



SHRI
DHARMASTHALA
MANJUNATHESHWARA
UNIVERSITY

Ordinance Governing
II BDS Course
Curriculum 2019-20

Amended up to November, 2022

SHRI DHARMASTHALA MANJUNATHESHWARA UNIVERSITY

(A State Private University established under the Shri Dharmasthala Manjunatheshwara University
Act No 19 of 2018 of Government of Karnataka and Notification No. ED 261 URC 2018 dated 19th December 2018)

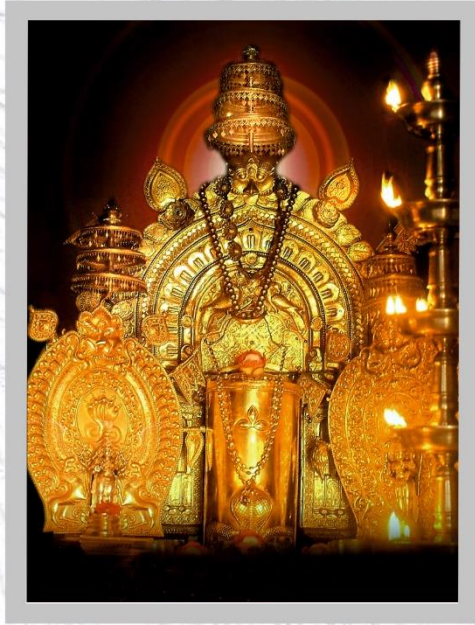
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|| Om Shri Manjunathaya Namaha ||



Shree Kshethra Dharmasthala

Edition Year : 2019-20

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THE LOGO

Poojya Dr D. Veerendra Heggade, Hon'ble Chancellor of the University, while searching for an appropriate Logo for the University, saw a photograph picked from Temple Architecture showing Wings of a Bird, sculpted in Indian style and wanted it to be incorporated in the logo for the University, as the Wings symbolize 'Spreading of Knowledge beyond Boundaries'. Further it was felt that the Central theme of the logo should be 'Rudra' (The Linga) with three wings on each side. In this way, the logo of the University was conceptualized.

Hence:

1. The central part represents **Rudra** who Demolishes Darkness.
2. The Three **horizontal lines on The Linga** stand for Samyak Darshan (Right Belief), Samyak Gyan (Right Knowledge) and Samyak Charitra (Right Conduct).
3. The **Wings** symbolize spreading of Knowledge across the boundaries.
4. Base line "**Truth Liberates**" highlights the Purpose of Education: to liberate oneself unconditionally. It shows that it is not discipline, nor knowledge nor the efforts to freedom that liberate but Truth is what liberates you from all your conditioning and ignorance.

The overall significance of Shri Dharmasthala Manjunatheshwara University's Logo is:

Darkness of ignorance is destroyed by the flow of knowledge to bring Liberty to everyone, by realizing the truth. And, it should spread globally without the boundaries as hindrance.



SHRI
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UNIVERSITY

VISION

Shri Dharmasthala Manjunatheshwara University will set the highest standards of teaching and learning by awakening the intelligence of the students and nurturing the creativity hidden in them by creating an environment where the ancient wisdom blends with modern science, to transform them into whole human beings to face the challenges.

MISSION

- ▶ To ensure that the journey of education is inspiring, pleasant and enjoyable.
- ▶ Attract the best of teachers and students.
- ▶ Achieve high principles of trust, love and spirituality in the students.
- ▶ Create a collaborative, diverse and exclusive community.
- ▶ Transform the student of today to be a leader of tomorrow and a better human being.
- ▶ Produce passionate teachers.
- ▶ Evolve innovative teaching techniques.
- ▶ Create a peaceful environment.
- ▶ Prepare the student to face the social challenges.
- ▶ Create a University of which the Nation is proud of.
- ▶ Be an effective partner in Nation Building.
- ▶ Create an Eco-friendly University.
- ▶ Create a University based on the principles of beauty, love and justice.

||Om Shanti! Om Shanti! Om Shanti||



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SDMU/ACD/DEN/Notif-136/272/2020

Date: 20-11-2020

NOTIFICATION


Ordinance governing Curricula of BDS Year II - 2020

- Ref:
1. Revised BDS Course Regulations 2007 by Dental Council of India notified on 25-07-2007 and its periodical amendments
 2. Minutes of the 3rd Meeting of Academic Council held on 3rd August 2020
 3. Minutes of the 3rd Meeting of Board of Studies Undergraduate (Dental)

In exercise of the powers conferred under Statutes 1.4 (Powers and functions - Para ix & x), & 1.8 (Powers and functions - Para i) of Shri Dharmasthala Manjunatheshwara University, the Academic Council is pleased to approve and notify the **Ordinance governing Curricula of the BDS Year II - 2020**.

The ordinance shall be effective for the students joining the course during 2020-21 and onwards.




Lt. Col. U. S. Dinesh (Retd.) MD,MIAC
REGISTRAR
REGISTRAR,
Shri Dharmasthala Manjunatheshwara
University, Dharwad

To: The Principal, SDM College of Dental Sciences & Hospital.

Copy for kind information to:

1. Hon'ble Chancellor, Shri Dharmasthala Manjunatheshwara University, Dharwad
2. Vice-Chancellor, Shri Dharmasthala Manjunatheshwara University, Dharwad
3. Pro Vice Chancellor (Academics), Shri Dharmasthala Manjunatheshwara University, Dharwad
4. Controller of Examination, Shri Dharmasthala Manjunatheshwara University, Dharwad
5. Dy. Registrar, Shri Dharmasthala Manjunatheshwara University, Dharwad
6. Office of the Registrar
7. University Office for Records File and Website

CONTENTS

Sl. No.	Department Name
1	General Pathology & Microbiology
2	General and Dental Pharmacology and Therapeutics
3	Dental Materials
4	Pre-Clinical Conservative Dentistry
5	Pre-Clinical Prosthodontics and Crown & Bridge

CURRICULUM FOR II BDS COURSE

GENERAL PATHOLOGY

1. Aims and Objectives:

Student must be competent to apply and correlate the study of disease processes resulting in morphological and functional alteration in cells, tissues and organs to study of Pathology and Dentistry practice.

OBJECTIVES: Enabling the student

- a. To demonstrate and apply basic facts, concepts and theories in the field of Pathology.
- b. To recognize and analyze pathological changes at macroscopic and microscopy levels and explain their observations in terms of disease processes.
- c. To integrate knowledge from the basic sciences, clinical medicine and dentistry in the study of Pathology.
- d. To demonstrate understanding of the capabilities and limitations of morphological Pathology in its contribution to medicine, dentistry and biological research.

2. Teaching hours:

Lecture Hours – 55 hrs.

Practical Hours – 55 hrs.

Total – 110 hrs.

3. Teaching schedule for Theory -55 hrs.

SL. No.	Topic	Learning Content Distribution		Teaching hours
		Must know	Desirable to know	
1	Introduction to pathology - evolution of modern pathology, subdivisions in pathology, techniques used in the study of pathology and terms used in pathology. Normal cell structure	<ul style="list-style-type: none">• Techniques used in the study of pathology and terms used in pathology. Cell structure.	<ul style="list-style-type: none">• Evolution of modern pathology	02

2	<p>Disturbances of metabolism of cells- Intra cellular accumulations, Fatty change, Hyaline change, Accumulation of lipids, proteins and glycogen. Cellular swelling, Disorders of pigmentation and pathologic calcification.</p>	<ul style="list-style-type: none"> • Intra cellular accumulations - Fatty change • Pathologic calcification 		03
3	<p>Cell injury and cell death - Causes, Types, mechanism, intracellular changes, morphology with examples, Cell death. Necrosis, Apoptosis. Gangrene - definition, types with examples, differences between dry and wet gangrene, cancrum oris.</p>	<ul style="list-style-type: none"> • Necrosis - definitions, types of necrosis with examples • Apoptosis - definition, examples, morphology, Cancrum oris. 		04
4	<p>Amyloidosis - Definition, pathogenesis and emphasis on localised amyloidosis, special stains for amyloidosis</p>	<ul style="list-style-type: none"> • Amyloidosis - definition, pathogenesis and emphasis on localised amyloidosis • Special stains for amyloidosis 		01
5	<p>Inflammation and Repair- Acute and chronic inflammation. Vascular and cellular events, Chemical mediators of acute inflammation, Outcome of acute inflammation. Granulomatous</p>	<ul style="list-style-type: none"> • Vascular and cellular events of acute inflammation • Granulomatous inflammation 	Outcome of acute inflammation.	05

	inflammation. Patterns and systemic effects of inflammation.			
6	Healing of wound - general with special emphasis on healing of a fracture. Factors affecting wound healing.	<ul style="list-style-type: none"> • Steps in wound healing Factors affecting wound healing. • Fracture healing 		01
7	Immunity and hypersensitivity - definition, types, mechanisms of immunological tissue injury with examples. Brief Introduction to Auto-Immune diseases	<ul style="list-style-type: none"> • Types of hypersensitivity with examples 		04
8	Infection - Bacterial- Pyogenic infections, typhoid fever, Tuberculosis, Leprosy & syphilis, Actinomycosis. Viral- HIV / AIDS, Hepatotropic Viruses, HTLV. Fungal-Candidiasis, Mucormycosis.	<ul style="list-style-type: none"> • Tuberculosis • Syphilis • HIV/AIDS 	<ul style="list-style-type: none"> • Hepatotropic Viruses, • Fungal- Candidiasis, Mucormycosis. 	05
9	Circulatory disturbances – Edema, Hyperemia, congestion, Hemorrhage, shock, edema, thrombosis, embolism and infarction.	<ul style="list-style-type: none"> • shock, • oedema, • Thrombosis, embolism and infarction. 	<ul style="list-style-type: none"> • Hemorrhage 	04
10	Disturbances of Nutrition - Starvation, Obesity, Malnutrition, Pathogenesis of Deficiency Diseases with Special Reference to Disorders of Vitamins & Minerals Common Vitamin Deficiencies	<ul style="list-style-type: none"> • Common vitamin deficiencies 	<ul style="list-style-type: none"> • Starvation, Obesity. • Malnutrition • Pathogenesis of Deficiency Diseases 	02

