6	Cast gold inlay	05
7	Other special types of work such as splinting - Reattachment of fractured teeth etc.	10
8	Anterior RCT	30
9	Posterior RCT	40
10	Endo surgery performed independently	05
11	Management of endo – Perio problems	05
12	Angle build up composite	05
13	Diastema closure	05
14	Composite Veneers	05

Teaching/ learning activities:

- Under graduate teaching program as allotted by the HOD
- Clinical case discussion -05
- Seminars – 05
- Journal club – 05



Handwritten signature
Registrar
Malwanchal University
Indore (M.P.)

- Dissertation work
- Prepare scientific paper / poster and present in conference and clinical meeting
- Library assignment to be submitted 18 months after starting of the course
- Internal assessment – theory and clinical

Third Year

Dissertation work to be submitted 6 months before final examination.

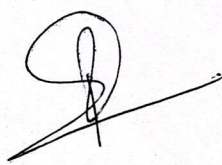
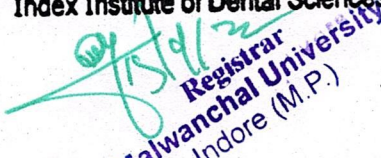
Clinical work

1	Cast gold inlay- Onlay, cuspal restoration	10
2	Post and core	20
3	Molar Endodontics	50
4	Endodontic Surgery	05
5	Diastema Closure	05
6	Angle build up	05
7	All other types of surgeries including crown lengthening, perioesthetics, hemi sectioning, splinting, replantation. ‘; cw	

Teaching/ learning activities:

- Seminars – 5 by each student
- Journal club – 5 by each student
- Under graduate teaching program as allotted by the HOD
- Internal assessment – theory and clinical




HOD
Department of Conservative Dentistry
And Endodontics
Index Institute of Dental Sciences, Indore

Registrar
Malwanchal University
Indore (M.P.)

MALWANCHAL UNIVERSITY, INDORE (M.P.)

Syllabus for MDS Part I and Part II

Orthodontics & Dentofacial Orthopaedic

Adapted from

[Part III- SEC.4] THE GAZETE OF INDIA

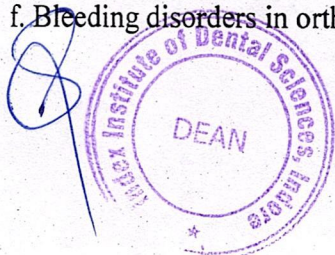
PART-I: A. Applied Basic Sciences:

Applied Anatomy:

- a. Prenatal growth of head: Stages of embryonic development, origin of head, origin of face, origin of teeth.
- b. Postnatal growth of head: Bones of skull, the oral cavity, development of chin, the hyoid bone, general growth of head, growth of the face.
- c. Bone growth: Origin of bone, composition of bone, units of bone structure, schedule of Ossification, mechanical properties of bone, roentgen graphic appearance of bone
- d. Assessment of growth and development: Growth prediction, growth spurts, the concept of normality and growth increments of growth, differential growth, gradient of growth, methods of gathering growth data. Theories of growth and recent advances, factors affecting physical growth.
- e. Muscles of mastication: Development of muscles, muscle change during growth, muscle function and facial development, muscle function and malocclusion
- f. Development of dentition and occlusion: Dental development periods, order of tooth eruption, chronology of permanent tooth formation, periods of occlusal development, pattern of occlusion.
- g. Assessment of skeletal age.

Physiology:

- a. Endocrinology and its disorders: Growth hormone, thyroid hormone, parathyroid hormone, ACTH.
- b. Calcium and its metabolism:
- c. Nutrition-metabolism and their disorders: Proteins, carbohydrates, fats, vitamins and minerals
- d. Muscle physiology:
- e. Craniofacial Biology: Adhesion molecules and mechanism of adhesion
- f. Bleeding disorders in orthodontics: Hemophilia



(H. Karungo)
Dr. Himanshu Karungo

HOD

Department of Orthodontics
Index Institute of Dental Sciences, Indore

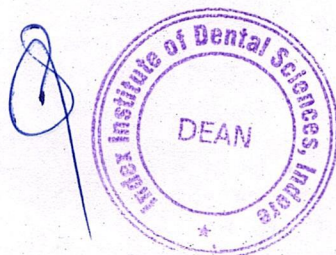
15/9/20
Registrar
Malwanchal University
Indore (M.P.)

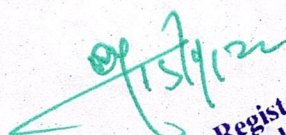
Dental Materials:

- a. Gypsum products: Dental plaster, dental stone and their properties, setting reaction etc.
- b. Impression materials: Impression materials in general and particularly of alginate impression material.
- c. Acrylics: Chemistry, composition physical properties
- d. Composites: Composition types, properties, setting reaction
- e. Banding and bonding cements
- f. Wrought metal alloys: Deformation, strain hardening, annealing, recovery, recrystallization, grain growth, properties of metal alloys
- g. Orthodontic arch wires
- h. Elastics: Latex and non-latex elastics.
- i. Applied physics, Bioengineering and metallurgy:
- j. Specification and tests methods used for materials used in Orthodontics:
- k. Survey of all contemporary literature and recent advances in above mentioned materials:

Genetics

- a. Cell structure, DNA, RNA, protein synthesis, cell division
- b. Chromosomal abnormalities
- c. Principles of orofacial genetics
- d. Genetics in malocclusion
- e. Molecular basis of genetics
- f. Studies related to malocclusion
- g. Recent advances in genetics related to malocclusion
- h. Genetic counseling i. Bioethics and relationship to Orthodontic management of patients.




