

HAND BOOK FOR BDS STUDENTS

BDS COURSE REGULATIONS

In accordance with the DCI revised BDS course regulations 2007
(subject to modification from time to time)

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B.D.S REGULATIONS

These regulations shall be called “The regulations for the BDS course of the Dr. NTR University of Health Sciences, Vijayawada, Andhra Pradesh”. These regulations are applicable to the students who are admitted to the course from the Academic Year 2007-08 onwards.

1. GENERAL OBJECTIVES :

The curriculum for the B.D.S. Course is designed to produce a dentist who is socially acceptable and who is able to diagnose, prevent and treat dental and oral diseases both in rural and urban areas.

The emphasis should be placed on fundamental aspects of the subjects taught and common problems of health and diseases avoiding greater details and areas of specification.

The education process should be an evolving one and not merely a process of acquisition of a large number of disjointed facts without a proper perspective.

There should be less emphasis on didactic lectures and major part of the learning time should be devoted to demonstrations, group discussions, seminars, clinical work and conferences stressing more on prevention of oral diseases instead of traditional teaching on curative aspects. Every attempt should be made to encourage the students to participate in group discussions and seminars to enable them to develop expression, character and personality and other qualities essential for a dental graduate to serve the community and nation effectively.

Proper record of the work should be maintained which should form the basis of internal assessment.

2. ELIGIBILITY CRITERIA:

No candidate shall be allowed to be admitted to the Dental Curriculum of first Bachelor of Dental Surgery (BDS) Course until:

1. He / She shall complete the age of 17 years on or before 31st December of the year of admission to the BDS course;

2. He / She has passed qualifying examination as under:-
- a. The higher secondary examination or the Indian School Certificate Examination which is equivalent to 10+2 Higher Secondary Examination after a period of 12 years study, the last two years of study comprising of Physics, Chemistry, Biology and Mathematics or any other elective subjects with English at a level not less than the core course for English as prescribed by the National Council for Educational Research and Training after the introduction of the 10+2+3 years educational structure as recommended by the National Committee on education;

Note: Where the course content is not as prescribed for 10+2 education structure of the National Committee, the candidates will have to undergo a period of one year pre-professional training before admission to the Dental colleges;

or

- b. The intermediate examination in science of an Indian University / Board or other recognized examining body with Physics, Chemistry and Biology which shall include a practical test in these subjects and also English as a compulsory subject;

or

- c. The pre-professional / pre-medical examination with Physics, Chemistry and Biology, after passing either the higher secondary school examination, or the pre-university or an equivalent examination. The pre-professional / pre-medical examination shall include a practical test in Physics, Chemistry and Biology and also English as a compulsory subject;

or

- d. The first year of the three years degree course of a recognized university, with Physics, Chemistry and Biology including a practical test in three subjects provided the examination is a "University Examination" and candidate has passed 10+2 with English at a level not less than a core course;

or

- e. B.Sc examination of an Indian University, provided that he/she has passed the B.Sc examination with not less than two of the following subjects Physics, Chemistry and Biology (Botany, Zoology) and further that he/she passed the earlier qualifying examination with the following subjects - Physics, Chemistry Biology and English.

or

- f. Any other examination which, in scope and standard is found to be equivalent to the intermediate science examination of an Indian University / Board, taking Physics, Chemistry and Biology including practical test in each of these subjects and English.

Note:

- Marks obtained in Mathematics are not to be considered for admission to BDS Course.
- After the 10+2 course is introduced, the integrated courses should be abolished.

3. SELECTION OF STUDENTS:

The selection of students to dental colleges is based on the merit of the candidates in the EAMCET examination conducted by the Government of Andhra Pradesh.

- a) To be eligible for competitive entrance examination, the candidate must have passed any of the qualifying examinations as enumerated above at 2.
- b) A candidate for admission to dental course must have passed Physics, Chemistry, Biology and English individually and must have obtained 50% marks in Physics, Chemistry and Biology taken together at qualifying examination.
- c) However, in respect of candidates belonging to scheduled castes / Scheduled Tribes and other Backward Classes (OBC) the qualifying marks should be 40% instead of 50%.
- d) The eligibility criteria for admission to persons with locomotory disability of lower limbs will be a minimum of 45% marks instead of 50% taken together in qualifying examination and competitive entrance examination for admission in B.D.S course.

4. REGISTRATION :

A candidate admitted to the course in any of the affiliated colleges shall apply for registration with this University in the prescribed form within one month from the date of joining the college. The application for registration in the prescribed form along with the fee prescribed should be submitted to this University through the Principal of the College. The University, in turn, will allot an identification number that will be valid till the student completes the course. Without this identification number, the student will not be considered as a bonafide student of the University and his application for the University examination will not be accepted.