11	Diabetes mellitus - types, Aetio- Pathogenesis, morphological changes in different organs, complications and lab investigations	<ul style="list-style-type: none"> • Aetio Pathogenesis, morphological changes in different organs, • Lab investigations. 		02
12	Hypertension Definition, classification, Pathophysiology, Effects in various organs	<ul style="list-style-type: none"> • Pathophysiology and Effects in various organs 		01
13	Growth and Differentiation - Cellular Adaptations - Atrophy, Hypertrophy Hyperplasia, Metaplasia. Types and Pathologic Changes of Dysplasia And Premalignant Lesions.	<ul style="list-style-type: none"> • Atrophy, Hypertrophy Hyperplasia, Metaplasia. • Types and Pathologic Changes of Dysplasia and Premalignant Lesions. 		02
14	Neoplasia : Introduction, Definition, Classification, Characteristics of Benign and Malignant Tumours. Routes of Spread of Malignant Tumours, Aetiology, Epidemiology and Pathogenesis of Neoplasia Oncogenes, Clinical Aspects & Laboratory Diagnosis of Cancer.	<ul style="list-style-type: none"> • Classification, Characteristics of Benign and Malignant Tumours. • Carcinogenesis- Physical, chemical, Viral. • Laboratory Diagnosis of Cancer. 	<ul style="list-style-type: none"> • Ancillary techniques in diagnosis of cancer 	05

	Systemic Pathology			
15	Haematology – Introduction to Haematology- brief Introduction to Haemopoiesis, Bone Marrow Aspiration & Biopsy		<ul style="list-style-type: none"> • Haemopoiesis 	01
16	Diseases of RBCS -Anaemias - classification, Iron Deficiency Anemia, Vit.B12 or Folic Acid. Deficiency Anaemia and Haemolytic Anaemias and Their Lab Investigations.	<ul style="list-style-type: none"> • Iron Deficiency Anemia, Vit.B12 Or Folic Acid Deficiency Anaemia 	<ul style="list-style-type: none"> • Haemolytic Anaemias 	02
17	Diseases of WBCS - Pathologic Variations in white cell counts and Leukemoid Reactions		<ul style="list-style-type: none"> • Leukemoid Reactions 	01
18	Neoplastic Proliferation of Leucocytes - Leukaemias - Acute & Chronic Leukaemias with Brief Introduction to Lymphomas.	<ul style="list-style-type: none"> • Leukaemias - Acute & Chronic Leukaemias 		02
19	Haemorrhagic Disorders with their Lab Investigations	<ul style="list-style-type: none"> • Platelet and factor defeciencies 		02
20	Diseases of Lymph nodes - Hodgkin's Lymphoma, Non Hodgkins lymphoma, Metastatic carcinoma	<ul style="list-style-type: none"> • Non Hodgkins lymphoma. • Hodgkin's Lmphoma. 	<ul style="list-style-type: none"> • Metastatic carcinoma 	01
21	Common Diseases of Bone - Osteomyelitis, Tumours and Tumours Like Lesions of Bone.	<ul style="list-style-type: none"> • Bone tumours 	<ul style="list-style-type: none"> • Osteomyelitis 	02
22	Diseases of Oral Cavity & Salivary Glands - inflammatory Conditions, Infections, Premalignant	<ul style="list-style-type: none"> • Premalignant lesions of oral cavity, SCC. 	<ul style="list-style-type: none"> • Malignant Salivary gland neoplasm 	02

	Conditions (lichen planus, leukoplakia) and Squamous Cell Carcinoma of Oral Cavity, Ameloblastoma. Salivary Gland lesions.	<ul style="list-style-type: none"> • Sialadenitis. • Pleomorphic Adenoma and Warthin's Tumour. • Ameloblastoma 		
23	Diseases of Cardiovascular system Cardiac failure, Congenital heart disease – ASD, VSD, PDA Fallot's Tetralogy, Infective Endocarditis, Atherosclerosis, Ischaemic heart Disease, Rheumatic heart disease	<ul style="list-style-type: none"> • Atherosclerosis • Ischaemic heart Disease • Rheumatic heart disease. 	• Congenital heart diseases	01

4. Teaching schedule for Practicals---55 hrs

S. No.	Topic	Hours
1	Urine – Abnormal constituents - Sugar, albumin(Protein), ketone bodies	3
2	Urine – Abnormal constituents - Blood, bile salts, bile pigments	3
3	Blood collection, anticoagulants Haemoglobin (Hb) estimation Blood grouping	6
4	Peripheral blood smear - staining and study	4
5	Differential WBC Count	4
6	Packed cell volume(PCV), Erythrocyte sedimentation Rate (ESR)	4
7	Bleeding Time & clotting Time	4
8	Histopathology Tissue processing, Staining	4
9	Histopathology slides Acute appendicitis, Granulation tissue, Fatty liver	3
10	Histopathology slides CVC lung, CVC liver, Kidney amyloidosis	3

11	Histopathology slides Tuberculosis, Actinomycosis, Rhinosporidiosis	3
12	Histopathology slides Papilloma, Basal cell Carcinoma, Squamous cell Carcinoma	3
13	Histopathology slides Osteosarcoma, Osteoclastoma, Fibrosarcoma	3
14	Histopathology slides Malignant melanoma, Ameloblastoma, Adenoma	3
15	Histopathology slides Mixed parotid tumour, Metastatic carcinoma in lymph node	3
16	Instruments	2

Practicals That Must Be Done By Students: 20 Hours

- Determination of Haemoglobin Percentage
- Blood Grouping.
- Bleeding Time, Clotting Time
- Peripheral Blood Smear - Staining & Study
- Differential Leukocyte Count.
- Urine Examination - For Sugar, Ketone Bodies, Protein, Blood, Bile Pigments And Bile Salts - Any One Standard Test.

5. Recommended Text and Reference books, Journals and Atlases (Recent Editions)

- a. Kumar V, Abbas AK, Aster JC, editors. Robbins and Cotran Pathologic Basis of Disease; South Asia Edition. New Delhi: Elsevier; 2014.
- b. Text book of Pathology by Harsh Mohan 8th edition.
- c. Essential Pathology for dental students by Harsh Mohan
- d. Text book of Haematology by Dr. Tejinder Singh.
- e. Greer JP, Arber DA, Glader BE, List AF, Means RT, Rodgers GM et al. Wintrobe's clinical hematology: Fourteenth edition. Wolters Kluwer Health Pharma Solutions (Europe) Ltd, 2018.
- f. Essential Hematology by Hoffbrand, A V: Pettit, J.E

6. Scheme of examination:

FORMATIVE ASSESSMENT: Internal Assessment:

Three Internal assessment tests (Theory and Practical) would be conducted at the end of each term.

Internal Assessment Marks: Theory- 05 Marks and Practical – 05 Marks

Formative assessment marks shall be calculated based on scoring in written tests and Practicals/ assignments and log book assessment.

A) Theory Marks

University Written Exam : 35 Marks

Viva Voce : 10 Marks

Internal Assessment (Theory): 05 Marks

Total : 50 Marks

Type of Questions	Questions to be set	Questions to be answered	Marks per Question	Total Marks
M.C.Q.'s	5	5	1	5
Long Essays OR SLEQ	1	1	8	8
Short Essays OR SEQ	3	3	4	12
SAQ or Short Answers	5	5	2	10
Total				35

Topics distribution and Weightage of marks – Theory

Subject Name: General Pathology							
Sl. No.	Topics	Recommended marks	Actual Marks in the question Paper				
			MCQ	SLEQ	SEQ	SAQ	Total
1	SLEQ 1 Question from All syllabus from Must know (excluding CVS, bone, lymphnode)	1 x 8					
2	SEQ: 1 Question from Cell Injury , Inflammation, healing	1x4=4					
3	1 Question from Immunity, Infection, circulatory disturbances. Cellular adaptations.	1x4=4					
4	1 Question from Neoplasia, Vit B12 & Iron deficiency anaemia, Salivary glands	1x4=4					
5	SAQ: 2 Questions from Cell Injury , Inflammation, healing, Disturbance of cell metabolism, Infection, Immunity	2x2 = 4					
	2 Questions from, circulatory disturbances. Cellular adaptations, Neoplasia, Hematology	2x2 = 4					
	1 Question from Vit B12 & Iron deficiency anaemia, Salivary glands, CVS, Bone, Hematology	1x2 = 2					

B. Clinical / Practical Examination:**University Examination : 45 Marks****Internal Assessment : 05 Marks****Total : 50 Marks**

1	Spotters 10 nos.	10 x 1.5 = 15 marks	
	Instruments		2
	Haematology slide		1
	Specimens		2
	Histopathology slides	5	
2	Urine examination (To examine given sample of urine for abnormal constituents)	10 Marks	
3	To do differential count on the given peripheral blood smear	10 Marks	
4	To estimate haemoglobin percentage in the given sample of blood OR To determine blood groups (ABO and Rh) in the given sample of blood-	10 Marks	

MICROBIOLOGY

1. Aims and Objectives:

- a. To orient the B.D.S. student to be professionally competent to understand and deal with various infections. The student should have a logical approach to diagnose an infection, apply or order correct laboratory tests, decide on appropriate sample to be collected and interpret the laboratory reports to plan therapy.
- b. At the end of the course the student should be able to
 - i. Know types and organisation of various microorganisms.
 - ii. Differentiate between types of pathogens like bacteria, viruses, fungi and parasites.
 - iii. Know common and important pathogens.
 - iv. Know basics of microbial genetics.
 - v. Know the role of the various pathogens in health and disease.
 - vi. Know the epidemiology of infectious diseases viz. the modes of transmission, population groups concerned, mechanisms and clinical manifestations of infections.
 - vii. Know immunological response of the body in the infectious process, immunological memory, immunisation, and unwarranted immunological responses leading to disease.
 - viii. Know the principles and application of infection control measures, methods of sterilization, disinfection and antisepsis and their applications in patient care with special reference to dentistry.
 - ix. Know choice of laboratory tests and their interpretation, principles of antimicrobial therapy, bacterial drug resistance etc.
 - x. Know the methods and rational approach to, control and prevent infectious diseases.
 - xi. Oral flora and its importance