Registrar
Malwanchal University
Indore (M.P.)

Physical Anthropology

- a. Evolutionary development of dentition
- b. Evolutionary development of jaws.

Pathology

- a. Inflammation
- b. Necrosis

Biostatistics:

- a. Statistical principles • Data Collection • Method of presentation • Method of Summarizing • Methods of analysis – different tests/errors
- b. Sampling and Sampling technique
- c. Experimental models, design and interpretation
- d. Development of skills for preparing clear concise and cogent scientific abstracts and publication

Applied Research Methodology In Orthodontics:

- a. Experimental design
- b. Animal experimental protocol
- c. Principles in the development, execution and interpretation of methodologies in Orthodontics
- d. Critical Scientific appraisal of literature.

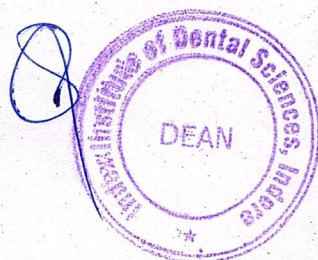
Applied Pharmacology

Definitions & terminologies used – Dosage and mode of administration of drugs. Action and fate of drugs in the body, Drug addiction, tolerance and hypersensitive reactions, Drugs acting on the central nervous system, general anesthetics hypnotics, analeptics and tranquilizers.

Local anesthetics, Chemotherapeutics and antibiotics.

Vitamins: A, D, B – complex group, C & K etc.

PART-II:




Registrar
Malwanchal University
Indore (M.P.)

Paper-I

:Basic Orthodontics OrthodonticHistory:

- a. Historical perspective
- b. . Evolution of orthodontic appliances,
- c. Pencil sketch history of Orthodontic peers
- d. History of Orthodontics in India

Concepts of Occlusion and Esthetics:

- a. Structure and function of all anatomic components of occlusion,
- b. Mechanics of articulation,
- c. Recording of masticatory function,
- d. Diagnosis of Occlusal dysfunction,
- e. Relationship of TMJ anatomy and pathology and related neuromuscular physiology. Etiology and

Classification of Malocclusion:

- a. A comprehensive review of the local and systemic factors in the causation of malocclusion
- b. Various classifications of malocclusion

Dentofacial Anomalies:

- a. Anatomical, physiological and pathological characteristics of major groups of developmental defects of the orofacial structures.

Diagnostic Procedures and Treatment Planning in Orthodontics:

- a. Emphasis on the process of data gathering, synthesis and translating it into a treatment plan
- b. Problem cases – analysis of cases and its management
- c. Adult cases, handicapped and mentally retarded cases and their special problems d. Critique of treated cases.

Cephalometrics

- a. Instrumentation
- b. Image processing



[Handwritten signature]
Registrar
Malwanchal University
Indore (M.P.)

- c. Tracing and analysis of errors and applications
- d. Radiation hazards
- e. Advanced Cephalometrics techniques including digital cephalometrics
- f. Comprehensive review of literature
- g. Video imaging principles and application.

Practice Management in Orthodontics:

- a. Economics and dynamics of solo and group practices
- b. Personal management
- c. Materials management
- d. Public relations
- e. Professional relationship
- f. Dental ethics and jurisprudence
- g. Office sterilization procedures
- h. Community based Orthodontics.

Paper-II:

Clinical Orthodontics Myofunctional Orthodontics:

- a. Basic principles
- b. Contemporary appliances –design, manipulation and management
- c. Case selection and evaluation of the treatment results
- d. Review of the current literature.

Dentofacial Orthopedics:

- a. Principles
- b. Biomechanics
- c. Appliance design and manipulation



15/9/22
 Registrar
 Malwanchal University
 Indore (M.P.)

d. Review of contemporary literature

Cleft lip and palate rehabilitation:

a. Diagnosis and treatment planning

b. Mechanotherapy

c. Special growth problems of cleft cases

d. Speech physiology, pathology and elements of therapy as applied to orthodontics

e. Team rehabilitative procedures.