5. DURATION OF THE COURSE:

The undergraduate dental training programme leading to BDS degree shall be of 4 years with 240 teaching days in each academic year consisting of 8 working hours including lunch break of 1 hour per day. The minimum working days indicated each year does not include 1 month vacation and 1 month of University exams. During this period, the student shall be required to have engaged in full time study at a dental college recognized or approved by the Dental Council of India.

6. COMPULSORY ROTATORY INTERNSHIP:

As per the 3rd Amendment (Page 7) regulations of the DCI revised course, 2011. Every candidate after passing the Final BDS examination has to undergo one year paid rotating internship in a dental college. The BDS degree shall be granted only after completion of the internship.

7. MEDIUM OF INSTRUCTION:

English shall be the medium of instruction of study and examinations of the Bachelor of Dental Surgery Course.

8. ATTENDANCE:

- (i) 75% in theory and 75% in practical / clinical in each year.
- (ii) In case of a subject in which there is no examination at the end of the academic year / semester, the percentage of attendance shall not be less than 70%. However, at the time of appearing for the professional examination in the subject, the aggregate percentage of attendance in the subject should satisfy condition (i) above.
- (iii) The attendance will be calculated from the day the course commenced and not from the day of admission of the student. If a student is admitted later than 30 days after the commencement of the course, he/she will continue the course along with the batch but will appear for the subsequent examination. The candidate will have to complete the curriculum, which was lost and certified by the Head of the department and institution to that effect.
- (iv) The detained and referred students of B.D.S course are required to put in a minimum of 75% of attendance in theory and practicals separately during the 6 months tenure before the subsequent exam.
- (v) If a student absents continuously for a period of 91 days or more and seeks permission to attend the course before one year, he /she may be permitted by the Principal conditionally after forwarding the application to the Registrar with the Principal's remarks. If the Vice-Chancellor is satisfied of the reasons, he may grant leave of absence attaching such conditions, as he may deem necessary. Candidates who are absent for a period of one year or more without permission, shall be deemed to have forfeited the admission to the course and his /her studentship shall stand cancelled without any further notice.

9. INTERNAL ASSESSMENT:

The continuing assessment examinations may be held frequently at least 3 times in a particular year and the average marks of these examinations should be considered. 10% of the total marks in each subject for both theory, practical and clinical examination separately should be set aside for the internal assessment examinations.

The referred and detained students are also required to appear for a minimum of one internal assessment examination in theory and practical / clinical in the subjects concerned. New assessment marks are to be taken for the declaration of the results.

If the candidate is absent for any of the examinations, the marks in that shall be treated as zero.

Internal assessment examination should include MCQ's.

10. SCHEME OF UNIVERSITY EXAMINATIONS:

The scheme of examination for B.D.S. Course shall be divided into 1st B.D.S. examination at the end of the first academic year, 2nd B.D.S. examination at the end of second year, 3rd B.D.S. examination at the end of third year and final B.D.S. at the end of 4th year. 240 days minimum teaching in each academic year is mandatory.

The examination shall be open to a candidate who satisfies the requirements of attendance, progress and other rules laid down by the University.

1st B.D.S. Examination:

1. Anatomy including embryology and histology
2. Human Physiology, Biochemistry & Nutrition
3. Dental Anatomy, Embryology and Oral Histology

Any student who does not clear the first BDS University Examination in all subjects within 3 years from the date of admission, shall be discharged from the Course.

Any candidate who fails in one subject in an Examination is permitted to go to the next higher class and appear for the subject and complete it successfully before he/she is permitted to appear for the next higher examination.

2nd B.D.S. Examination:

A candidate who has successfully completed the 1st B.D.S examination can only appear for the 2nd B.D.S Examination.

1. General Pathology and Microbiology
2. General and Dental Pharmacology and therapeutics
3. Dental Materials
4. Pre Clinical Conservative – Only Practical and Viva Voce
5. Pre Clinical Prosthodontics – Only Practical and Viva Voce

Any candidate who fails in one subject in an examination is permitted to go to the next higher class and appears for the said failed subject and complete it successfully before he/she is permitted to appear for the next higher examination.

3rd B.D.S. Examination:

A candidate who has successfully completed the 2nd B.D.S. examination can only appear for the 3rd B.D.S Examination.

1. General Medicine
2. General Surgery
3. Oral Pathology and Oral Microbiology

Any candidate who fails in one subject in an examination is permitted to go to the next higher class and appears for the said failed subject and complete it successfully before he/she is permitted to appear for the next higher examination.

Final B.D.S. Examination:

A candidate who has successfully completed the 3rd B.D.S examination can only appear for the 4th B.D.S Examination.