2. Teaching hours:

- a. Lecture hours – 65
- b. Practical hours – 50
- c. Total – 115

3. Teaching schedule for Theory

S. No.	Topic	Learning Content Distribution		Teaching hours
		Must know	Desirable to know	
General Bacteriology				
1.	Introduction, History and classification.		i. Introduction ii. Historical aspects	02
2.	Morphology, Physiology of Bacterial cell.	i. Morphology - Structure, appendages, demonstration. ii. Physiology - Nutritional requirement, growth curve.		02
3.	Bacterial Genetics	iii. Bacterial genetics - Mechanism of genetic transfer, drug resistance. iv. Molecular Diagnosis		02
4.	Infection	v. Infection- definition, bacterial factors, Host factors, types of infection, carrier, septicaemia, bacteraemia, pyemia, toxemia, epidemic, endemic, pandemic, nosocomial infection.		02

	Immunology			
5.	Immunity	i. Immunity - Definition, classification, factors, mechanisms examples	i. Complement - properties and functions. ii. Immuno deficiency diseases, enumerating the diseases iii. Immunology of transplantation , classification and brief description of transplantation	02
6.	Antigen	iv. Antigens - definition, types and properties.		01
7.	Antibodies	v. Antibodies - structure, types, functions of different. types of Immuno globulins.		01
8.	Structures and functions of Immune system	vi. Immune system - structure, function of T cells, B cells. vii. Macrophage viii. Dendritic cells ix. Other imp. cells		01

9.	Immune response	x. Immune response - factors responsible for immune variations, adjuvants, mechanism.		01
10.	Antigen and antibody reactions & complement	xi. Antigen - Antibody reactions - definition, mechanism, examples, clinical applications of AG-AB reactions like agglutination, precipitation, Neutralisation, Immunoflourescence, ELISA test etc.		04
11.	Hypersensitivity	xii. Hypersensitivity - definition, classification, mechanisms.		02
12.	Auto immunity	iii. Autoimmunity - Theories, definition, classification, mechanisms.		01
13.	Immunology of transplantation & tumors			01

Systematic Bacteriology				
14.	Staphylococci	i. Staphylococci - Classification, morphology, pathogenesis, pathogenicity tests, lesions, lab diagnosis and treatment.	i. Coliforms - Classification, pathogenesis, infections caused by them and lab diagnosis. ii. Proteus - pathogenesis, infections caused and lab diagnosis. iii. Salmonella - pathogenesis, lab diagnosis, prophylaxis. iv. Shigella - classification, pathogenesis, lab diagnosis v. Vibrio - pathogenesis & lab diagnosis vi. Pseudomonas - Importance in hospital infection and drug resistance.	01

15.	Streptococci (Dental Caries)	vii. Streptococci - Classification, morphology, cultural characters, Pathogenesis, lab diagnosis, sequelae, Dental plaque, Dental caries & its diagnosis.		02
16.	Pneumococci	viii. Pneumococci - Morphology, cultural characters, diff. between pneumococci and streptococci, pathogenicity and lab diagnosis.		01
17.	Meningococci & Gonococci	ix. Meningococci - Causes of bacterial meningitis, Morphology, lab diagnosis of bacterial meningitis including meningococcal meningitis. x. Gonococci - Morphology, lesions, lab diagnosis. xi. Gonorrhoea and brief introduction to STI		01
18.	<i>Corynebacterium diphtheriae</i>	xii. <i>Corynebacterium diphtheriae</i> - Morphology, cultural characters		02

		toxigenicity, its occurrence, spread, lab diagnosis, prophylaxis.		
19.	Bacillus	iii. Bacillus species - Morphology, lesions and lab diagnosis.		01
20.	Clostridia	iv. Clostridia - Classification, pathogenesis, lab diagnosis of gas gangrene tetanus, prophylaxis and clinical features.		02
21.	Non sporing Anaerobes	xv. Nonsporing anaerobes - Classification, pathogenesis, lesions, Lab diagnosis in respect to dental infections.		02
22.	Mycobacteria	xvi. <i>Mycobacteria - Mycobacterium leprae, Mycobacterium tuberculosis</i> , a typical mycobacteria, Morphology, classification, cultural characters, pathogenesis, lab diagnosis, susceptibility test and prophylaxis. xvii. Actinomycosis -		03

		Morphology, lesions in respect to orofacial lesions, lab diagnosis		
23.	Spirochaetes (Treponema, Leptospira and Borrelia)	xviii. Spirochaetes - classification, morphology, pathogenesis & lab diagnosis of Treponema, Borrelia, Leptospira.		03
24.	Normal Bacterial flora of the oral cavity	xix. Normal Bacterial flora of the oral cavity - Enumerating the organisms opportunistic importance in dental practice.		02
	Virology			
25.	General properties of viruses	i. General virology - general properties, definition, classification, structure, pathogenesis, cultivation, lab diagnosis, antiviral agents immunology.	i. Adeno & oncogenic viruses. ii. Rabies viruses- structure, pathogenesis, clinical feature, lab diagnosis, prophylaxis. iii. Poliomyelitis - Pathogenesis, clinical feature, lab diagnosis, prophylaxis, iv. Virus host interactions	03

26.	Herpes viruses	ii. Herpes viruses - structure, classifications, lesions and lab diagnosis HSV 1, 2, EBV CMV, Varicella Zoster (VZ) virus		02
27.	Measles and Mumps	iii. Measles & Mumps viruses - structure, lesions, prophylaxis and lab diagnosis.		01
28.	Rabies virus	Transmission Pathogenesis, laboratory diagnosis, prophylaxis		01
29.	Hepatitis viruses	iv. Hepatitis viruses - ABCDE; structure, route of entry, lesions, lab diagnosis and prophylaxis.		02
30.	Human Immuno deficiency Virus (HIV)	v. HIV - classification, structure, pathogenesis, route of entry opportunistic infection in AIDS, lab diagnosis – prophylaxis		01
31.	Adeno oncogenic viruses.			02
	Parasitology			
32.	Introduction to parasitic diseases	i. Introduction to parasitology - classification, general diseases caused by them.	Important Helminthic parasites	01

33.	Entamoeba histolytica, E. Gingivalis Malaria, Leishmania	ii. Entamoeba, Malaria, Leishmania - Morphology, Clinical features, pathogenesis and lab diagnosis.		03
	Mycology			
34.	Candidiasis (in detail)	i. Candida - Morphology, lesions, lab diagnosis, diff. Species in relation to oral candidiasis		02
35.	Rhinosporidiosis	ii. Rhinosporidiosis		02
	Applied Microbiology			
36.	Immunisation schedule, Collection of materials, Experimental animals & hospital infections - In Brief		i. Immunisation schedule - prophylaxis ii. Collection of materials - for lab diagnosis ii. Experimental animals - Uses of animals in dentistry	03

4. Teaching schedule for practicals

SI No	Topic	Hours
1	Sterilisation and disinfection	3
2	Culture media	2
3	Cultural methods	2
4	Anaerobic methods	2
5	Identification of bacteria & demonstration	3

6	Microscopy	2
7	Staphylococci	2
8	Streptococci	2
9	Enterococci	2
10	Clostridia	2
11	Non-sporing anaerobes	2
12	Dental caries	2
13	Candia	2
14	Mycobacteria	3
15	Actinomyces and nocardia	1
16	Spirochaetes	2
17	Hepatitis B virus	2
18	HIV	2
19	Hospital infections	1
20	Biomedical Waste management	1
21	Immunoprophylaxis	1

Practicals and demonstrations

Sl.No	Topic	Hours
1	Simple stain	1
2	Grams stain	2
3	Ziehl Neelsen's stain	2
4	Albert's stain	2
5	Hanging drop	2

Note:

- a. Sterilization - definition, classification, methods, physical, filtration, radiation, chemicals – used in dental practice, hospital practice.
- b. Culture media - Classification, important contents, uses
- c. Culture methods - Inoculation methods
- d. Anaerobic culture techniques
- e. Antibiotic sensitivity
- f. Microscopy - maintenance, uses, different parts, different types.

List of Practical Materials

- a. Slides for Demonstration:
 - a. Staphylococcus
 - b. Streptococcus
 - c. Gonococcus
 - d. Pneumococcus / Enterococcus
 - e. *M. tuberculosis*
 - f. *M. leprae*
 - g. Anthrax
 - h. *Cl. tetani*
 - i. Spirochaetes
 - j. Gram Negative Bacilli – enterobacteriaceae, vibrio, pseudomonas
 - k. Candida
 - l. Actinomyces

- b. Slides For Practical Exercises:
 - a. Grams stain
 - i. Staphylococci
 - ii. Gram negative bacilli
 - iii. Mixture of any two organisms (One Gram +ve & the other Gram -ve)
 - iv. Gram stain of the oral cavity material
 - v. Albert's stain – *Corynebacterium diphtheriae* culture smears
 - vi. Ziehl-Neelsen's stain - Sputum positive for AFB

- c. Media For Demonstration:
 - a. Uninoculated Media:
 - i. Nutrient agar plate
 - ii. Blood agar plate
 - iii. Chocolate agar plate
 - iv. MacConkey's agar plate
 - v. Blood culture bottle
 - vi. Lowenstein Jensen's Media slope
 - vii. Loeffler's serum slope
 - viii. Sabouraud's dextrose agar slope
 - ix. Robertson's Cooked Meat broth

- b. Inoculated Media:
 - i. Nutrient agar with Staphylococci.
 - ii. Blood Agar with Alpha Haemolytic Streptococci.
 - iii. Blood Agar with Beta Haemolytic Streptococci.
 - iv. Potassium Tellurite with growth of *C. diphtheria*.
 - v. Milk agar with Staphylococci.
 - vi. Antibiotics sensitivity plate.
 - vii. Mac Conkey's medium with LF & NLF colonies.