Biology of tooth movement:

a. Principles of tooth movement-review

b. Review of contemporary literature

c. Applied histophysiology of bone, periodontal ligament

d. Molecular and ultra cellular consideration in tooth movement

Orthodontic / Orthognathic surgery:

a. Orthodontist's role in conjoint diagnosis and treatment planning

b. Pre and post-surgical Orthodontics

c. Participation in actual clinical cases, progress evaluation and post retention study

d. Review of current literature

Ortho / Perio / Prostho/Endo inter relationship:

a. Principles of interdisciplinary patient treatment

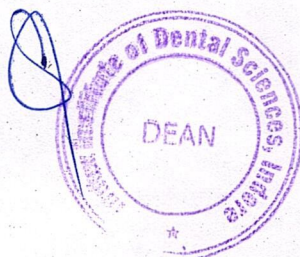
b. Common problems and their management

Basic principles of mechanotherapy includes removable appliances and fixed appliances

a. Design

b. Construction

c. Fabrication



15/9/22
Registrar
Malwanchal University
Indore (M.P.)

d. Management

e. Review of current literature on treatment methods and results

Applied preventive aspects in Orthodontics:

a. Caries and periodontal disease prevention

b. Oral hygiene measures

c. Clinical procedures

Interceptive Orthodontics:

a. Principles

b. Growth guidance

c. Diagnosis and treatment planning

d. Therapy emphasis on: • Dento-facial problems • Tooth material discrepancies • Minor surgery for Orthodontics Evidence Based Orthodontics: Different types of fixed Mechanotherapy: Orthodontic Management of TMJ problems, sleep-apnoea etc.:

Retention and relapse:

a. Mechanotherapy – special reference to stability of results with various procedures

b. Post retention analysis

c. Review of contemporary literature

Recent Advances :

a. Use of implants

b. Lasers

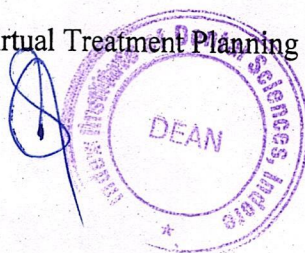
c. Application of F.E.M.

d. Distraction Osteogenesis

e. Invisible Orthodontics

f. 3D imaging Digital Orthodontics, Virtual Treatment Planning

g. CAD-CAM bracket Customization



Registrar
Malwanchal University
Indore (M.P.)

h. Robotic Wire Bending

i. Accelerated Orthodontics

• Surgical • Device assisted or mechanical stimulation • Biochemical Mediators

j. Lingual Orthodontics

Paper-III:

Essays (descriptive and analyzing type questions)

PRE – CLINICAL EXERCISES (Should be completed within 3 months)

A general outline of the type of exercises is given here:

1. General Wire bending exercises to develop the manual dexterity.
2. Clasps, Bows and springs used in the removable appliances.
3. Soldering and welding exercises.
4. Fabrication of removable, habit breaking, mechanical and functional appliances, also all types of space maintainers and space regainers.
5. Bonwill Hawley Ideal arch preparation.
6. Construction of orthodontic models trimmed and polished.
7. Cephalometric tracing and various Analyses, also superimposition methods –
8. Fixed appliance typodont exercises.
 - a) Training shall be imparted in one basic technique i.e. Standard Edgewise / Begg technique or its derivative / Straight wire etc., with adequate exposure to other techniques.
 - b) Typodont exercise • Band making • Bracket positioning and placement • Different stages in treatment appropriate to technique taught
9. Clinical photography
10. Computerized imaging
11. Preparation of surgical splints, and splints for TMJ problems.




Registrar
Malwanchal University
Indore (M.P.)

12. Handling of equipment like vacuum forming appliances and hydro solder etc.

Basic Pre-Clinical Exercise Work for the MDS Students:

1. Clasps:

Sr.No.	Exercise	No.
1	$\frac{3}{4}$ Clasps	1
2	Triangular clasp	1
3	Adam's clasp	2
4	Modification of Adam's –with Helix	2
5	Southend clasp	1

2. Labial bows

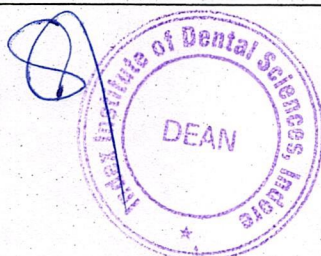
s. no.	Exercise	No.
1	Short Labial bow (upper and lower)	1
2	Long labial bow (upper and lower)	1
3	Split high labial bow (upper and lower)	1

3. Springs

s. no.	Exercise	No.
1	Double cantilever spring	1
2	Coffin spring	1
3	T spring	1

4. Appliances

Sr. No	Exercise	
1.	Hawley retention appliance with anterior bite plane	1
2	Upper Hawley's appliance postr bite plane	1
3	Upper expansion appliance with expansion screw	1
4	Habit breaking appliance with tongue crib	1
5	Oral screen and double oral screen	1
6	Lip bumper	1
7	Splint for Bruxism	1
8	Catalans appliance	1



[Signature]
Registrar
Malwanchal University
Indore (M.P.)

9	Activator	1
10	. Bionator	1
11	Frankel-FR 1& 2 appliance	2
12	Twin block	1
13	Lingual arch	1
14	TPA	1
15	Quad helix	1
16	Utility arches	1
17	Pendulum appliance	1
18	Canine Retractor(Marcotte & PG Spring)	1

5. Soldering exercise

s. no.	exercise	no
1	Star/Comb/Christmas tree	1

6. Study model preparation:

7. Model analysis – Mixed and permanent Dentition:

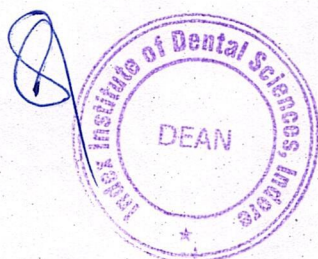
8. Cephalometrics:

S no.	exercise
1	Lateral cephalogram to be traced in different colors and super imposed to see the accuracy of tracing
2	Vertical and Anterio-Posterior Cephalometric analysis
3	Soft tissue analysis – Holdaway and Burstone
4	Various superimposition methods

9. Basics of Clinical Photography including Digital Photography:

10. Typodont exercises: Begg or P.E.A. method/Basic Edgewise:

S no.	exercise
1	Teeth setting in Class-II division I malocclusion with maxillary anterior Proclination and mandibular anterior crowding
2	Band pinching, welding brackets and buccal tubes to the bands
2	Different Stages dependent on the applied technique



[Handwritten Signature]
 Registrar
 Malwanchal University
 Indore (M.P.)