1. Oral Medicine and Radiology
2. Paediatric & Preventive Dentistry
3. Orthodontics & Dentofacial Orthopaedics
4. Periodontology.
5. Prosthodontics and Crown & Bridge
6. Conservative Dentistry and Endodontics
7. Oral and Maxillofacial Surgery
8. Public Health Dentistry

Only those candidates who have passed in all the subjects in Final BDS examination will be allowed for the compulsory paid rotatory internship.

WRITTEN EXAMINATION:

1. The written examination in each subject shall consist of one paper of three hours duration and shall have maximum marks of 70.
2. In the subjects of Physiology & Biochemistry and Pathology & Microbiology each paper will be divided into two parts, A and B of equal marks.

PRACTICAL AND CLINICAL EXAMINATION:

1. Objective Structured Clinical Evaluation:

The present system of conducting practical and clinical examination at several universities provide chance for unrealistic proportions of luck. Only a particular clinical procedure or experiment is usually given for the examination. The clinical and practical examination should provide a number of chances for the candidate to express one's skills. A number of examination stations with specific instructions to be provided. This can include clinical procedures, laboratory experiments, spotters etc. Evaluation must be made objective and structured. The method of objective structured clinical examinations should be followed. This will avoid examiner bias because both the examiner and the examinee are given specific instructions on what is to be observed at each station.

2. Records / Log Books:

The candidate should be given credit for his records based on the scores obtained in the record. The marks obtained for the record in the first appearance can be carried over to the subsequent appearances if necessary.

3. Scheme of Clinical and practical examinations:

The specific scheme of clinical and practical examinations, the type of clinical procedures / experiments to be performed and marks allotted for each are to be discussed and finalized by the Chairman and other examiners and it is to be published prior to the conduct of the examinations along with the publication of the time table for the practical examinations. This scheme should be brought to the notice of the external examiner as and when the examiner reports. The practical and clinical examinations should be evaluated by two examiners of which one should be an external examiner appointed from other universities preferably outside the State. Each candidate should be evaluated by each examiner independently and marks computed at the end of the examination.

4. Viva Voce:

Viva Voce is an excellent mode of assessment because it permits a fairly broad coverage and it can assess the problem solving capacity of the student. An assessment related to the affective domain is also possible through viva voce. It is desirable to conduct the viva voce independently by each examiner. In order to avoid vagueness and to maintain uniformity of standard and coverage, questions can be pre-formulated before administering them to each student. Twenty marks are exclusively allotted for viva voce and that can be divided equally amongst the examiners, i.e., 10 marks per examiner.

MARKS DISTRIBUTION IN EACH SUBJECT:

Each subject shall have a maximum of 200 marks.

Theory 100
Practical / Clinical 100

Break up of marks:-

Theory	-	100	Practical / Clinicals	-	100
University written exam		70	University Exam (Practicals)		90
Viva Voce (University exam)		20			
Internal assessment (written)		10	Internal assessment exam		10
		-----	(practicals)		-----
Total		100			100
		-----			-----

For the subjects of Pre-clinical Prosthodontics & Pre-Clinical Conservative Dentistry

Internal Assessment	-	20
Practical	-	60
Viva Voce	-	20

		100

11. CRITERIA FOR A PASS AND CLASSIFICATION OF RESULTS:

Fifty percent of the total marks in any subject computed as aggregate for theory, i.e, written, viva voce and internal assessment and practicals including internal assessment, separately is essential for a pass in all years of study.

For declaration of pass in a subject, a candidate shall secure 50% marks in the University examination both in Theory and Practical / Clinical examinations separately, as stipulated below:

- A candidate shall secure 50% marks in aggregate in University theory including Viva Voce and internal assessment obtained in University written examination combined together.
- In the University Practical / clinical examination, a candidate shall secure 50% of University practical marks and internal assessment combined together.
- In case of pre clinical Prosthetic Dentistry and Pre clinical conservative dentistry in II BDS where there is no written examination, minimum for pass is 50% of marks in practical and Viva Voce combined together in University examination including Internal assessment i.e. 50/100 marks.
- Successful candidates who obtain 65% of the total marks or more shall be declared to have passed the examination in First Class. Other successful candidates will be placed in Second Class. A candidate who obtains 75% and above is eligible for Distinction. Only those candidates who pass the whole examination in the first attempt will be eligible for distinction or class.
- First Class and Distinction etc. to be awarded by the University as per their respective rules.

13. PROMOTION RULES:

- a. A candidate who has not successfully completed the 1st B.D.S. examination can not appear in the 2nd year Examination.
- b. A candidate who has successfully completed the 2nd B.D.S. examination only can appear 3rd B.D.S. Examination.
- c. Any candidate who fails in one subject in an Examination is permitted to go to the next higher class and appear for the subject and complete it successfully before he is permitted to appear for the next higher examination.
- d. Any student who does not clear the first BDS University Examination in all subjects within 3 years from the date of admission, shall be discharged from the Course.

