PRAVARA INSTITUTE OF MEDICAL SCIENCES
(Deemed University)
Loni Bk. Tal-Rahata, Distt-Ahmednagar, Maharashtra

MEDICAL FACULTY REVISED SYLLABUS

NEW EVALUATION SYSTEM

JUNE 2013 ONWARDS

FIRST MBBS

NOTIFICATION NO. 12/2016

Dated : 19th May 2016

(Academic Council meeting held on 21st June 2014 Resolution No. 03/AC/2014, Point No. 01)

SECOND MBBS

CIRCULAR NO. 27/2014

Dated : 07th August 2014

THIRD MBBS PART I

NOTIFICATION NO. 11/2016

Dated : 03rd March 2016

THIRD MBBS PART II

NOTIFICATION NO. 17/2016

Dated : 06th May 2016

Rural Medical College, Loni

Pravara Institute of Medical Sciences

(Deemed to be University)

Loni Bk - 413 736, Tal. Rahata, Dist. Ahmednagar (M.S.)

NAAC Re-accredited with 'A' Grade (CGPA 3.17)

Established Under Section 3 of UGC Act 1956, Vide Govt. of India Notification No. F.9-11/2000-U.3, dated 29th September, 2003

Medical Faculty Revised Syllabus First Year MBBS

New Evaluation System 2013 Onwards

Approved Vide Academic Council Resolution No.3/AC/2014 Dated 21st June, 2014

Notification No. 12/2016 dated 19th May 2016

Mail : registrar@pmtpims.org,
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Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR

FIRST YEAR MBBS

ANATOMY

(MU 101 & MU 102)

PHYSIOLOGY

(MU 103 & MU 104)

BIOCHEMISTRY

(MU 105 & MU 106)

NOTIFICATION NO. 12/2016

Dated : 19th May 2016

(Academic Council meeting held on 21st June 2014 Resolution No. 03/AC/2014, Point No. 01)

Pravara Institute of Medical Sciences
(Deemed University)

University Established under section (3) of UGC Act
NAAC Accredited with 'B' Grade (CGPA 2.57)

LONI - 413736,(Near Shirdi) Tal.Rahata,
Dist.Ahmednagar (Maharashtra) India

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Homepage : http://www.pravara.com

- RURAL MEDICAL COLLEGE
- RURAL DENTAL COLLEGE
- DR. APJ ABDUL KALAM COLLEGE OF PHYSIOTHERAPY
- COLLEGE OF NURSING
- CENTER FOR BIO-TECHNOLOGY
- CENTER FOR SOCIAL MEDICINE
- PRAVARA RURAL HOSPITAL

Ref. No.

Date :

NOTIFICATION NO. 12 /2016

It is hereby notified for information of all concerned that, as per revised curriculum of phase I of First M.B.B.S. is being implemented from the academic year 2013 and first examination was held in June 2014 as per decision of the Academic Council.

The pattern of Internal Assessment and Theory examination will be as per enclosures.

(Dr. A.N. Badwe)
Registrar

Ref. No.: - PIMS/COE/2016/387
Date: 19/03/2016
Place: Loni - 413736

Copy for information & necessary action to: -

1. **The Principal**, Rural Medical College, Loni.
2. Dean, Faculty of Medicine,
3. HOD's Dept. of Anatomy, Physiology and Biochemistry.
4. The Controller of Examination,
5. Assistant Registrar (Academic)

(179)

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413 736, Tal. Rahata, Dist. Ahamadanagar, (MS)

Ref. No : PIMS / AC / 2014 / 1107 **Date : 25 / 07 / 2014**

To,

Controller of Examinations,
PIMS(DU)

Sir / Madam,

Please find enclosed herewith the resolution No. 03 / AC / 2014, on Item No. 03 of Academic Council at its meeting held on 21st June 2014 for your information and further necessary action.

A. L. Bhosale
Registrar

Encl. As above

Sh Tambe
23/7/14
COE

Item No. (3) : To Consider & approve recommendations of Board of Studies in Pre - Clincal Subjects

Note : The meeting of the Board of Studies in Pre Clinical Subjects, was held on 23 / 10 / 2013.

The following business were transacted at the meeting.

Point No : 01

BOS Item No.(2) : To approve the new Examination related regulation of Phase I – First MBBS in PIMS (DU).

As per the resolution adopted in the previous meeting and subsequently confirmed by the academic council " To bring all examination regulations of PIMS (DU) to be at par with Medical Council of India Regulations on Graduate Medical Education 1997 and amendments thereof an amended Examination Regulations of Phase I – First MBBS in PIMS (DU) was circulated to the members of Board of Studies before the meeting. It was also circulated to all the Heads to Pre Clinical departments. The members had studied the new regulations in detail and had suggested some changes; all the changes were carried out to the satisfaction of Board of Studies members. The members unanimously approved the new Examination related regulation of Phase I – First MBBS of PIMS (DU).

BOS Resolution BOS Pre CS / 02 / 2013 : The amended examination related regulations of Phase I – First MBBS in PIMS (DU) are hereby approved and are recommended to the Academic Council.

Point No : 02

BOS Item No. (3) : Discussion on Updating Panel of Examiners

Members of Board of Studies were requested to forward the names and biodata of examiners eligible for examination in various pre clinical subjects.

Proposed Scheme of Valuation

1) First evaluation to be carried out by external examiners appointed for practical examinations.
2) Second evaluation to be done by second set of external examiners.
3) The first set of external examiners be instructed to not to put marks on answer sheet, so that they are not known by the second set of examiners. They should be instructed to put the marks only on a separate sheet, pre attached to the answer sheet for the purpose of marking by examiners. After evaluation by first set of examiners, the sheet with perforation should be removed from the answer booklet before evaluation by second set of examiners commences.
4) Average of the two may be considered as the final result. If the evaluation by two set of examiners differ by 10%, then the paper should be reevaluated by the third set of examiners, whose decision will be final.
5) There will be no moderation by internal examiners.

It was resolved to approve " the above scheme of evaluation" and recommend to Academic Council for its consideration and approval.

Resolution No. 03 /AC / 2014 :

It was resolved to approve the following recommendations of the Board of Studies in Pre- Clinical Subjects.

Point No : 01 – BOS Resolution BOS Pre CS / 02 / 2013 :

It was resolved to approve amended examination related regulations of Phase – I – First MBBS in PIMS (DU)

Point No : 02 – BOS Resolution BOS Pre CS / 02 / 2013 :

It was resolved to approve the following names to be added to Panel of Examiners in Physiology.

Additional names for Panel of Examination in Physiology

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR

FIRST YEAR MBBS

NEW EVALUATION SYSTEM

JUNE 2013 ONWARDS

ANATOMY

(MU 101 & MU 102)

NOTIFICATION NO. 12/2016

Dated : 19th May 2016

(Academic Council meeting held on 21st June 2014 Resolution No. 03/AC/2014, Point No. 01)

Pravara Institute of Medical Sciences(DU), Loni.
Medical Faculty
Revised Syllabus

PIMS - Curriculum of Phase I – First MBBS

Introduction:

In the teaching of these subjects stress shall be laid on basic principles of the subjects with more emphasis on their applied aspects.

Time Distribution

Phase-1(two semesters) - consisting of Pre-clinical subjects (Human Anatomy, Physiology including Bio-Physics, Bio-chemistry and introduction to Community Medicine including Humanities). Besides 60 hours for introduction to Community Medicine including Humanities, rest of the time shall be somewhat equally divided between Anatomy and Physiology plus Biochemistry combined (Physiology 2/3 & Biochemistry 1/3).

Pre-Clinical Subjects: (Phase-1-First and Second Semester)

- Anatomy 650 Hrs.
- Physiology 480 Hrs.
- Biochemistry 240 Hrs.
- Community Medicine 60 Hrs.

Attendance

75% attendance in a subject for appearing in the examination is compulsory inclusive of attendance in non-lecture teaching i.e. seminars, group discussions, tutorials, demonstrations, practicals, hospital (Tertiary Secondary, Primary) posting and bed side clinics etc."

Syllabus in the Subject of Anatomy – Ist MBBS

Course Code :	MU 101	Title	: Anatomy
	MU 102		
Teaching Hours	Theory		: 215 hours
	Practical		: 360 hours
	Demonstrations + Tutorials		: 75 hours .
		Total	: 650 hours

Duration: One year

Goal: The broad goal of teaching and training the undergraduate students in Anatomy will be to impart comprehensive knowledge of whole human body and teach them the anatomical basis of certain important (Life saving) procedures during this period and provide adequate knowledge

which are required to carry out general medical practice involving the prevention, diagnosis and treatment of common ailments.

The students will also be exposed to the applied aspects of Anatomy relevant to the clinical specialty.

Objectives: Objectives are following:

A. Knowledge and understanding.

B. Skills

C. Attitudes.

A. Knowledge and understanding:

1. During the course the student should acquire the knowledge of structure of the various regions of the body including their basic functional and clinical correlations (Applied anatomy for various clinical disciplines).
2. Identify the Microscopic structure of various tissues and organs of the body and to correlate the structure with the functions as a prerequisite to understanding the pathologic process in the production of diseases.
3. Anatomy of the reproductive system, including developmental anatomy from fertilization to birth; anatomical basis of various methods of contraception, IVF and various congenital malformations.
4. Anatomy of various parts of CNS and the interpretation of basics of some common neurological lesions.
5. Identification of structures as seen in plain and contrast radiography e.g. Barium-Studies, Hysterosalphingography, IVP, etc. and basic interpretation of ultrasonographic pictures.
6. Basic interpretation of cross-sectional anatomy as applied to CT and MRI.

B. Skill: At the end of the course:

1. Students should be in a position to feel for arterial pulsation Radial, brachial, femoral, carotid and dorsalis pedis artery.
2. Know the common vulnerable sites of injury to various nerves- Axillary, Radial, Ulnar, Median, Sciatic and Common peroneal.
3. Know common sites of venepuncture-median cubital, long saphenous, dorsal venous arch
4. Identifications of surface landmarks thereby localize organs on the surface of the body.
5. Should be able to test the normal functions of various groups of muscles and also some important muscles individually. Should know the common sites of intramuscular injections.

C. Integration:

1. At the end of the course the candidates should be capable of integrating the knowledge gained during the course with that obtained in physiology and Biochemistry for the proper understanding of functioning of the human body as a whole.
2. Should be able to utilize the knowledge gained during the course in anatomy for properly trying to interpret and correlate the symptoms and elucidate the signs when seeing the patients in clinical practice.

Lectures:

1.	General Anatomy	-	10
2.	Upper Limb	-	20
3.	Lower Limb	-	20
4.	Thorax	-	10
5.	Abdomen & Pelvis	-	35
6.	Head & Neck	-	35
7.	Neuroanatomy	-	20
8.	Histology	-	30
9.	Embryology	-	30
10.	Genetics	-	05
	Total	-	215 hours

Dissections & Histology Practicals:

1.	Upper Limb	-	40
2.	Lower Limb	-	40
3.	Thorax	-	20
4.	Abdomen & Pelvis	-	70
5.	Head & Neck	-	75
6.	Neuroanatomy	-	45
7.	Histology	-	70
	Total	-	360 hours

Demonstrations:

1.	Osteology	-	75 hours
2.	Radiology		
3.	Living Anatomy		
4.	Embryology		
5.	Tutorials		

Theory Syllabus

General Anatomy:

1. Introduction, subdivisions of Anatomy, Anatomical position.
2. Anatomical terms
3. General Connective tissue – cartilage
4. Bones
5. Joints
6. Muscles
7. Blood vessels

8. Lymphoid tissue
9. Skin
10. Nervous system

Gross Anatomy:

Upper Extremity

1. Pectoral region
2. Axilla
3. Back
4. Scapular region
5. Front of arm
6. Cubital fossa
7. Back of arm
8. Front of forearm
9. Back of forearm
10. Hand : Palmar aspect
11. Hand : Dorsum
12. Joints of Upper Limb
13. Some Clinical Correlation of the Upper Limb

Lower Extremity:

1. Thigh
2. Gluteal region
3. Back of thigh
4. Popliteal fossa
5. Front of leg & dorsum of foot
6. Back of leg
7. Sole of foot
8. Joints of Lower Limb
9. Some Clinical Correlations of the Lower Limb.

Thorax:

1. Introduction to Thorax
2. Joints of Thorax, Intervertebral Joints.
3. Walls of Thorax
4. Trachea, Bronchi.
5. Lungs – Bronchopulmonary segments.
6. Heart and Pericardium
7. Blood vessels of Thorax
8. Oesophagus, Thymus. Lymphatics of Thorax. Nerves of Thorax.
9. Clinical Correlations of the Thorax.

Abdomen and Pelvis:

1. Introduction to Abdomen
2. Anterior abdominal wall
3. Perineum and Male and Female external Genital organs.
4. Oesophagus, Stomach, Intestines and Peritoneal reflections.
5. Liver, Pancreas and Spleen
6. Blood vessels of Stomach and Intestines, Liver, Pancreas & Spleen.
7. Kidney, Ureter, Suprarenal gland.

8. Posterior abdominal wall and some related structures.
9. Walls of Pelvis and Peritoneal reflections.
10. Pelvic viscera – Urinary bladder and Prostate, Rectum and Anal canal, Ovary: Uterus and Uterine tube.
11. Lymphatics and Autonomic nerves of Abdomen and Pelvis
12. Clinical Correlations of Abdomen and Pelvis

Head, Neck & Face:

1. Scalp
2. Face
3. Posterior triangle
4. Suboccipital triangle
5. Anterior triangle – Submental, Muscular, Carotid and Digastric.
6. Dural folds
7. Venous sinuses.
8. Pituitary, Trigeminal ganglion.
9. Thyroid gland and Parathyroid gland
10. Trachea and Oesophagus.
11. Subclavian artery
12. Vessels of the neck – Carotid arteries, Internal jugular vein.
13. Cranial nerves.
14. Cervical sympathetic chain.
15. Cervical plexus
16. Pre & Paravertebral muscles
17. Parotid gland
18. Orbit, Lacrimal gland
19. Temporal & Infratemporal regions, maxillary artery & otic ganglion.
20. Temporomandibular joint.
21. Submandibular duct.
22. Oral cavity.
23. Pharynx-Subdivision – Nasopharynx, Oro(Palatine tonsil) & Laryngopharynx
24. Soft palate, mechanism of deglutition
25. Eustachian tube
26. Nasal Cavity
27. Paranasal air sinuses
28. Maxillary nerve, Pterygopalatine ganglion.
29. Larynx
30. Tongue
31. External ear, tympanic membrane
32. Middle ear cavity
33. Joints : Atlanto-occipital and joints of cervical part s of vertebral column.
34. Applied anatomy of each region.

Neuroanatomy

1. Introduction of nervous system
2. Spinal cord
3. Ascending tract
4. Descending tract
5. Medulla oblongata

6. Pons
7. Midbrain
8. Cerebellum
9. CSF Circulation
10. Ventricles of brain
11. Blood supply of brain
12. Sulci & gyri of cerebrum
13. Functional areas of cerebrum
14. White matter – Association, Commissural, Projection fibres
15. Internal capsule
16. Thalamus
17. Hypothalamus
18. Basal ganglion
19. Limbic system
20. Applied anatomy of CNS

Histology:

1. Cell
2. Epithelium
3. Glands
4. Connective tissue
5. Cartilage & Bone
6. Muscles
7. Blood vessels
8. Skin
9. Nervous tissue
10. Respiratory system
11. Endocrine glands
12. Lip, Tooth, Tongue
13. Salivary glands, Oesophagus
14. Stomach, Duodenum
15. Small intestine, large intestine, Appendix
16. Liver, Gall bladder, pancreas
17. Kidney, Ureter, Urinary bladder
18. Testis, Epididymis, Vas deferens
19. Prostate, Ovary, Uterus, Uterine tube
20. Breast, Placenta, Umbilical cord
21. Ganglion, Cerebellum, Cerebrum
22. Eyeball, Lacrimal gland.

Embryology:

1. Introduction, Oogenesis
2. Spermatogenesis
3. Ovary and uterine cycle
4. Fertilization
5. Bilaminar and trilaminar germ disc/primitive streak
6. Intraembryonic mesoderm/Coelom/Somites
7. Formation of Folds/Umbilical cord
8. Placenta and various anomalies

Systemic :
Head, neck & face region:

1. Branchial arches, Ectodermal cleft
2. Pharyngeal pouches and their derivatives
3. Development of tongue

Cardiovascular system

1. Cardiac tube and its division/formation of atrium and its septation
2. Development of ventricles
3. Aortic arches and their fate
4. Development of venous system/Cardiac anomalies

Alimentary Tract:

1. Oesophagus, Stomach, Pancreas, Spleen
2. Midgut and its derivatives
3. Hind gut /Cloaca and its fate

Urogenital System:

1. Mesonephros/Meso and paramesonephric duct
2. Development of kidney, gonads, urinary bladder.
3. Descent of Testis, Ovary.
4. Development of Female genital organs
5. Male and Female external genitalia

Development of vertebral column, diaphragm, tooth.

Development of eye.

Embryological basis of various anomalies.

Genetics

1. Introduction, Mendel's law of Inheritance.
2. Chromosomal structure/anomalies/Karyotyping
3. Replication / Transcription and translation
4. Genes and Genetic disorders
5. Techniques in genetics and Prenatal diagnosis.

Internal Assessment

Internal assessment examinations are conducted at end of first term (Term end examination) and 2nd term (Preliminary Examination). The marks secured in these examinations are converted into 'out of 20 marks' for theory and practical each. The student has to secure 35% marks out of total marks for internal assessment to be eligible for university examination. The pattern of the theory question papers for internal examination shall be similar to university examination. The heads of practical examination in the internal assessment examination shall be same as university examination. An up to date Practical Journal record complete in all respect shall be an essential requirement to appear in all the examinations failing which the candidate shall not be allowed to appear for the practical examination.

SN	Subject	Semester I - Term End Examination		Semester II - Preliminary Examination		
		Theory (A)	Practical (B)	Theory (C)	Viva (D)	Practical (E)
1.	Anatomy	50 (One paper)	40	100 (Two Papers 50 each)	20	40
2.	Physiology	50 (One paper)	40	100 (Two Papers 50 each)	20	40
3.	Biochemistry	50 (One paper)	40	100 (Two Papers 50 each)	20	40

Method of Calculation:-

Theory Marks to be sent to the University out of 20 $= \frac{(A)+(C)+(D)}{8.5} = \frac{50+100+20}{8.5} = \frac{170}{8.5} = 20$

Practical Marks to be sent to the University out of 20 $= \frac{(B)+(E)}{4} = \frac{40+40}{4} = \frac{80}{4} = 20$

Eligibility for University Examination : The candidate has to secure minimum 35% marks out of total marks for internal assessment to be eligible for university examination. (However to pass university level examination in the subject a candidate must obtain 50% in aggregate with minimum of 50% in theory.) Total 14 marks required for appear Uni Exam

University Examination

Theory examination shall consists of Paper I & Paper II, with syllabus distribution as follows

Paper – I : Above Diaphragm: includes

- Gross anatomy of Upper Limb
- Gross anatomy of Head, neck & Face
- Gross anatomy of Thorax
- Neuroanatomy
- Relevant – Embryology & Histology of the region
- Applied anatomy of the above parts.

Paper II : Below Diaphragm

- Gross anatomy of Abdomen & Pelvis
- Gross anatomy of Lower limb
- Relevant – Embryology & Histology of the region
- Applied anatomy of the above parts.
- General Anatomy
- General Histology
- General Embryology
- Genetics

Theory paper pattern shall be as follows: Marks:50, Time: 2½ hours including 20 min. for MCQs

Pattern of Theory University examination including Distribution of Marks, Questions, and Time.

i) **Two theory papers of 50 marks each**
ii) Total duration –2 ½ hrs each paper
iii) There will be 2 sections in each. paper
iv) **Both Papers will have same following pattern:**
v) **Section A (MCQ)** will be of 20 minutes and Section B will be of 130 minutes

Sections	Nature of Questions	Total No. of Questions	Mark(s) per Question	Total Marks
A)	Q.1 Multiple Choice Questions (MCQs)-	10	1	10
B)	Q.2 BAQ,s a,b,c,d,e.f.	5 out of 6	2	10
	Q.3 SAQ,s a,b,c,d.e.	4 out of 5	05	20
	Q.4 One Long Question	1	10	10
Total				50

University Practical Examination including Viva-Voce is out of 60 marks. The distribution of the various heads for the practical examination is as follows:-

Practical	Soft parts – Above Diaphragm	10	40
	Soft parts – Below Diaphragm	10	
	Histology Spots	6	
	Histology Slide Discussion	4	
	Radiology	5	
	Living Anatomy	5	
Viva-Voce	Axial Skeleton	10	20
	Appendicular Skeleton	5	
	Embryology	5	
Total Marks			60

Format for sending Mark sheet seat no. wise

	Practical							Viva-Voce				Grand Total
	Soft Parts Above Diaph.	Soft Parts Below Diaph.	Histology Spots	Histology Slide Discussion	Radiology	Living Anatomy	Total	Axial Skeleton	Appendicular Skeleton	Embryology	Total	
Seat.no.	[10]	[10]	[6]	[4]	[5]	[5]	[40]	[10]	[5]	[5]	[20]	[60]

University Examination Passing:

SN	Subject	Parts		Maximum marks in each part	Minimum Marks for passing in each part	Minimum marks for passing the subject
1.	Anatomy	Theory	Theory Paper I	50	–	100
			Theory Paper II	50		
			Oral	20		
			Total	120	60	
		Practical		40	20	
		Internal Assessment	Theory	20	20 [14(Eligibility for University Exam 35%)]	
			Practical	20		
2.	Physiology	Theory	Theory Paper I	50	–	100
			Theory Paper II	50		
			Oral	20		
			Total	120	60	
		Practical		40	20	
		Internal Assessment	Theory	20	20 [14(Eligibility for University Exam 35%)]	
			Practical	20		
3.	Biochemistry	Theory	Theory Paper I	50	–	100
			Theory Paper II	50		
			Oral	20		
			Total	120	60	
		Practical		40	20	
		Internal Assessment	Theory	20	20 14(Eligibility for University Exam 35%)	
			Practical	20		

Passing all the three subjects of Phase I curriculum is mandatory before being admitted to Phase II MBBS Curriculum.