- d. Instruments:
 - a. VDRL slide
 - b. Tuberculin syringe
 - c. Sterile swab
 - d. Seitz filter
 - e. Macintosh Fildes jar
 - f. Widal rack with tubes
 - g. Microtitre plate
 - h. Disposable syringe
 - i. Surgical gloves

5. Recommended Text and Reference Books

- a) Ananthanarayan and Paniker's Text Book of Microbiology
- b) Essentials of Medical Microbiology – Apurba S. Sastry, Sandhya Bhat
- c) Parasitology, Protozoology and Helminthology – KD Chatterjee
- d) Immunology – RA Godsby, TJ Kindt, BA Osborne, J Kuby
- e) Oral Microbiology and Infectious Diseases – Burnett and Scherp
- f) Bacteriology for students of Dental Surgery - R.B. Lucas and Ivor R.H. Kramer

6. Scheme of Examination

A. Theory Marks

University Written Exam	: 35 Marks
Viva Voce	: 10 Marks
Internal Assessment (Theory)	: 05 Marks
Total	: 50 Marks

Type of Questions	Questions to be set	Questions to be answered	Marks per Questions	Total Marks
M.C.Q.'s	5	5	1	5
Long Essay or SLEQ	1	1	8	8
Short Essay or SEQ	3	3	4	12
Short Answers or SAQ	5	5	2	10
Total				35

Topics distribution and Weightage of marks – Theory

Subject Name: General Microbiology							
Sl. No.	Topics	Recommended marks	Actual Marks in the question Paper				
			MCQ	SLEQ	SEQ	SAQ	Total
1.	MCQ Five question from All syllabus (Must Know)	1 X 5= 5					
2.	SLEQ One question from All syllabus (Must Know)	1 X 8= 8					
3.	SEQ One question from General Bacteriology & Immunology	1 X 4= 4					
4	One question from Mycology & Parasitology	1 X 4= 4					
5	One question from Oral	1 X 4= 4					

	Microbiology & systemic Bacteriology						
6.	SAQ Two Questions from General Bacteriology & Immunology	2 X 2= 4					
	One question from systemic Bacteriology	1 x 2=2					
	Two questions from Virology	2 X 2= 4					

B. Clinical / Practical Examination:

University Examination : 45 Marks
Internal Assessment : 05 Marks
Total : 50 Marks

Spotters 10 nos.	10x1.5=15 marks
Slides 05	
Media 03	
Instruments 02	
Gram's Stain	15marks
Ziehl - Neelsen's Stain	15 marks

GENERAL AND DENTAL PHARMACOLOGY AND THERAPEUTICS

1. GOAL:

The broad goal of teaching under graduate students in pharmacology is to inculcate rational and scientific basis of therapeutics keeping in view of dental curriculum and profession.

OBJECTIVES:

At the end of the course the student shall be able to:

- i) Describe the pharmacokinetics and pharmacodynamics of essential and commonly used drugs in general and in dentistry in particular.
- ii) List the indications, contraindications; interactions, and adverse reactions of commonly used drugs with reason.
- iii) Tailor the use of appropriate drugs in disease with consideration to its cost, efficacy, and safety for individual and mass therapy needs.
- iv) Indicate special care in prescribing common and essential drugs in special medical situations such as pregnancy, lactation, old age, renal, hepatic damage and immuno- compromised patients.
- v) Integrate the rational drug therapy in clinical pharmacology.
- vi) Indicate the principles underlying the concepts of "Essential drugs".

SKILLS:

At the end of the course the student shall be able to:

- i) Prescribe drugs for common dental and medical ailments.
- ii) To appreciate adverse reactions and drug interactions of commonly used drugs.
- iii) Observe dispensing experiments designed for preparations of various drug formulations
- iv) Critically evaluate drug formulations and be able to interpret the clinical pharmacology of marketed preparations commonly used in dentistry.

2. TEACHING HOURS:

Lecture Hours – 70

Practical Hours – 20

Total – 90 Hours

3. Teaching schedule for Theory: 70 Hrs.

Sl. No	Topics and Learning Content of Lectures		Teaching hours
1.	General Pharmacology	Must know	1 hour
	a. Definitions: Pharmacology, Drug, Pharmacy, Sources of drugs with examples.		
	b. Pharmacokinetics with clinical implications.	Must know	2 hours
	c. Routes of administration: oral, inhalation, intradermal, subcutaneous, intramuscular, intravenous, intrathecal, perineural & Newer drug regimes (advantages and disadvantages with the examples of drugs administered).	Must know	1 hour
	d. Pharmacodynamics: mechanism of action, factors modifying drug actions with emphasis on factors like age, sex, dose, frequency & route of administration, presence of other drugs, Pharmacogenetics and Pathological conditions.	Must know	2 hours
	e. Therapeutics: Principles of drug therapy, adverse drug reactions and drug interactions.	Must know	3 hours
2.	Drugs acting on the ANS:		
	a. Sympathomimetics	Must Know	1 hour
	b. Sympatholytics-alpha blockers, Beta-blockers	Must Know	2 hours
	b. Cholinomimetics	Must Know	2 hours
	c. Anticholinergics	Must Know	1 hour
	e. Skeletal muscle relaxants	Must Know	1 hour
3.	Pharmacology of clinically used Local anaesthetic agents	Must Know	2 hours
4.	Drugs acting on the CNS: Enumeration of clinically used agents, their brief Pharmacology, clinical uses along with dental uses if any, and specific adverse effects of:		
	a. General anaesthetics, Preanaesthetic medication.	Must know	2 hours
	b. Antiepileptic drugs	Must Know	2 hours

	c. Antipsychotics, antidepressants, anxiolytics	Must Know	2 hours
	d. Sedative hypnotics	Must Know	2 hours
	e. Ethyl alcohol- actions, uses and drug interactions	Desirable to Know	1 hour
	f. Clinically used opioid and non-opioid analgesics	Desirable to Know	1 hour
5.	Drugs acting on CVS: Enumeration/Classification of clinically used agents, their important pharmacological actions (that form the basis of their uses) and clinical uses along with dental uses if any, and specific adverse effects of:		
	a. Anti-anginal drugs	Must Know	1 hour
	b. Anti-hypertensives	Must Know	1 hour
	c. Diuretics	Must Know	1 hour
	d. Pharmacotherapy of shocks – anaphylactic , cardiogenic, hypovolemic & septic	Must Know	1 hour
	e. Cardiac glycosides	Desirable to Know	1 hour
6.	Drugs acting on blood: Enumeration/Classification of clinically used agents, their important pharmacological actions (that form the basis of their uses) and clinical uses along with dental uses if any, and specific adverse effects of:		
	a. Coagulants, anticoagulants, fibrinolytics, antiplatelet drugs and styptics	Must Know	3 hours
	b. Hematinics: Iron preparations, Vit B12, Folic acid, Vit C	Must Know	3 hours
	d. Vit D and calcium preparations, Vit K and Vit E	Must Know	1 hour
7.	Endocrines: Enumeration/Classification of clinically used agents, general uses along with dental uses if any and specific adverse effects of :		
	a. Drugs used in diabetes mellitus	Must Know	2 hours
	b. Corticosteroids	Must Know	2 hours
	c. Thyroid and anti-thyroid drugs	Desirable to know	1 hour
8.	Chemotherapy: Enumeration/Classification of clinically used agents, general uses along with dental uses if any and specific adverse effects of :		
	a. Sulfonamides	Must Know	1 hour
	b. Beta-lactum antibiotics	Must Know	2 hours
	c. Macrolides and aminoglycosides	Must Know	1 hour

	d. Broad spectrum antibiotics	Must Know	1 hour
	e. Anti-fungal and anti-viral (acyclovir) agents	Must Know	2 hours
	f. Metronidazole and fluoroquinolones	Must Know	1 hour
	g. Antineoplastic Drugs : Alkylating agents , Anti-metabolites, Radioactive isotopes, Vinka Alkaloids , Anti Cancerous antibiotics	Desirable to know	2 hours
	h. Drug therapy of Tuberculosis, Leprosy & Malaria	Desirable to Know	3 hours
9.	Miscellaneous: Enumeration of clinically used agents, general uses along with dental uses if any and specific adverse effects of:		
	a. Antihistamines and anti-emetics	Must Know	2 hours
	b. Drugs used in bronchial asthma and cough	Must Know	1 hour
	c. Drugs used in peptic ulcer, purgatives, anti-diarrhoeal drugs	Must Know	2 hour
	d. Chelating agents -BAL, EDTA & Penicillamine	Desirable to Know	1 hour
	e. Anthelmintic drugs	Desirable to Know	2 hours
10.	Dental Pharmacology	Must Know	5 hours
	a. Fluoride pharmacology		
	b. Antiseptics, astringents, sialagogues, bleaching agents, mouth washes		
	c. Obtundants, mummifying agents and disclosing agents.		
	Prevention and drug therapy of emergencies in dental practice		
	a. Seizures		
	b. Anaphylaxis		
	d. Severe bleeding		
	d. Shock		
	e. Tetany		
	f. Status asthmaticus		
g. Acute Addisonian crisis			
h. Diabetic Ketoacidosis			

4. Teaching schedule for Practical : 20 Hours

Sl no	Topic and content of practical	Duration
1	Introduction - equipment used in dispensing pharmacy, prescription - parts and model prescription	2 hours
2	Demonstration of common dosage forms used in clinical practice	2 hours
3	Mixtures - (Methyl Salicylate) of simple and diffusible (Bismuth Kaolin/chalk) mixtures	2 hours
4	Emulsion - Types and example (Liniment turpentine) of emulsion	2 hours
5	Powders - tooth powder	2 hours
6	Mandl's paint, percentage dilution – concept and calculations with suitable examples	2 hours
7	Mouth washes - Alkaline, antiseptic, astringent	2 hours
8	Tooth pastes	2 hours
9	Prescription writing for 15 general conditions commonly encountered in clinical practice.	2 hours
10	Dental prescriptions for about 15 dental conditions commonly encountered in practice.	