SYLLABUS FOR FINAL BDS

ORAL MEDICINE & RADIOLOGY

AIM:

- (1) To train the students to diagnose the common disorders of Orofacial region by clinical examination and with the help of investigations.
- (2) To train the students about the importance, role, use and techniques of radiographs / digital radiograph and other imaging methods in diagnosis.
- (3) The Principles of the clinical and radiographic aspects of Forensic Odontology.

Emphasis should be laid on oral manifestations of systemic diseases and ill-effects of oral sepsis on general health. To avoid confusion regarding which lesion and to what extent the student should learn and know, this elaborate syllabus is prepared. As certain lesions come under more than one group, there is repetition.

COURSE CONTENT:

The course content is divided into three parts.

- I. Part-I Oral Medicine and diagnostic aids
- II. Part-II Behavioural Sciences and ethics
- III. Part-III Oral Radiology

Part-I ORAL MEDICINE AND DIAGNOSTIC AIDS

SECTION (A) – DIAGNOSTIC METHODS:

- (1) Definition and importance of Diagnosis and various types of diagnosis
- (2) Method of clinical examinations.
 - (a) General Physical examination by inspection.
 - (b) Oro-facial region by inspection, palpation and other means
 - (c) Importance, role, use of saliva and salivary gland. Salivary disorders/diseases, techniques of diagnosis of saliva as part of oral disease.

- (d) Examination of lesions like swellings, ulcers, erosions, sinus, fistula, growths, pigmented lesions, white and red patches.
- (e) Examination of lymph nodes
- (f) Forensic examination – Procedures for post-mortem dental examination; maintaining dental records and their use in dental practice and post-mortem identification; jurisprudence and ethics.

(3) Investigations

- (a) Biopsy and exfoliative cytology
- (b) Hematological, Microbiological and other tests and investigations necessary for diagnosis and prognosis.

SECTION (B) – DIAGNOSIS, DIFFERENTIAL DIAGNOSIS:

While learning the following chapters, emphasis shall be given only on diagnostic aspects including differential diagnosis

- (1) Teeth: Developmental abnormalities, causes of destruction of teeth and their sequelae and discoloration of teeth.
- (2) Diseases of bone and Osteodystrophies: Development disorders: Anomalies, Exostosis and tori, infantile cortical hyperostosis, osteogenesis imperfecta, Marfans syndrome, osteopetrosis. Inflammation – Injury, infection and spread of infection, fascial space infections, osteoradionecrosis.
Metabolic disorders – Histiocytosis
Endocrine – Acromegaly and hyperparathyroidism
Miscellaneous – Paget's disease, Mono and polyostotic fibrous dysplasia, Cherubism.
- (3) Temporomandibular joint: Developmental abnormalities of the condyle, Rheumatoid arthritis, Osteoarthritis, Sub-luxation and luxation.
- (4) Common cysts and Tumors.
 - i. CYSTS: Cysts of soft tissue: Mucocele and Ranula
Cysts of bone: Odontogenic and nonodontogenic.
 - ii. TUMORS:
 - a) Soft Tissue:
 - Epithelial: Papilloma, Carcinoma, Melanoma
 - Connective tissue: Fibroma, Lipoma, Fibrosarcoma
 - Vascular: Haemangioma, Lymphangioma
 - Nerve Tissue: Neurofibroma, Traumatic Neuroma, Neurofibromatosis
 - Salivary Glands: Pleomorphic adenoma, Adenocarcinoma, Warthin's Tumor, Adenoid cystic carcinoma.

- b) Hard Tissue:
- Non Odontogenic: Osteoma, Osteosarcoma, Osteoclastoma, Chondroma, Chondrosarcoma, Central giant cell tumor, and Central haemangioma
 - Odontogenic: Enameloma, Ameloblastoma, Calcifying Epithelial Odontogenic tumor, Adenomatoid Odontogenic tumor, Periapical cemental dysplasia and odontomas.
- (5) Periodontal diseases: Gingival hyperplasia, gingivitis, periodontitis, pyogenic granuloma
- (6) Granulomatous diseases: Tuberculosis, Sarcoidosis, Midline lethal granuloma, Crohn's Disease and Histiocytosis X.
- (7) Miscellaneous Disorders. Burkitt's lymphoma, sturge – Weber syndrome, CREST syndrome, Rendu-Osler-Weber disease.