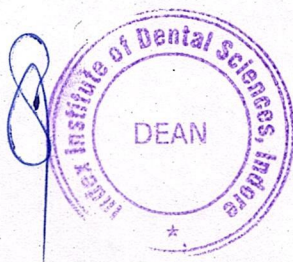
CLINICAL WORK: Once the basic pre-clinical work is completed in three months, the students can take up clinical cases and the clinical training. Each postgraduate student should start with a minimum of 50 fixed orthodontics cases and 20 removable including myofunctional cases of his/her own. Additionally he/she should handle a minimum of 25 transferred cases.

The type of cases can be as follows:

- Removable active appliances
- Class-I malocclusion with Crowding
- Class-I malocclusion with bi-maxillary protrusion
- Class-II division – 1
- Class-II division – 2
- Class-III (Orthopedic, Surgical, Orthodontic cases)
- Inter disciplinary cases
- Removable functional appliance cases like activator, Bionator, functional regulator, twin block and new developments
- Fixed functional appliances – Herbst appliance, jasper jumper etc
- Dento-facial orthopedic appliances like head gears, rapid maxillary expansion, NiTi expander etc.,
- Appliance for arch development such as molar distalization
- Fixed mechano therapy cases (Begg, PEA, Tip edge, Edgewise, lingual)
- Retention procedures of above treated cases.

(H. Kanungo)
Dr. H. Manshu Kanungo

HOD
Department of Orthodontics
Index Institute of Dental Sciences, Indore



15/9/22
Registrar
Malwanchal University
Indore (M.P.)

MALWANCHAL UNIVERSITY, INDORE (M.P.)
Syllabus for MDS –PEDIATRIC AND PREVENTIVE DENTISTRY
Adapted from
[Part III- SEC.4] THE GAZETTE OF INDIA

OBJECTIVES:

At the end of 3 years of training the candidate should be able to

1. Create not only a good oral health in the child but also a good citizen tomorrow.
2. Instill a positive attitude and behavior in children
3. Understand the principles of prevention and preventive dentistry right from birth to adolescence
4. Guide and counsel the parents in regards to various treatment modalities including different facets of preventive dentistry
5. Prevent and intercept developing malocclusion

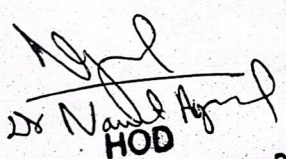
SKILLS:


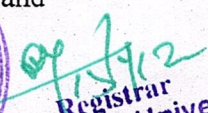
1. Obtain proper clinical history, methodological examination of the child patient, perform essential diagnostic procedures and interpret them. and arrive at a reasonable diagnosis and treat appropriately
2. Be competent to treat dental diseases which are occurring in child patient.
3. Manage to repair and restore the lost / tooth structure to maintain harmony between both hard and soft tissues of the oral cavity.
4. Manage the disabled children effectively and efficiently, tailored to the needs of individual requirement and conditions.
5. To acquire skills in managing efficiently life threatening conditions with emphasis on basic life support measures.

ATTITUDES:

1. Develop an attitude to adopt ethical principles in all aspects of Pedodontic practice.
2. Professional honesty and integrity are to be fostered
3. Treatment care is to be delivered irrespective of the social status, cast, creed, and religion of the patients.
4. Willingness to share the knowledge and clinical experience with professional colleagues.
5. Willingness to adopt, after a critical assessment, new methods and techniques of Pedodontic management developed from time to time, based on scientific research, which are in the best interest of the child patient.
6. Respect child patient's rights and privileges, including child patients right to information and right to seek a second opinion.
7. Develop an attitude to seek opinion from allied medical and dental specialities, as and when required

COURSE CONTENTS:


HOD
Department of Pediatric & Preventive Dentistry
Index Institute of Dental Sciences, INDORE (M.P.)



Registrar
Malwanchal University
Indore (M.P.)