Book's Recommended

General Anatomy

1. Handbook of General Anatomy, B D Chaurasia. CBS Publisher & Distributers.
2. Principles of General Anatomy, A K Datta, Current Books International.
3. Handbook of General Anatomy, G P Pal,

Gross Anatomy

4. Gray's Anatomy: The Anatomical Basis of Clinical Practice, Susan Standring, Elsevier .
5. Last's Anatomy : Regional and Applied, Chummy S. Sinnatamby, Elsevier.
6. Clinical Anatomy by Regions, Richard S Snell, Lippincott Williams & Wilkins.
7. Lee McGregor's Synopsis of Surgical Anatomy, G A G Decker, D J duPlessis, Butterworth-Heinemann.
8. Clinically Oriented Anatomy, K L Moore, Lippincott Williams & Wilkins.
9. Cunningham Manual of Practical Anatomy : Vol. I, II, III, G J Romanes, Oxford Medical Publications.
10. Human Anatomy: Regional & Applied (Dissection & Clinical) (Volume I, II, III) B D Chaurasia, CBS Publishers and Distributors.
11. Grant Atlas of Anatomy, Anne MR Agur, Arthur F Dalley Lippincott Williams & Wilkins.
12. McMinn's Colour Atlas of Human Anatomy, Bari S Logan, Patricia A Reynolds, Ralph T Hutchings.

Neuroanatomy

13. Textbook of Human Neuroanatomy, Inderbir Singh.
14. Essentials of Neuroanatomy, A K Datta, Current Book International.

Histology

15. Textbook of Human Histology with Colour Atlas, Inderbir Singh Jaypee Publishers.
16. Textbook of Human Histology, G P Pal.
17. di Fiore's Atlas of Histology with Functional Correlation, Victor P Croshenko. Lippincott Williams & Wilkins.

Embryology

18. Essentials of Human Embryology, Inderbir Singh. Macmillan India Ltd.
19. The Developing Human: Clinically Oriented Embryology, Keith L. Moore, T.V.N. Persaud.

Genetics

20. Human Genetics, S D Gangane, Elsevier.
21. Elements of Medical Genetics, Alan.H.Emery & Robert.F.Muller, Churchill Livingstone.

Medical Dictionary

22. Dorland's Illustrated Medical Dictionary, Dorland, Saunders.

PRAVARA INSTITUTE OF MEDICAL SCIENCES
DEEMED UNIVERSITY

MARKS LIST FOR PRACTICAL AND VIVA

FIRST M.B.B.S. (New Course) Practical Examination **Summer/Winter: _____**

Center: - _____ **Date: - _____**

Sub: - Anatomy **Practical Max. Marks: - 40**

Seat No.	Soft parts Above Diaph. (10 Marks)	Soft parts Below Diaph. (10 Marks)	Histology spots (06 Marks)	Histology slide Discussion (04 Marks)	Radiology (05 Marks)	Living Anatomy (05 Marks)	Total (40 Marks)

Name of Examiner **Signature with Date**

_____ _____

_____ _____

_____ _____

_____ _____

PRAVARA INSTITUTE OF MEDICAL SCIENCES
DEEMED UNIVERSITY

MARKS LIST FOR PRACTICAL AND VIVA

FIRST M.B.B.S. (New Course) Practical Examination **Summer/Winter: _____**

Center: - _____ **Date: - _____**

Sub: - Anatomy **Viva Max. Marks: -20**

Seat No.	Axial Skeleton (10 Marks)	Appendicular Skeleton (05 Marks)	Embryology (05 Marks)	Total (20 Marks)

Name of Examiner **Signature with Date**

_____ _____

_____ _____

_____ _____

_____ _____

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR

FIRST YEAR MBBS

NEW EVALUATION SYSTEM

JUNE 2013 ONWARDS

PHYSIOLOGY

(MU 103 & MU 104)

NOTIFICATION NO. 12/2016

Dated : 19th May 2016

(Academic Council meeting held on 21st June 2014 Resolution No. 03/AC/2014, Point No. 01)

Pravara Institute of Medical Sciences(DU), Loni.
Medical Faculty
Revised Syllabus

PIMS - Curriculum of Phase I – First MBBS

Introduction :

In the teaching of these subjects stress shall be laid on basic principles of the subjects with more emphasis on their applied aspects.

Time Distribution

Phase-1(two semesters) - consisting of Pre-clinical subjects (Human Anatomy, Physiology including Bio-Physics, Bio-chemistry and introduction to Community Medicine including Humanities). Besides 60 hours for introduction to Community Medicine including Humanities, rest of the time shall be somewhat equally divided between Anatomy and Physiology plus Biochemistry combined (Physiology 2/3 & Biochemistry 1/3).

Pre-Clinical Subjects : (Phase-1-First and Second Semester)

- Anatomy 650 Hrs.
- Physiology 480 Hrs.
- Biochemistry 240 Hrs.
- Community Medicine 60 Hrs.

Attendance

75% attendance in a subject for appearing in the examination is compulsory inclusive of attendance in non-lecture teaching i.e. seminars, group discussions, tutorials, demonstrations, practicals, hospital (Teritary Secondary, Primary) posting and bed side clinics etc."

Syllabus in the Subject of Physiology – Ist MBBS

Course Code : **MU - 103 and MU - 104**

Course Title : **Human Physiology**

I) GOAL:

The broad goal of the teaching of undergraduate students in physiology aims at providing the student comprehensive knowledge of the normal functions of the organ systems of the body to facilitate an understanding of the physiological basis of health and disease .

II) EDUCATIONAL OBJECTIVES :

- At the end of the course, the student will be able to: describe the normal functions of all the organ systems, their regulatory mechanisms and interactions of the various systems for well coordinated total body function.

- Understand the relative contribution of each organ systém in the maintenance of the milieu interior (homeostasis).
- Explain the physiological aspects of normal growth and development. Analyse the physiological responses and adaptation to enviormental stresses.
- Comprehend the physiological principles underlying pathogenesis and treatment of disease.
- Correlate knowledge of physiology of human reproductive systém in relation to National Family Welfare Programe .

III) **SKILL:** At the end of the course the student shall be able to:

- Conduct Experiments designed for study of physiological phenomena.
- Interpret experimental / investigative data.
- Distinguish between normal & abnormal data derived as a result of tests which he/ she has performed and observed in the laboratory .

IV) **INTEGRATION:**

- At the end of the integrated teaching the student shall acquire an integrated knowledge of organ sructure and function and its regulatory mechanisms.

HUMAN PHYSIOLOGY – PAPER I (MU 103)

A) RESPIRATORY PHYSIOLOGY

- Physiologic anatomy
- Funtions of respiratory systém, non respiratory funtions of lung
- Mechanics of respirations:
- Ventilation : Inspiratory & expiratory muscles, intraplural pressure, lung & thoracic compliance, factors affecting compliance, work of breathing, surface tesion forces & role of surfactant, airway ressistance, elastic resistance.
- Lung voumes and capacities. Measurement, physiological & significance (tidal volume, vital capacity, forced vital capacity – details)
- Pulmonary ventilation, alveolar ventilation, alveolar dead space,- applied aspect,
- Maximum breathing capacity & breathing reserve.
- Diffusion of Gases : Exchange of respiraatory gases at alveolar – capillary membrane, factors affecting diffusion.
- Gas Transport : Transport of oxygen, role of Haemoglobin, oxygen dissociation curve & factors affecting it.
- Transport of carbon dioxide
- Control of Breathing : Neural control – higheer centres, reflexes.
- Chemical control – central & peripheral chemoreceptors role of CO_2 , O_2, H^+
- Pulmonary Circulation.
  - Characteristics
  - Ventilation perfusion ratio
- Respiratory adjustment in exercise.
- Hypoxia type & high altitude hypoxia.
- Artificial respiration : Pulmonary function tests – principles

B) ENVIRONMENTAL PHYSIOLOGY

- High Altitude, accliomatization
- Decompression Sickness
- Space Physiology
- Body Temperature regulations

C) CARDIOVASCULAR PHYSIOLOGY

- Introduction, function & importance of the systematicGeneral oranization.
- Structure kof heart, pericardium,myocardium,endocardium,nerve supply, Histology, details of cell junctions,syncytium,contractile & conducting fibers.
- Properties of cardiac muscle : excitability,conductivity,contractility,autorhythmicity, all or none law, long refractory period.
- Junctional tissues of heart, pacemaker potential,action potential of cardiac muscle.
- Generation & conduction of cardiac impulse.
- ECG: lead arrangement, normal waves & their significace with reference to lead II
- Cardiac cycle: pressure - volume changes, heart sounds & their clinical significance, correlation of pressure, volume, ECG, heart sounds in cardiac cycle.
- Heart rate & its regulation.
- Haemodyinamics b – def., blood flow, regulation
- Cardiac output: normal values, physiological variations, factors affecting cardiac output-details, regulation, measurement-principles.
- Blood pressure: Normal levels, measurement, determinants, short term & long term regulation – details.
- Capillary circulation, tissue fluid formation, Odema.
- Lymphatic system : Anatomy & structure, formation of lymph, composition of lymph, function of lymphatic systém, lymphflow & factors affecting it.
- Regional circulation: Physiologic anotomy, factores affecting, special features: coronary, cerebral, skin.
- Adaptation of cariopulmonary systém to variόus grades of exercise.
- Hemorrhagic shock – stages & compensatory machanisms, effects on body, physiological basis of treatment in brief.

D) BODY TEMPERATURE REGULATION

- Homeothermia – Balance betweem heart gain & heart loss, alongwith enviroment.
- Regulation of body temperature

E) ALIMENTARY SYSTÉM

- General introduction & organizational plan, innervations and blood supply.
- Salivary section : -General principles & basic mechanisms of section composition, and funtions of saliva, mechanism & regulation of salivary secretion
- Mastication and deglutition: Three phases of deglutition - physiologic anatomy, mechanism & control.
- Gastric secretion: -Functional anatomy, histology, functions of stomach, composition of gastric juice, celluar mechanism of gastric secretion of acid, pepsin, intrinsic factor, other enzymes, phases of gastric secretion, regulation of gastric secretion.
- Gastric Motility: Electrical activity of stomach, pylorus, emptying of the stomach – pyloric pump, regulation & factors promoting & inhibiting emptying.

- Pancreatic secretion & its control: Structure, composition & mechanism of secretion of electrolytes & enzymes, regulation of secreton.
- Liver & gall bladder: Functions of liver, composition of bile, enterohepatic circulation of bile salts, control of secretion, concentration & storage of bile in gall bladder
- Intestinal secretion: Structure, innervations.
- Composition & mechanism of secretion of small intestinal juice, regulation of secretion.
- Secretion of large intestine : mucous, water, electrolyte.
- Motility of small intestine: Structure & innervation electrical activity of smooth muscle, resting membrane potential, slow waves, spike potentials, rhythmic segmenting contractions, peristalsis, control – neural & hormonal, functions of ileocecal valve.
- Motility of largr intestine: -Structure & innervation,' mixing & mass movements, defecation reflex ' and its control
- G.I. hormones: in brief.
- Absorption of water, electrolytes and vitamins.
- Pathophysiology of peptic ulcer.

F) ENDOCRINE SYSTÉM

- Introduction
- Endocrine functions of Hypothalamus – releasing hormones, Mechanism of hormone action
- Anterior pituitary hormones: functions, regulation, dissorders.
- posterior pituitary hormones, ADH, Oxytocin. functions, regulation, disorders.
- Thyroid: hormone: synthesis, funtions, regulation, disorders – tetany.
- Adrenal cortex and medulla.
- Hormone: secretion, funtions, regulation, dissorders
- Pancretic hormones: secretion, funtions, regulation, disorders.
- Growth and development.

G) REPRODUCTIVE PHYSIOLOGY

- Sex chromosomes, sex determination, sex differentiation
- Functional anatomy of reproductive systém.
- Puberty : changes in males & females and its control.
- Supermatogenesis: stages & regulation
- Semen analysis.
- Testosterone: actions & regulation.
- Male sexual act.
- Menstrual cycle & ovarian cycle:
- Phases & hormonal regulation.
- Menopause.
- Ovulation: indicators & importance
- Fertilization, implantation of ovum.
- Functions of placenta
- Physiology of pregnancy
- Laction: initiation & maintenance and control.
- advantages of breast-feeding.
- Contraception: to be taken as integrated topic.

HUMAN PHYSIOLOGY – PAPER II (MU 104)

A) GENERAL PHYSIOLOGY

- External and internal enviroment.
- Homeostasis, Biofeedback mechanisms
- Cell Physiology: Transport across cell membrance.
- Biopotentials.
- Measurement of: total body water, blood volume, plasma volume, I.C.F. volume.

B) HEMATOLOGY

- Composition and Functions of blood
- Plasma proteins: Types, functions.
- Erythocytes: Morphology, functions, normal count physiological variations in normal count & anaemia, polycythemia.
- Haemopoesis: general concepts
- Erythocytesis: stages, Sites, regulation, reticulocyte & its clinical significance.
- Haemoglobin: Funtions, normal values, physiological variations.
- Fate of erythocytes: life span, Catabolism of Hb, bilirubin metabolism, jaundice. physiological basis of anaemia, nutritional anaemia.
- Type of Leukocytes, Classification , properties & functions Leukocytes
- Granulopoiesis – stages, regulation,
- Lymphopoiesis.
- Pathological variations in total & differential W.B.C. count.
- Immunity: definition, councept of antigen & antibody, types of immunity-Innate &
- Acquired,& their menchanism, cell mediated & hurmeral immunity, B lymphocytes, T-lymphocytes & their type.
- Primary & secondary response, basis of vaccination.
- Blood groups: Landsteiner's law,
- ABO systém – types A&B antigen, ABO systém & inheriatance, relation to
- transfusion, cross matching major & minor.
- Rh systém –inheritance, Rh incompatibility & blood transfusion, Erythroblastosis foetalis.
- Blood transfusion : indications storage of blood & changes during storage, transfusion reactions.
- Monocyte – macrophage systém: Classification, variations., functions of spleen.
- Hemostasis: definition, basic mechanisms of Hemostasis,
- Platelets: structure, normal count & variations, functions, role in platelet plug formation, Hemostasis & clot retraction.
- Blood coagulation: Coagulation factors in plasma, basis mechanism of blood clotting, intrinsic & extrinsic pathways & difference between two pathways, role of calcium in coagulation, role of vitamin K, fate of clot.
- Anticoagulam – commonly used & their mechanism of actions
- Haemophilia
- Body fluid compartments: role of of water in body & its distributions, different body fluid compartment & composition of their fluid.
- Blood volume: normal value. physiological & variations, blood volume regulation in detail (To be taken at end of lectures on C.V.S, kidney and endocrines)

C) NERVE

- Classification of nerve fibers based on structure, diameter & funtion
- R.M.P. defination, production & maintenance, method of measurement, significance.
- Action potential: definition,
- Properties of A.P., significance.
- Properties of nerve fibers.
- Strength duration curve: chaonaxie and factors affecting it.
- Factors affecting conduction ina nerve.

D) MUSCLE

- Classification of muscles and Structure of skeletal muscle
- Properties of skeletal muscles : excitability, refractory period (absolute, relative), conductivity, contractility – types (isometric, isotonic), effects of summations (multiple motor unit summation, frequency summation & tetanizibility).
- Neuromuscular transmission: Physiologic anatomy, evevts N-M blocking & its clinical significance, applied aspect – myasthenia gravis.
- Excitation – contraction coupling.
- Molecular basis of skeletal musicle contraction: sliding filament theory, power strok – cross bridge cycle, role of calcium.
- Oxygen debt: definition types (lactic, alactic), incurring of debt, repaying the debt, signification.
- Muscular fatique – seat, causes & effect.
- Smooth muscle: structure, distribution, types molecular mechanism of contraction, properties, regulation and disorders.

E) RENAL PHYSIOLOGY

- General introduction, structure & functions of kidey.
- Renal circulation: special features from funtional point of view
- Concept of clearance: to study renal physiology, for:

  a) GFR – Inulin, Creatinine, basic principle of radioisotope method.

  b) renal blood flow – PAH

  c) concentration & dilution of urine – free water.
- Formation **of urine:**
  - Glomerular stage – GFR (definition, dynamics, factors affecting & measurement)
  - Tubular stage – Reabsorption & secretion.
    - Sodium, potassium, glucose: details
    - Handling of kidney in acid – base balance.
    - Secretion of H+
- Role of kidney in acid – base balance.
- Physiology of micturition: basic reflex & control, cystometrogram.
- Artificial kidney: basic principles of dialysis.

F) SPECIAL SENSES

Eye:

- Funtional anatomy of eye, optics, microscopic structure of retina with retinal circuits, image formation, Photochemistry of vision (photopic & scotopic vision, dark & light adoption),
- Pupillary reflexes, Accommodation reaction, Errors of refraction and their correction, Colour vision-physiological & neural basis, accepted theory of colour vision, classifications, basis of colour blindness and tests of colour blindness, significance.
- Visual pathway – processing of information at different levels in visual pathway, organisation of visual cortex. Effects of lession at different levels in visual pathway,
- Movements of eyeballs: funtions & control.

Ear:

- Physics of sound, decibel systém.
- Funtions of external ear,
- Funtional anatomy of middle ear, funtions of middle ear in detail, assessment of funtions of middle ear, Funtional anotomy of cochlea , funtions of inner ear, place principle, theories of hearing.
- Auditory pathway & important features, auditory cortex (role in hearing & speech development)

Taste:

- Funtional anatomy of taste buds, different taste modalities, pathway, factors affecting taste sensation,
- Smell:
- Funtional anatomy of receptors primary olfactory sensations, pathway, factors affecting smell sensation,

G) CENTRAL NERVOUS SYSTÉM

1. **Organization of Nervous System**

General Nervous Systém:

- Synapse: definition, physiological anatomy, sequence of events of synaptic transmission, properties, (state the property & its significance), significance of synaptic transmission, applied aspect .
- Neurotransmitters – in brief.
- Receptors:definition, classification (basis of each classification with example), properties (state each property with underlying mechanism & significance), significance (homeostasis, conscious awareness of enviroment , tone posture, protection).
- Sensations: different modalities, classification with examples and significance
- Sensation of touch, pain, proprioception : details of each
- Reflexes: definition, classification (basis of classification with example), reflex arc & its components, properties (state each property with basis & importance)
- Stretch reflex – definition, muscle spindle (details with innervation, role of gamma motor neurons) role of supra spinal control – in brief, functions of stretch reflex (regulation of muscle tone) inverse stretch reflex.
- Polysynaptic reflexes: withdrawal reflex.

2) Tracts :

1. **Ascending & descending tracts:** datails of each tracts – (situation & exent in spinal cord, origin, course & termination, collaterals, somatotopic arrangement, functions, applied aspect, tests)
   - Ascending tracts: Basic plan of somato sensory pathway for conscious sensation, pathway from head face region.
   - Descending tracts: pyramidal tracts – details , extra pyramidal tracts, differnces between UMN & LMN lesions.
2. **Sections at various levels in CNS :**
   - Spinal transection – spinal animal.
   - Complete – 3 stages – spinal shock, stage of recovery, stage of reflex failure details of each stage.
   - Incomplete. Transection
   - Hemisection
   - Low midbrain section – decerebrate animal. (Classical & ishaemic with mechanisms, characteristics features, physiological significance)

3) Posture & Equilibrium; its regulation.

- Definition, classification of postural reflexes.
- Vestibular **apparatus :** Physiologic anatomy, mode of funtion of utricle & saccule and semicircular canals, vestibulo occular & vesitibulo spinal reflexes.

4) Thalamus :

Funtional classification of Thalamic nuclei, with connections of different nuclear groups, functions of thalamus, thalamic syndrome.