5. RECOMMENDED TEXT BOOKS: (Recent Editions)

Sl. No.	Name of the Book	Author
1	Essentials of Medical Pharmacology	K D Tripathi
2	Essentials of Dental Pharmacology	KD Tripathi
3	Basic and Clinical Pharmacology	Kartzung Betram G
4	Text Book of Dental Pharmacology	HL Sharma, KK Sharma, DK Gupta
5	Pharmacology & Pharmacotherapeutics	R.S.Satoskar, S.D.Bhandarkar
6	Medical Pharmacology	Padmaja Udaykumar

6. SCHEME OF EXAMINATION:

Internal Assessment:

Three Internal assessment tests would be conducted at the end of each term.

Internal Assessment Marks: Theory- 10 Marks and Practical – 10 Marks

University Examinations:

A) Theory Marks

University Written Exam : 70 Marks

Viva Voce : 20 Marks

Internal Assessment (Theory): 10 Marks

Total : 100 Marks

1	Multiple choice questions	10x1 = 10 Marks
2	Long essay questions	2x8 = 16 Marks
3	Short essay questions	6x4 = 24 Marks
4	Short answer questions	10x2 = 20 Marks
	Total Marks	70 Marks

Topics distribution and Weightage of marks – Theory

Subject Name : Pharmacology							
SL.No	Topics	Total max marks as per SDMU guidelines	Actual Marks in the Question Paper				
			MCQ	SLEQ	SEQ	SAQ	TOTAL
1	General pharmacology	08					
2	Drugs acting on ANS	08					
3	Local anaesthetic agents	05					
4	Drugs acting on the CNS	08					
5	Drug acting on CVS	08					
6	Drugs acting on blood	05					
7	Endocrines	05					
8	Chemotherapy	08					
9	Miscellaneous – antihistamines, antiemetics, drugs used in bronchial asthma& cough, drugs used in peptic ulcer, purgatives, antidiarrhoeal, chelating agents, antihelminthic drugs	05					
10	Dental pharmacology	10					
	Total	70					

*Total marks include MCQs. The weightage of marks allotted for each topic shall be strictly adhered to while setting a question paper. A MINIMUM OF 10% and up to a MAXIMUM OF 30% marks shall be allocated to assess the higher order thinking of the learner. The questions framed shall be with appropriate verbs without any ambiguity or overlap.

Chapter wise distribution of marks in Pharmacology for university Exam

Sl No	Topics	Marks
1	General pharmacology	08
2	Drugs acting on ANS	08
3	Local anaesthetic agents	05
4	Drugs acting on the CNS	08
5	Drug acting on CVS	08
6	Drugs acting on blood	05
7	Endocrines	05
8	Chemotherapy	08
9	Miscellaneous – antihistamines, antiemetics, drugs used in bronchial asthma& cough, drugs used in peptic ulcer, purgatives, antidiarrhoeal, chelating agents, antihelminthic drugs	05
10	Dental pharmacology	10
	Total	70

General pharmacology, Drugs acting on ANS, Drugs acting on CNS, Drugs acting on CVS , Chemotherapy , Dental pharmacology	Long Essay 2X 8 = 16 Marks	16
General pharmacology , Drugs acting on ANS & PNS(LA & Skeletal muscle relaxants), Drugs acting on CNS, Diuretics, & Drugs acting on CVS , Drugs affecting blood & blood formation, Chemotherapy, Hormones , Drugs acting on GIT, & Drugs acting on Respiratory System, dental pharmacology	Short essay 6X4=24 Marks	24
General pharmacology , Drugs acting on ANS & PNS(LA & Skeletal muscle relaxants), Drugs acting on CNS, Diuretics, & Drugs acting on CVS , Drugs affecting blood & blood formation, Chemotherapy , Hormones, Drugs acting on GIT, & Drugs acting on Respiratory System, Miscellaneous (chelating agents, vitamins, , antiseptic & disinfectants) , dental Pharmacology	Short answers 10X2= 20 Marks	20
General pharmacology , Drugs acting on ANS & PNS(LA & Skeletal muscle relaxants), Drugs acting on CNS, Diuretics, & Drugs acting on CVS , Drugs affecting blood & blood formation, Chemotherapy , Hormones, Drugs acting on GIT, & Drugs acting on Respiratory System, Miscellaneous (chelating agents, vitamins, , antiseptic & disinfectants) ,dental Pharmacology	MCQs 10X1= 10 Marks	10

Note- 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. Clinical / Practical Examination:

University Examination : 90 Marks
Internal Assessment : 10 Marks
Total : 100 Marks

1	Spotters 10 nos.	10 x 1 = 10 marks
2	Prescriptions 2 nos. (one medical and one dental prescription)	2 x 10 = 20 marks
3	Preparations 2 nos. (one medical and one dental preparation)	2 x 30 marks = 60 marks

DENTAL MATERIALS

1. Aims and Objectives:

The science of Dental Material has undergone tremendous changes over the years. Continued research has led to new material systems and changing concepts in the dental field. Interlinked with various specialised branches of chemistry, practically all engineering applied sciences and biological characteristics, the science of dental material emerged as a basic sciences in itself with its own values and principles.

AIMS: Aim of the course is to present basic chemical and physical properties of dental materials as they are related to its manipulation to give a sound educational background so that the practice of the dentistry emerged from art to empirical status of science as more information through further research becomes available. It is also the aim of the course of dental materials to provide with certain criteria of selection and which will enable to discriminate between facts and propaganda with regards to claims of manufactures.

OBJECTIVES: To understand the evolution and development of science of dental material. To explain purpose of course in dental materials to personnels concerned with the profession of the dentistry. Knowledge of physical and chemical properties. Knowledge of biomechanical requirements of particular restorative procedure. An intelligent compromise of the conflicting as well as co-ordinating factors into the desired earnest. Laying down standards or specifications of various materials to guide to manufacturers as well as to help professionals. Search for newer and better materials which may answer our requirements with greater satisfaction. To understand and evaluate the claims made by manufactures of dental materials.

2. Teaching hours:

Lecture Hours	- 70 Hrs.
Practical Hours	- 220 Hrs.
Total	- 290 Hrs.

3. Teaching schedule for Theory

S. No.	Topic	Learning Content Distribution		Teaching hours
		Must know	Desirable to know	
1	Introduction	<ul style="list-style-type: none"> ➤ Classification of clinical and laboratory dental materials 	<ul style="list-style-type: none"> ➤ Aim of studying the subject of Dental Materials to know about contents manipulation properties and applications in clinics and laboratory ➤ Knowledge of evolution and development of science of dental materials ➤ Need and scope of dental Materials 	01
2	Structure, behaviour of matter and properties applicable to Dental materials	<ul style="list-style-type: none"> ➤ Requirements of ideal dental materials. ➤ Introduction to polymers, metals, ceramics and composites. ➤ Physical and mechanical properties ➤ Rheological, Thermal and Chemical properties ➤ Surface properties of adhesion ➤ Color and its properties – Light and Esthetics based on law of optics ➤ Biological consideration in use of dental materials. 	<ul style="list-style-type: none"> ➤ Change of state, primary bonds, secondary bonds, metallic bonds, adhesive bonds, crystalline structures and non crystalline structures. ➤ Standardization and assessment of dental Materials. ➤ Physical properties of tooth 	04

3	Gypsum products (Detail):	Dental plaster, dental stone, die stone, high strength, high expansion, Synthetic plaster		03
4	Impression materials and duplication materials	<ul style="list-style-type: none"> ➤ Requirements and classification ➤ Indications, composition, setting reaction, manipulation, desirable Properties, applications, advantages, disadvantages and disinfection of inelastic and elastic impression materials (Impression plaster, Impression compound, Zinc oxide eugenol, Impression paste, non eugenol paste, Agar, Alginate, Polysulfides, Condensation silicon, Addition silicon, polyether, visible light cure polyether urethane di methacrylate) ➤ Duplicating materials 		07
5	Denture base resins (Synthetic resins)	<ul style="list-style-type: none"> ➤ Classification and ideal requirements ➤ Polymers, types, Polymerization reactions, 	<ul style="list-style-type: none"> ➤ Light cure denture base resins ➤ tray resins ➤ Shellac base plate 	05

		<p>polymer size and effects, polymer structure and effects, properties and uses.</p> <ul style="list-style-type: none"> ➤ Plasticizers and cross linking agents ➤ Heat cure acrylic resins – types, composition, properties, technical consideration in processing and its errors, advantages and disadvantages. ➤ Self cure acrylic resins – Composition, manipulation, properties and uses. ➤ high impact denture base resins, resin teeth, temporary crown and bridge materials, Separating media, Articulating papers, soft liners (Long term and short term), Tissue conditioners and maxillofacial prosthetic materials 	<ul style="list-style-type: none"> ➤ thermoplastic materials ➤ mouth guards ➤ pressure indicator paste ➤ Compare resin and porcelain teeth 	
6	Metals and Alloys	<ul style="list-style-type: none"> ➤ Classification of alloys, Heat treatment, Annealing, Equilibrium phase diagrams 	<ul style="list-style-type: none"> ➤ Solidification and micro structure of metals 	03