A) Applied Basic Sciences:

Applied Anatomy of Head and Neck:

- Anatomy of the scalp, temple and face
- Anatomy of the triangles of neck and deep structures of the neck
- Cranial and facial bones and its surrounding soft tissues with its applied aspects
- Muscles of head and neck
- Arterial supply, venous drainage and lymphatics of head and neck
- Congenital abnormalities of the head and neck
- Anatomy of the cranial nerves
- Anatomy of the tongue and its applied aspects
- Anatomy and its applied aspects of salivary glands, pharynx, thyroid and parathyroid gland, larynx, trachea, esophagus
- Autonomous nervous system of head and neck
- Functional anatomy of mastication, deglutition, speech, respiration and circulation
- TMJ: anatomy and function

Applied Physiology:

Introduction, Mastication, Deglutition, Digestion and Assimilation, Homeostasis, Fluid and Electrolyte balance. Blood composition, volume, function, blood groups and hemorrhage, Blood transfusion, circulation, Heart, Pulse, Blood pressure, Normal ECG, capillary and lymphatic circulation, shock, respiration, control, anoxia, hypoxia, asphyxia, artificial respiration. Endocrine glands in particular reference to pituitary, parathyroid and thyroid glands and sex hormones. Role of calcium and Vit. D in growth and development of teeth, bone and jaws. Role of Vit. A, C and B complex in oral mucosal and periodontal health. Physiology and function of the masticatory system. Speech mechanism, swallowing and deglutition mechanism, salivary glands and Saliva

Applied Pathology:

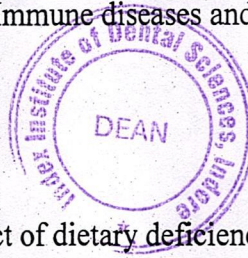
Inflammation and chemical mediators, Thrombosis, Embolism, Necrosis, Repair, Degeneration, Shock, Hemorrhage, Blood dyscrasias, Pathogenesis of Dental Caries, Periodontal diseases, tumors, oral mucosal lesions etc. in children

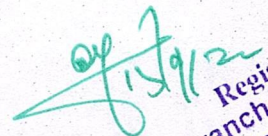
Applied Microbiology:

Microbiology & Immunology as related to Oral Diseases in Children: Basic concepts, immune system in human body, Auto Immune diseases and Immunology of Dental caries.

Applied Nutrition & Dietetics:

- General principles, balanced diet, effect of dietary deficiencies and starvation, protein energy, malnutrition, Kwashiorkor, Marasmus.




Registrar
Malwanchal University
Indore (M.P.)

- Fluid and Electrolytic balance in maintaining haemostasis
- Diet, digestion, absorption, transportation and utilization

Genetics:

- Introduction to genetics
- Cell structure, DNA, RNA, protein synthesis, cell division
- Modes of inheritance
- Chromosomal anomalies of oral tissues & single gene disorders

Growth & Development:

Prenatal and Postnatal development of cranium, face, jaws, teeth and supporting structures. Chronology of dental development and development of occlusion. Dimensional changes in dental arches. Cephalometric evaluation of growth.

B) Pediatric Dentistry:

- Child Psychology:
Development & Classification of behavior, personality, intelligence in children, theories of child psychology, stages of psychological child development, fear, anxiety, apprehension & its management.
- Behavior Management: Non- pharmacological & Pharmacological methods.
- Child Abuse & Dental Neglect
- Conscious Sedation
- Deep Sedation & General Anesthesia in Pediatric Dentistry: (Including Other Drugs, Synergic & Antagonistic Actions of Various Drugs Used in Children)

Preventive Pedodontics:

Concepts, chair side preventive measures for dental diseases, high-risk caries including rampant & extensive caries – Recognition, Features & Preventive Management, Pit and Fissures Sealants, Oral Hygiene measures, Correlation of brushing with dental caries and periodontal diseases. Diet & Nutrition as related to dental caries. Diet Counseling

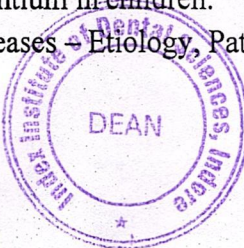
Dental Plaque:

Definition, Initiation, Pathogenesis, Biochemistry, and Morphology & Metabolism.

Gingival & Periodontal diseases in Children:

- Normal Gingiva & Periodontium in children.
- Gingival & Periodontal diseases – Etiology, Pathogenesis, Prevention & Management

Pediatric Operative Dentistry:



104/154/20
Registrar
Malwanchal University
Indore (M.P.)

- Principle of Operative Dentistry along with modifications of materials/past, current & latest including tooth colored materials.
- Modifications required for cavity preparation in primary and young permanent teeth.
- Various Isolation Techniques
- Restorations of decayed primary, young permanent and permanent teeth in children using various restorative material like Glass Ionomer, Composites, Silver, Amalgam & latest material (gallium)
- Stainless steel, Polycarbonate & Resin Crowns / Veneers & fibre post systems.

Pediatric Endodontics:

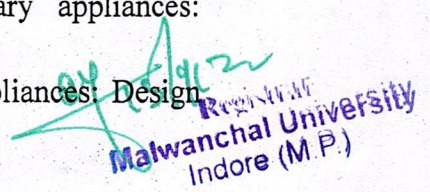
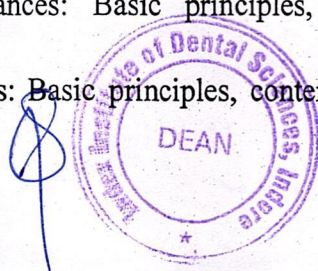
- Primary Dentition: - Diagnosis of pulpal diseases and their management – Pulp capping, Pulpotomy, Pulpectomy (Materials & Methods), Controversies & recent concepts.
- Young permanent teeth and permanent teeth, Pulp capping, Pulpotomy, Apexogenesis, Apexification, Concepts, Techniques and Materials used for different procedures.
- Recent advances in Pediatric diagnosis and Endodontics. Prosthetic consideration in Pediatric Dentistry.