5) Hypothalamus :

Functional classification of different hypothalamic nuclei, connections in brief, functions in details.

6) Limbic systém :

Parts of limbic systém, connections in brief, functions.

7) Reticular formation :

- Ascending reticular activating systém – details with connections & role in sleep wakeful cycle, applied aspect.
- Descending reticular systém – role in regulation of muscle tone by pontine & medullary regions.
- Visceral centres.

8) E. E. G. :

- Definitions, different waves, characteristics & functional significance of each wave, physiological variation, clinical application in brief.

9) Sleep & Wakefulness :

- Concept of alertness & wakefulness with their physiological basis,

- Definition of sleep, stages of sleep correlated with EEG, sleep cycle -types of sleep, salient features of NREM & REM sleep, physiological effects of sleep on different systems of the body,
- Neurophysiological mechanisms of sleep, functions of sleep.

10) Cerebellum :

- Introduction, functional classification, intracortical circuit, deep cerebellar nuclei, connections of different lobes, functions of cerebellum, cerebellar function tests, effects of lesion in brief.

11) Basal Ganglia :

- Introduction, classification of nuclei, connections, intracortical circuits, functions, lesions - Parkinsonism.

12) Cerebral Cortex :

- Gross anatomy & divisions, concept of Broadmann's mapping with diagram, Parietal lobe - anatomical & functional divisions, details of each functional part as regards connections, topographic organisation, functions.
- Frontal lobe – excitomoter Cortex – anatomical & functional parts, details of each part as regards connections, topographic organisation, functions.
- Prefrontal Cortex – different areas, connections in brief, functions, effects of lobectomy.

13) Speech :

- Afferent and efferent mechanisms and role of cortical centers in speech, concept of cerebral dominance, development of speech, vocalization.

14) Memory :

- Definition, stages, types, physiological basis, factors affecting, applied – amnesias in brief.

15) Learning :

- Definition, types with examples, stages, factors influencing, role of motivation (positive & negative reinforcement, reward & punishment), physiological basis – role of different parts of CNS, structural, biochemical changes.

16) Conditioned reflexes:

- Definition, difference between unconditioned & conditioned reflexes, development of conditioned reflexes, properties, significance.

17) Autonomic nervous systém:

Organization and functions of Parasympathetic & Sympathetic and their control.

CSF: Introduction, composition, normal CSF pressure, formation & circulation, functions, applied aspect-brief, blood brain barrier, blood CSF barrier.

EXPERIMENTAL PHYSIOLOGY -PRACTICALS

1. Study of Instruments – I
2. Study of Instruments- II
3. Simple Muscle Curve and its Study
4. Velocity of Conduction of Nerve Impulse.
5. Effect of Temperature on S.M.C.
6. Effect of Load on SMC (Moving Drum)
7. Effect of Load On Skeletal Muscle (Stationary Drum)
8. Effect of Two Successive Stimuli on Simple Muscle Curve
9. Effect of Various Strengths of Stimuli on Skeletal Muscle
10. Record of Normal Cardiogram of the Frog's Heart.
11. Properties of Cardiac Muscle (I) Autorhythmicity And, Excitability (Stannius Ligatures)
12. Properties of Cardiac Muscle (II) Long Refractory Period .
13. Properties of Cardiac Muscle (III)
    a. All or None Law .
    b. Beneficial Effect (Staircase)
14. Effect of Vagus and Crescent Stimulation of Frog's Heart.
15. To Study 'Vagal Escape'
16. Effect of Acetylcholine on the Frog's Heart .
17. Effect of Adrenaline on the Frog's Heart
18. Perfusion of Frog's Isolated Heart.
19. Effect of Dilute Nicotine on the Frog's Heart.
20. Fatigue and Tetanus.

PART- I : (HAMATOLOGY (PRACTICALS)

1. The Microscope and Collection of Blood
2. Estimation of Haemoglobin content of Blood
3. W.B.C.Count
4. R.B.C. Count
5. Determination of Blood Groups
6. Differencial W.B.C. Count
7. Determination of Bleeding Time & Coagulation Time

PART – II : HAEMATOLOGY

1. Platelets / Thrombocytes
2. Reticulocyte Count
3. Determination of Erythrocyte Sedimentation Rate & Estimation of Packed Cell Volume.
4. Anemia & Blood Indices
5. Osmotic fragility of red blood cells (D)
6. Blood Transfusion (Blood Bank Visit)

PART – III : CLINICAL PHYSIOLOGY

1. Introduction to Clinical Examination
2. Clinical Examination of Arerial Pulse & Estimation of Venous Pressure
3. Determination of Arterial Blood Pressure
4. Clinical Examination of Cardiovascular Systém
5. Clinical Examination of Respiratory Systém
6. Artificial Respiration in Man
7. Clinical Examination of the Alimentary Systém and the Abdomen .
8. Clinical Examination of Higher Functions
9. Clinical Examination of III, IV, VI Cranial Nerves.
10. Clinical Examination of Other Cranial Nerves- I,V,VII,IX, X,XI,XII.
11. Clinical Examination of Sensory Systém
12. Clinical Examination of Motor systém – I
13. Clinical Examination of Motor Systém – II
14. Tests for Hearing & Deafness
15. Cllinical Examination of Eyes
16. Visual Reflexes
17. Acuity of Vision

PART – IV : HUMAN PHYSIOLOGY

1. Cardiopulmonary Efficiency Tests
2. Electrocardiography (E.C.G.) (D)
3. Spirometry (D)
4. Stethography (D)
5. Ergography (D)
6. Perimetry (D)
7. Colour Vision (D)
8. Body Temperature in Man

Internal Assessment

Internal assessment examinations are conducted at end of first term (Term end examination) and 2nd term (Preliminary Examination). The marks secured in these examinations are converted into 'out of 20 marks' for theory and practical each. The student has to secure 35% marks out of total marks for internal assessment to be eligible for university examination. The pattern of the theory question papers for internal examination shall be similar to university examination. The heads of practical examination in the internal assessment examination shall be same as university examination. An up to date Practical Journal record complete in all respect shall be an essential requirement to appear in all the examinations failing which the candidate shall not be allowed to appear for the practical examination.

SN	Subject	Semester I - Term End Examination		Semester II - Preliminary Examination		
		Theory (A)	Practical (B)	Theory (C)	Viva (D)	Practical (E)
1.	Anatomy	50 (One paper)	40	100 (Two Papers 50 each)	20	40
2.	Physiology	50 (One paper)	40	100 (Two Papers 50 each)	20	40
3.	Biochemistry	50 (One paper)	40	100 (Two Papers 50 each)	20	40

Method of Calculation:-

Theory Marks to be sent to the University out of 20 $= \frac{(A)+(C)+(D)}{8.5} = \frac{50+100+20}{8.5} = \frac{170}{8.5} = 20$

Practical Marks to be sent to the University out of 20 $= \frac{(B)+(E)}{4} = \frac{40+40}{4} = \frac{80}{4} = 20$

Eligibility for University Examination: The candidate has to secure minimum 35% marks out of total marks for internal assessment to be eligible for university examination. (However to pass university level examination in the subject a candidate must obtain 50% in aggregate with minimum of 50% in theory.)

University Examination

Pattern of Theory University examination including Distribution of Marks, Questions, and Time.

i) **Two theory papers of 50 marks each**
ii) Total duration –2 ½ hrs each paper
iii) There will be 2 sections in each. paper
iv) **Both Papers will have same following pattern:**
v) **Section A (MCQ)** will be of 20 minutes and Section B will be of 130 minutes

Sections	Nature of Questions	Total No. of Questions	Mark(s) per Question	Total Marks
A)	Q.1 Multiple Choice Questions (MCQs)-	10	1	10
B)	Q.2 BAQ,s a,b,c,d,e.f.	5 out of 6	2	10
	Q.3 SAQ,s a,b,c,d.e	4 out of 5	05	20
	Q.4 One Long Question	1	10	10
Total				50

University Practical Examination including Viva-Voce is out of 60 marks. The distribution of the various heads for the practical examination is as follows:-

University Practical examination including Viva - Total Marks 60

Pattern of Practical Examination and Viva Voce shall be as follows

Practical Examination : Total marks 40

Exercise No.(1) Clinical examination - 20 marks, 4 sub questions each of 5 marks,

- 1. C.V.S. 2. R.S. 3. C.N.S 4. Special senses or Abdomen

Exercise No. (2) Haematology - 10 marks,

Exercise No. (3) Short exercise - 10 marks,

- Sub questions each having 2 marks, Calculations, Interpretation of graphs, Charts, Data analysis and interpretation Photographs on-endocrine disorders and Neurological disorder.

Viva Examination (Orals) : Total marks 20

- Duration – 20 minutes.
- Four Examiners (5 minutes with each examiner)
- Paper I systems allotted and distributed amongst two Examiners.
- Paper II systems allotted and distributed amongst two Examiners.

Batches of students for Viva and Practicals should be separate.

Guideline I

List of common disorders to be shown during word visits or using video tapes.

1. Anaemia.
2. Oedema
3. Jaundice
4. Splenomegaly
5. Hepatomegaly
6. Ascites
7. Cretinism
8. Myxoedema
9. Dwarfism
10. Hyperthyroidism
11. Acromegaly
12. Hemiplegia
13. Facial nerve paralysis
14. Parkinsonism
15. Cerebellar dysfunction.
16. Paraplegia

Guideline II

List of X-rays to be shown along with clinical examinations to improve understanding.

1. Normal X-ray chest
2. Lung consolidation
3. Pleural effusion with mediastinal shift
4. Collapse of lung / cavity in lung
5. Hyper inflated lungs in emphysema
6. Left ventricular hypertrophy with shift of apex beat
7. Barium meal and follow through – oesophagus, stomach, small & large intestine.

Guideline III

Topics to be asked as applied questions in theory. A brief history and diagnosis to be provided.

1. Erythroblastosis foetalis,
2. Haemophilia, purpura
3. Myasthenia gravis
4. Peptic ulcer
5. Oedema
6. Myxoedema
7. Cretinism
8. Deafness
9. Hyperthyroidism
10. Tetany
11. Acromegaly, Gigantism
12. Respiratory distress syndrome
13. Parkinsonism
14. Asthma
15. Hemiplegia
16. Spinal cord injury
17. Cushing's syndrome
18. Dwarfism
19. Hemorrhagic shock
20. Jaundice & anaemia - mismatched transfusion

University Examination Passing:

SN	Subject	Parts		Maximum marks in each part	Minimum Marks for passing in each part	Minimum marks for passing the subject
1.	Anatomy	Theory	Theory Paper I	50	--	100
			Theory Paper II	50		
			Oral	20		
			Total	120	60	
		Practical		40	20	
		Internal Assessment	Theory	20	20 [14(Eligibility for University Exam 35%)]	
			Practical	20		
2.	Physiology	Theory	Theory Paper I	50	--	100
			Theory Paper II	50		
			Oral	20		
			Total	120	60	
		Practical		40	20	
		Internal Assessment	Theory	20	20 [14(Eligibility for University Exam 35%)]	
			Practical	20		
3.	Biochemistry	Theory	Theory Paper I	50	--	100
			Theory Paper II	50		
			Oral	20		
			Total	120	60	
		Practical		40	20	
		Internal Assessment	Theory	20	20 14(Eligibility for University Exam 35%)	
			Practical	20		

Passing all the three subjects of Phase I curriculum is mandatory before being admitted to Phase II MBBS Curriculum.

Recommended Books

Text Books (Latest Editions)

1) A.C.Guyton & J.E.Hall : Text-Book of Physiology, 11th Edition (2006), Saunders, Delhi.
2) S.K.Chaudhari : Concise Medical Physiology, 6th Edition (2008), New Central Book Agency, (p) Ltd, Kolkatta.
3) A.K.Jain: Human Physiology Vol - I & II. Reprint (2007), A P Company, New Delhi

Reference Books (Latest Editions)

1) W.F. Ganong: Review of Medical Physiology, 22nd Edition (2005), M.C. Graw Hill, New Delhi.
2) West-Best & Taylor's: Physiological Basis of Medical Practice. 12th Edition (1985)/ Latest Edition, Lippincott Williams & Wilkins,U.S.A.
3) J. Bullock, J. Boyle, M.B.Wang: Physiology, 4th Edition (2001),Lippincott Williams & Wilkins, U.S.A.
4) J J Bray, P.A. Cragg, A.D.C. Macknight, R.G. Mills : Lecture notes on Human Physiology. 4th Edition (1999) / Latest Edition, Black Well Science, U.S.A.

PRAVARA INSTITUTE OF MEDICAL SCIENCES
DEEMED UNIVERSITY

MARKS LIST FOR PRACTICAL AND VIVA

FIRST M.B.B.S. (New Course) Practical Examination **Summer/Winter: _____**

Center: - _____ **Date: - _____**

Sub: - Physiology **Practical Max. Marks: - 40**

Seat No.	Clinical Examination (20 Marks)				Hematology (10 Marks)	Short exercise (10 Marks)	Total (40 Marks)
	C.V.S. (05 Marks)	R. S. (05 Marks)	C. N. S. (05 Marks)	Special senses or Abdomen (05 Marks)			

Name of Examiner **Signature with Date**

_____ _____

_____ _____

_____ _____

_____ _____

PRAVARA INSTITUTE OF MEDICAL SCIENCES
DEEMED UNIVERSITY

MARKS LIST FOR PRACTICAL AND VIVA

FIRST M.B.B.S. (New Course) Practical Examination **Summer/Winter: _____**

Center: - _____ **Date: -** _____

Sub: - Physiology **Viva Max. Marks: -20**

Seat No.	Viva I (05 Marks)	Viva I (05 Marks)	Viva I (05 Marks)	Viva I (05 Marks)	Total (20 Marks)

Name of Examiner **Signature with Date**

_____ _____

_____ _____

_____ _____

_____ _____

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR

FIRST YEAR MBBS

NEW EVALUATION SYSTEM

JUNE 2013 ONWARDS

BIOCHEMISTRY

(MU 105 & MU 106)

NOTIFICATION NO. 12/2016

Dated : 19th May 2016

(Academic Council meeting held on 21st June 2014 Resolution No. 03/AC/2014, Point No. 01)

Pravara Institute of Medical Sciences(DU), Loni.
Medical Faculty
Revised Syllabus

PIMS - Curriculum of Phase I – First MBBS

Introduction :

In the teaching of these subjects stress shall be laid on basic principles of the subjects with more emphasis on their applied aspects.

Time Distribution

Phase-1(two semesters) - consisting of Pre-clinical subjects (Human Anatomy, Physiology including Bio-Physics, Bio-chemistry and introduction to Community Medicine including Humanities). Besides 60 hours for introduction to Community Medicine including Humanities, rest of the time shall be somewhat equally divided between Anatomy and Physiology plus Biochemistry combined (Physiology 2/3 & Biochemistry 1/3).

Pre-Clinical Subjects : (Phase-1-First and Second Semester)

- Anatomy 650 Hrs.
- Physiology 480 Hrs.
- Biochemistry 240 Hrs.
- Community Medicine 60 Hrs.

Attendance

75% attendance in a subject for appearing in the examination is compulsory inclusive of attendance in non-lecture teaching i.e. seminars, group discussions, tutorials, demonstrations, practicals, hospital (Tertiary Secondary, Primary) posting and bed side clinics etc."

Syllabus in the Subject of Biochemistry – Ist MBBS Teaching Hours : 240

1.	Lectures	120 Hours
	Tutorials	20 Hours
2.	Practical/Demonstrations	80 Hours
3.	Seminars/Monthly tests/Revision classes	20 Hours

1. GOAL :

The broad goal of the teaching of the undergraduate students in Biochemistry is to make them understand the scientific basis of the life process at the molecular level and to orient them towards the application of the knowledge acquired in solving the clinical problems.

2. OBJECTIVES:

A) KNOWLEDGE:-

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

- Describe the molecular and functional organization of a cell and list its subcellular components.
- Delineate structure, function and interrelationship of the biomolecules and consequences of deviation from normal.
- Summarize the fundamental aspect of enzymology and clinical application wherein regulation of enzymatic activity altered.
- Describe digestion and assimilation of nutrient and consequence and malnutrition.
- Integrate the various aspects of the metabolism and their regulatory pathways.
- Explain the biochemicals bases of inherited disorders with their associated sequalae.
- Describe mechanisms involved in maintenance of the body fluid and PH homeostasis.
- Outline the molecular mechanisms of gene expression and regulation, the principal of genetic engineering and their application in medicine.
- Summarize the molecular concept of body defenses and their application in medicine.
- Outline the biochemical basis of environmental health hazards, Biochemkical basis of cancer and carcinogenesis.
- Familiarize with the principals of various conventional and specialized laboratory investigations and instrumentation analysis and interpretation of the given data.
- Suggest experiment to support theoretical concepts and clinical diagnosis.

B) SKILLS:

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

- Make use of conventional technique/instruments to perform biochemical analysis relevant to clinical screening and diagnosis.
- To analysis and interpret investigative data.
- Demonstrate the skill of solving scientific and clinical problems and decision making.

C) INTEGRATION:

The knowledge acquired in biochemistry shall help the student to integrate the molecular events with structure and function of the human body in health and disease.

SYLLABUS FOR HUMAN BIOCHEMISTRY - Paper I

Course Code – MU 105

Structural formulae are not obligatory.

1. **Introduction of Biochemistry** as a basic science for the study of medicine, It's importance in clinical practice.

3. **Chemistry of Proteins**: General nature of amino acids, various ways of classification of amino acids, biologically important peptides, classification, properties and biological importance of proteins. Structural organization of proteins, Plasma proteins-functions, clinical significance of various fractions, Methods of Separation (only principle)
4. **Protein Metabolism:** Biochemical aspects of digestion and absorption of proteins. Fate of aminoacid in the body (Deamination, Transamination, Transdeamination, Decarboxylation), Fates of ammonia (Urea cycle, glutamine formation), Metabolism of aromatic and sulphur containing amino acids and their inborn errors. Metabolism of Glycine.
5. **Enzymes:** General nature, classification of enzymes, specificity and mode of action of enzymes, factors affecting enzyme activity. Enzyme inhibitions (Kinetic not required). Clinical importance (Diagnostic, therapeutic and as a Laboratory reagent) of enzymes and isoenzymes.
6. **Biological Oxidation:** General concept of oxidation and reduction. Role of enzymes and co-enzymes. Electron transport chain. Substrate level and Oxidative phosphorylatin, role of uncouplers and inhibitors.
7. **Haemoglobin:** Chemistry and functions of haemoglobin. Types of normal and abnormal hemoglobins.(HbS, M, Thalassemia). Haemoglobin derivatives.
8. **Vitamins:** General nature, classification, sources, active forms and metabolic role, deficiency manifestations, daily requirement and hypervitaminosis.
9. **Nutrition:** Balance diet for normal adult, Quality of dietary protein, SDA, protein energy malnutrition(Kwashiorkor and Marasmus).
10. **Chemistry and Metabolism of Purines**: nucleosides, nucleotides. Biologically important free nucleotides, Biosynthesis of purines (sources of ring & regulatory steps only, conversion of IMP to GMP & AMP) and salvage pathway, Biosynthesis of pyrimidines, Breakdown of purines and pyrimidines, Gout, Lesch Nyhan Syndrome.
11. **Chemistry of Nucleic Acids**: Structure and function of DNA and RNA, Genetic code, DNA Replication, Transcription, chain initiation, chain elongation, chain termination, Inhibitors of protein biosynthesis.
12. Molecular Mechanism of gene expression and regulation i) Lac operon model ii) Mutations.
13. **Hemoglobin Metabolism:** Synthesis and break down of hemoglobin, porphyria (in brief), Fate of bilirubin, different types of Jaundice.
14. Genetic engineering : Recombinant DNA, Restriction endonuclease, Chimeric molecule, and Gene library. Applications of recombinant DNA technology in relation to medicine.
15. Molecular concept of body defence and their applications:
    - Immunoglobulins-structure & functions,
    - ii) Free radicals, enzymatic and non-enzymatic antioxidants.

Syllabus for Human Biochemistry: Paper II

Structural formulae are not obligatory.