		➤ Tarnish and corrosion		
7	Wrought base metal alloys	Properties of orthodontic wires, Stainless steel and its types, Heat treatment of steel, nickel titanium	<ul style="list-style-type: none"> ➤ Beta titanium ➤ Cobalt chromium wires. 	02
8	Soldering, Brazing and Welding	Solders and its types, flux and antflux, soldering procedure, Soldering flame, Spot welding, pressure welding	Laser welding	02
9	Dental Casting alloys	<ul style="list-style-type: none"> ➤ Classification of Dental casting alloys, ➤ Gold Alloys – Classification, Composition, Properties, Heat treatment of gold alloys, Indications, Uses ➤ Metal ceramic alloys, base metal alloys content, properties and uses.(Nickel chromium, cobalt chromium and titanium. 	Palladium alloys	04
10	Dental Waxes	<ul style="list-style-type: none"> ➤ Introduction and Classification ➤ Composition, properties, manipulation and uses (Inlay wax, Casting wax, base plate wax, beading and boxing wax, Utility wax, sticky wax, impression waxes, 	<ul style="list-style-type: none"> ➤ carding wax, ➤ resin modeling material ➤ pre formed wax patterns 	02
11	Die materials	Ideal requirements, Gypsum	electroformed dies	01

		dies, epoxy dies, die spacers.		
12	Dental casting investments	<ul style="list-style-type: none"> ➤ Ideal requirements and classification ➤ Gypsum bonded investment, phosphate bonded investments, (Contents, setting reaction, manipulation, properties and uses) ➤ Casting procedures technical consideration, casting machines, casting defects 	<ul style="list-style-type: none"> ➤ Ethyl silicate bonded investment (Contents, setting reaction, manipulation, properties and uses) ➤ Investments for titanium, Divestments 	04
13	Dental ceramics	Classification, composition, role of each ingredient, strengthening, firing, advantages, disadvantages, metal ceramic bond, aluminous porcelain, castable glass ceramics, CAD-CAM ceramics, hybrid ceramics, porcelain repair materials, porcelain teeth	Injection molded ceramics, infiltrated ceramics,	04
14	Dental Cements	<ul style="list-style-type: none"> ➤ Requirements and classification ➤ Cements: Glass ionomer, zinc phosphate, zinc polycarboxylate, zinc oxide eugenol, modified zinc oxide eugenol, calcium hydroxide (Composition, setting reaction, manipulation, 	<ul style="list-style-type: none"> ➤ Silicate cement, ➤ zinc silico phosphate (Composition, setting reaction, manipulation, properties, uses, advantages and disadvantages) ➤ Materials used in endodontic therapy, 	12

		<p>properties, uses, advantages and disadvantages)</p> <ul style="list-style-type: none"> ➤ Classification of glass ionomer cements with all modifications. ➤ Mechanism of adhesion of cement to tooth structure Cavity liners, luting cements, cement bases, resin cement, cavity varnish, pit and fissure sealants, intermediate restorative materials, Gutta purcha, 	<p>application of fluorides.</p>	
15	Tooth restorative resins	<ul style="list-style-type: none"> ➤ Brief history, classification, ideal properties of restorative resins. ➤ Filled and unfilled resin composites (Composition, polymerization mechanisms, properties, uses, advantages and disadvantages) ➤ Microfilled composites, small particle composites, nano composites, hybrid composites, flowable composites, posterior composites, light cure systems, acid etch 	<p>fiber reinforced composites</p>	06

		techniques, enamel and dentin bonding agents, conditioners and primers, smear and hybrid layer, manipulation of composite resins.		
16	Dental Amalgam	<ul style="list-style-type: none"> ➤ History, classification, manufacture, composition, setting reaction, manipulation, properties and uses of all types of silver amalgam. ➤ Mercury hygiene and toxicity. ➤ Amalgam bond 	<ul style="list-style-type: none"> ➤ Galloy. ➤ repair of amalgam restorations, compare amalgam and composite resin ➤ Zinc free amalgam alloys. 	04

17	Direct filling gold	<ul style="list-style-type: none"> ➤ Classification, types, manipulation, properties and uses 		02
18	Abrasive and polishing agents	<ul style="list-style-type: none"> ➤ Clinical and laboratory 		02
19	Mechanics of cutting	<ul style="list-style-type: none"> ➤ Dental burs and points 		01
20	Dental implants	<ul style="list-style-type: none"> ➤ Evolution of dental implants, classification, designs, osseointegration, biological properties, Metal implants, Ceramic implants, coated implants 		01

4. Teaching schedule for Practicals : 220 hrs

S. No.	Topic	Hours
	Exercise done by each student:	
01	Gypsum products, manipulation, identifying setting time and defects (Comparative studies of different gypsum products)	30
02	Impression materials manipulation, making impression, identifying setting time and defects (Comparative studies of different impression materials)	30
03	Manipulation and pouring impressions – identifying setting time and working time in reference to proportion, water temperature and spatulation time.	20
04	Self cure acrylic and heat cure acrylic, manipulation and curing.	20
05	Dental cements – manipulation, studying setting time, working time for luting, base and restoration	40
06	Silver amalgam manipulation	20
	Demonstration	
07	Demonstration of self cure and light cure composites with application of bonding agents for a batch not more than 8 students	20
08	Demonstration of casting procedures for a batch not more than 8 students	20
09	Demonstration of manipulation and impression techniques of elastomeric impression materials for a batch not more than 8 students	20

5. Recommended Text and Reference books, Journals and Atlases (as per your preference modify the title)

Name of the Book & Title	Author	Edn	Yr. of Publ.	Publ.'s Name Place of Publ.
Phillips science of dental materials	Kennith J, Anusavice	12 th	2014	Reed Elsevier India
Dental materials and their selection	William J O'Brien	4 th	2008	Quintessence Books
Restorative Dental Materials	Robert Craig	11 th	2008	Mosbo Elsvier
Dental Materials properties and manipulation	John M Powers John Wataha	9 th	2008	Mosby
Materials in Dentistry Principals and Application	Jack L Ferracaine	2nd	2001	J B Lippincot Publication

6. SCHEME OF EXAMINATION:

University Examinations:

A. Theory	- 70 marks
Viva Voce	- 20 Marks
Internal Assessment	- 10 Marks
Total	- 100 Marks

1	Multiple choice questions	1x10 = 10 Marks
2	Long essay questions	2x8 = 16 Marks
3	Short essay questions	6x4 = 24 Marks
4	Short answer questions	10x2 = 20 Marks
	Total Marks	70 Marks

Topics distribution and Weightage of marks – Theory

Sl. No.	Topics		Marks
A	Prosthodontics Materials		34 marks
1	Gypsum Products	4	MCQ – 4
2	Impression Materials	8	Long Essay – 8x1=8
3	Dental Polymer & Denture Base resins	4	Short Essay – 4 X 3 = 12
4	Die Materials	4	
5	Dental Waxes	4	
6	Dental Casting Investment Materials	2	Short Answers – 2 X 5 = 10
7	Dental Casting alloys	2	
8	Dental Casting Procedures	2	
9	Dental Implants	2	
10	Dental Ceramics	2	
B	Conservative Dentistry Materials		26 marks
1	Dental Amalgam	4	MCQ – 4
2	Dental Cements	8	Long Essay – 8
3	Dental Restorative Resins	4	Short Essay – 4 X 2 =8
4	Direct filling gold	4	
5	Abrasives, Polishing agents & Dental Burs	2	Short Answers – 2 X 3 = 6
C	Matter, Properties, Orthodontics Materials		
1	Structure of matter, Physical, Mechanical & Biological Properties, Metallurgy, Tarnish & Corrosion	2	MCQ – 2
2	Wrought Alloys	4	Short Essay – 4 X 1 = 4
3	Soldering & Welding	2	Short Answers – 2 X 2 = 4

B. Practical Examinations: 90 Marks

Practicals	- 90 Marks
Internal Assessment	-10 Marks
Total	- 100 Marks

1	Spotters 25 nos.	25 x 1 = 25 marks
2	Manipulation of dental material (prosthetic)	35 marks
3	Manipulation of dental material (conservative)	30 marks
	Total marks	90 marks

PRECLINICAL CONSERVATIVE DENTISTRY AND ENDODONTICS

1. AIM:

1. To provide training and develop skills in the Cavity preparation, and restoration with amalgam and composite materials
2. To provide training and develop skills in root canal procedure.

OBJECTIVES:

i. Knowledge and Under Standing:

The graduate should acquire the following knowledge during the period of training,

- 1) To diagnose and treat simple restorative work for teeth.
- 2) To gain knowledge about aesthetic restorative material and to translate the same to patients needs.
- 3) To gain the knowledge about endodontic treatment on the basis of scientific foundation.

ii. Skills:

He should attain following skills necessary for practice of dentistry

- 1) To use medium and high speed hand pieces to carry out restorative work.
- 2) Poses the skills to use and familiarize endodontic instruments and materials needed for carrying out simple endodontic treatment.
- 3) To achieve the skills to translate patients esthetic needs along with function.

2. Teaching hours:

Lecture Hours 25 Hours

Practical Hours – 120 Hours

Total – 145

3. Teaching schedule for Theory

Sl. No	Topic	Learning content Distribution		Hours
		Must Know	Desirable to know	
1.	Introduction	Definition Aims and objectives	future of Conservative Dentistry	1
2.	Nomenclature Of Dentition Tooth numbering systems	Nomenclature Of Dentition Tooth numbering systems A.D.A. Zsigmondy/Palmer F.D.I. systems	-	1
3.	Dental Caries	Etiology Classification clinical presentation microscopic features	Clinical diagnosis Treatment Sequel of dental caries	4
4.	Principles Of Cavity Preparation	Definition of Outline and initial depth, Resistance and retention form, Convenience form and their features Concept of removal of old restorative material and remaining caries Cleaning of the cavity Smoothering of the walls of the cavity	Secondary resistance and retention features application	2
5.	Amalgam Restoration	Indications & contraindications Step wise procedure for Class I, II Cavity preparation and restoration Failure of amalgam restoration	Clinical behaviour	3

6.	Variations in class II cavity designs for amalgam restorations	Names of the design, steps in cavity preparation for simple box design.	Steps in cavity preparation for other Designs.	1
7.	Dental amalgam, technical considerations, mercury toxicity and mercury hygiene	Selection of alloy and mercury Proportioning Objectives of trituration, condensation, carving and polishing Chemical forms of mercury Mercury toxicity Disposal of amalgam	Measures to reduce amalgam exposure in dental clinic	1
8.	Armamentarium For Cavity Preparation	Classification of instruments Instrument formula Instrument nomenclature Individual instrument uses, formula and design Sharpening of instruments. Rotary cutting instruments dental bur, design, speed Sterilisation and maintenance of instrument Basic instrument tray set up	mechanism of cutting current concepts of rotary cutting procedures Sterilisation and maintenance of Handpiece	3
9.	Control Of Operating Field	Different methods of isolation Cotton rolls and rubber dam in detail	Technique of placement of rubber dam evacuation devices and anti sialogogues	1
10.	Pulp Protection	Composition of all cements Advantages and disadvantages of all cements	Silicate cement Recent advances Remaining dentin thickness and relation to the cements application	2