SECTION (C): ORAL MEDICINE AND THERAPEUTICS:

The following chapters shall be studied in detail including the etiology, pathogenesis clinical features, investigations, differential diagnosis, management and prevention

- (1) Infections of oral and paraoral structures:
- Bacterial: Streptococcal, tuberculosis, syphilis, Vincents, leprosy, actinomycosis, diphtheria and tetanus
- Fungal: Candida albicans
- Virus: Herpes simplex, Herpes zoster, Ramsay Hunt syndrome, measles, herpangina, mumps, infectious mononucleosis, AIDS and hepatitis-B
- (2) Important common mucosal lesions:
- White lesions: Chemical burns, leukoedema, leukoplakia, fordyce spots, stomatitis nicotina palatinus, white sponge nevus, candidiasis, lichenplanus, discoid lupus erythematosus.
- Vesiculo-bullous lesions: Herpes simplex, herpes zoster, herpangina, bullous lichen planus, pemphigus, cicatricial pemphigoid erythema multiforme.
- Ulcers, Acute and chronic ulcers
- Pigmented lesions: Exogenous and endogenous
- Red lesions: Erythroplakia, stomatitis venenata and medicamentosa, erosive lesions and denture sore mouth.
- (3) Cervico-facial lymphadenopathy
- (4) Facial pain:
- (i) Organic pain: Pain arising from the diseases of orofacial tissues like teeth, pulp, gingival, periodontal tissue, mucosa, tongue, muscles, blood vessels, lymph tissue, bone, paranasal sinus, salivary glands etc.,

- (ii) Pain arising due to C.N.S. diseases:
 - (a) Pain due to intracranial and extracranial involvement of cranial nerves, (Multiple sclerosis, cerebrovascular diseases, Trotters syndrome etc.)
 - (b) Neuralgic pain due to unknown causes: Trigeminal neuralgia, glossopharyngeal neuralgia, sphenopalatine ganglion neuralgia, periodic migrainous neuralgia and atypical facial pain.
 - (iii) Referred pain: Pain arising from distant tissues like heart, spine etc.,
- (5) Altered sensations: Cacogeusia, halitosis
- (6) Tongue in local and systemic disorders: (Aglossia, ankyloglossia, bifid tongue, fissured tongue, scrotal tongue, macroglossia, microglossia, geographic tongue, median rhomboid glossitis, depapillation of tongue, hairy tongue, atrophic tongue, reactive lymphoid hyperplasia, glossodynia, glossopyrosis, ulcers, white and red patches etc.)
- (7) Oral manifestations of:
 - (i) Metabolic disorders:
 - (a) Porphyria
 - (b) Haemochromatosis
 - (c) Histiocytosis X diseases
 - (ii) Endocrine disorders:
 - (a) Pituitary: Gigantism, acromegaly, hypopituitarism
 - (b) Adrenal cortex: Addison's disease (Hypofuntion) Cushing's syndrome (Hyperfunction)
 - (c) Parathyroid glands: Hyperparathyroidism
 - (d) Thyroid gland: (Hypothyroidism) Cretinism, myxedema
 - (e) Pancreas: Diabetes
 - (iii) Nutritional deficiency: Vitamins: riboflavin, nicotinic acid, folic acid, Vitamin B12, Vitamin C (Scurvy)
 - (iv) Blood disorders:
 - (a) Red blood cell diseases
 - Deficiency anemias: (Iron deficiency, plummer – Vinson syndrome, pernicious anemia)
 - Haemolytic anemias: Thalassemia, sickle cell anemia, erythroblastosis fetalis)
 - Aplastic anemia
 - Polycythemia
 - (b) White Blood cell diseases
 - Neutropenia, cyclic neutropenia, agranulocytosis, infectious mononucleosis and leukemias
 - (c) Haemorrhagic disorders:
 - Thrombocytopenia, purpura, hemophilia, christmas disease and von willebrand's disease.
- (8) Disease of salivary glands:
 - (i) Development disturbances: Aplasia, atresia and aberration