Course Code – MU 106

1. **Chemistry and Functions** of monosaccharides (excluding isomerism), disaccharides and polysaccharides including Glycosaminoglycans (musopolysaccharides).
2. **Carbohydrate Metabolism:** Biochemical aspects of digestion and absorption of carbohydrates. Synthesis and break down of glycogen, Glycolysis, Rapoport Luebering cycle, Citric acid cycle, Gluconeogenesis, HMP shunt pathway and its biological significance, Uric acid pathway (significance only)Metabolism of Galactose and Galactosemia. Blood sugar level and its regulation, oral GTT and glycosuria, Biochemistry of diabetes mellitus.
3. **Chemistry of Lipids :** Classification and biological importance of triacyl glycerol, phospholipids, glycolipids, fatty acids (PUFA), prostaglandin, steroids and lipoproteins.
4. **Lipid Metabolism:** Biochemical aspects of digestion and absorption of Lipids. Beta oxidation, biosynthesis of saturated fatty acids only, cholesterol biosynthesis, transport (role of HDL & LDL) Excretion, Ketogenesis, Ketolysis and Ketosis. Adipose tissue metabolism, Lipolysis and re-esterification, fatty liver and atherosclerosis.
5. **Metabolic interrelationship of carbohydrates, lipids and proteins metabolism.**
6. **Hormones:** General characteristics and Mechanism of hormone action. CAMP the second messenger, phosphotidyl inositol/ calcium system as second messenger.
7. **Mineral Metabolism:** Study of i) Calcium and Phosphorous ii) Sodium, Potassium & chloride iii) magnesium, copper & iodine iv) Iron v) manganese, selenium, zinc & fluoride & their importance in body in brief.
8. **Water and electrolyte balance and imbalance.**
9. **Acid base balance and imbalance.**
10. **Function tests:** i) Liver function tests, ii) Kidney function tests & iii) Thyroid function tests.
11. **Detoxification Mechanisms:** (Bio-transformation) oxidation, reduction, conjugation, hydrolysis.
12. **Radioisotopes:** uses of radioisotopes (therapeutic, diagnostic) and hazards.
13. **Metabolic changes during starvation.**
14. **Colorimetry, Electrophoresis, Chromatography, & flame photometry**
15. **Environmental Biochemistry:** Air & Water pollution :- Causes , effects & prevention in brief .
16. **Biochemistry of cancer:** carcinogens and outline mechanism of carcinogenesis. Tumor markers.

Syllabus for Practicals in Biochemistry

Group A

- Spectroscopic examination of Hb-derivatives (Oxy Hb; dexoy Hb; meth-Hb)
- Estimation of blood sugar
- Estimation of blood urea
- Estimation of serum creatinine
- Estimation of serum total protein, albumin and A/G ratio
- Estimation of S. G. P. T. (ALT)
- Estimation of S. G. O. T. (AST)
- Estimation of serum alkaline phosphates
- Estimation of serum amylase
- Estimation of serum uric acid
- Estimation of serum total bilirubin

Group B

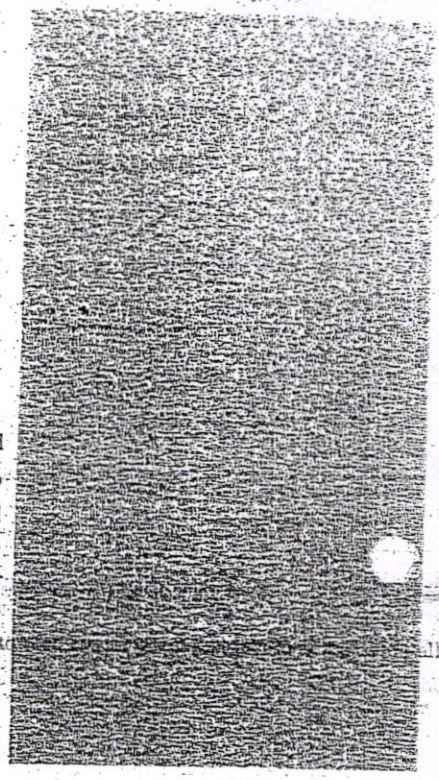
- Colour reaction of monosaccharides
- Colour reaction of disaccharides
- Colour reaction of polysaccharides
- Colour reaction of proteins
- Estimation of creatinine in urine
- Estimation to total serum cholesterol
- Estimation of serum calcium
- C. S. F. - sugar & protein
- Urine; Physical characteristics and normal constituents (organic)
- Urine; Physical characteristics and abnormal constituents
- Urine report

Lecture Cum-Demonstration

1. Colorimetry
2. pH-measurement
3. Electrophoresis
4. Chromatography

Demonstration

1. Glucose estimation by GOD-POD
2. Urine analysis by Uristics
3. Estimation of Serum albumin by BCG



Internal Assessment

Internal assessment examinations are conducted at end of first term (Term end examination) and 2nd term (Preliminary Examination). The marks secured in these examinations are converted into 'out of 20 marks' for theory and practical each. The student has to secure 35% marks out of total marks for internal assessment to be eligible for university examination. The pattern of the theory question papers for internal examination shall be similar to university examination. The heads of practical examination in the internal assessment examination shall be same as university examination. An up to date Practical Journal record complete in all respect shall be an essential requirement to appear in all the examinations failing which the candidate shall not be allowed to appear for the practical examination.

SN	Subject	Semester I - Term End Examination		Semester II - Preliminary Examination		
		Theory (A)	Practical (B)	Theory (C)	Viva (D)	Practical (E)
1.	Anatomy	50 (One paper)	40	100 (Two Papers 50 each)	20	40
2.	Physiology	50 (One paper)	40	100 (Two Papers 50 each)	20	40
3.	Biochemistry	50 (One paper)	40	100 (Two Papers 50 each)	20	40

Method of Calculation:-

Theory Marks to be sent to the University out of 20 $= \frac{(A)+(C)+(D)}{8.5} = \frac{50+100+20}{8.5} = \frac{170}{8.5} = 20$

Practical Marks to be sent to the University out of 20 $= \frac{(B)+(E)}{4} = \frac{40+40}{4} = \frac{80}{4} = 20$

Pattern of Theory University examination including Distribution of Marks, Questions, and Time.

i) **Two theory papers of 50 marks each**
ii) Total duration –2 ½ hrs each paper
iii) There will be 2 sections in each. paper
iv) **Both Papers will have same following pattern:**
v) **Section A (MCQ)** will be of 20 minutes and Section B will be of 130 minutes

Sections	Nature of Questions	Total No. of Questions	Mark(s) per Question	Total Marks
A)	Q.1 Multiple Choice Questions (MCQs)-	10	1	**10**
B)	Q.2 BAQ,s a,b,c,d,e.f.g.	5 out of 6	2	**10**
	Q.3 SAQ,s a,b,c,d.e	4 out of 5	05	**20**
	Q.4 One Long Question	1	10	**10**
Total				**50**

University Practical Examination including Viva-Voce is out of 60 marks. The distribution of the various heads for the practical examination is as follows:-

One quantitative experiment from Group A - 20 marks (15 marks for expt. & 5 marks for table viva)		20 Marks
One qualitative/quantitative experiment from Group B -15 marks(10 marks for Expt.& 5 marks - table viva)		15 Marks
Spot identification from group C, 5 marks		5 Marks
Viva	Based on Paper – I	10 Marks
	Based on Paper – II	10 Marks
Total		**60 Marks**

Group A:

Blood sugar, Blood urea, Serum total protein, Albumin and A/G ratio, Alanine amino transaminase(SGPT), Aspartate amino transaminase(SGOT), Alkaline phosphatase, Serum amylase, Serum total bilirubin, Serum uric acid, Serum calcium, CSF sugar.

Group B:

Creatinine in urine, Serum cholesterol, Serum phosphorus, CSF protein, Tests for monosaccharides, Tests for disaccharides, Colour reactions of proteins, Normal Organic constituents of urine, Abnormal constituents of urine, S. Creatinine.

Group C:

Identification of slide under microscope,
Use of reagent.
Significance of test.
Use of Instrument /Appliances.
Identification of Hb - derivative.
Identification of GTT , Electrophoretogram and chromatogram.
Candidate will be allowed to use flow chart for quantitative exercise only.
There will be table viva on Q.1 & Q.2 exercise.

University Examination Passing:

SN	Subject	Parts		Maximum marks in each part	Minimum Marks for passing in each part	Minimum marks for passing the subject
1.	Anatomy	Theory	Theory Paper I	50	–	100
			Theory Paper II	50		
			Oral	20		
			Total	120	60	
		Practical		40	20	
		Internal Assessment	Theory	20	20	
			Practical	20	[14(Eligibility for University Exam 35%)]	
2.	Physiology	Theory	Theory Paper I	50	–	100
			Theory Paper II	50		
			Oral	20		
			Total	120	60	
		Practical		40	20	
		Internal Assessment	Theory	20	20	
			Practical	20	[14(Eligibility for University Exam 35%)]	
3.	Biochemistry	Theory	Theory Paper I	50	–	100
			Theory Paper II	50		
			Oral	20		
			Total	120	60	
		Practical		40	20	
		Internal Assessment	Theory	20	20	
			Practical	20	14(Eligibility for University Exam 35%)	

Passing all the three subjects of Phase I curriculum is mandatory before being admitted to Phase II MBBS Curriculum.

Recommended Books

Text Books

1. Text book of Medical Biochemistry 7th edition 2007,
   M.N. Chatterjee & Rana Shinde
   Jaypee brother, Medical publisher Pvt. Ltd.
2. Text book of Bichemistry for Medical students - 5th Edition 2007 –
   DM Vasudevan, Sreekumari
   Jaypee brother, Medical publisher Pvt. Ltd.
3. Biochemistry 3rd revised edition – 2007-
   U. Satyanarayana,
   Book and allied Pvt. Ltd.
4. Text Book of Biochemistry and Human Biology - 2nd edition 1999,
   GP Talwar, LM Shrivastava, KD Maudgil
   Prentice-Hall of India Private Limited.

Reference Books

1. Harpers illustrated Biochemistry - 26th edition 2003,
   Robert K. Murray, Daryl K. Ranner, Petar A. Mayes
   Mc Graw Hill
2. Medical Biochemistry - 4th edition 2004
   Bhagwan NV
   Academic Press.
3. Lehninger Principles of Biochemistry - 1st edition 1984
   Albert L. Lehninger
   CBS publishers and distributors
4. Clinical Chemistry – Principles, Procedures, Correlations - 2nd edition 1992
   Michael L. Bishop, Janet L. Duben- Engelkirk
   J. B. Lippin Cott Company
5. Clinical Biochemistry - 2nd edition 2003,
   Allan Gaw Robert A. Cowan
   Churchill Livingstone.

PRAVARA INSTITUTE OF MEDICAL SCIENCES – (DEEMED UNIVERSITY)

MARKS LIST FOR PRACTICAL AND VIVA

FIRST M.B.B.S. (New Course) **Center: - Rural Medical College**

Sub: - Biochemistry **Date: - / / 20**

A: Quantitative Expt. Group A (Marks 20) (Expt. 15+Table Viva -05)
B: Qualitative/Quantitative Expt. Group B (Marks 15)(Expt. 10+Table Viva -05)
C: Spots Group C (Marks) 05
D : Total (40 Marks)

E : Paper I Marks 10
F : Paper II Marks 10
G : Total Viva **Marks 20**

Seat No.	A/20	B/15	C/05	A+B+C= D/40	E/10	F/10	E+F= G/20

Name of Examiner and Signature

1.	
2.	

Name of Examiner and Signature

3.	
4.	

Pravara Institute of Medical Sciences
(Deemed to be University)

Loni Bk - 413 736, Tal. Rahata, Dist. Ahmednagar (M.S.)

NAAC Re-accredited with 'A' Grade (CGPA 3.17)

Established Under Section 3 of UGC Act 1956, Vide Govt. of India Notification No. F.9-11/2000-U.3, dated 29th September, 2003

Medical Faculty Revised Syllabus
Second Year MBBS

New Evaluation System 2013 Onwards

Approved Vide Academic Council Resolution No.24/AC/2014 Dated 21st June, 2014

Circular No. 27/2014 dated 7th August 2014

Mail : registrar@pmtpims.org,
Fax: +91-2422-273413 Phone No.: 273600
Homepage : http: // pravara.com

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR

SECOND MBBS

PHARMACOLOGY
(MU 201 & MU 202)

PATHOLOGY
(MU 203 & MU 204)

MICROBIOLOGY
(MU 205 & MU 206)

FORENSIC MEDICINE & TOXICOLOGY
(MU 207)

CIRCULAR NO. 27/2014

Dated : 07th August 2014

Pravara Institute of Medical Sciences

(Deemed University)

Loni Bk. 413 736, Tal. Rahata, Dist. Ahmednagar, (MS)

Ref. No. PIMS / AC / Medical / 2014 / 1217 **Date : 07 / 08 / 2014**

Circular No : 27 / 2014

It is hereby notified for the information of all concerned that the Academic Council at its meeting held on 21st June 2014 (Resolution No : 24 / AC / 2014, Item No. 24) had resolved to approve the revised pattern of examination (Para Medical Subjects) i.e. examination pattern, the distribustion of marks i.e. Rules and Regulations for IInd MBBS batch for admitted students in Ist MBBS in Rural Medical College in June 2013 and appearing for IInd MBBS exam from 2014 and onwards.

The revised pattern of university examinations and internal examinations (Theory, Practical, Oral, Viva voce, distribution of marks etc. submitted by the HOD's Pharmacology, Pathology, Microbiology and Forensic Medicine at its meeting held on 11th July 2014 is enclosed herewith for information and implementation.

The Principal, Rural Medical College and Heads of the Departments Forensic Medicine, Pharmacology, Pathology and Microbiology are requested to note the contents of this circular and bring it to the notice of all concerned faculty members and students and display this revised scheme of examination pattern on the Notice Board of the concerned departments for information of all concerned students.

A. L. Bhosale
Registrar

Copy for information and necessary action to :

1. The Principal, Rural Medical College, Loni
2. Dean faculty of Medicine
3. Heads of Concerned Departments- Forensic Medicine, Pharmacology, Pathology and Microbiology
4. Controller of Examinations

Copy for information to :

1. Asst. Registrar (Academic)
2. IT Manager – For display on university website

Copy to :

Hon'ble CEO - PIMS

Hon'ble Vice Chancellor - PIMS

Shri Tambe 14.8.14

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413 736, Tal. Rahata, Dist. Ahmednagar, (MS)

Ref. No. : PIMS/AC/R/2016/1446 **Date: 17/11/2016**

To,
The Dean,
Rural Medical College,
Loni.

Sir,

Please find enclosed herewith Resolution No. AC/2016/20, on Item No. 20 of the Academic Council Meeting held on 26th August, 2016 for further necessary action.

Dr. A. N. Badwe
Registrar

Encl.: As above.

Copy to:

1. The Chairman, Board of Studies in Para Clinical Subjects.
2. Dean, Faculty of Medical
3. Controller of Examination, PIMS (DU), Loni

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413 736, Tal. Rahata, Dist. Ahmednagar, (MS)

Item No. 20	**Board of Studies in Para-Clinical Subjects** **To consider & approve recommendation of Board of Studies in Para-Clinical Subjects.** **The detail syllabus for said course is enclosed as Annexure No. - XV**
Note	The meeting of Board of Studies in Para-Clinical Subjects was held on 29/04/2016 at 11.00 am. The following business were transacted at the meeting & recommended to Academic Council for its consideration. Since the medical educational sciences and their experts consider OSPE as a better and more objective examination reform, the inclusion of OSPE (10 marks) instead of spots is most appropriate and justifiable of the term. Presently use of objective pattern in practical examination like OSPE is advocated and recommended. All the members of BOS(Para) the use of term OSPE in place of spots. It was resolved that the word spots in practical syllabus and mark list paramedical subjects to be removed and be replaced by the term OSPE, keeping number of marks unchanged. b) The Proposed changes in under graduate and post graduate syllabus of theory and practical of para medical subjects were discussed by all the members. Heads of the departments informed the nature of proposed changes with its importance with appropriate reasoning. The proposed and approved changes in individual subjects are submitted with recommendation for syllabus to be revised .
	Resolution No. AC/2016/20 It was resolved to refer back the reform of OSPE to the Board of Studies and to see whether it is as per MCI norms. The proposed changes of UG and PG Syllabus of theory and practical of Para Medical subjects. Were approved and should be as per MCI guidelines only.

Dr. A. N. Badwe
Registrar

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR

SECOND MBBS

NEW EVALUATION SYSTEM

JUNE 2014 ONWARDS

PHARMACOLOGY

(MU 201 & MU 202)

CIRCULAR NO. 27/2014

Dated : 07th August 2014

PRAVARA INSTITUTE OF MEDICAL SCIENCES
(Deemed University)
Loni Bk. Tal-Rahata, Distt-Ahmednagar, Maharashtra

Medical Faculty Revised Syllabus
(SECOND M.B.B.S.)

Course Code :Theory Paper I - MU201
Theory paper II- MU202 Title : PHARMACOLOGY

Teaching Hours Theory : 100 hours
Practical : 200 hours

Total : 300 hours

1.Goal :

Enable the students to acquire the understanding of Pharmacodynamics , Pharmacokinetics of drugs ,their therapeutic implication in clinical practice and study of their safety profile.

2.Objectives:

1. To describe the pharmacodynamics, pharmacokinetics, adverse drug reaction, uses and the principles of rational drug therapy.
2. Describe drugs affecting autonomic nervous system and their therapeutic implication in clinical practice.
3. Describe drugs affecting cardiovascular system and their therapeutic implication in clinical practice.
4. Describe drugs affecting central nervous system and their therapeutic implication in clinical practice.
5. Describe drugs affecting respiratory system and their therapeutic implication in clinical practice.

6. Describe drugs affecting renal system and their therapeutic implications in clinical practice.
7. Describe drugs affecting GIT disorders and therapeutic implications in clinical practice.
8. Describe drugs affecting skin and mucous membrane and their therapeutic implications in clinical practice.
9. Describe chemotherapy of specific infections & parasitic infestation and their therapeutic implications in clinical practice.
10. Describe drugs used in de-addiction, emergency, deficiency of vitamins & minerals, poisoning, drugs for immunization and immunomodulation and their therapeutic implications in clinical practice.
11. Describe drugs used for hormonal disorders and supplementation,contraception and therapeutic implications in clinical practice.
12. Describe antiseptics, disinfectants and insectisides and their therapeutic implications in clinical practice.
13. Describe the adverse and serious adverse drug reactions, special precautions, indications, contraindications, and route of administration of all the essential drugs.

3. **Theory Syllabus :-**

Paper-I

A) General Pharmacology

1. Introduction, Definitions, Nature and sources of drugs.
2. Dosage forms of drugs.
3. Pharmacokinetics –I: Routes of drug administration
4. Pharmacokinetics –II: absorption and bioavailability of drugs and factors affecting it.
5. Pharmacokinetics – III: distribution – protein binding, biological bariers , tissue storage and factors affecting it.
6. Pharmacokinetics -IV : biotransformation- General principles,sites, phases, types, induction, inhibition, interactions, first pass effect, factors affecting and clinical importance.
7. Pharmacokinetics -V: elimination – Routes, zero and first order kinetics, factors affecting, Biological half life, T.D.M. and therapeutic applications in relation to dosing.
8. Pharmacodynamics- I; principles of drug action, mechanism of drug action, structure – activity relationship and drug receptor concept.
9. Pharmacodynamics- II: Dose response relationship and its significance. Efficacy, potency, Synergism, Antagonism with clinical significance.
10. ED.50, LD-50, therapeutic index, & therapeutic window.
11. Factors modifying the effect of drug.

B) Autonomic Nervous System

12. Introduction;Transmitters in ANS –
    Synthesis, storage, release, termination, uptake I & II. Autonomic receptors : types, physiological effects and regulation.
13. Adrenergic agonist – I
14. Adrenergic agonist- II
15. Alpha blockers
16. Beta blockers
17. Directly acting cholinergic drugs
18. Indirectly acting cholinergic drugs (anticholinesterases)
19. Anticholinergic drugs
20. Skeletal muscle relaxants.

C) **C.V.S., Haemopoetic ,Diuretics , R.S**

21. General considerations and over view of common cardiovascular diseases
22. Diurtics –I
23. Diurtics- II
24. ACE inhibitors and AT receptor antagonists.
25. Calcium channel blockers .
26. Pharmacotherapy of Hypertension
27. Thrombolytics and antiplatelet agents
28. Anti – coagulants and Coagulants,
29. Physiology of heamopoiesis and iron metabolism. Iron deficiency anaemia with management; megaloblasticanaemia , Vit B 12 and folic acid and erythropoietin.
30. Pharmacotherapy of I.H.D
31. C.C.F; I. Pathophysiology of C.C.F and Cardiac glycosides.
32. C.C.F: II. Drug therapy .
33. Anti –arrhythmic agents.
34. Shock; type,& drugs used
35. Hypolipidaemic agents
36. Drugs for Bronchial asthma.

