

MAHARASTRA UNIVERSITY OF HEALTH SCIENCES, NASHIK

SYLLABUS - FIRST B.D.S

Candidate will be examined in the following subjects:

1. **General human anatomy and embryology and histology**
2. **General human physiology and biochemistry**
3. **Dental materials**

Subject 1 : GENERAL HUMAN ANATOMY AND EMBRYOLOGY AND HISTOLOGY

Duration of the Syllabus :

- | | | | |
|----|----------------------------|---|-----------|
| 1) | Lectures - (Minimum) | - | 70 hours |
| 2) | Demonstration & Dissection | - | 130 hours |


Total

200 hours spread over a period
of one academic year

Part A :-

1. Introduction.
2. Anatomical positions, terminology , planes of reference.
3. Basic Concepts of skin & its appendages, bones, muscles, joints, blood vessels, lymphatics & nerves.
4. Details of Anatomy & Osteology of Head & Neck.
 - a) Osteology of skull , mandible and cervical vertebrae, Disarticulated maxilla, fetal skull
 - b) Temporo-mandibular joint in detail.
 - c) Muscles of facial expression, mastication, tongue, palate, pharynx, larynx and scalp.
 - d) The Circulatory and Lymphatic systems of Head, Neck & Face.
 - e) Study of the cranial nerves & spinal cord. In detail the extracranial courses of V, VII , IX , XI


(Cranial Part) and XII cranial nerves; upper cervical spinal nerves. T.S. of Spinal Cord showing ascending and descending tracts.


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Part B :

Histology - A course of 30 lectures , demonstrations and practicals covering the following :

1. Epithelium including glands.
2. Connective tissue, Bone and Cartilage
3. Muscle
4. Nervous Tissue
5. Blood Vessels
6. Skin
7. Lymphoid Tissue - Lymph nodes, Spleen, Thymus, Tonsil
8. Oral Tissue - Lip, Tooth including developing tooth, Tongue, Salivary glands.
9. Gastro-intestinal Tract, Esophagus, Stomach, Duodenum, Jejunum, colon, Appendix, Liver, Pancreas.
10. Trachea, Lung
11. Kidney, Ureter, Urinary Bladder.
12. Reproductive System - Testies, Vas deferens, Ovary, Uterine tube, Uterus.
13. Endocrine Glands - Pitutary, Thyroid, Parathyroid, Supra-renal


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Cardiac Cycle

Heart sounds , Pulse

Normal Electro-cardiogram

Regulation - Nervous , Chemical & Hormonal Blood Pressure Regulation

Patho-physiology of shocks , Coronary circulation

Cardiac output

Structure and Physiology of Cardiac Muscle.

4) Respiratory System

General Organization of Respiratory System, Mechanics of Respiration.

Ventilation , Diffusion , Carriage of Respiratory gases

Nervous and Chemical Regulations

Asphyxia , Hypoxia , Cyanosis , Anoxia - Types and Physiological changes.

Artificial Respiration.

5) Digestive Systems

Movements of Digestive Tract including mastication and Deglutition.

Mechanism and control of digestive secretion , digestion and absorption.

Liver and Gall-bladder functions

Bile

Salivary glands and Salivary Secretion in detail.

6) Excretion

Structure and Functions of Kidney.

Formation of Urine - Filtration , Re-absorption and excretion.

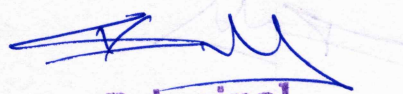
Volume , Normal and abnormal constituents.

Physiology of micturation .

7) Skin

Structure and Functions

8) Temperature Regulation


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PRACTICALS

Practicals course of 40 hours in Physiology extending over two academic terms and consisting of practical work done by students and of demonstrations as follows:

A) PRACTICALS :

- 1) Enumeration of Red Blood Cells.
- 2) Enumeration of White Blood Cells & Differential Count
- 3) Determination of haemoglobin
- 4) Determination of Blood groups
- 5) Determination of bleeding time and clotting time.