- (ii) Functional disturbances: Xerostomia, ptyalism
 - (iii) Inflammatory conditions: Nonspecific sialadenitis, mumps, sarcoidosis Heerfordt's syndrome (Uveoparotid fever), necrotizing sialometaplasia
 - (iv) Cysts and tumors: Mucocele, ranula, pleomorphic adenoma, mucoepidermoid carcinoma.
 - (v) Miscellaneous: Sialolithiasis, Sjogren's syndrome, mikulicz's disease and sialosis
- (9) Dermatological diseases with oral manifestations:
- (a) Ectodermal dysplasia (b) Hyperkerotosis palmarplantaris with periodontopathy (c) Scleroderma (d) Lichen planus including Grinspan's syndrome (e) Lupus erythematosus (f) Pemphigus (g) Erythema multiforme (h) Psoriasis.
- (10) Immunological diseases with oral manifestation
- (a) Leukemia (b) Lymphomas (c) Multiple myeloma (d) AIDS clinical manifestations, opportunistic infections, neoplasms (e) Thrombocytopenia (f) Lupus erythematosus (g) Scleroderma (h) dermatomyositis (l) Submucous fibrosis (j) Rheumatoid arthritis (k) Recurrent oral ulcerations including Behcet's syndrome and Reiter's syndrome.
- (11) Allergy: Local allergic reactions, anaphylaxis, serum sickness (local and systemic allergic manifestations to food, drugs and chemicals)
- (12) Foci of oral infection and their ill effects on general health
- (13) Management of dental problems in medically compromised persons:
- (i) Physiological changes: Puberty, pregnancy and menopause
 - (ii) The patients suffering with cardiac, respiratory; liver, kidney and bleeding disorders, hypertension, diabetes and AIDS. Post-irradiated patients.
- (14) Precancerous lesions and conditions
- (15) Nerve and muscle diseases:
- (i) Nerves: (a) Neuropraxia (b) Neurotmesis (c) Neuritis (d) Facial nerve paralysis including Bell's palsy, Heerfordt's syndrome, Melkersson Rosenthal syndrome and ramsay hunt syndrome (e) Neuroma (f) Neurofibromatosis (g) Frey's syndrome.
 - (ii) Muscles: (a) Myositis ossificans (b) Myofascial pain dysfunction syndrome (c) Trismus.
- (16) Forensic Odontology:
- (a) Medicolegal aspects of orofacial injuries
 - (b) Identification of bite marks
 - (c) Determination of age and sex
 - (d) Identification of cadavers by dental appliances, Restorations and tissue remnants
- (17) Therapeutics: General therapeutic measures – drugs commonly used in oral medicine viz., antibiotics, chemotherapeutic agents, anti-inflammatory and analgesic drugs, astringents, mouth washes, styptics, demulcents, local

surface anaesthetic, sialogogues, antisialogogues and drugs used in the treatment of malignancy.

Part-II BEHAVIOURAL SCIENCES AND ETHICS (20 hrs of instruction)

AIM:

The aim of teaching behavioral sciences to undergraduate student is to impart such knowledge & skills that may enable him to apply principles of behavior:-

- a) For all round development of his personality
- b) In various therapeutic situation in dentistry.

The student should be able to develop skills of assessing psychological factors in each patient, explaining stress, learning simple counseling techniques, and improving patients compliance behavior.

OBJECTIVES:

a). **KNOWLEDGE & UNDERSTANDING:**

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

- 1) Comprehend different aspects of normal behavior like learning, memory, motivation, personality & intelligence.
- 2) Recognise difference between normal and abnormal behavior.
- 3) Classify psychiatric disorders in dentistry.
- 4) Recognise clinical manifestations of dental phobia, dental anxiety, facial pain orofacial manifestations of psychiatric disorders, and behavioral problem in children. Addictive disorders, psychological disorders in various dental departments.
- 5) Should have understanding of stress in dentistry and knowledge of simple counseling techniques.
- 6) Have some background knowledge of interpersonal, managerial and problem solving skills which are an integral part of modern dental practice.
- 7) Have knowledge of social context of dental care.

b) **SKILLS:**

The student shall be able to:

- 1) Interview the patient and understand different methods of communication skills in dentist – patient relationship.
- 2) Improve patients compliance behavior.
- 3) Develop better interpersonal, managerial and problem solving skills.
- 4) Diagnose and manage minor psychological problems while treating dental patients.

INTEGRATION:

The training in Behavioral sciences shall prepare the students to deliver preventive, promotive, curative and rehabilitative services to the care of the patients both in family and community and refer advanced cases to specialized psychiatric hospitals.

Training should be integrated with all the departments of Dentistry, Medicine, Pharmacology, Physiology and Biochemistry.

PSYCHOLOGY:

1. Definition & Need of Behavioral Science. Determinants of Behavior.
Scope of Behavior Science.
2. Sensory process & perception perceptual process – clinical applications.
3. Attention – Definition – factors that determine attention. Clinical application.
4. Memory – Memory process – Types of memory, Forgetting: Methods to improve memory, Clinical assessment of memory & clinical application.
5. Definition – Laws of learning
Type of learning. Classical conditioning, operant conditioning, cognitive learning Insight learning, social learning, observational learning, principles of learning – Clinical application.
6. Intelligence – Definition: Nature of intelligences stability of intelligence Determinants of intelligence, clinical application.
7. Thinking – Definition: Types of thinking, delusions, problem solving.
8. Motivation – Definition: Motive, drive, needs classification of motives.
9. Emotions – Definition differentiation from feelings – Role of hypothalamus, Cerebral cortex, adrenal glands ANS. Theories of emotion, Types of emotions. Personality. Assessment of personality: Questionnaires, personality inventory, rating scales, Interview projective techniques – Rorshach ink blot test, RAT, CAT.

SOCIOLOGY:

Social class, social groups – family, types of family, types of marriages, communities and Nations and institutions.