Paper-II

A) CENTRAL NERVOUS SYSREM

1. Introduction to CNS, neurotransmitters, modulators, receptors, various disorders and classification of durgs used.
2. General anaesthetics. : I
3. General anaesthetics ; II
4. Sedatives – hypnotics : I
5. Sedatives – hypnotics;II
6. Anti – epileptics-I
7. Anti – epileptics- II
8. Parkinsonism
9. Antipsychotic
10. Antidepressants- I
11. Antidepressants – II and antimanic drugs
12. Autocoids-I: Histamine, 5 HT & their antagonist.
13. Autocoids – II: PGs, Leukotrienes, PAF and related drugs
14. Pain pathways and sites of intervention
15. Opioid analgesics- -I
16. Opioid analgesics- II
17. NSAIDs-I
18. NSAIDs-II
19. Pharmacotherapy of rheumatoid arthritis and gout
20. Pharmacotherapy of migraine
21. Antitussive drugs
22. Local anaesthetic

B) CHEMOTHERAPY

23. General considerations : Introduction
24. Sulphonamides&cotrimoxazole
25. Penicillins
26. Cephalosporins and other beta lactams
27. Macrolides
28. Tetracylines and chloraphenicol
29. Quinoline derivatives
30. Aminoglycosides
31. Drug therapy of UTI
32. Mycobacterial infection – I.Ttuberculosis – Ist line agents
33. Mycobacterial infection –II. Tuberculosis -IInd line agents and drugs for atypical mycobacteria.
34. Mycobacterial infection – III. Leprosy
35. Protozoal infections – I. Antiamoebic agents
36. Protozoal infections – II. Antimalarials – I
37. Protozoal infections –III. Antimalarials – II
38. Anthelmintics
39. Antifungal agents
40. Antiviral agents
41. Anticancer agents
42. Antiretroviral agents including vaccines
43. Pharmacotherapy of STDs

C) GASTRO INTESTINAL TRACT

44. Pharmacotherapy of vomiting (Antiemetics)
45. Pharmacotherapy of Diarrhoea
46. Pharmacotherapy of constipation (purgatives)
47. Peptic ulcer –I
48. Peptic ulcer –II (Pharmacotherapy)

D) ENDOCRINOLOGY

49.Introduction: anterior pituitary and hypothalamic hormones
50.Antithyroid agents
51.Steroids – I Glucocorticoids
52.Steroids – II Glucocorticoids
53.Anti diabetic agents : Insullins
54.Anti diabetic agents : Oral anti diabetic agents.
55.Oestrogens and antioesrogens
56.Progestins and anti progestins
57.Fertility control: Hormonal contraception.

PRAVARA INSTITUTE OF MEDICAL SCIENCES (DU)

Medical faculty

Presentation of Syllabus

II MBBS

Department of Pharmacology

(Proposed Revision Aug. 2016)

Practical Syllabus

1. Introduction to pharmacy
2. Weighing and measuring exercise
3. Prescription
4. Solid dosage forms
5. Liquid dosage forms
6. Miscellaneous dosage forms
7. Evaluation of new drug
8. Prescription writing exercises
9. Prescription criticism, correction and rewriting exercise (CCR)
10. Comments on fixed dose combination(FDC) exercises
11. Therapeutic Problems exerises
12. Clinical Case discussions
13. OSPE exercises.

PRAVARA INSTITUTE OF MEDICAL SCIENCES (DU)

Medical faculty
Presentation of Syllabus
II MBBS
Pharmacology
New Evaluation system for II MBBS

A) Methods

Theory, Practical and Viva

Type Eexam	Maximum Marks		Minimum Marks
Theory	80	95	47.5
Viva	15		
Practicals	25		12.5
Internal Assessment (Theory 15 + Practical 15)	30		15 (10.5 eligiblity for Uni. Exam 35%)
Total	150		75

B) Pattern of Theory Examination.

i) Paper - I; General Pharmacology, Autonomic Nervous system, Cardiovascular system, Haemopoietic and RS.

ii) Paper – II ; Chemotherapy I +II, CNS, Endocrinology, GIT

Paper I and paper II each will consists of :

- Section A (MCQ): 15 minutes
- Section B: 105 minutes

Total Time : 2 hours for each paper

Sections	Nature of Questions	Total No. of Questions	Mark(s) per Question	Total Marks
A	Multiple Choise Questions (MCQs) Single best respone	10	1	10
B	Q.1 Long Question	1	10	10
	Q.2 Short notes a,b,c	2 out of 3	5	10
	Q.3 Short answer question Pharmacological basis for a,b,c,d,e,f	5 out of 6	2	10
Total				40

C) Nature of Practical Examinations :

Number	Exersice	Marks
1	OSPE (Spots) (1x10= 10)	10
2	Prescription writing	05
3	Comments on FDC	05
4	Therapeutic Problem	05
Total		25

D) Nature of Oral Viva Examination

1	Viva – I	7.5
2	Viva –II	7.5
Total		15

E) Plan for Internal Assessmet :

Theory :- 15

Practical : -15
Total Marks :- 30
Minimum Marks :- 15 (10.5 eligibility for University Exam 35%)

Term	Examination Held			Total
	Theory	Practical		
		Practical	Journal	
I	40	40		
II	40	40		
Preliminary Examination	80	40		
Total No. Marks	160	120	3	
To be Converted to	15	12	3	
Total	15	15		30

Books Recommended

Pharmacology and Pharmacotherapeutics
R.S.Satoskar
S.D.Bhandarkar

Pharmacological basis of therapeutics
Goldman and Gilman

Clinical Pharmacology
Laurence

Essential of Medical Pharmacology
K.D.Tripathi

18/10/16
Professor & HOD
Department of Pharmacology
Rural Medical College,Loni

PRAVARA INSTITUTE OF MEDICAL SCIENCES
DEEMED UNIVERSITY

MARKS LIST FOR PRACTICAL AND VIVA

Second M.B.B.S. (New Course) Practical Examination **Summer/Winter: _____**

Center: - _____ **Date: - _____**

Sub: - Pharmacology **Practical Max. Marks: - 40**

Seat No.	OSPE (spots) (10) (10 Marks)	Prescription writing (05 Marks)	Comments on FDC (05 Marks)	Therapeutic problem (05 Marks)	Practical Total Marks Max : 25 Min : 12.5	Viva I (7.5 Marks)	Viva – II (7.5 Marks)	Viva Total (15 Marks)

Name of Examiner **Collage** **Signature with Date**

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR

SECOND MBBS

NEW EVALUATION SYSTEM

JUNE 2014 ONWARDS

PATHOLOGY
(MU 203 & MU 204)

CIRCULAR NO. 27/2014

Dated : 07th August 2014

PRAVARA INSTITUTE OF MEDICAL SCIENCES

(Deemed University)

Curriculum

New Evaluation system - June 2014 onwards

PATHOLOGY (II nd M.B.B.S)

Course Code: MU203 and MU204
Teaching hours: 3 Semesters (III, IV and V)
Minimum 315 working days.

Total number of teaching hours allotted to the discipline300 hrs
Distribution of teaching hours

A) Theory	Lectures		100
	Tutorials		60
B) Practical			100
C) Revision & Evaluation (Internal)		.....	40

1. Goal:

The goal of teaching pathology is to provide undergraduate students comprehensive knowledge of the causes and mechanisms of disease, in order to enable them to achieve complete understanding of clinical manifestations of the disease and applying this knowledge to diagnosis of the diseases.

2. Educational objectives

(a) Theory

The target is to develop knowledge and comprehensive level of cognitive domain and some part of application and analysis level of cognitive domain. So at the end of one and half years, the student should be able to

1. Describe the structure and ultra structure of a sick cell, the mechanisms of the cell degradation, cell death and repair.
2. Correlate structural and functional alterations in the sick cell.
3. Explain the Patho-physiological processes which governs the maintanence of homeostasis, mechanism of their disturbances and the morphological and clinical manifestation associated with it.
4. Describe the mechanisms and patterns of tissue response to injury to appreciate the Patho-physiology of disease processes and their clinical manifestations.
5. Correlate the gross and microscopic alterations of different organ systems in common diseases to the extent needed to understand disease processes and their clinical significance.
6. Develop an understanding of neoplastic change in the body in order to appreciate need for early diagnosis and further management of neoplasia.
7. Understand mechanisms of common haematological disorders and develop a logical approach in their diagnosis and management.

(b) Practical:

The target is to develop comprehension, application and analysis level of cognitive domain; some aspect of psychomotor and affective domain. So at the end of one and half years, the student shall be able to –

1. Perform simple bedside tests on blood, urine and other biological fluid samples.
2. Recognize morbid anatomical and histopathological changes for the diagnosis of common disorders.
3. Describe the rationale and principles of technical procedures of diagnostic laboratory tests.
4. Interpret diagnostic laboratory tests and correlate with clinical and morphological features of diseases.
5. Draw a rational scheme of investigations aimed at diagnosing and managing common disorders.

3. Distribution of teaching hours:

DIVISIONS	I. LECTURES (1 hr)	II. PRACTICALS (2 1/2 hrs)	III. TUTORIALS (2 hrs)
1. General Pathology	35	13	08
2. Haematology	15	07	04
3. Systemic Pathology	45	14	14
4. Clinical Pathology	04	04	04
5. Autopsy	01	02	02
TOTAL	100	100	60

4. Syllabus

Sequential organization of course contents

The Broad area of study shall be:-

Term-wise distribution

1st term:
1. General Pathology
2. General Neoplasia
3. Haematology & Transfusion Medicine

2nd term:
1. Systemic Pathology
2. Systemic Neoplasia
3. Clinical Pathology
4. Autopsy

3rd term: Tutorials & Revision.

I. Lectures:

a) GENERAL PATHOLOGY : (n=35)

1. Cell Injury:

Definitions and causes of diseases; Modes & mechanisms of cell injury; Intracellular accumulations and alterations; Reversible cell injury; Irreversible cell injury; Disturbances of pigment metabolism; Disturbances of Mineral metabolism

Must know:- Able to recall common definitions in Pathology and causes of cell injury. Able to appreciate mechanisms of cell injury & relate them to the morphological changes. Able to list the types of intracellular accumulations & alterations in reversible cell injury along with alterations in cell organelles and cytoskeleton. Able to recognize types of necrosis and gangrene at gross and microscopic levels. Apoptosis and its relevance. State the type of pigment disturbances and describe the changes associated with common disturbances like lipofuscin, melanin, Hemosiderin and Bilirubin. Describe the types, Aetiopathogenesis and morphological changes of calcification.

Desirable to know: - Disturbances of other minerals like zinc etc.

2. **Cellular Adaptations/ Growth disturbances:-**

Must know:- Define the various growth disturbances and appreciate the clinical significance of each

3. **Inflammation:**

Acute inflammation, Chemical mediators of Inflammation, Chronic inflammation (including granulomas):-

Must know:- Define and describe changes occurring in acute inflammation and integrate the changes with morphological patterns of injury. Definition, Classification, description of each type & role of chronic inflammation. Differentiate chronic from acute inflammation; describe aetiology, patterns and systemic effects of granulomas.

4. **Regeneration and repair**

General & in specialized tissues

Must know:- Define & describe regeneration and repair and understand the mechanisms and list factors modifying repair. Describe repair in fractures and parenchymal organs and list modifying factors and complications.

5. **Infectious diseases:**

Tuberculosis; Leprosy; Syphilis; Fungal diseases; Typhoid fever; Malaria

Must know: - Appreciate the importance of tuberculosis in the present day Context, its Pathogenesis & basic histopathology. List and describe the various pulmonary lesions of tuberculosis. Describe changes in various organs in TB and understand their functional correlation, sequelae, lab diagnosis and TB in AIDS. Classify, differentiate between different types of leprosy and describe the diagnostic histological features and sequelae.

Classify and describe lesions in various stages of syphilis. Correlate Pathogenesis with morphology and clinical features of the typhoid fever. Identify, morphological features in vivax and falciparum malaria and recommend lab investigations in the management.

Desirable to know:- Classification and be conversant with relevance of fungal diseases in the world with emphasis on opportunistic fungal infections.

6. **Genetic disorders:-**

Must know:- Normal karyotype, classification of genetic disorders, types of genetic change, Down's syndrome, Klinefelter's syndrome, Turner's syndrome

Desirable to know: - Lysosomal storage disorders, glycogen storage diseases, methods of disease diagnosis.

7. **Immunopathology**

Hypersensitivity reactions; Autoimmune diseases; Amyloidosis; AIDS.

Must know:- Classify, differentiate between different types of Hypersensitivity reactions. Understand mechanisms of autoimmunity and diagnose common autoimmune diseases Definition, physical characters, chemical characters, classification, pathogenesis morphology, clinical correlation and lab diagnosis. Understand the natural history of the disease AIDS , complications and recommend relevant investigations in the management.

Desirable to know:- Be conversant with transplant rejections; SLE.

8. **Circulatory Disturbances:-**

Oedema; Hyperaemia; Thrombosis; Embolism; Infarction; Haemorrhage and Shock

Must know:- Define oedema, classify and describe pathogenesis & correlate morphology with clinical significance with emphasis on transudate and exudate. Definitions, aetio-pathogenesis, morphology of acute and chronic congestions, Describe aetio-pathogenesis, fate, morphology and effects of thrombosis. Enumerate types, aetio-pathogenesis, recognize morphological changes and correlate clinical significance of embolism and infarction. Define, classify and understand pathogenesis, recognize the mediators and stages of shock. Recognize morphological changes &clinical significance of haemorrhage.

9. **Neoplasia –**

Nomenclature, classification; Morphology, Aetiopathogenesis & Carcinogenesis; Dysplasia, Biology, Spread, grading and staging and Lab diagnosis.

Must know:- Define important terms, classify and differentiate benign from malignant neoplasms. Understand aetiopathogenesis & carcinogenesis and analyse the mechanism of genetic changes in carcinogenesis. Understand the tumour host interactions in neoplasia. Biology of tumour growth, metastases: types, mechanisms, clinical correlations; Paraneoplastic syndrome; grading of cancer and staging of cancer.Knowledge regarding different diagnostic procedures and methods for detection of cancer, Precancerous conditions.

b) HAEMATOLOGY : (n=15)

1. **Introduction to haematology and hemopoiesis:-**

Must know:- Understand the importance of haematology in clinical practice and enumerate the stages of hemopoiesis.

2. **Anaemias :**

Iron deficiency anaemia, Megaloblastic anaemia, Haemolytic anaemia Aplastic Anaemias:-

Must know:- Definition, classify anaemia by various methods, clinical features and lab approach to anaemias. Definition, causes, haematological features, morbid anatomical features, laboratory diagnosis and differential diagnosis of Iron deficiency anaemia and Megaloblastic anaemia. Definition, classification, Pathogenesis and haematological features and Lab diagnosis of Thalassaemia and Sickle cell anaemia.

Desirable to know:- Aplastic anaemias.

3. **Haemorrhagic disorders:-**

Must know:- Classify haemorrhagic disorders, describe clinical distinction between Purpuras and Coagulation disorders and laboratory screening tests for haemorrhagic disorders. Normal coagulation and fibrinolytic mechanism. Describe etio-pathogenesis, clinical significance and lab diagnosis of haemophilia and DIC. Describe etio-pathogenesis, morphological features (haematological and morbid anatomical) clinical significance and lab diagnosis of ITP.

4. **Leukocytic disorders & Leukaemias:-**

Leukocytic disorders, Acute Leukaemias, Chronic Leukaemias Paraproteinemia:-

Must know:- Leukocytosis, Leukopenia and Leukemoid reactions. Classify and differentiate different types of Leukaemias. Definition, general features, classification, aetiology, haematological change, morbid anatomy, clinical course and laboratory investigations in leukaemias.

Desirable to know:- Understand the relevance of paraproteinemia's and integrate the various diagnostic modalities with the diagnosis.

5. **Blood Banking**

Blood groups; Blood Transfusion:-

Must know: - Appreciate the relevance of different types of blood groups systems in haematology and transfusion medicine. Blood gouping methods. Pathology of Erythroblastosis foetalis. Indications, selection of blood donors, Methods & complications of blood transfusions & Blood component therapy. Investigation of suspected transfusion reactions. Appreciate the relevance of autologous transfusions.

c) SYSTEMIC PATHOLOGY : (n=45)

1. **Diseases of blood vessels**

Atherosclerosis, Hypertension aortitis; Other diseases of blood vessels:-

Must know:- Definition, etiopathogenesis, gross and microscopic description, complications and clinical correlation. Relate the mechanisms of the disease to the clinical course and sequelae.Develop an index of suspicion for vasculitides and aneurysms.

2. **Diseases of Heart :-**

Ischaemic heart disease ; Rheumatic heart disease; Endocardial and pericardial diseases; Congenital heart disease; Cardiomyopathies

Must know:- Incidence, risk factors, Pathogenesis, morphological changes, clinical course, complications and investigations of IHD. Incidence, etiopathogenesis, morbid anatomy, histopathology, lesions in the organs, clinical course and sequelae of rheumatic heart diseases. Infective endocarditis - Pathogenesis, morphology, differential diagnosis of cardiac vegetations, Aetiology and basic morphology of different forms of pericarditis.

Desirable to know:- Correlate the anatomical malformations of disorders to the clinical consequences of the disease. Recognize the disorders as part of differential diagnosis in primary myocardial diseases.

3. **Diseases of Respiratory Systems.**

Pneumonias, Bronchiectasis Chronic Bronchitis, Emphysema, Asthama Lung Abscess, Lung tuberculosis, Occupational lung diseases, Tumours of lung and pleura:-

Must know:- Definition, classification , aetiology, pathogenesis, morphology , salient clinical findings including laboratory findings, complications and.prognosis of Pneumonias, Bronchiectasis Chronic Bronchitis, Emphysema, Asthama Lung Abscess, Lung tuberculosis, Occupational lung diseases, Tumours of lung and pleura.

4. **Diseases of GIT**

Lesions of oral cavity and salivary glands; Gastritis; Peptic Ulcer; Tumours of upper GIT; Ulcers of Intestines; Idiopathic Inflammatory Bowel disease Tumours of lower GIT:-:-

Must know:- Differential diagnosis of swelling of salivary glands, oral cancer - etiopathogenesis, gross and histopathological descriptions. Definition, classification , aetiology, pathogenesis, morphology , salient clinical findings including laboratory findings, complications and. prognosis of peptic ulcer, typhoid, tubercular, amoebic ulcers ; bacillary dysentery ; Crohn's disease; ulcerative colitis. carcinoma oesophagus, gastric carcinomas, carcinoma colon.

Desirable to know:- Overview of aetiology and types of gastritis; Overview of carcinoid tumours of GIT. Intestinal polyps & GI stromal tumours.

5. **Diseases of Liver**

Viral Hepatitis; Alcoholic liver disease; Cirrhosis Tumours of liver, Pancreas and gall bladder

Must know:- Definition, classification , aetiology, pathogenesis, morphology , salient clinical findings including laboratory findings, complications and. prognosis of Jaundice, Viral Hepatitis; Alcoholic liver disease; Cirrhosis; Tumours of liver.

Desirable to know:- Pathology of tumours of Pancreas and gall bladder.

6. **Diseases of kidney & urinary tract:**

Acute glomerulo nephritis ; Rapidly progressive glomerulo nephritis; nephrotic syndrome; chronic glomerulo-nephritis ; renal failure; pyelonephritis and interstitial nephritis, Hypertension, tumours of kidney and pelvis:-

Must know:- Definition, classification , aetiology, pathogenesis, morphology , salient clinical findings including laboratory findings, complications and. prognosis of acute glomerulo nephritis ; rapidly progressive glomerulo nephritis;; chronic glomerulo-nephritis ; acute tubular necrosis;; pyelonephritis and interstitial nephritis & Hypertension. Definition, classification , aetiology, pathogenesis, morphology , salient clinical findings including laboratory findings, complications and.prognosis of common causes of nephrotic syndrome & tumours of kidney

7. **Diabetes mellitus:-**

Must know:- Definition, classification , aetiology, pathogenesis, morphology , salient clinical findings, complications and. prognosis of Diabetes mellitus. Laboratory investigations in Diabetes Mellitus.

8. **Diseases of lymph nodes and Spleen:-**

Non-neoplastic lesions of lymph nodes and Spleen; Hodgkin's Lymphoma; Non-Hodgkin's Lymphoma: -

Must know:- Definition, classification , aetiology, pathogenesis, morphology , salient clinical findings including laboratory findings, complications and. prognosis of common causes of lymphadenopathy & Hodgkin's Lymphoma. Definition, classification, salient diagnostic features and clinical Correlation. of Non-Hodgkin's Lymphoma. Common causes and appearances of splenomegaly.

Desirable to know: - Extra nodal lymphomas.

9. **Tumours of testis and Prostate:-**

Must know:- Definition, classification , aetiology, pathogenesis, morphology , salient clinical findings including laboratory findings, complications and of prognosis of most common tumours.

10. **Tumours of female genital system.**

Tumours of Cervix ; Uterus; Ovary and Trophoblastic tissue:-

Must know:- Definition, classification , aetiology, pathogenesis, morphology , salient clinical findings including laboratory findings, complications and. prognosis of most common tumours of Cervix ; Uterus & Ovary

Desirable to know:- Classification and morphological description of important types of tumours of trophoblastic tissue.

11. **Tumours of breast**

Must know:- Classification, morphological features and grading of carcinoma breast and differential diagnosis of breast swellings.

12. **Tumours of skin -**

Must know:- Classification, morphological features of most common types and natural history. (Squamous cell carcinoma; Basal cell carcinoma & Malignant Melanoma)

13. **Diseases of bones & joints:**

Non-neoplastic lesions of bone and joints; Tumours of bone, cartilage and joints:-

Must know:- Etiopathogenesis and morphological changes of common arthritis and osteomyelitis. Classification, radiological and pathological features of important bone tumours (Osteosarcoma, GCT and Ewing's sarcoma).