B) DEMONSTRATIONS

- 1) Determination of packed cell volume and E.S.R.
- 2) Demonstration of deep and superficial reflexes
- 3) E.C.G
- 4) Lung volumes
- 5) Artificial respiration.

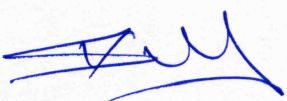
C) CLINICAL PHYSIOLOGY PRACTICAL

- 1) Clinical examination of Arterial Pulse.
- 2) Clinical examination of B.P.
- 3) Clinical Examination of C.V.S.
- 4) Clinical Examination of Respiratory System.

BIOCHEMISTRY

A course of 25 hours lectures in Bio-Chemistry comprising the following :

- 1) Elementary Chemistry of Carbohydrates, lipids and proteins.
- 2) Enzymes and biological oxidations, elementary considerations.
- 3) Simple foods and their nutritional value.
- 4) Vitamins - fat and water soluble vitamins.
- 5) Digestions - Salivary, gastric and intestinal.
- 6) Tissue Chemistry - Blood and bone.


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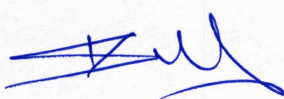
Subject III : DENTAL MATERIAL

Lectures (Minimum)	40 Hours
Practical & Demonstrations	60 hours

Total

100 Hours.

- 1) Introduction, Aims and Scope of Dental Materials.
- 2) Structure & Behaviour of matters.
- 3) Important Physical properties applicable to Dental Material including their biological considerations.
- 4) Considerations of following metals & alloy used in Dentistry and the effect of their exposure in mouth
 - a) Dental Amalgam
 - b) Gold and Gold Foil
 - c) Stainless Steel
 - d) Chrome - Cobalt alloys
 - e) Nickel - Chrome alloys
 - f) Casting gold alloys and other alloys used in Dentistry
- 5) Gypsum Products :- Manufacturing, Chemical, Physical & Mechanical properties, uses & manipulation.
- 6) Impression Materials -- General requirements, Classification, composition, manipulation, properties and clinical application.
- 7) Synthetic resins used in Dentistry.
 - a) Denture base materials
 - b) Repair & reline material
 - c) Soft liners & tissue conditioners
 - d) Filled and unfilled Resins as Restorative materials.
- 8) Dental Waxes - Classification, varieties, Composition, Properties, manipulation & uses.
- 9) Dental Casting investments - Types, Composition, manipulation & properties.
- 10) Dental Casting procedures (in brief) - Preparation of die/model - Wax pattern, Sprueing, investing - Burnout procedures - Compensation of casting


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PRACTICALS

- a) Demonstration of above materials, their identification.
- b) Practicals to be conducted for manipulation & study of properties of impression materials. Denture base material & Dental Waxes, Gypsum products. Dental cements & Dental amalgam to inculcate the manipulating skill in students regarding efficient handling of these materials.

EXAMINATION (THEORY PAPER PATTERN)

- i) Each paper shall be of three hours duration and each practical / clinical examination shall not exceed 5 hours duration.
- ii) Not more than 30 candidates in clinical / practicals should be examined in one day.
- iii) Written (Theory) paper shall have three parts :
 - A) Multiple Choice Questions (MCQ) for 20 marks - 20 marks questions shall be answered by students in a separate Answer sheet, within first 20 minutes. This answer sheets to be collected by invigilators immediately after 20 minutes completion.
 - B)
 - 1) Short Answer Questions (SAQ) for 20 marks.
 - 2) Long Answers questions (Essay type) for 20 marks to be answered only after collecting MCQ answer sheet in remining time of 2 hrs 40 min. Short answer question and Essay type questions will be included in Section I & Section II


SPECIFIC DIVISION OF WRITTEN PAPERS

Subject : 1 : General Human Anatomy , Histology , Embryology etc.