REFERENCE BOOKS:

1. General psychology – S.K. Mangal
2. General psychology – Hans Raj, Bhatia
3. General psychology – Munn

4. Behavioral Sciences in Medical practice – Manju Mehta
5. Sciences basic to psychiatry – Basanth Puri & Peter J Tyrer

Part-III ORAL RADIOLOGY

1. Scope of the subject and history of origin
2. Physics of radiation: (a) Nature and types of radiations (b) Source of radiations (c) Production of X-rays (d) properties of X-rays (e) Compton effect (f) Photoelectric effect (g) Radiation measuring units.
3. Biological effects of radiation
4. Radiation safety and protection measures
5. Principles of image production
6. Radiographic techniques:
 - (i) Intra-oral: (a) Periapical radiographs (Bisecting and parallel techniques) (b) Bite wing radiographs (c) Occlusal radiographs.
 - (ii) Extra-oral: (a) Lateral projections of skull and jaw bones and paranasal sinuses (c) Cephalograms (d) Orthopantomograph (e) Projections of temporomandibular joint and condyle of mandible (f) Projections of Zygomatic arches.
 - (iii) Specialised techniques: (a) Sialography (b) Xeroradiography (c) Tomography.
7. Factors in production of good radiographs:
 - (a) K.V.P. and mA. of X-ray machine (b) Filters (c) Collimations
 - (d) Intensifying Screens (e) Grids (f) X-ray films (g) Exposure time
 - (h) Techniques (i) Dark room (j) Developer and fixer solutions
 - (k) Film processing.
8. Radiographic normal anatomical landmarks
9. Faulty radiographs and artefacts in radiographs
10. Interpretation of radiographs in various abnormalities of teeth, bones and other orofacial tissues.
11. Principles of radiotherapy of oro-facial malignancies and complications of radiotherapy.
12. Contrast radiography and basic knowledge of radio-active isotopes.
13. Radiography in Forensic Odontology – Radiographic age estimation and post-mortem radiographic methods.

PRACTICALS / CLINICALS:

1. Student is trained to arrive at proper diagnosis by following a scientific and systematic procedure of history taking and examination of the orofacial region. Training is also imparted in management wherever possible. Training also shall be imparted on saliva diagnostic procedures. Training also shall be imparted in various radiographic procedures and interpretation of radiographs.
2. In view of the above each student shall maintain a record of work done, which shall be evaluated for marks at the time of university examination.

3. The following is the minimum of prescribed work for recording
 - (a) Recording of detailed case histories of interesting cases.....10
 - (b) Intra-oral radiographs (Periapical, bite wing, occlusal)..... 25
 - (c) Saliva diagnostic check as routine procedure.

BOOKS RECOMMENDED:

a) Oral Diagnosis, Oral Medicine & Oral Pathology

1. Oral Medicine – Burkit – J.B.Lippincott Company
2. Principles of Oral Diagnosis – Coleman –Mosby Year Book
3. Oral Manifestations of Systemic Diseases – Jones –W.B.Saunders company
4. Oral Diagnosis & Oral Medicine - Mitchell
5. Oral Diagnosis - Kerr
6. Oral Diagnosis & Treatment - Miller
7. Clinical Methods - Hutchinson
8. Oral Pathology - Shafers
9. Principles and practice of Oral Medicine - Sonis.S.T., Fazio.R.C and Fang.L

b) Oral Radiology

1. Oral Radiology – White & Goaz –Mosby year Book
2. Dental Radiology – Weahman –C.V.Mosby Company
3. Oral Roentgenographic Diagnosis – Stafne –W.B.Saunders Co.,

C. Forensic Odontology

1. Practical Forensic Odontology – Derek H.Clark –Butterworth – Heinemann (1992)
2. Manual of Forensic Odontology –C.Michael Bowers, Gary Bell –Forensic Pr (1995)

ETHICS (20 hrs. of instruction)

INTRODUCTION:

There is a definite shift now from the traditional patient and doctor relationship and delivery of dental care. With the advances in science and technology and the increasing needs of the patient, their families and community, there is a concern for the health of the community as a whole. There is shift to greater accountability to the society. Dental specialists like the other health professionals are confronted with many ethical problems. It is therefore absolutely necessary for each and every one in the health care delivery to prepare themselves to deal with these problems. To accomplish this and develop human values Council desires that all the trainees undergo ethical sensitization by lectures or discussion on ethical issues, discussion of cases with an important ethical component.

COURSE CONTENT:

Introduction to ethics –

- i. What is ethics
- ii. What are values and norms
- iii. How to form a value system in one's personal and professional life?
- iv. Hippocratic oath.
- v. Declaration of Helsinki, WHO declaration of Geneva, International code of ethics, DCI Code of ethics.

Ethics of the individual –

The patient as a person.