14. **Soft tissue tumours:-**

Must know:- Classification, morphological features of lipomatous, fibrous and blood vessel tumours. Morphological features of neural, muscle and fibro histiocytic tumours.

15. **Diseases of nervous system**

Inflammatory and neoplastic conditions of CNS:-

Must know:- Morphological features and differential diagnosis of meningitis. Classification, morphological features, clinical course and sequelae of important nervous system tumours. (Meningioma; Gliomas; Neurofibromas , Neurilemmomas).

16. **Lesions of Thyroid:-**

Must know:- Differential diagnosis of thyroid nodule.

d) CLINICAL PATHOLOGY : (n=4)

1. **Liver function tests:**

Must know: - The differential diagnosis and laboratory investigations in Jaundice

2. **Renal function tests:-**

Must know: - Laboratory approach to a case of Renal Dysfunction

1. **Laboratory in vestigations in Diabetes mellitus:-**

Must know: - Laboratory diagnosis of Diabetes mellitus

4. **CSF examination**

Must Know: Differential diagnosis of meningitis.

e) **AUTOPSY : (n=1)**

Must know:- Indications and techniques of medical autopsies

II. Practicals:

Total hours : 100 **Number : 40**

a) GENERAL PATHOLOGY: (n=13)

1. Tissue processing, frozen section, identification of the common types of cells by light microscopy, Special staining.
2. Cell injury (Reversible & Irreversible cell injury)
3. Acute inflammation
4. Chronic inflammation and Repair
5. Tuberculosis, Leprosy , Syphilis
6. Calcification, Amyloidosis & Disturbances of pigment metabolism
7. Circulatory Disturbances (Oedema, congestion, Thrombosis, embolism and infarction)
8. Disturbances of growth (Atrophy, hypertrophy, hyperplasia, metaplasia, Dysplasia, hypoplasia)
9. Neoplasia

b) HAEMATOLOGY: (n=7)

1. Collection of specimen, anticoagulants and common haematological tests (Hb)
2. Common Haematological Counts (TLC, DLC) & Interpretation of ESR
3. Investigations in Anaemia
4. Investigations in Leukaemia
5. Investigations in haemorrhagic disorders
6. Blood Banking

C) SYSTEMIC PATHOLOGY: (n=14)

1. Diseases of blood vessels
2. Diseases of Heart
3. Diseases of Respiratory Systems.
4. Diseases of GIT
5. Diseases of Liver
6. Diseases of kidney & urinary tract:
7. Diseases of lymph nodes and Spleen:-
8. Tumours of testis and Prostate
9. Tumours female genital system.
10. Tumours of breast
11. Tumours of skin –and Soft tissue tumours
12. Diseases of bones & joints
13. Diseases of nervous system
14. Lesions of Thyroid:-

d) CLINICAL PATHOLOGY: (n=4)

1. Urine RE -Carryout a bedside routine urine examination and interpret the results.
2. Pregnancy test and Semen Analysis - (Practical demonstration).
3. Common cytological preparations (lecture demonstration).
4. CSF examination.
5. Serous effusion examination.

e) AUTOPSY: (n=2)

To study and describe five autopsy reports. CPC of common diseases like 1.Tuberculosis 2.Myocardial infarction 3.Carcinoma/sarcoma 4.Hypertension

6. Books recommended:

a) Pathologic basis of diseases by Robbins; By- Kumar.V, Abbas.A, Fausto.N ; 7th Edition,2004,Elsevier
b) Basic Pathology by Robbins ; By- Kumar.V,Cortan.R,Robbins.S.L; 2003, Elsevier
c) Text book of Pathology by Harsh Mohan ; By- Harshmohan; 5th Edition,2005, Jaypee Brothers, New Delhi.
d) Text book of General Pathology Part I & II by Bhende and Deodhare; Part I & Part II, By- Deodhare.S.G, Deodhare S.S, 6th Edition, 2002, Popular Prakashan Private Limited.

Reference books:

a) Anderson's text book of Pathology Vol I & II. ; By- James.L, Damjonov.I, 10th Edition,1990,Mosby.
b) Oxford text book of Pathology Vol. I, II & III
c) Pathology by Rubin and Farber, ;By- Rubin.E, Gorstein.F, Rubin.R, Schwarting. R,Strayer.D, 4th Edition,2005,Lippincott and Williams and Wilkins.
d) Clinical Pathology by Talib
e) Text book of Pathology by Muir; By- MacSween.R.N.M,Whaley.K, 13th Edition,1992,ELBS- Publishers Great Britain
f) Haematology by De Gruchi; By- Firkin.F,Chesterman.C,Penington.D,Rush.B, 5th Edition,1989, Blackwell Science.

New Evaluation system for II MBBS,
Subject : Pathology
June 2014 onwards

a. Methods

Theory, Practical and Viva

Type of exam	Maximum marks		Minimum Marks
Theory (Two Papers)	80	95	47.5
Oral Viva	15		
Practicals	25		12.5
Internal Assessment (Theory 15+ Practical 15)	30		15 (10.5 eligibility for Univ. exam 35%)
Total	150		75

b. Pattern of Theory Examination in final examination including Distribution of Marks, Questions, and Time.

i) **Two theory papers of 40 marks each**
ii) Total duration –2 hrs each
iii) There will be 2 sections in each.
iv) **Paper I** will be on General Pathology including General Neoplasia, Haematology including Transfusion medicine.
v) **Paper II** will be on Systemic Pathology including Systemic Neoplasia, Clinical Pathology and Autopsy
vi) Both Papers will have same following pattern:
vii) **Section A (MCQ)** will be of 15 minutes and Section B will be of 105 minutes

Sections	Nature of Questions	Total No. of Questions	Mark(s) per Question	Total Marks
A)	Multiple Choice Questions (MCQs)- Single best response	10	1	**10**
B)	Q.1 Long Question	1	10	**10**
	Q.2 Short Notes	2 out of 3	5	**10**
	Q.3 Short answer Question (Like Definition, enlist, enumerate, Draw, Classify etc.	5 out of 6	2	**10**
Total				**40**

c. *Nature of practical examination in finals*

Number	Exercise	Marks
1	Spots 10 Spots 1 minutes each (4 specimen, 1 Instrument, 3 Histopathology slides, 1 Haematology slide and 1 chart)	**10**
2	Routine Urine Examination	**05**
3	Histopathology Slides – 1 slides	**05**
4	Haematology Peripheral Blood Smear reporting, or Hb Estimation or Total Leukocyte Count or Blood Grouping	**05**
Total		**25**

d. ***Nature of Oral Viva examination in finals***
(These will be included in theory marks)

1	Morbid Anatomy & Histotechniques, Cytology (General Pathology , Systemic Pathology, specimens, Histotechniques, Cytology)	**7.5**
2	Clinical Pathology (Collection of blood, Special Haematology tests like ESR , PCV, Bone marrow etc., Blood banking , CSF, Fluids, etc.)	**7.5**
Total		**15**

e. Plan for internal assessment:

Theory : 15

Practical : 15

Total Marks: : 30

Minimum Marks: : 15 (10.5 eligibility for Univ. exam 35%)

Term	Examination Head			Total
	Theory	Practical		
		Practical	Journal	
I	40	40		
II	40	40		
Preliminary Examiation	80	40		
Total No. of marks	**160**	**120**	**3**	
To be converted to	**15**	**12**	**3**	
Total	**15**	**15**		**30**

PRAVARA INSTITUTE OF MEDICAL SCIENCES
DEEMED UNIVERSITY

MARKS LIST FOR PRACTICAL AND VIVA

Second M.B.B.S. (New Course) Practical Examination **Summer/Winter: _____**

Center: - _____ **Date: - _____**

Sub: - Pathology **Practical Max. Marks: - 40**

Distribution of Practical Marks

A **OSPE (Spots) 10** **1 minutes each**
(4 specimen, 1 Instrument, 3 Histopathology slides, 1 Haematology slide and 1 chart) **(1X10=10 Marks)**

B Urine Examination **(05 Marks)**

C Histopathology Slide **(05 Marks)**

D Peripheral Blood Smear reporting, or Hb Estimation or Total Leukocyte Count or Blood Grouping **(05 Marks)**

E **Practical Total : 25 Marks**

Distribution of Viva Marks

F General & Systemic Pathology **(7. 5 Marks)**

G Clinical Pathology & Hematology **(7. 5 Marks)**

H **Viva Total : 15 Marks**

Seat No.	A (10 Marks)	B (05 Marks)	C (05 Marks)	D (05 Marks)	E: Practical Total Marks Max : 25 Min : 12.5	F (7.5 Marks)	G (7.5 Marks)	H Viva Total (15 Marks)

Name of Examiner **Collage** **Signature with Date**

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR

SECOND MBBS

NEW EVALUATION SYSTEM

JUNE 2014 ONWARDS

MICROBIOLOGY
(MU 205 & MU 206)

CIRCULAR NO. 27/2014

Dated : 07th August 2014

PRAVARA INSTITUTE OF MEDICAL SCIENCES

(Deemed University)

Curriculum

MICROBIOLOGY (II nd M.B.B.S.)

New Evaluation system - June 2014 onwards

Course Code : MU- 205 AND MU- 206

Teaching hours : 3 Semesters (III, IV and V)
Minimum 360 working days.

Total number of teaching hours alloted to the discipline 250 hrs.
(As per MCI guideline 1997)

Distribution of teaching hours

A) Theory

Lectures	:	94
Tutorials	:	22
Total	:	**116**
B) Practical & Revision	:	**120**
C) Evaluation (Internal)	:	**014**
Total	:	**250**

1. **Goal :**

The goal of teaching Microbiology is to provide understanding of the natural history of infectious diseases in order to deal with the etiology, pathogenesis. pathogenicity, laboratory diagnosis, treatment, control and prevention of these infections diseases.

2. **Educational objectives**

A) THEORY

The student at the end of the one and half years should be able to :-

i) state the etiology, pathogenesis and methods of laboratory diagnosis and apply that knowledge in the diagnosis, treatment, prevention and control of communicable diseases caused by microorganisms

ii) Understand commensal, opportunistic and pathogenic organisms of human body and describe host parasite relationship.

iii) Know and describe the pathogenesis of diseases caused by microorganisms

iv) State the sources and modes of transmission of pathogenic and opportunistic micro-organisms including knowledge of insect vectors and their role in transmission of infectious diseases.

v) Choose appropriate laboratory investigations required for clinical diagnosis.

B) PRACTICAL

i) Plan and interpret laboratory investigations for diagnosis of infections diseases and correlate the clinical manifestations with the etiological agent.

ii) Identify common infectious agents with the help of laboratory procedure, acquire knowledge of antimicrobial agents, use of antimicrobial sensitivity tests to select suitable antimicrobial agents for treatment.

iii) Perform simple laboratory tests, which help to arrive at rapid diagnosis.

iv) Be conversant with proper methods of collection, storage and transport of clinical material for microbiological investigations.

v) Understand the principles of immunology and its application in the diagnosis and prevention of infectious diseases including immunization schedule, acquire knowledge of the scope of immunotherapy and different vaccines available for the prevention of communicable diseases.

vi) Understand methods of disinfection and sterilization and their application to control and prevent hospital and community acquired infections including universal biosafety precautions and waste disposal.

vii) Recommend laboratory investigations regarding bacteriological examination of food, water, milk and air.

viii) The student should be well equipped with the knowledge of prevalent communicable diseases of national importance and of the newer emerging pathogens.

3. Distribution of teaching hours :

DIVISIONS	I. LECTIRES (1 hr)	PRACTICAL (3 hrs.)
1. General Microbiology	12	05
2. Systemic bacteriology	30	20
3. Immunology	14	02
4. Virology	15	02
5. Mycology	07	02
6. Parasitology	16	09

4. Syllabus Term wise distribution

I[st] Term	1. General Microbiology
	2. Systemic bacteriology
II[nd] Term	1. Systemic bacteriology
	2. Immunology
	3. Virology
III[rd] Term	1. Mycology
	2. Parasitology
	3. Tutorials & Revisions

*LECTURES

A - GENERAL MICROBIOLOGY: (n=12)

1. Introduction and Historical background

Must Know:

Definitions: Medical Microbiology, pathogen, commensal, symbiont etc. To cover Anton van Leewenhoek, Pasteur, Lister, Koch, Flemming etc. In History: Scope to cover the importance of Med. Microbiology on diagnosis and prevention of infectious diseases.

Desirable to know:

Micro-organisms as models in Molecular Biology and Genetic engineering.

2. Morphology of bacteria and Classification

Must Know:

Bacterial cell and its organelles, morphological classification, methods of studying bacteria, staining methods & their principles

Grams & Zeil Neelson staining, their importance in presumptive diagnosis, negative staining, dark ground illumination, phase contrast and fluorescent microscopy, briefly about electron microscopy. Principles and applications of all microscopes.

3.Physiology of bacteria including growth requirements & metabolism

Must Know:

Nutrition, respiration (anaerobic & aerobic) and growth of bacteria, growth curve, physical factors influencing growth. Culture media: Definition, classification and application.

Desirable to know:

Important constituents of culture media.

4. Sterilization

Must Know:

Definition of sterilization, disinfection, asepsis, antiseptics. Ubiquity of bacteria, modes of killing microbes and preventing them, factors determining selection of the mode, factors adversely affecting sterilization. Enumeration of physical methods of sterilization including principle & their application.

Desirable to know:

Working and efficacy testing of autoclave, inspissator and hot air oven.

Central Sterile Supply Department (CSSD) – concept only.

5. Disinfectants

Must Know:

Asepsis and antisepsis, modes of action of chemical agents on microbes. Phenols, Halogens, Aldehydes, Acids, Alcohol, heavy metals, oxidizing agents etc. Universal biosafety precautions.

Desirable to know

Dyes, soaps and detergents. Concentration and contact time.

6. Waste disposal

Must Know:

Definition of waste, classification, segregation, transport and disposal.

7. Bacterial genetics and drug resistance to antimicrobial agents.

Must Know:

Introduction – codon, lac operon, mutation, transformation, transduction & conjugation, R factor, mode of action of antimicrobials on bacteria, mechanism of drug resistance and antimicrobial susceptibility tests, steps taken to minimize emergence of resistant strains
(Antibiotic policy, formulation),

8. Host parasite relationship and bacterial infections

Must Know:

Commensal, pathogenic and opportunistic organisms, their pathogenic factors and modes of transmission. Microbial factors: spores, capsule, toxins, enzymes, intracellular parasitism, antigenic variation & extrinsic factors etc. leading to establishment of infection. Types of infection: primary, secondary, general, local, natural, nosocomial, iatrogenic, zoonotic.

9. Normal flora

Must Know:

Introduction – various sites, types and role

10. Methods of identification of bacteria. Diagnosis of infectious diseases (direct and indirect)

Must Know:

Principles of laboratory diagnosis of infectious diseases. General procedures for collection transport, processing of specimens for microbiological diagnosis.

Desirable to Know:

PCR, RIA, DNA probes.

B) IMMUNOLOGY: (n=14)

1. Introduction

Must Know:

Definition of immunity, types of immunity, factors responsible, mechanism of innate immunity, active and passive immunity, local immunity, Herd immunity

2. Antigens, HLA

Must Know:

Definition, types, antigen determinants, properties of antigen.
MHC- concept, class- I, II & III functions, indication of typing, MHC restriction.

3. Antibodies

Must Know:

Definition, nature, structure of immuno-
Globulins, papain digestion, understand isotypic, allotypic and idiotypic markers, immunoglobulin classes, physical and biological properties of immunoglobins.

Desirable to Know:

Pepsin digestion, amino acid sequence, immunoglobin domain, abnormal immunoglobins

4. Serological reactions

Must Know:

Definition, characteristics, titre, sensitivity & specificity, antigen- antibody interaction- primary, secondary & tertiary, prozone phenomenon, principle, types and application of precipitation, agglutination, complement fixation, enzyme immunoassay, radioimmunoassay, immunofluoroscence test, neutralization and opsonisation & co-agglutination.

5. Immune response

Must Know:

Types, development, role of --thymus, bone marrow, lymph nodes & spleen, cells of lymphoreticular system, morphology and role of T subsets, NK cells, B cells , plasma cells and macrophages, B & T cell activation, antigen processing and presentation, primary and secondary immune response, principle and uses of monoclonal antibodies, factors affecting antibody production, CMI- definition, types, role of T cell and macrophages, definition of immune tolerance and mechanism of tolerance.

Desirable to know:

Lymphokines and their role, clonal selection, mechanism of immunoregulation, theories of antibodies formation, techniques of monoclonal antibody formation, detection of CMI, types of immunotolerance.

6. Complement

Must Know:

Definition, synthesis, pathways, activation, role & biological functions, components, measurement. Regulation of complement activation, complement deficiency

7. Hypersensitivity

Must Know:

Definition, classification, difference between immediate and delayed reaction, mechanism of anaphylaxis, manifestations of anaphylaxis, types of anaphylaxis, atopy, e.g. of anaphylactic reaction, tests for anaphylaxis, mechanism and e.g. of type-II & type-III reactions, mechanism & types of delayed hypersensitivity.

Desirable to know:

Desensitization in anaphylaxis, type V reaction, ADCC, Shwartzman phenomenon

8. Autoimmunity

Must Know:

Definition, mechanism, classification, pathogenesis.

9. Transplantation & tumour immunology

Must Know:

Types of transplants, mechanism of transplant rejection, prevention of graft rejection, GVH reaction, IR to tumors, tumor antigens, mechanism of IR to tumors.

Desirable to know:

Type of tumour antigens, immune surveillance

10. Immuno- Deficiency

Must Know:

Classification, examples, laboratory tests for detection, manifestations.

C – Systemic Bacteriology (n:30)

Staphylococcus, Streptococcus and Pneumococci, Neisseria, C. diphtheriae, M tuberculosis, Atypical mycobacteria, M. Leprae, Bacillus, Methods of Anaerobiosis and classification, Nonsporing anaerobes, Clostridium welchii, tetani, botulinum, Enterobacteriacae, Salmonella typhi, Shigella, Vibrio, Campylobacter, Pseudomonas, Other GNB, Newer bacteria, Spirochaetes, Actinomycosis and Nocardia, Rickettsia, Chlamydia and Mycoplasma, Bacteriology of Air, Water, Milk and Food

Pathogenesis includes:

- Infectious agent - MK
- Habitat - MK
- Source / reservoir - MK
- Mode - MK
- Infective dose - MK
- Multiplication, spread - MK
- Clinical features, pathology - MK
- Complications - MK
- Virulence factors - MK
- Immunological response - MK

*MK- Must know
*DK- Desirable to know

Laboratory diagnosis: -MK

- Specimen selection -MK
- Collection -MK
- Transport -MK
- Primary smear, hanging drop -MK
- Selection of media -MK
- Pathogenicity testing -MK
- Anti microbial drug susceptibility testing-MK
- Serological interpretation -MK

D) MYCOLOGY: (n=7)

1. Introduction to Mycology

Must Know:

Nature of fungus (definition, differences with bacteria), characteristics of fungi, common terminologies, brief account of types of sporulation and morphological classification of fungi. Methods of identification , Infections produced,

Lab Diagnosis, processing of skin, hair and nail, Growth requirements, ecological, medical and industrial importance of fungi (brief account)

2. Agents of Superficial mycosis

Must Know:

Enumerate, predisposing factors, morphological features, Lab. Diagnosis

Desirable to know:

Colony characteristics of Dermatophytes

3. Subcutaneous mycosis

Must Know:

Enumerate, predisposing factors, Mycetoma, Rhinosporidiosis, Pathogenesis, Lab. Diagnosis

4. Systemic mycosis Opportunistic fungal infections

Must Know:

Classification, predisposing factors, Candida, Cryptococcus, Histoplasma morphology, pathogenesis, lab. Diagnosis

Classification, predisposing factors, Mucor, Aspergillus, Pneumocystis carinii

Desirable to know:

Cultural characteristics

E) VIROLOGY: (n=15)

1.General Virology

Must Know:

Size, shape, symmetry, structure, resistance, multiplication, properties and classification of viruses, pathogenesis, bacteriophages, concept of virons

2. Laboratory diagnosis of viral infections

Must Know:

Collection of samples, transport, cultivation and methods of diagnosis

3. Viral immunity

Must Know:

Viral immunity, interferon, viral vaccines

4. Pox viruses

Must Know:

Small pox and Molluscum

5. DNA viruses

Must Know

Papova, Adeno, Herpes viruses (Herpes simplex, Varicella zoster, CMV, EBV)

6. Papova, Adeno, Herpes viruses (Herpes simplex, Varicella zoster, CMV, EBV)

Must Know

Orthomyxo and Paramyxoviruses, Ag shift and drift

Desirable to know:

Rhinoviruses

7. Picornaviruses

Must Know:

Polio, Coxsackie, Enteroviruses, Viruses causing diarrhoea – Rota viruses, Immunity (polio)

8. Hepatitis viruses

Must Know:

Hepatitis viruses , immunity and laboratory diagnosis

9. Arboviruses

Must Know:

Dengue, KFD, Japanese encephalitis – definition, classification, enumeration in India, Pathogenesis, laboratory diagnosis and control

10. Rhabdoviruses

Must Know:

Rabies

11. Slow and Oncogenic viruses

Must Know:

Characteristics of slow virus infections, pathogenesis and laboratory diagnosis and viruses associated with it

12. Retroviruses

Must Know:

HIV/AIDS, Immunity, USP

F) PARASITOLOGY: (n=16)

1.Introduction to medical Parasitology
Must Know

Parasites: their nature, classification, and explanation of terminologies, epidemiology, emerging parasitic infections, (pathogenicity and laboratory diagnosis)

2. E. histolytica
Must Know:
Amoebic infections

3. Free living amoebae and flagellates
Must Know:
Free living amoebae, PAME, Giardia & Trichomonas

4. Hemoflagellates
Must Know:
L. donovani: life cycle, morphology, pathogenicity, and lab. Diagnosis, Trypanosomes

5. Malaria
Must Know:
Malarial parasites: life cycle, morphology, pathogenicity, laboratory diagnosis etc.

6. Misc. Pathogenic protozoa
Must Know:
Toxoplasma, Cryptosporidium, Isospora, B.coli

7. Cestodes
Must Know:
Taenia saginata & solium, Echinococcus granulosus, life cycle, morphology, pathogenicity and laboratory diagnosis.