Traumatic Injuries in Children:

- Classifications & Importance.
- Sequelae & reaction of teeth to trauma.
- Management of Traumatized teeth with latest concepts.
- Management of jaw fractures in children.

Interceptive Orthodontics:

- Concepts of occlusion and esthetics: Structure and function of all anatomic components of occlusion, mechanics of articulations, recording of masticatory function, diagnosis of Occlusal dysfunction, relationship of TMJ anatomy and pathology and related neuromuscular physiology.
- A comprehensive review of the local and systemic factors in the causation of malocclusion.
- Recognition and management of normal and abnormal developmental occlusions in primary, mixed and permanent dentitions in children (Occlusal Guidance).
- Biology of tooth movement: A comprehensive review of the principles of teeth movement. Review of contemporary literature. Histopathology of bone and Periodontal ligament, Molecular and ultra cellular consideration in tooth movement.
- Myofunctional appliances: Basic principles, contemporary appliances: Design & Fabrication
- Removable appliances: Basic principles, contemporary appliances: Design & Fabrication



- Case selection & diagnosis in interceptive Orthodontics (Cephalometrics, Image processing, Tracing, Radiation hygiene, Video imaging & advance Cephalometric techniques).
- Space Management: Etiology, Diagnosis of space problems, analysis, Biomechanics, Planned extraction in interceptive orthodontics.

Oral Habits in Children:

- Definition, Etiology & Classification
- Clinical features of digit sucking, tongue thrusting, mouth breathing & various other secondary habits.
- Management of oral habits in children

Dental care of Children with special needs: Definition, Etiology, Classification, Behavioral, Clinical features & Management of children with:

- Physically handicapped conditions
- Mentally compromising conditions
- Medically compromising conditions
- Genetic disorders

Oral manifestations of Systemic Conditions in Children & their Management Management of Minor Oral Surgical Procedures in Children Dental Radiology as related to Pediatric Dentistry

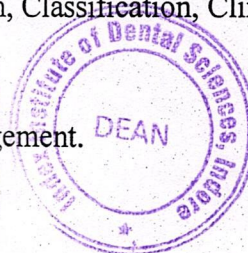
Cariology:

- Historical background
- Definition, Aetiology & Pathogenesis
- Caries pattern in primary, young permanent and permanent teeth in children.
- Rampant caries, early childhood caries and extensive caries. Definition, aetiology, Pathogenesis, Clinical features, Complications & Management.
- Role of diet and nutrition in Dental Caries
- Dietary modifications & Diet counseling.
- Subjective & objective methods of Caries detection with emphasis on Caries Activity tests, Caries prediction, Caries susceptibility & their clinical Applications

Pediatric Oral Medicine & Clinical Pathology: Recognition & Management of developmental dental anomalies, teething disorders, stomatological conditions, mucosal lesions, viral infections etc.

Congenital Abnormalities in Children: Definition, Classification, Clinical features & Management.

Dental Emergencies in Children and their Management. Dental Materials used in Pediatric Dentistry.



09/12/24
REGISTRAR
Malwanchal University
Indore (M.P.)

C) Preventive Dentistry:

- Definition
- Principles & Scope
- Types of prevention
- Different preventive measures used in Pediatric Dentistry including fissure sealants and caries vaccine.

Dental Health Education & School Dental Health Programmes:

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

Fluorides:

- Historical background
- Systemic & Topical fluorides
- Mechanism of action
- Toxicity & Management.
- Defluoridation techniques.

Medico legal aspects in Pediatric Dentistry with emphasis on informed consent.

Counseling in Pediatric Dentistry

Case History Recording: Outline of principles of examination, diagnosis & treatment planning.

Epidemiology: Concepts, Methods of recording & evaluation of various oral diseases. Various national & global trends of epidemiology of oral diseases.

Comprehensive Infant Oral Health Care.

Principles of Bio-Statistics & Research Methodology & Understanding of Computers and Photography

Comprehensive cleft care management with emphasis on counseling, feeding, nasoalveolar bone remodeling, speech rehabilitation.

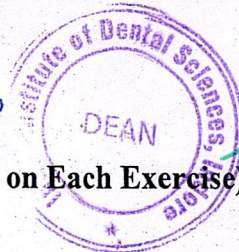
Setting up of Pediatric Dentistry Clinic.

Emerging concepts in Pediatric Dentistry of scope of lasers / minimum invasive procedures in Pediatric Dentistry.

Preclinical Work

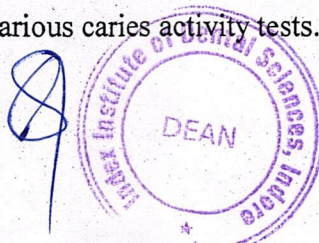
(Duration – first 6 Months of First Year MDS) (One on Each Exercise)

1. Carving of all deciduous teeth



Registrar
Malwanchal University
Indore (M.P.)