Right to be respected

Truth and confidentiality

Autonomy of decision

Doctor Patient relationship

Profession Ethics –

Code of conduct

Contract and confidentiality

Charging of fees, fee splitting

Prescription of drugs

Over – investigating the patient

Malpractice and negligence

Research Ethics –

- Animal and experimental research/humanness
- Human experimentation
- Human volunteer research-informed consent
- Drug trials

Ethical workshop of cases

Gathering all scientific factors

Gathering all value factors

Identifying areas of value – conflict, setting of priorities

Working our criteria towards decisions

Recommended Reading:

Medical Ethics, Francis C.M., I Ed. 1993, Jaypee Brothers, New Delhi 189.

**MINIMUM WORKING HOURS FOR EACH SUBJECT OF STUDY
(B.D.S. COURSE)**

Subject	Lecture Hours	Practical Hours	Clinical Hours	Total Hours
General Human Anatomy including Embryology, Osteology and Histology	100	175		275
General Human Physiology	120	60		180
Biochemistry	70	60		130
Dental Materials	80	240		320
Dental Anatomy Embryology, and Oral Histology	105	250		355
Dental Pharmacology & Therapeutics	70	20		90
General Pathology	55	55		110
Microbiology	65	50		115
General Medicine	60		90	150
General Surgery	60		90	150
Oral Pathology & Microbiology	145	130		275
Oral Medicine & Radiology	65		170	235
Paediatric & Preventive Dentistry	65		170	235
Orthodontics & dental orthopaedics	50		170	220
Periodontology	80		170	250
Oral & Maxillofacial Surgery	70		270	340
Conservative Dentistry & Endodontics	135	200	370	705
Prosthodontics & Crown & Bridge	135	300	370	805
Public Health Dentistry	60		200	260
Total	1590	1540	2070	5200

Note:

There should be a minimum of 240 teaching days every year consisting of 8 working hours including one hour of lunch break.

**MINIMUM WORKING HOURS FOR EACH SUBJECT OF STUDY
(B.D.S. COURSE)**

I. B.D.S.

Subject	Lecture Hours	Practical Hours	Clinical Hours	Total Hours
General Human Anatomy including Embryology, Osteology and Histology	100	175		275
General Human Physiology	120	60		180
Biochemistry	70	60		130
Dental Anatomy Embryology, and Oral Histology	105	250		355
Dental Materials	20	40		60
Pre clinical Prosthodontics & Crown & Bridge	-	100		100
Total	415	685		1100

II. B.D.S.

Subject	Lecture Hours	Practical Hours	Clinical Hours	Total Hours
General & Dental Pharmacology and therapeutics	70	20		90
General Pathology	55	55		110
Microbiology	65	50		115
Dental Materials	60	200		260
Oral Pathology and Oral Microbiology	25	50		75
Pre clinical Prosthodontics & Crown & Bridge	25	200		225
Pre clinical Conservative Dentistry	25	200		225
Total	325	775		1100

III. B.D.S.

Subject	Lecture Hours	Practical Hours	Clinical Hours	Total Hours
General Medicine	60		90	150
General Surgery	60		90	150
Oral Pathology and Oral Microbiology	120	80		200
Oral Medicine & Radiology	20		70	90
Paediatric and preventive Dentistry	20		70	90
Orthodontics & Dentofacial Orthopaedics	20		70	90
Periodontology	30		70	100
Oral & Maxillofacial Surgery	20		70	90
Conservative Dentistry & Endodontics	30		70	100
Prosthodontics and Crown & Bridge	30		70	100
Total	410		750	1160

FINAL B.D.S.

Subject	Lecture Hours	Practical Hours	Clinical Hours	Total Hours
Oral Medicine and Radiology	45	-	100	145
Paediatric and Preventive Dentistry	45	-	100	145
Orthodontics & Dentofacial Orthopaedics	30	-	100	130
Periodontology	50	-	100	150
Oral & Maxillofacial Surgery	50	-	200	250
Conservative Dentistry & Endodontics	80	-	300	380
Prosthodontics and Crown & Bridge	80	-	300	380
Public Health Dentistry	60	-	200	260
Total	440	-	1400	1840

Note:

- ★ Behavioral Sciences Classes shall commence in 1st year
- ★ Forensic odontology shall be covered in the department of Oral pathology and Oral Medicine during 3rd year.
- ★ Esthetic Dentistry shall be covered in the Departments of Conservative Dentistry and Prosthodontics during 3rd & 4th year.
- ★ Oral Implantology shall be covered in the Department of Maxillofacial Surgery. Prosthodontics & Crown & Bridge and Periodontology during 4th Year.
- ★ Ethics and dental jurisprudence shall be covered in Public Health Dentistry in 4th years.
- ★ Electives / Research work should be encouraged during the 4th year lasting for a period of atleast one month to be spent in a different dental institution in India / overseas.
- ★ The minimum working hours indicated for each year of study does not include one month mid year vacation and one month of university examination.