Desirable to know:
Brief mention of other cestodes

8. Trematodes
Must Know:
Schistosomiasis: life cycle, morphology, pathogenicity & lab diagnosis.
Desirable to know
Brief account of Fasciola hepatica

9. Intestinal Nematodes
Must Know:
A.duodenale, A. lumbricoides, E. vermicularis, T. tritura, S. stercoralis, life cycle,morphology laboratory diagnosis

10. Tissue Nematodes
Must Know
W. bancrofti, D. medinensis, in brief T. spiralis

TUTORIALS (APPLIED MICROBIOLOGY) : (n=24)

Regular tutorials, student seminars & symposia shall be conducted in addition to lectures.
Students must know:

- Micro-organisms causing diseases & pathological lesions
- Methods of collection & transportation of specimens
- Methods of laboratory diagnosis
- Serological response produced by organisms
- Interpretation of laboratory report

Topic of Tutorial (2 hrs each)

1 Gastrointestinal infections (diarrhoea and dysentery) and their laboratory diagnosis
2 Upper respiratory tract infection (patch and sore throat) and their laboratory diagnosis
3 Lower respiratory tract infection (pneumonia, bronchitis, bronchiolitis etc.) and their laboratory diagnosis
4 Urinary tract infection and their laboratory diagnosis
5 Infections of the central nervous system (meningitis, encephalitis, brain abscess) and their laboratory diagnosis
6 Wound infections and pyogenic infections
7 Septicemia and laboratory diagnosis and PUO
8 Eye infections and their laboratory diagnosis
9 Sexually transmitted disease (STD) and their laboratory diagnosis (genital ulcerative disease)
10 Role of laboratory in cross infection, Nosocomial infections / outbreak / epidemic
11 Vehicles and vectors of communicable disease & zoonosis
12 Preventive inoculations, immunomodulation and immunotherapy

New Evaluation system for II MBBS
Subject: Microbiology
June 2014 onwards

a. Methods

Theory, Practical and Viva

Type of exam	Maximum marks		Minimum Marks
Theory (Two Papers)	80	95	47.5
Oral Viva	15		
Practicals		25	12.5
Internal Assessment (Theory 15+ Practical 15)		30	15 (10.5 eligibility for Univ. exam 35%)
Total		150	75

b. Pattern of Theory Examination in final examination including Distribution of Marks, Questions, and Time.

i) **Two theory papers of 40 marks each**

ii) Total duration –2 hrs each

iii) There will be 2 sections in each paper

iv) **Paper I** will be on General Microbiology and Systemic Bacteriology.

v) **Paper II** will be on Immunology, Virology, Mycology and Parasitology

vi) Both Papers will have following pattern:

vii) **Section A (MCQ)** will be of 15 minutes and Section B will be of 105 minutes

Sections	Nature of Questions	Total No. of Questions	Mark(s) per Question	Total Marks
A)	Multiple Choice Questions (MCQs)- Single best response	10	1	**10**
B)	Q.1 Long Question	1	10	**10**
	Q.2 Short Notes	2 out of 3	5	**10**
	Q.3 Short answer Question	5 out of 6	2	**10**
Total				**40**

c. Nature of practical examination in finals

Number	Exercise	Marks
1	Spots 10 Spots (1 minutes each)	**10**
2	Gram Staining	**05**
3	ZN Staining	**05**
4	Stool examination	**05**
Total		**25**

d. Nature of Oral Viva examination in finals
(These will be included in theory marks)

1	General Microbiology and systemic Bacteriology	**7.5**
2	Immunology, Virology, Mycology and Parasitology	**7.5**
Total		**15**

e. Plan for internal assessment:

Theory : **15**

Practical : **15**

Total Marks: : **30**

Minimum Marks: : 15 (10.5 eligibility for Univ. exam 35%)

Term	Examination Head			Total
	Theory	Practical		
		Practical	Journal	
I	40	40		
II	40	40		
Preliminary Examination	80	40		
Total No. of marks	**160**	**120**	**3**	
To be converted to	**15**	**12**	**3**	
Total	**15**	**15**		**30**

6. RECOMRNDED TEXT AND REFEREAL BOOKS

1. Microbiology – Topley & Wilson
2. Medical Microbiology – Green wood
3. Text book of Microbiology – Ananthanarayanan
4. Text book of Microbiology – Baveja
5. Parasitology – Chatterjee
6. Text book of parasitology – Chakraborty
7. Medical parasitology – Rajesh Karyakarte
8. Immunology – Roit
9. Mycology – Jagdish chandar

PRAVARA INSTITUTE OF MEDICAL SCIENCES
DEEMED UNIVERSITY

MARKS LIST FOR PRACTICAL AND VIVA

Second M.B.B.S. (New Course) Practical Examination **Summer/Winter: _____**

Center: - _____ **Date: - _____**

Sub: - Microbiology **Practical Max. Marks: - 40**

Distribution of Practical Marks

A	**OSPE (spots) 10**	**1 minutes each (1X10=10 Marks)**
B	Gram Staining	**(05 Marks)**
C	Zeil – Nelson's Staining	**(05 Marks)**
D	Stool examination for Ova/Cyst	**(05 Marks)**
E		**Practical Total : 25 Marks**

Distribution of Viva Marks

F	General & Systemic Microbiology **(7. 5 Marks)**
G	Immunology, Virology, Mycology and Parasitology **(7. 5 Marks)**
H	**Viva Total : 15 Marks**

Seat No.	A (10 Marks)	B (05 Marks)	C (05 Marks)	D (05 Marks)	E: Practical Total Marks Max : 25 Min : 12.5	F (7.5 Marks)	G (7.5 Marks)	H Viva Total (15 Marks)

Name of Examiner **Collage** **Signature with Date**

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR

SECOND MBBS

NEW EVALUATION SYSTEM

JUNE 2014 ONWARDS

FORENSIC MEDICINE & TOXICOLOGY
(MU 207)

CIRCULAR NO. 27/2014

Dated : 07th August 2014

PRAVARA INSTITUTE OF MEDICAL SCIENCES
(Deemed University)

Medical Faculty

Presentation of Syllabus

New Evaluation system - June 2014 onwards

Course Code :- MU – 207
Course Title :- Forensic Medicine and Toxicology

Teaching Hours			
	Theory	:	100 hours
	Practical	:	40 hours
	Total	:	140 hours

1. **Goal**

The broad goal of teaching undergraduate students Forensic Medicine is to produce a physician who is well informed about Medico-legal responsibility during his/her practice of Medicine. He/She will also be capable of making observation and inferring conclusions by logical deductions to set enquiries on the right track in criminal matters and associated medico-legal problems. He/She acquires knowledge of law in relation to Medical practice. Medical negligence and respect for codes of Medical ethics.

2. **Educational objectives**

(a) Knowledge

At the end of the course, the students shall be able to

i. Identify the basic Medico-legal aspects of hospital and general practice
ii. Define the Medico-legal responsibilities of a general physician while rendering community service either in a rural primary healthy center or an urban health center.
iii. Appreciate the physician's responsibilities in criminal matters and respect for the codes of Medical ethics.
iv. Diagnose, manage and identify also legal aspects of common acute and chronic poisonings.
v. Describe the medico-legal aspects and findings of post-mortem examination in cases of death due to common unnatural condition and poisonings.
vi. Detect occupational and environmental poisoning, prevention and epidemiology of common poisoning and their legal aspects particularly pertaining to Workmen's Compensation Act.
vii. Describe the general principals of analytical toxicology.

(b) Skills

A comprehensive list of skills and attitude recommended by Medical Council of India regulation, 1997 desirable for Bachelor of Medicine and Bachelor of Surgery (MBBS) Graduate for Forensic Medicine and Toxicology

At the end or the course, the student shall be able to

i. Make observation and logical inference in order to intimate enquiries in criminal matters and Medico-legal problems.
   a. **To be able to carry on proper Medico-legal examination and documentation/Reporting of Injury and Age.**
   b. **To be able to conduct examination for sexual offences and intoxication.**
   c. **To be able to preserve relevant ancillary materials for medico-legal examination.**
   d. **To be able to identify important post-mortem findings in common unnatural deaths**
ii. Diagnose and treat common emergencies in poisoning and chronic toxicity
iii. Make observations and interpret findings at post-mortem examination.
iv. Observe the principles of medical ethics in the practice of his profession.

(c) Integration

Department shall provide an integrated approach towards allied disciplines like pathology, Radiology, Forensic Sciences, Hospital Administration etc. to impart training regarding Medico-legal responsibilities of physicians at all levels of health care. Integration with relevant disciplines will provide scientific basis of clinical toxicology e.g. Medicine, Pharmacology etc.

3. Theory Syllabus

Learning methods

Lectures, tutorials, Practical demonstrations

Distribution of teaching hours

Didactic lectures should not exceed one third of the time schedule, two third schedules should include practicals, Demonstrations, Group discussions, Seminars and Tutorials.

Learning process should include living experiences & other case studies to intimate enquiries in criminal matters & Medico-legal Problems.

Topic wise distribution

The course is designed to meet the needs of a General Practitioner and includes the following topics.

1.Forensic Medicine	40 Hrs
2.Toxicology	20 Hrs
3. Medical Jurisprudence	12 Hrs
4. Legal procedure in Medico-legal cases	08 Hrs
5. Court attendance when medical evidence Is being recorded	04 Hrs
6. Integrated approach towards allied disciplines	06 Hrs
7. Tutorial and Seminars	10 Hrs

Total: - 100 Hrs

Unit – 1 Forensic Medicine: (N=40)

Contents & division

Note: Must Know (MK), Desirable to Know (DK) & is Nice to Know (NK)

Section A) DEFINATION, SCORE RELEVANT TO SUBJECT

1. History of Forensic Medicine
2. Need, Scope, Import acne and probative value of Medical evidence in crime investigation

Section B) PERSONAL IDENTITY NEED AND ITS IMPORTANCE

A) Data useful for identification of Living and Dead.
B) Age estimation and its medico-legal importance
C) Sex determination and its medico-legal importance
D) Others methods of establishing identity: Corpus Delicti, Dactylography, Tattoo Marks, Deformities, Scars and other relevant factors
E) Identification of decomposed, Mutilated bodies and skeletal remains.
F) M.L. aspect of DNA fingerprinting- a brief introduction
G) M.L. aspect of blood and blood stains

Collection, Preservation and Dispatch of Specimen for Blood and other Ancillary material for identification and Medico-legal examination.

Section C) MECHANICAL INJURIES AND BURNS

1. Definition and classification of injuries: Abrasions, Contusions, Lacerations Incised and Stab injury, Firearm and Explosion injury, Fabricated and defence injury.
2. Medico-legal aspect of injury / hurt, simple & grievous hurts, murder, Ante-mortem, Post-mortem wounds, Age of injury, cause of death and relevant sections of I.P.C., Cr.P.C.
3. Causative weapon and appearance of Suicidal, Accidental and homicidal injuries.
4. Physical methods of torture and their identification.
5. Reporting on Medico-legal cases of Hurts.
6. Regional injuries: Head injury, cut throat injuries and Road traffic accident injuries.
7. Thermal injuries: Injuries due to heat and cold, Frostbite, Burns, Scalds and Bride burning.
8. Injuries due to Electricity, Lightening

Collection, Preservation and Dispatch of Specimen for Blood and other Ancillary material for Medico-legal examination.

Section D) : MEDICO- LEGAL ASPECT OF SEX, MARRIAGE AND INFANT DEATH

1. **Sexual offenses and perversions:** Natural (Rape, Adultery and incest) Unnatural (Sodomy, Bestiality and Buccal coitus) Lesbrianism, perversions and relevant sections of I.P.C. & Cr.P.C.
2. Fertility, Impotence, Sterility, Virginity, and Nullity of marriage and divorce on Medical ground.
3. Pregnancy, Delivery, Paternity, Legitimacy, Artificial insemination, Fertilization in Vitro, * Sterilization (Family planning Measures)
3. Abortions, Medical Termination of pregnancy, criminal abortions, Battered Baby Syndrome, Cot deaths and relevant sections of I.P.C. and Cr.P.C., MTP Act of 1971 and foetal sex determination Act
4. Infant death (Infanticide)
   i. Definition causes, manners and autopsy features
   ii. Determination of age of Foetus and infant
   iii. Signs of live born, stillborn and dead born child

Collection, Preservation and Dispatch of Specimen: Hair, seminal fluid/ stains and other ancillary material for medico-legal examination of seminal stains and vaginal swabs

Section E) MEDICO-LEGAL ASPECTS OF DEATH

1. Definition and concept of death, stages modes, Signs of death and its importance.
2. Changes after death, Cooling, Hypostasis, Changes in eye, Muscle changes putrefaction, Saponification, Mummification, Estimation of time since death.

3. Death certification, Proximate causes of death, causes of sudden deaths, Natural deaths. Presumption of death and survivorship, disposal and preservation of dead.
4. Introduction to * The Anatomy Act, * the human organ transplantation Act. 1994
5. Medico-legal aspects and findings of post-mortem examination in cases of death due to common unnatural conditions.
6. Sudden unexpected death, deaths from starvation, cold and heat and their medico-legal importance.
7. Medico-legal aspects of death from Asphyxia, Hanging, Strangulation, Suffocation and Drowning

Section F) MEDICO-LEGAL AUTOPSY

1. Autopsy: Objectives, Facilities, Rules and Basic techniques, proforma for reporting medico-legal autopsy
2. Exhumation, examination of mutilated remains, Obscure autopsy and post-mortem artifacts

Collection, preservation and dispatch of material for various investigations to Forensic Science Laboratory

Section G) * FORENSIC PSYCHIATRY

1. Definition, General terminology and * Basic concept of normality and abnormality of human behaviour, Civil and Criminal responsibility
2. Examination, certification, restraint and admission to Mental Hospital
3. Mental Health Act- Principles and Objectives.

Unit – 2 Toxicology : (N=20)

Section A) POISONS AND THEIR MEDICO-LEGAL ASPECTS

1. **Definition of poison, General consideration and laws in relation to poisons /** Narcotic drugs and psychotropic substances Act, * Schedules H and L drugs, * pharmacy Act, Duties and responsibilities of attending physician
2. **Common poisons and their classification, Identification of common poisons,** Routes of administration, Actions of poisons and factors modifying them, diagnosis of poisoning (clinical and confirmatory) Treatment/ Management of cases of acute and chronic poisonings
3. Addiction and Habit forming drugs, drug dependence
4. Occupational and environmental poisoning, prevention and Epidemiology of common poisoning and their legal aspects particularly pertaining to Workmen's Compensation Act
5. Medico-legal aspects and findings of postmortem examination in cases of death due to poisonings

Section B) POISONS TO BE STUDIED

1. **Corrosive:** Euphoric Acid, Nitric Acid, Hydrochloric Acid, Carbolic Acid and Oxalic Acid, Sodium and Potassium and Ammonium Hydro-Oxide.
2. **Non –metallic, Metallic poisons and Industrial hazards**: Phosphorus and compounds of Lead, Arsenic, Mercury, Copper, and Glass powder
3. **Plant Poisons**: Castor, Croton, Capsicum, Semicarpus, Anacardium (Bhilawa), Calatropis Gigantea, Arbus Precatorius (Ratti), Dhatura, cannabis Indica, Cocaine, Opium, Aconite, Yellow Oleander, Strychnine.
4. **Animal and Bacterial poisons**: Snakes, Scorpion and food poisoning
5. **Alcohol (Drunkenness)**: Ethyl Alcohol, Methyl Alcohol, Kerosene Barbiturates
6. **Asphyxiant & Gaseous Poison**: Carbon Monoxide, War gases, Hydro cyanic acid, and Cyanides
7. **Insecticides**: Pesticides and Miscellaneous poisons: organo-phosphorus compounds, Organo-chloro Compounds, carbamates (carbaryl) and Rodenticides (Phosphides)

Collection, preservation and forwarding of evidence, remains of poison, body discharges and viscera etc. to Forensic Science Laboratory in cases of poisoning

Section C) FORENSIC SCIENCE LABORATORY; (BRIEF)

1. Aims, objects, general knowledge about F.S.L.
2. General principles of analytical toxicology

Unit 3. **Medical Jurisprudence and Legal Procedure in Medico-legal Cases (N=20)**

Section A) LEGAL AND ETHICAL ASPECTS OF PRACTICE OFMEDICINE

1. The Indian Medical Council, the Act, Formation and Fuctions: State Medical Council: Formation, Functions, and Registration
2. Rights and obligations of Registered Medical practioner and patient, Duties of physicians and patients, Euthanasia
3. Infamous conduct, professional secrecy and privileged communications
4. Codes of Medical Ethics, medical etiquette, Medical Negligence and contributory negligence, precautionary measures and defenses for Medical Practioners against legal actions, Medical/Doctors indemnity insurance, Consumer Protection Act relevant to medical practice
5. Medical ethics and prohibition of Torture and care of Torture victims

Section B) DEFINATION OF HEALTH AND ITEMS TO CERTIFY ABOUT HEALTH

1. Common medico-legal problems in hospital practice, Consent in Medical Examination & treatment, under treatment/Sickness and Fitness certificate, maintenance of medical records
2. Social, Medical, Legal and Ethical problems in relation to AIDS

Section C) ACTS AND SCHEMES RELATED TO MEDICAL PROFESSION IN BRIEF:

Workman's Compensation Act, Mental Health Act, Medical Practitioner Act, Protection of human rights Act 1993, National Human Rights Commission, Human Organ Transplantation Act and other relevant sections of IPC, Cr.P.C. & I.E. Act. Maharashtra civil medical code, Hospital administration manual

Section D) Legal procedures in Medico-legal cases: (N=08)

1. Medico-legal investigation of death in suspicious circumstances, different Inquest, type of offences
2. Types of criminal court and their powers, punishments prescribed by law kinds of witness, Evidence Documentary Medical Evidence,Dying declaration & dying deposition
3. The Trial of criminal cases, Rules & Conventions to be followed by Medical witness at Medical evidence, subpoena, conduct money
4. Relevant Sections from the Indian evidence Act, Indian Penal code and Criminal Procedure code

4. Practicals Syllabus

Total no. of hours & contents

Practicals will be conducted in the laboratories.
Objective will be to assess proficiency in skills, conduct of experiment, interpretation of data and logical conclusion.
Emphasis should be on candidate's capacity in making observations & logical inferences in order to intimate enquiries in criminal matters and medico-legal problems.
Total Marks: 25+15=40

Unit **1 Forensic Medicine**

Report on

1. Estimation /certification of Age
2. Recording of fingerprints
3. Examination/Certification of the Injured (prescribed forms)
4. Examination of the causative Agents in cases of Injuries (e.g.Weapons, Instruments)
   a. Hard and blunt weapons
   b. Sharp cutting, sharp pointed and sharp & sharp heavy cutting weapon
   c. Firearm weapons
5. Sexual offences:
   a) Examination/certification of Victim,
   b) Examination/Certification of Accused

6. Examination of foetus to opine about age
7. Examination of bones and teeth for Medico-legal purpose to determine age, Sex, stature, cause of death, time since death
    a) Skull and Mandible
    b) Scapula, Sternum and upper limb bones
    c) Sacrum and hip bone / pelvic bone
    d) Lower limb bones

Study of

8. Medical certification of cause of Death as per Birth and Death registration Act (prescribed forms)
9. Studies of Ski grams for estimation of age, bony injury, foreign body and pregnancy
10. Photographs of different events of Medico-legal importance and post-mortem changes
11. Study of various museum specimens of medico-legal significance
12. Study of various slides of medico-legal significance
13. Demonstration of Instruments:
    a. Used in treatment of acute poisoning cases
    b. Used for causing abortions
    c. Used for carrying out autopsy

Unit 2 Forensic Toxicology

1. **Examination/Certification of Alcoholic** (prescribed forms 'A & B')
2. **Study of common poisons:**

(Sulphuric Acid, Nitric Acid, Hydrochloric Acid, Carbolic Acid and Oxalic acid, sodium and potassium Hydro-oxide, Phosphorous, Lead, Arsenic, Mercury, Copper, glass powder, Castor, croton, Capsicum, Semicarpus Anacardium (Bhilwa), Calatropis Gigantea, Abrus Precatorius (Ratti) Dhatura) Cannabis Indica, Opium, Aconite, Yellow Oleander, Strychnine, Snakes, Scorpion, Alcohol, Methyl Alcohol, Kerosene, Barbiturates, Organo-phosphorus compounds, Organo chloro compounds, carbonates (Carbaryl) and other commonly used poisons antidotes and preservatives.