2. Basic wire bending exercises (Clasps, Bows, Retractors and Springs, etc., on patient models)
3. Basics for Spot welding exercises
4. Fabrication of
 - a. Maxillary bite plate / Hawley's'
 - b. Maxillary expansion screw appliance
 - c. Canine retractor appliance
 - d. All habit breaking appliances
 - Removable type
 - Fixed type
 - Partially fixed and removable
 - e. Myofunctional appliances – Twin block, Activator, Lip bumper, Oral Screen
 - f. Making of inclined plane appliance
 - g. Feeding appliances
5. Basic soldering exercises – making of a lamppost of stainless steel wire pieces of different gauges soldered on either side of heavy gauge main post.
6. Fabrication of space maintainers
 - a. Removable type-
 - Unilateral Non – Functional space maintainer
 - Bilateral Non-Functional space maintainer
 - b. Space Regainers –
 - Gerber or Opencoil space regainer
 - c. Fixed Space maintainers
 - Band & loop space maintainer
 - Transpalatal arch space maintainer
 - Nance Palatal holding arch
 - Distal shoe appliance
7. Basics for spot welding exercise
8. Collection of extracted deciduous and permanent teeth
 - a. Sectioning of the teeth at various levels and planes
 - b. Drawing of section and shapes of pulp
 - c. Phantom Head Exercises : Performing ideal cavity preparation for various restorative materials for both Deciduous and permanent teeth
 - d. Performing pulpotomy, root canal treatment and Apexification procedure
 - i) Tooth preparation and fabrication of various temporary and permanent restorations on fractured anterior teeth.
 - ii) Preparation of teeth for various types of crowns
 - iii) Laminates/veneers
 - iv) Bonding & banding exercise
9. Performing of behavioral rating and IQ tests for children.
10. Computation of: -
 - a. Caries index and performing various caries activity tests.
 - b. Oral Hygiene Index
 - c. Fluorosis Index



op. 15/9/22
 Registrar
 Malwanchal University
 Indore (M.P.)

11. Surgical Exercises :
 - a. Fabrication of splints
 - b. Type of Wiring
 - c. Suturing
12. a. Taking of periapical, occlusal, bitewing radiographs of children
 - b. Developing and processing of films, thus obtained
 - c. Tracing of soft tissue dental and skeletal landmarks as observed on Cephalometric radiographs and drawing of various planes and angles, further interpretation of Cephalometric radiographs.
 - d. Mixed dentition cast analysis
13. Library assignment
14. Synopsis

Clinical work Requirements from 7 to 36 months

The following is the minimum requirement to be completed before the candidate can be considered eligible to appear in the final M.D.S Examinations:

S.	Clinical Work	Total	7 To 12 Months	13 To 24 Months	25 To 36 Months
1.	Behavior Management of different age groups children with complete records.	17	2	10	5
2.	Detailed Case evaluation with complete records, treatment planning and presentation of cases with chair side and discussion	17	2	10	5
3.	Step-by-step chair side preventive dentistry scheduled for high risk children with gingival and periodontal diseases & Dental Caries	11	1	5	5
4.	Practical application of Preventive dentistry concepts in a class of 35-50 children & Dental Health Education & Motivation.	7	1	4	2
5.	Pediatric Operative Dentistry with application of recent concepts.				
	(a). Management of Dental Caries				
	(I) Class I	50	30	10	10
	(II) Class II	100	40	50	10
	(III) Other Restorations	100	20	50	30
	(b). Management of traumatized anterior teeth	15	04	06	05
	(c) Aesthetic Restorations	25	05	10	10



15/9/20
 Registrar
 Malwanchal University
 Indore (M.P.)

	(d). Pediatric Endodontic Procedures				
	Deciduous teeth:				
	Pulpotomy / Pulpectomy	150	30	50	70
	Permanent Molars	20	3	7	10
	Permanent Incisor	15	2	3	10
	Apexification & Apexogenesis	20	02	08	10
6.	Stainless Steel Crowns	50	10	20	20
7.	Other Crowns	05	01	02	02
8.	Fixed : Space Maintainers	30	08	12	10
	Habit breaking appliances				
9.	Removable : Space Maintainers	20	05	07	08
	Habit breaking appliances				
10.	Functional Appliances	05	01	02	02
11.	Preventive measures like fluoride applications & Pit & Fissure Sealants applications with complete follow-up and diet counseling	20	08	08	04
12.	Special Assignments	03	01	01	01
	(i) School Dental Health Programmes				
	(ii) Camps etc.,	02	01	01	-
13	Library usage				
14	Laboratory usage				
15	Continuing Dental Health Programmes				

(The figures given against Sl. No. 4 to 12 are the minimum number of recommended procedures to be performed)

Monitoring Learning Progress:

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only helps teachers to evaluate students, but also students to evaluate themselves. The monitoring is to be done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment be done using checklists that assess various aspects. Checklists are given in Section IV

Scheme of Examination:

A. Theory:

Part-I: Basic Sciences Paper

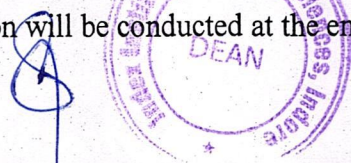
- 100 Marks

Part-II: Paper-I, Paper-II & Paper-III

- 300 Marks (100 Marks for each Paper)

Written examination shall consist of Basic Sciences Paper (Part-I) of three hours duration and should be conducted at the end of First year of MDS course.