11.	Preventive Measures In Restorative Practice	Role of fluoride in prevention of dental caries	Plaque Control Pit and fissure sealants Dietary measures in caries control	1
12.	Contact and contour of teeth and restorations	Classification of matrices Classification of wedges Ivory no 1 and 8 Tofflemiere Wedges Wedging techniques Functions of matrices and wedges	S matrix T matrix Auto matrix Copper band Baton's matrix method Recent advances	2
13.	Cavity preparation III, IV, V with emphasis on silicate cement, glass inomer cement and composites.	-	Cavity preparation III, IV, V with emphasis on silicate cement, glass inomer cement and composites	1
14.	Temporisation Or Interim Restoration	-	Materials used Objective of Temporization	1
15.	Differences Between Amalgam and gold Inlay Cavity	Differences Between Amalgam and gold Inlay Cavity	-	1

4. Teaching schedule for Practicals

S. No.	Topic	Hours
1.	Demonstration of class I cavity preparation on plaster model	1
2.	Demonstration of class II cavity preparation on plaster model	1
3.	Discussion and Demonstration of class I cavity preparation on extracted teeth Application of base (Cement) Amalgam Condensation and carving	1 30 Minutes 30 Minutes
4.	Discussion and Demonstration of class II cavity preparation on extracted teeth Application of base and matrix band and wedge Amalgam Condensation and carving	1 30 Minutes 30 Minutes
5.	Discussion and Demonstration of chair positions	30 Minutes
6.	Discussion and Demonstration of class I cavity preparation on Typodont Teeth Application of base (Cement) Amalgam Condensation and carving	1 30 Minutes 30 Minutes
7.	Discussion and Demonstration of class II cavity preparation on Typodont Teeth Application of base and matrix band and wedge Amalgam Condensation and carving	1 30 Minutes 30 Minutes
8.	Wax carving on Extracted Teeth	30 Minutes

Note: Please specify the particulars of the work to be completed by the students

LIST OF PRECLINICAL EXERCISES FOR IIND YEAR B.D.S STUDENTS

EXERCISE IN PLASTER MODEL

1. Preparation of class – I cavity on Mandibular molar
2. Preparation of Class – I cavity on maxillary molar
3. Preparation of Class – I with palatal extension of maxillary molar
4. Preparation of Class – I with Buccal extension of mandibular molar
5. Preparation of Class - II on mandibular molar
6. Preparation of Class – II on maxillary molar without involving oblique ridge
7. Class II in mandibular molar (MOD)
8. Class II in maxillary molar involving oblique ridge (MOD)

EXERCISE ON EXTRACTED TEETH

1. Preparation of Class – I cavity on mandibular molar.
2. Preparation of Class – I cavity in maxillary molar
3. Class – I in Maxillary premolar
4. Class – I mandibular premolar
5. Preparation of Class – I with buccal extension in mandibular molar
6. Preparation of class – I with palatal extension in Maxillary molar
7. Preparation of class – II in mandibular molar.
8. Preparation of class – II in Maxillary molar.
9. Preparation of class – II in Maxillary premolar.
10. Preparation of class – II in mandibular premolar.

EXERCISE IN PHANTOM HEAD

1. Class I cavity preparation in 35
2. Class I cavity preparation in 38
3. Class I cavity preparation in 48
4. Class I cavity preparation in 14
5. Class II cavity preparation in 24 (DO)
6. Class II cavity preparation in 37 (MO)
7. Class II cavity preparation in 16 (MO)

8. Class II preparation in 47 (MO)
9. Class II preparation in 34(DO)
10. Class II preparation in 44 (DO)
11. Class II preparation in 26(MO)
12. Class II preparation in 26 (DO)
13. Class II involving oblique ridge 16(MO)
14. Class II cavity preparation 15(MO)
15. Class II cavity preparation 25(MOD)
16. Class II cavity preparation 45(MOD)
17. Class V cavity preparation for Amalgam in 26, 46
18. Class V cavity preparation for GIC in 24, 25
19. Preparation of buccal pit cavity in 46

EXERCISES IN ENDODONTICS

Access opening in maxillary central incisor

EXERCISES IN COMPOSITE RESTORATION (DM)

Preparation of class III cavity in maxillary anterior and restoration with composite resins

EXERCISE FOR INLAY CAVITY PREPARATION

Cavity preparation for inlay in mandibular molar and wax pattern fabrication.

5. Recommended Text and Reference books, Journals and Atlases (as per your preference modify the title)

Sturdevent- art and science of operative dentistry

M A Marzouk- operative dentistry

Ingle - endodontics

6. SCHEME OF EXAMINATION

Practical Examination	60
Internal Assessment	20
Viva Voce	20
Total	100

Practical Exercises:

Exercise No.1: 10 marks

Spotters: 1 minute each: 10 Nos x 1 mark Spotters

- Hand Instruments used to prepare cavity and restoration
- Identification of Rotary Cutting Instruments, Matrices, Separators, Pulp Protecting Agents, Restorative Materials.

Exercise No. 2 : 50 marks

Preparation of class II Conventional/ conservative cavity for silver amalgam in Mandibular 1st Molar tooth (Typhodont)

Time allotted for each step

Work done	Time allotted	Marks
Cavity preparation	45 Minutes	25
Base application, Matrix band retainer and wedge placement	15 minutes	10
Amalgam restoration	30 minutes	15

PRECLINICAL PROSTHODONTICS

1. Aims and Objectives:

To train undergraduate students so as to ensure competence in general areas of Prosthodontics with adequate knowledge, necessary skills and such attitude which are required for carrying out all the activities essential to replace some or all missing natural teeth. To train the students to understand the basic anatomy of edentulous oral structures and step by step procedures and various techniques involved in the fabrication of removable complete denture prosthesis.

Upon completion of this course the graduating student should be able to:

- Demonstrate sound knowledge of the biological and technical aspects of complete and removable partial dentures and their integration with the clinical procedures which will be taught in the succeeding clinical prosthodontic courses.
- Apply all the laboratory procedures related to the construction of complete dentures
- Identify the different materials, instruments and devices involved in the construction of complete dentures and removable partial dentures as well as their uses.

2. Teaching hours:

Lecture Hours – 55 hrs

Practical Hours – 200 hrs.

Total – 255 hrs

3. Teaching schedule for Theory

Sl. No	Topic	Learning Content Distribution		Teaching hours
		Must know	Desirable to know	
1	Introduction to Prosthodontics - Scope and Definition	A. Masticatory apparatus and function: <ul style="list-style-type: none"> ➤ Maxillae & Mandible with & without teeth. ➤ Muscles of mastication and accessory muscles of mastication. ➤ Brief anatomy of TMJ. ➤ Mandibular movements. ➤ Functions of teeth. 		2 hrs
		B. Various branches of Prosthodontics and prosthesis <ul style="list-style-type: none"> ➤ Scope & limitation. ➤ Appliances v/s prosthesis. ➤ Dental prosthesis v/s non-dental prosthesis. 		1hr
		C. Effect of loss of teeth: <ul style="list-style-type: none"> ➤ On general health. ➤ On masticatory apparatus. ➤ Need of replacement of lost teeth. 		1hr
		D. Outline of Prosthodontics: <ul style="list-style-type: none"> ➤ Types of Prosthesis. ➤ Requirements of prosthesis- Physical, biological, esthetic considerations. 		1hr

2	Introduction to components of Prosthesis	A. Complete Denture Prosthesis: <ul style="list-style-type: none"> ➤ Anatomical landmarks maxillary edentulous foundation ➤ Anatomical landmarks mandibular edentulous foundation. ➤ Components – Denture Base and Teeth 		4hr
		B. Removable Partial Denture: <ul style="list-style-type: none"> ➤ Classification. ➤ Major and minor Connectors. ➤ Direct retainers. ➤ Rests. ➤ Indirect retainers. ➤ Denture base. ➤ Artificial teeth. 		6hr
			C. Fixed Partial Denture: <ul style="list-style-type: none"> ➤ Classification. ➤ Retainers. ➤ Pontics. ➤ Connectors. 	1hr
3.	All related definitions and terminologies from glossary	<ul style="list-style-type: none"> ➤ Model ➤ Cast ➤ Impression ➤ Occlusion rim ➤ Temporary denture base ➤ Permanent denture base ➤ Occlusion ➤ Face Bow & Articulator ➤ Jaw relation - orientation, vertical and centric ➤ Christensen's phenomenon ➤ Key of occlusion ➤ Balanced occlusion ➤ Abutment etc... 		1hr

4.	Diagnosis And Treatment Planning	<ul style="list-style-type: none"> ➤ Diagnosis of the condition with or without teeth ➤ Systemic factors ➤ Local factors ➤ Nutritional factors ➤ Understanding the mental attitude of the patient ➤ Instruction and education about complete denture to the patient ➤ Geriatric patient ➤ Diagnostic procedures 		3hrs
5.	Introduction to mouth preparation - in brief	A. Complete Dentures <ul style="list-style-type: none"> ➤ General considerations and Pre-prosthetic surgery 		1hr
6.	Introduction to all steps involved in fabrication of Prosthesis Clinical Steps in brief and laboratory steps in detail	Impression Making <ul style="list-style-type: none"> ➤ Definition and requirements and types of impressions ➤ Various materials used for different impressions ➤ Different theories of impression making ➤ Retention ➤ Support ➤ Stability 		5hrs
		Introduction to jaw relation record <ul style="list-style-type: none"> ➤ Definition and type ➤ Temporary denture base - Indications, Advantages, Disadvantages, materials used ➤ Occlusion rims - materials, shape, dimensions ➤ Orientation jaw relation 		6hrs