Max. Marks - 60

Section A) : MCQ 20 marks

i)Anatomy Syllabus	12 Marks
ii)Histology Syllabus	04 Marks
iii)Embryology Syllabus	04 Marks



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- ii) Essay type 10 Marks
(One full question or 2 short notes)

SECTION C - 20 Marks

(Should include all materials from syllabus which are used for conservative
Dentistry and Orthodontic Treatments)

- i) SAQ (5 x 2 Marks each) 10 Marks
- ii) Essay type (One full question & two short Notes)
10 Marks



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	iii) Theory + Oral iv) Internal Assessment (Theory)	80 20	40 -	200	150
	iv) Theory + Oral + Internal Assessment (Theory)	100	50		
	i) Practical/Clinical ii) IA Practical/Clinical iii) Practical/Clinical +Internal Assessment (Practical/Clinical)	80 20 100	40 - 50		
	Grand Total			600	450



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APPENDIX - C

SCHEDULE FOR INTERNAL ASSESSMENT MARKS

To assess the overall progress of the students by evaluating the professional skills he/she has developed and the knowledge he has got it is necessary to assess the students periodically. The marks to be allotted should be real estimate of the students achievement of skills and subject knowledge without any prejudice.

1) Maximum marks allotted for internal assessment for each subject head i.e. Theory and Practical / Clinical will be 20 marks each.

2.A) In all four college tests shall be conducted in one academic year i.e. two tests in each term. Each

test will have marks as under


	<u>Theory</u>	<u>Practical / Clinical</u>
<u>First Term</u> - <u>First Internal</u> Assessment Test	5 Marks	5 Marks
<u>Second Internal</u> Assessment Test	5 Marks	5 Marks
<u>Second Term</u> - <u>Third Internal</u> Assessment Test	5 Marks	5 Marks
<u>Fourth Internal</u> Assessment Test	5Marks	5 Marks

Total :	20 Marks	20 Marks

a) First Internal Assessment Test should be conducted for the syllabus completed from the start of the

term till the commencement of this examination. (Unit Test)


b) Second Internal Assessment Test should include entire syllabus completed in first term (Terminal Examination)


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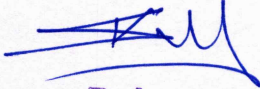
D) to the controller of examination within 15 days of completion of second Internal Assessment Examination.

b) The marks of all four internal assessment tests shall be submitted to the controller of examination in the proforma as shown in Appendix - D , through the Dean / Principal of the college 20 days before of the commencement of the University Theory Examination by Hand delivery or Register post. The Marksheet should be signed by the candidates, teacher incharge/HOD & Dean/Principal.

- 7) In case the candidate fails in University Examination, he should be assessed afresh for internal assessment marks.
- 8) For repeater and detainee students, only two examinations in that term will be conducted. Each test will be of 10 marks each. Thus college authority should submit marks out of 20 by applying the same schedule. The best out of two of internal assessment marks (Previous Assessment/New Assessment) to be submitted to the University for the computation of marks
- 9) In case candidate remains absent on valid ground where his presence elsewhere is justified or when he is unable to attend the Examination on health ground and when he has informed the HOD/Dean about the same before or during the Examination Schedule. Candidate should compensate for this absenty by attending fifth (Extra) Internal Assessment Test. Those students who wants to improve their performance, they ay attend this test.(Entire Syllabus will be included for this 5th tests.)