Part-II Examination will be conducted at the end of Third year of MDS course.



Registrar
Malwanchal University
Indore (M.P.)

Part-II Examination will consist of Paper-I, Paper-II & Paper-III, each of three hours duration. Paper-I & Paper-II shall consist of two long answer questions carrying 25 marks each and five questions carrying 10 marks each. Paper- III will be on Essays. In Paper-III three Questions will be given and student has to answer any two questions. Each question carries 50 marks. Questions on recent advances may be asked in any or all the papers. Distribution of topics for each paper will be as follows: *

Part-I: Applied Basic Sciences – Applied Basic Sciences: Applied Anatomy, Physiology, & Biochemistry, Pathology, Microbiology, Pharmacology, Research Methodology and Biostatistics, Growth & Development, Dental plaque, Genetics.

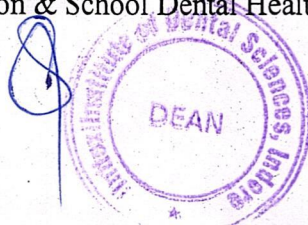
Part-II:

Paper-I :Clinical Paedodontics

1. Conscious sedation, Deep Sedation & General Anesthesia in Pediatric Dentistry
2. Gingival & Periodontal Diseases in Children
3. Pediatric Operative Dentistry
4. Pediatric Endodontics
5. Traumatic Injuries in Children
6. Interceptive Orthodontics
7. Oral Habits in children
8. Dental Care of Children with special needs
9. Oral Manifestations of Systemic Conditions in Children & their Management
10. Management of Minor Oral Surgical Procedures in Children
11. Dental Radiology as Related to Pediatric Dentistry
12. Pediatric Oral Medicine & Clinical Pathology
13. Congenital Abnormalities in Children
14. Dental Emergencies in Children & Their Management
15. Dental Materials Used in Pediatric Dentistry
16. Case History Recording
17. Setting up of Pedodontic & Preventive Dentistry Clinic

Paper-II: Preventive and Community Dentistry as applied to Pediatric Dentistry

1. Child Psychology
2. Behavior Management
3. Child Abuse & Dental Neglect
4. Preventive Pedodontics
5. Cariology
6. Preventive Dentistry
7. Dental Health Education & School Dental Health Programmes
8. Fluorides
9. Epidemiology



[Handwritten Signature]
Registrar
Malwanchal University
Indore (M.P.)

10. Comprehensive Infant Oral Health Care/Comprehensive cleft care
11. Principles of Bio-Statistics & Research Methodology & Understanding of Computers and Photography

Paper-III: Essays (descriptive and analyzing type questions)

** The topics assigned to the different papers are generally evaluated under those sections. However a strict division of the subject may not be possible and some overlapping of topics is inevitable. Students should be prepared to answer overlapping topics.*

B. Practical / Clinical Examination : 200 Marks

The Clinical / Practical and Viva-Voce Examinations are conducted for a minimum of two days.

First Day:

1. Case Discussion, Pulp Therapy i.e. Pulpectomy on a Primary Molar.

Case Discussion	: 20 marks
Rubber Dam application	: 10 marks
Working length X-ray	: 20 marks
Obturation	: <u>20 marks</u>
Total	<u>70 marks</u>

2. Case Discussion, Crown preparation on a Primary Molar for Stainless steel crown and cementation of the same.

Case discussion	: 10 marks
Crown Preparation	: 20 marks
Crown selection and Cementation	: <u>20 marks</u>
Total	<u>50 marks</u>

3. Case Discussion, band adaptation for fixed type of space maintainer and impression making.

Case discussion	: 20 marks
Band adaptation	: 20 marks
Impression	: <u>20 marks</u>
Total	<u>60 marks</u>

Second Day:

1. Evaluation of Fixed Space Maintainer and Cementation : 20 marks



Signature
Malwanchal University
Indore (M.P.)

C. Viva Voce

: 100 Marks

i. *Viva-Voce examination*

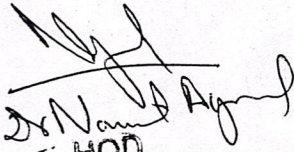
: 80 marks

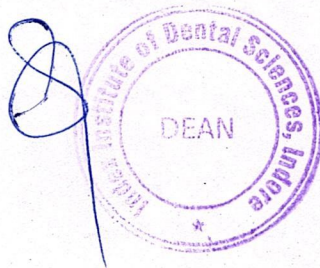
All examiners will conduct viva-voce conjointly on candidate's comprehension, analytical approach, expression, interpretation of data and communication skills. It includes all components of course contents. It includes presentation and discussion on dissertation also.


ii. *Pedagogy Exercise*

: 20 marks

A topic be given to each candidate in the beginning of clinical examination. He/she is asked to make a presentation on the topic for 8-10 minutes.


HOD
Department of Pediatric & Preventive Dentistry
Index Institute of Dental Sciences, INDORE (M.P.)




Registrar
Malwanchal University
Indore (M.P.)