		<ul style="list-style-type: none"> ➤ Vertical jaw relation ➤ Horizontal jaw relation 		
		<p>Articulators and face bow</p> <ul style="list-style-type: none"> ➤ Basic out line ➤ Need for articulators ➤ Definition, classification, parts, advantages, disadvantages of articulators ➤ Definitions, classification, parts, advantages, disadvantages and purpose of face bow transfer ➤ Demonstration of face bow transfer to an articulator on a dummy 		3hrs
		<p>Selection of Teeth</p> <ul style="list-style-type: none"> ➤ Various guidelines for selection of teeth including dentogenic concept <p>Arrangement of teeth in detail with various factors of esthetics, overjet, overbite etc</p>		4hrs
		<p>Occlusion</p> <ul style="list-style-type: none"> ➤ Balanced Occlusion - need and advantages ➤ Various factors of balanced occlusion 		1hr
		<p>Try in Procedures</p> <ul style="list-style-type: none"> ➤ Anterior try - in ➤ Posterior try - in <p>Waxing, carving, polishing and final try - in</p>		1hr
		<p>Processing Procedures</p> <ul style="list-style-type: none"> ➤ Flasking ➤ De-waxing 		3hrs

		<ul style="list-style-type: none"> ➤ Packing ➤ Curing Finishing and polishing of acrylic dentures		
			Casting Procedures <ul style="list-style-type: none"> ➤ Preparation of die ➤ Wax pattern ➤ Investing ➤ Burnout ➤ Casting ➤ Finishing & polishing 	1hr
		Denture Insertion & follow-up <ul style="list-style-type: none"> ➤ Denture Insertion ➤ Recall & post insertion instruction ➤ Post insertion problems and treatment ➤ Relining, Rebasing & Repair 		4hrs
		Special Dentures <ul style="list-style-type: none"> ➤ Over dentures ➤ Single complete dentures ➤ Immediate dentures 		6hrs

4. Teaching schedule for Practicals

S. No.	Topic		Hours
1	Arrangement of teeth – Class I Molar relation – 10 Class II Molar relation – 01 Class III Molar relation – 01	Must to Know	200 hrs
2	Surveying of partially edentulous models and preparing modified master cast	Desirable to Know	
3	Preparing of wax patterns spruing, casting and finishing (in batches of students not more than 8)	Desirable to Know	
4	Preparation of plaster models of various preparation of teeth to receive retainers for FPD	Desirable to Know	
5	Prepare wax patterns for minimum of 3 unit FPD and investing, casting and porcelain facing (for Batch of 8 students)	Desirable to Know	

Note:

1. Students shall submit one processed denture mounted on an articulator to present on university practical exam along with record book.
2. Exercises of RPD and FPD to be submitted in groups along with the record book.

5. Recommended Text and Reference books.

Author	Name of the Book & Title	Edn	Yr. of Publ.	Publ.'s Name Place of Publ.	Price
Boucher	Prosthodontic Treatment of Edentulous Patients	XI	1997	Mosby St. Louis, Missouri, USA	\$ 76
Heartwell	Syllabus of Complete Denture	IV	1992	Varghese Publishing House	Rs 595
Tylman	Theory and Practice of Fixed Prosthodontics	VIII	1993	Ishiyaku Euro America Inc. 716, Hanley Industrial Court St. Louis Missouri, USA	\$ 69

McCracken	Removable Partial Denture	VIII	1986	CBS Publishers & Distributors Shadara, Delhi	Rs 350
Skinner	Science of Dental Materials	X	1996	W.B Saunders Company, Philadelphia, USA	\$ 35
Craig	Dental Materials, Properties & Manipulation	VI	1996	Mosby, St. Louis Missouri, USA	\$ 35

6. Scheme of examination:

Pre-clinical Prosthodontics Marks: 100 Marks

University Practical Examination	60 Marks
Viva Voce	20 Marks
Internal Assessment	20 Marks

Practical

Exercise No. 1	Spotters (10x1)	10 Marks
Exercise No. 2	Amalgam Restoration on Molar tooth (50 Marks)	
	Class II Cavity preparation	25 Marks
	Base placement and matrix band, retainer placement	10 Marks
	Silver Amalgam restoration	15 Marks
	Total	60 Marks

ORAL PATHOLOGY & MICROBIOLOGY

1. Aims and Objectives:

At the end of II BDS course, the student should be able to identify:

- The different forms of developmental disturbances that can affect the oral and paraoral structures.
- The various disease processes involving the teeth and its supporting structures.

2. Teaching hours:

Lecture Hours – 30 hours

Practical Hours – 50 hours

Total – 80hours

3. Teaching schedule for Theory

S. No.	Topic	Learning Content Distribution	Teaching hours
		Must know	Total 30 hours
1.	Developmental disturbances of teeth, jaws and soft tissues of oral & paraoral region	a. Introduction to developmental disturbances - Hereditary, Familial mutation, Hormonal etc. causes to be highlighted. b. Developmental disturbances of teeth - Etiopathogenesis, clinical features, radiological & histopathological features as appropriate ➤ The size, shape, number, structure & eruption of teeth & clinical significance of the anomalies to be emphasized. c. Developmental disturbances of jaws ➤ Size & shape of the jaws. d. Developmental disturbances of oral & paraoral soft tissues ➤ Lip & palate - clefts, tongue, gingiva, mouth, salivary glands & face.	15 hours

2.	Dental Caries	a. Etiopathogenesis, microbiology, clinical features, diagnosis, histopathology, immunology, prevention of dental caries & its sequelae, detection of caries & caries activity tests	5 hours
3.	Pulp & Periapical Pathology & Osteomyelitis	a. Etiopathogenesis & interrelationship, clinical features, microbiology, histopathology & radiological features (as appropriate) of pulp & periapical lesions & osteomyelitis. b. Sequelae of periapical abscess - summary of space infections, systemic complications & significance	6 hours
4.	Periodontal Diseases	a. Etiopathogenesis, microbiology, clinical features, histopathology & radiological features (as appropriate) of gingivitis, gingival enlargements & periodontitis. b. Basic immunological mechanisms of periodontal disease to be highlighted	4 hours

Teaching Methodology: Audio-Visual aids

4. Teaching schedule for Practicals

S. No.	Topic	Hours
	Identification of Hard and Soft Tissue using Casts & Specimens	Total 50 hours
1	Maxillary Cast – Peg lateral	13 hours
2	Maxillary Cast – paramolar	
3	Mandibular Cast – germination	
4	Maxillary Cast – Supernumerary teeth	
5	Maxillary Cast – mesiodens	
6	Mandibular Cast – Supernumerary teeth	
7	Maxillary Cast – Talon’s Cusp	
8	Maxillary Cast – Supernumerary tooth	

9	Maxillary Cast – Peg lateral	
10	Mandibular Cast – Ectodermal dysplasia	
11	Maxillary Cast – Torus palatinus	
12	Maxillary Cast – Fibromatosis gingivae	
13	Mandibular Cast – Fused crowns	
	Specimens	
1	Supernumerary teeth	36 hours
2	Supernumerary teeth with dilacerations	
3	Upper left permanent central incisor with dilacerations	
4	Maxillary 3 rd molar with dilacerations and union of roots	
5	Mandibular permanent molar with fusion of root and fusion of supernumerary tooth	
6	Upper permanent molar with fusion of a supernumerary tooth	
7	Permanent maxillary 1 st molar showing benign cementoblastoma	
8	Fusion of 2 supernumerary teeth with maxillary molar	
9	Fusion of 2 maxillary molars	
10	Concrescence	
11	Maxillary molar with dilacerations and union of buccal roots	
12	Mandibular molar with dilacerations	
13	Maxillary molar with dilacerations and union of buccal roots	
14	Maxillary molar with supernumerary root	
15	Maxillary molar showing multiple fused roots	
16	Maxillary premolar with 3 roots	
17	Taurodontism	
18	Mandibular molar with calculus and stains	
19	Germination	
20	Mandibular molar with generalized Hypercementosis	
21	Maxillary molar with localized Hypercementosis	
22	Mandibular molar with localized Hypercementosis	
23	Maxillary molar with excementosis	
24	Sclerotic or transparent dentin	
25	Enamel pearl (Enameloma)	
26	Abrasion	
27	Attrition	
28	Sialolith	

29	Compound odontome	
30	Dens invaginatus (Molar)	
31	Erosion	
32	Calculus attached to tooth	
33	Talon's Cusp	
34	Bony Ankylosis	
35	Macrodont with Rhizomicry	
36	Rhizomegaly	
	Revision practical	1 hour

Note: Please specify the particulars of the work to be completed by the students

5. Recommended Text and Reference books, Journals and Atlases (as per your preference modify the title)

Name of the Book & Title	Author	Edition	Yr. of Publication	Name and Publ Place of Publisher's
Shafer's Text Book of Oral Pathology	R. Rajendran & B. Shivapathasundaram	6 th	2009	Elsevier
Oral Pathology Clinical Pathologic Correlation	Regezi & Scuibia	5th	2007	W. B. Saunders Company USA
Textbook of Oral and Maxillofacial Pathology	Neville, Damm. Allen, Bouquot	3rd	2009	Elsevier
Oral Diseases in The Tropics	Prabhu, Wilson, Johnson & Daftary	1st	1992	Oxford University Press

Other suggested reading

1. Pathology of Tumors-Lucas
2. Oral Immunology - Lehner
3. Oral Pathology - Soames and Southam
4. Contemporary Oral and Maxillofacial Pathology - SAPP Eversole, Wysocki,
5. Colour Atlas of Oral Pathology - John Everson & Crispian Scully

6. Scheme of examination: One Internal Assessment

THEORY EVALUATION

Year / Internal Assessment (I.A)	Type of question / Duration		No. of questions	Marks	Total marks	Total theory marks
2 nd BDS / 1 I.A	Short essay	1hour	5	5	25	25

PRACTICAL EVALUATION

Year / Internal assessment (I.A)	Spotter	Marks	Total no.	Total marks
2 nd BDS / 1 I.A	Casts	3	5	30
	Specimens		5	



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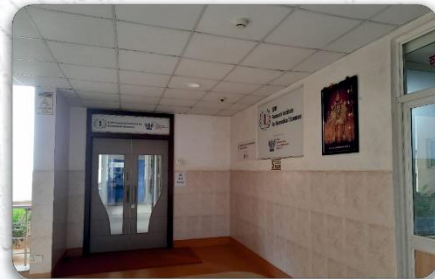
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Shri Dharmasthala Manjunatheshwara University



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Panoramic View of Campus