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- v) The student will have to attend minimum 70% Theory / Practical classes in these subjects which are thought in that academic year, but having no examination at the end of that academic year. However, when he appears for University Examination in that subject the student will have to satisfy condition (i) above.
- 4) The Duration of Examination: As specified in Direction No.22/2001, "Conduct of Examination" issued on 08/08/2001.
- 5) The Theory Paper Pattern: As specified in Direction No. 22/2001, "Conduct of Examination" (Theory paper pattern)" issued on 08/08/2001.
- 6) Notwithstanding any thing to contrary, in these rules, no person shall be admitted to an examination under these rules, if he /she has already passed that examination or an equivalent examination of any other statutory university.
- 7) If a candidate securing 50% marks in theory and Practical/Clinical+Oral and Internal Assessment separately and having minimum 50% marks in that subject as and aggregate shall be provided an exemption in that subject.
- 8) The gracing the to pass the examination will be according to direction No. 22/2001" Conduct of Examination" issued on 08/08/2001
- 9) Any complaint regarding use of "Unfair means" by candidate, paper setter, moderator, invigilator, examiner for practicals / clinicals or paper valuer should reach the office of Controller of Examinations within 48 hours of such incidence in Witting with valid proof. Such complaints must be dealt with seriousness, on top priority to maintain sanctity of examination by setting an enquiry and judgement shall be given within 30 days after the incidence reported. The person (s) connected with such episodes and if found guilty shall be debarred from University examination work for a period of minimum 3


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- 2 Zinc Oxide - Eugenol impression paste
- 3 Alginate impression material
- 4 Zinc phosphate cement
- 5 Impression-
- 6 Silver alloy & mercury
- 7 Elastomeric impression material (optional)
- 8 Glass ionomer cement (optional)
- 9 Dental Casting investing (optional)
16. Oral (Grand Viva) :

: Maximum 20 Marks allotted for each subject in Oral to be conducted separately examiners and the marks to be submitted in a separate sheet as per the proforma supplied by University (Appendix - F.) Marks to be added to Practical Head.

- a) General Human anatomy, Histology e.t.c. : 20 marks to be divided equally amongst the available examiners.
- b) General Human Physiology and Biochemistry 20 Marks
 - i) Oral on physiology Syllabus 12 Marks
 - ii) Oral on Biochemistry syllabus 08 Marks
- c) Dental Material - 20 Marks divided as 12 for Prosthodontic Material and 8 for conservative and Orthodontic material.

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Scheme of Practical & /or Clinical examination

University Practical/Clinical Examination ... 80 Marks

The Practical/Clinical examination shall be conducted at the centres where adequate facilities are available to conduct such examinations and the centre/college is approved/recognised by Dental Council of India.

Not more than 30 students to be examined per day. The marks should be submitted in the proforma (Appendix - E & F) supplied by the University Authority. This proforma should be signed by the examiners. Over writing or scratching will not be permitted. Any corrections made, must have the counter-signature of external examiners. The sealed envelop containing this proforma shall be submitted on the same day to the Dean for onward transmission to the Controller of examinations, Maharashtra University of Health Sciences, Nashik. No examiner or any other person connected with the work of practical examination is permitted to carry any paper or violate the rules of examination. The person found guilty will be debarred from such Confidential work for a minimum period of 5 Consecutive University examinations or the actions as suggested by the relevant Committee to investigate such matters.



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Sub. 3 : Dental Materials

ROLL NO.	SPOTING	MANIPULATION OF ANY ONE MATERIAL		RECORD BOOK (JOURNAL)	TOTAL
	10 X 4 (40 MARKS)	RATIO (05)	MANIPULATION OR MIXING (20)	QUALITY OF FINAL PRODUCT (05)	80 MARKS


External Examiners :

Name: _____ Name : _____

Signature: _____ Signature : _____

Internal Examiners :

(Common to All)


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Appendix – D
MAHARASHTRA UNIVERSITY OF HEALTH SCIENCES, NASHIK

INTERNAL ASSESSMENT MARKS FORB.D.S. SUMMER/WINTER EXAMINATION, YEAR


Subject: _____ Subhead – Theory / Practical

College: _____

Sr. No.	Enroll. No.	Roll No.	Name of the Student	Internal Assessment Test				Aggregate Total Out of 20	Net total (after rounding the fraction, if any) Marks obtained out of 20	In Words (Out of Twenty)	Sign. of Students
				First Max 5	Second Max 5	Third Max 5	Fourth Max 5				

Certificate that the marks entered in above proforma are as obtained by the candidates. The department will produce the necessary documents for verification University Authority if required.

Date : _____ Signature of Subject Teacher _____ Signature of Head of the Department _____


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