Unit 3 - Medical Jurisprudence & legal procedure in Medico-legal cases

Study of Medical certificates (prescribed forms)
    a. Sickness Certificate
    b. Fitness certificate
    c. Certificate of Physical fitness
    d. Medical certificate prescribed under Mental Health Act: 1987
    e. Medical certificate of Sound/Unsoundness of mind

Study of the various prescribed forms:

Consent to surgery Anesthesia and other Medical services, Request for sterilization, consent to access to hospital records, Authorization for autopsy, Dead body challan used for sending a dead body for post-mortem examination, request for the second inquest by Magistrate on the dead body, provisional post-mortem certificate, post-mortem form, pictorial Post-mortem form, form for the Final cause of death, forms for dispatch of exhibits other than the viscera to chemical analyzer, Forms for dispatch of viscera for histopathological examination, Form for dispatch of viscera to chemical analyzer, forensic Science Laboratory report form, Summons to witness.

Each student shall attend and record as a clerk

a. As many as possible cases/items of medico-legal importance
b. 10 cases of medico-legal autopsies

Both above 'a' & 'should be recorded in the approved proforma in the single Journal. The teacher concerned and presented for the inspection and evaluation during the university examination should scrutinised the journal.

Each student shall attend the court at least 2 cases when medical evidence is being recorded.

Reference books

1. Russell S. Fisher & Charles S.Petty: Forensic Pathology
2. Kith Simpson: Forensic Medicine
3. Jurgen Ludwig: Current Methods of autopsy practice.
4. Gradwohl- Legal Medicine
5. A Doctors Guide to Court – Simpson
6. Polson C.J.: The essentials of forensic Medicine
7. Adelson: The pathology of Homicide
8. Atlas of Legal Medicine
9. Sptiz,W.U. & Fisher R.S.: Medicolegal investigation of death
10. A Handbook of legal pathology
11. Taylors principles and practice of Medical Jurisprudence.
12. Ratanlal & Dhirajlal, the Indian penal Code, Justice Hidaytullah & V.R..Manohar
13. Ratanlal & Dhirajlal the code of Criminal procedures,

Justice Hidaytullah.
14. Ratanlal & Dhirajlal, The Law of evidence, justice Hidaytullah & V.R. Manohar
15. Medical Law & Etich in India – H.S.Mehata
16. Bernard Knight: Forensic Pathology
17. Code of Medical ethics: Medical Council of India, approved by central Government/S 33 (M) Of IMC Act.1956 (October 1970)
18. Krogman, W.M. The human skeleton in legal medicine.
19. FE Camps, JM Cameren, and David Lanham: Practical Forensic Medicine
20. V.V. Pillay: Modern Medical Toxicology.

New Evaluation system for II MBBS
Subject: Forensic Medicine & Toxicology
June 2014 onwards

a. Methods

Theory, Practical and Viva

Type of exam	Maximum marks		Minimum Marks
Theory (One Paper)	40	50	25
Oral Viva	10		
Practicals	30		15
Internal Assessment (Theory 10+ Practical 10)	20		10 (7 eligibility for Univ. exam 35%)
Total	100		50

b. Pattern of Theory Examination in final examination including Distribution of Marks, Questions, and Time.

i) **One Paper**
ii) Total duration –2 hrs each
iii) There will be 2 sections in each.
iv) **Section A (MCQ)** 15 minutes and Section B 105 minutes
v) **Total Time : 2 hrs.**

Sections	Nature of Questions	Total No. of Questions	Mark(s) per Question	Total Marks
A)	Multiple Choice Questions (MCQs)- Single best response	10	1	**10**
B)	Q.1 Long Question	1	10	**10**
	Q.2 Short Notes a,b,c	2 out of 3	5	**10**
	Q.3 Short answer Question for : a,b,c,d,e,f	5 out of 6	2	**10**
Total				**40**

c. Nature of practical examination in finals

Number	Exercise	Marks
1	Injury/Age/Sexual offence certificate	**06**
2	Medical certificate of cause of death	**05**
3	Spotters	**10**
4	Certificate of alcohol/impotency	**03**
5.	Certificate of sickness/fitness	**03**
6.	Weapon examination and reporting	**03**
Total		**30**

d. ***Nature of Oral Viva examination in finals***
(These will be included in theory marks)

1	Viva Forensic Med. & Legal procedure	**05**
2	Viva Toxicology & Med. Jurrisprudence	**05**
Total		**10**

e. Plan for internal assessment:

Theory : **10**

Practical : **10**

Total Marks: : **20**

Minimum Marks: : 10 (07 eligibility for Univ. exam 35%)

Term	Examination Head			Total
	Theory	Practical		
		Practical	Journal	
I	40	40		
II	40	40		
Preliminary Examination	40	40		
Total No. of marks	**120**	**120**		
To be converted to	**12**	**08**	**02**	
Total	**10**	**10**		**20**

PRAVARA INSTITUTE OF MEDICAL SCIENCES
DEEMED UNIVERSITY

MARKS LIST FOR PRACTICAL AND VIVA

Second M.B.B.S. (New Course) Practical Examination **Summer/Winter: _____**

Center: - _____ **Date: -** _____

Sub: - Forensic Medicine & Toxicology **Practical Max. Marks: - 40**

Distribution of Practical Marks

A	Injury/Age/Sexual offence certificate	**(06 Marks)**
B	Medical certificate of cause of death	**(05 Marks)**
C	OSPE (Spotters) (5X2) : [Toxicology-2, Museum Speciemen-1, Bone-1, Instrument/Document/Photograph/Skiagram-1]	**(10 Marks)**
D	Certificate of alcohol/impotency	**(03 Marks)**
E	Certificate of sickness/fitness	**(03 Marks)**
F	Weapon examination and reporting	**(03 Marks)**
G		**Practical Total : 30 Marks**

Distribution of Viva Marks

H	Viva Forensic Med. & Legal procedure	**(05 Marks)**
I	Viva Toxicology & Med. Jurrisprudence	**(05 Marks)**
J		**Viva Total : 10 Marks**

Seat No.	A (06 Marks)	B (05 Marks)	C (10 Marks)	D (03 Marks)	E (03 Marks)	F (03 Marks)	G: Practical Total Marks Max : 30 Min : 15	H (05 Marks)	I (05 Marks)	J Viva Total (10 Marks)

Name of Examiner **Collage** **Signature with Date**

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

Pravara Institute of Medical Sciences

(Deemed to be University)

Loni Bk - 413 736, Tal. Rahata, Dist. Ahmednagar (M.S.)

NAAC Re-accredited with 'A' Grade (CGPA 3.17)

Established Under Section 3 of UGC Act 1956, Vide Govt. of India Notification No. F.9-11/2000-U.3, dated 29th September, 2003

Medical Faculty Revised Syllabus

Third Year MBBS (Part I & Part II)

New Evaluation System 2013 Onwards

Approved Vide Academic Council Dated 19th May, 2015

Circular No. 11/2016 dated 3rd March 2016
Notification No.17/2016 dated 6th May 2016

Mail : registrar@pmtpims.org,
Fax: +91-2422-273413 Phone No.: 273600
Homepage : http: // pravara.com

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Medical Faculty Revised Syllabus

Third Year MBBS (Part-I)

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Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR THIRD MBBS PART I

COMMUNITY MEDICINE (MU 301 & MU 302)

OPHTHALMOLOGY (MU 303)

OTO RHINO- LARYNGOLOGY (ENT) (MU 304)

NOTIFICATION NO. 11/2016

Dated : 03rd March 2016

Pravara Institute of Medical Sciences
Deemed University
University Established under section (3) of UGC Act
NAAC Acreditated with 'B' Grade (CGPA 2.57)

LONI - 413736, (Near Shirdi) Tal.Rahata,
Dist. Ahmednagar (Maharashtra) India

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Homepage : http://www.pravara.com

- RURAL MEDICAL COLLEGE
- RURAL DENTAL COLLEGE
- COLLEGE OF PHYSIOTHERAPY
- COLLEGE OF NURSING
- PRAVARA RURAL HOSPITAL
- CENTRE FOR SOCIAL MEDICINE
- CENTRE FOR BIO-TECHNOLOGY

Ref No.

Date :

NOTIFICATION NO. 11 /2016

It is hereby notified for information of all concerned that, as per decision taken by the University authorities the revised curriculum of phase I of First M.B.B.S. shall be implemented from the academic year 2013 & first examination was held in June 2014. The revised curriculum of IInd M.B.B.S. was implemented from the academic year 2014 & first exam was held in December 2015.

Now the revised pattern of examination as per MCI guidelines at III M.B.B.S. Part- I was submitted for academic council as its meeting held on 19th May 2015 and with the consultation of HOD & Dean of the Medical faculty new pattern is forwarded herewith to Rural Medical College and Heads of Dept.

It is requested that, Revised pattern & syllabus in the subject "Community medicine (PSM), Ophthalmology & Otorhinolaryngology (ENT) at IIIrd M.B.B.S. Part- I should be brought to the notice of all concerned students & the all staff members of the concerned Board of Studies.

Please find enclosed herewith the revised pattern of examinations at Third M.B.B.S. Part- I examination to be held first time in the December 2016 and onward. For your information and necessary action.

(Dr. A. N. Badwe)
Registrar

Ref. No.: - PIMS/COE/AC/2016/306
Date: 03/03/2016
Place: Loni - 413736

Copy for information & necessary action to: -

1. The Principal, Rural Medical College, Loni.
2. Dean, Faculty of Medicine,
3. HOD's Dept. of PSM, Ophthalmology & E.N.T.,
4. The Controller of Examination,
5. Assistant Registrar (Academic/CET)

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR

THIRD MBBS PART I

NEW EVALUATION SYSTEM

DECEMBER 2015 ONWARDS

COMMUNITY MEDICINE
(MU 301 & MU 302)

NOTIFICATION NO. 11/2016

Dated : 03rd March 2016

Pravara Institute of Medical Sciences

(Deemed University)

Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR THIRD MBBS PART - I
NEW EVALUATION SYSTEM DECEMBER 2015 ONWARDS
TITLE: - COMMUNITY MEDICINE (MU – 301 & 302)

A. The teaching of Social & Preventive Medicine shall place throughout the teaching period.

B. Field experience in rural health is included in pre-clinical as well as during clinical period

C. During the students attendance at various departments which is now required under medicine and surgery, such as infectious diseases. T.B. Leprosy, V.D. etc. emphasis shall be laid as much on the preventive as on the clinical and Therapeutic aspects of these diseases.

D. In addition to the teaching undertaken by the department of Social & Preventive Medicine, a joint programme with other departments is essential in order to give the students a comprehensive picture of man, his health and illness.

E. Stress shall be laid on national programmes, including those of control of communicable diseases and family planning and health education.

F. An epidemiological units as an integrate part of every hospital in order to achieve a comprehensive study disease by the students should be established.

G. The objective of the internship shall be clearly defined and that a proper training programme is oriented for this period. Objectives, and the methods by which the internship could be made into a satisfying and fruitful experience. Sharpening and for planning in this phase of education shall be done.

H. As regards the qualifications of the teachers it is highly important that All teachers in Social and A preventive Medicine should have as far as possible had adequate administrative experience in addition to the teaching experience. They should also be encouraged to acquire skills in clinical subject specially related to community medicine.

I. Practical Skills : Due stress shall be laid on the students acquiring practical skill in the following procedures.

Community Medicine including Humanities
(Preventive and Social Medicine)

(Phase I,II and Part 1st of Phase III M.B.B.S.)

GOALS :

The broad goal of the teaching of undergraduate students in community medicine is to prepare them to function as community and first level physicians in accordance with the institutional goals.

OBJECTIVES :

Knowledge :

At the end of the course the student shall be able

- Explain the principles of sociology including demographic population dynamics.
- Identify social factors related to health, disease and disability in the context of urban and rural societies.
- Appreciate the impact of urbanization on health and disease.
- Observe and interpret the dynamic of community behaviours.
- Describe the elements of normal psychology and social psychology.
- Observe the principles of practice of medicine in hospital and community settings.
- Describe the health care delivery systems including rehabilitation of the disabled in the country.
- Describe the National Health Programmes with particular emphasis on maternal and child health programmes, family welfare planning and population control.
- List the epidemiological methods and techniques.
- Outline the demographic pattern of the country and appreciate the roles of the individuals, family, community and socio-cultural milieu in health and disease.
- Describe the health information systems.
- Enunciate the principles and components of primary health care and the national health policies to achieve the goal of "Health for all".
- Identify the environmental and occupational hazards and their control.
- Describe the importance of water and sanitation in human health.
- To understand the principles of health economies, health administration, health education in relation to community.

Skills :-

At the end of the course, the student shall be able to make use of

- The principles and practice of medicine in hospital and community settings and familiarization with elementary practices.
- Use the Art of communication with patients including history taking and medico social work.
- Use epidemiology as a scientific tool to make rational decisions relevant to community and individual patient intervention.
- Collect, analyse, interpret and present simple community and hospital base data.
- Diagnose and manage common health problems and emergencies at the individual, family and community levels keeping in mind the existing health care resources and in the context of the prevailing socio-culture beliefs.
- Diagnose and manage common nutritional problems at the individual and community level.
- Plan, implement and evaluate a health education programme with skill to use simple audio-visual aids.
- Interact with other members of the health care team and participate in the organization of health care services and implementation of national health programmes.

Integration:

Develop capabilities of synthesis between cause of illness in the environment or community and individual health and respond with leadership qualities to institute remedial measures for this.

Course Content :

Total hours of teaching in community medicine and Humanities are 376. The distribution of them shall be as follows.

Phase	Semester	Theory	Practical Hours
I	I & II	30	30
II	III & IV	68	132
III Part1st	VI & VII	50	66

Community Medicine (P.S.M.)

List of theory lectures

Phase I (1st and 2nd semester) 30 Hours

1. Introduction – Evolution of Community Medicine.
2. Health – Definition, spectrum of health and factors affecting – indicators of health.
3. Health Problem of World – Urban and Rural – Indian Health.
4. Health Care Delivery system in India – Urban and Rural.
5. Demography, Demographic cycle, Population trends – World and India.
6. Fertility and factors affecting it.
7. Family welfare and Population control.
8. Medical ethics and Doctor – patient relationship – Consumer Protection Act.
9. Sociology and Social factors effecting health.
10. Social Psychology – introduction, Group Behaviour, Motivation Personality.
11. Economics and health.
12. Health Education and Communication.
13. Hospital Management.
14. Nutrition and Health.
    - Constituents of food.
    - Food and food groups.
    - Diet planning and recommended dietary allowances.
    - Nutritional diseases.
    - Iodine deficiency disorders.
    - Diseases due to vitamin and mineral imbalance
    - Toxins in the food.
    - Assessment of Nutritional status.
    - Examination

Phase II – (3rd and 4th Semester) 68 Hours

General Epidemiology

- The concepts of disease.
- Natural history of disease.
- Epidemiological triad.
- Dynamics of diseases transmission.

- Concept of disease control.

Epidemiology

- **Definition, types, measurements in epidemiology, epidemiological studies, and clinical trial, investigation of an epidemic.**
- **Uses of epidemiology.**
- **Screening for disease.**
- **Disinfection, sterilization and control of Hospital acquired infections.**
- **Immunity.**

Environmental health

- **Introduction to environment health.**
- Water in relation to health and disease.
- Air pollution and ecological balance.
- Housing and health.
- Effects of radiation on human health (Ionizing, Non-ionizing & Nuclear warfare)
- Effects of Noise on human health.
- Meteorological environment.
- Solid waste disposal.
- Disposal of hospital waste.
- Liquid waste disposal

Medical entomology

Arthropods of medical importance and their control.

Biostatistics (Theory and Practical)

Introduction and uses.
Data- Types, Collection and Presentation.
Centering constants.
Measures of Variation.
Normal distribution.
Sampling methods and Sampling variability.

Tests of significance.

- SE of difference between two means.
- SE of difference between two proportions
- X^2 test. (Chi-square)
- Students 't' test
  - Paired .
  - Unpaired.
- Statistical fallacies.

Computers in Medicine

There use at all the stages to be demonstrated. The students should use computers in analysis and presentation of data

Epidemiology of communicable diseases.

- Air borne infections.
- Exanthematous fevers.
- Chicken pox, Rubella, and Measles
- Factors responsible to eradicate small pox.
- **Influenza and ARI.**
- Diphtheria and Pertussis

- Tuberculosis.
- Faeco-oral infections.
  - Poliomyelitis.
  - Hepatitis.
  - Enteric Fever and Cholera
  - Bacillary and Amoebic dysentery.
- Soil transmitted Helminths.
- Tetanus
- Rabies and other Viral Zoonotic disease.
- Leprosy.
- Leprosy.
- Malaria
- Filariasis.
- Arthropod borne viral diseases.
- Sexually transmitted diseases and their control.
- A.I.D.S.

Examinations at the end of 3rd and 4th semester.

(Phase III (6th and 7th Semester) **50 hrs.**

(Teaching in 7th semester includes tutorials also.)

- Community development programmes and multisectoral development.
- Comprehensive medical care and Primary health care.
- National Health Policy.
- Maternal and Child Health care.
- Epidemiology of Non-communicable diseases.
- Occupational health.
- Problems of adolescence including Drug dependence.
- Geriatrics
- Vital statistics – sources and uses, Census, Fertility statistics.
- Management information system.
- Mental health.
- Genetics in public health.
- Health planning and management.
- National Health Programmes.
- International health and Voluntary Health Agencies.Tutorials.

Examination at the end of 6th and 7th semester.

Practicals

Phase I (Ist And 2nd semester) - **30 hours.**

Field visit-

Every Medical College should have adequate transport facilities to take medical undergraduate for field visits. In the phase I total 15 visits, each of 2 hours duration or total 10 visits – each of 3 hours duration (depending on distances) are to be planned by the departments of community medicine. The broad outline of place for educational field visits is given below.

- ☐ Hospital visits (O.P.D., Casualty, Immunization clinic, different wards, Kitchen, FW Centre, PPP, Blood Bank, Sterilization section, Infectious disease ward, Minor operation theatre, etc.)
- ☐ Rural Health Training Centre.
- ☐ Primary Health Centre.
- ☐ Urban Health Centre.
- ☐ District Health Office (DHO).
- ☐ District Training Team (DTT)/IEC Bureau.
- ☐ District Tuberculosis Centre.
- ☐ Public Health Laboratory.
- ☐ District Malaria Office.
- ☐ Remand Home.
- ☐ Rehabilitation Centre.

III rd Semester, I st Clinical Posting - **66 hours.**

Lecture – Cum – Demonstration, at appropriate places

SN	Topic	Demonstration
1	Visit to Urban / Rural health Training Centre.	Functions of UHC/ RHTC Manpower & Duty arrangements
2	Immunization Programme	I (demonstration)
3	Immunization Programme	II (Cold Chain)
4	Care of ANC mother	Demonstration of Antenatal case
5	Care of Infant	Demonstration of case
6	Post-natal case of mother/child.	Demonstration of case
7	Contraceptive devices	Situation to be given and sex education.
8	Exclusive breast feeding	Visit to Baby Friendly Hospital
9	Weaning foods	Demonstration
10	Nutritional demonstration	Explain nutritive values of Indian foodstuff
11	Nutritional assessment	Demonstration
12	Anthropometric measurements	Demonstration
13	Nutritional deficiency disorders	With A/V aids or case, Road to Health Chart
14	Protein Energy Malnutrition	With A/V aids or case, ORS preparation
15	Diarrhoea as a community health problem	With A/V aids or case
16	ARI as a community health problem	With A/V aids or case
17	Elementary essential drugs	Visit to drug store, Inventory control
18	Examination	

4th Semester 2nd Clinical Posting - **66 hours.**

The board guidelines for planning programmes are as follows.

1) Posting for family care study - 6 days
   - ☐ Principle of clinical epidemiology
   - ☐ Morbidity Survey.
   - ☐ Data analysis and presentation.
2) Posting for School Health - 6 days
   - ☐ Health check-up of school children.
   - ☐ Data analysis and presentation.
   - ☐ Health education activities in the school by the students.
3) Visit to anganwadi and ICDS scheme block - 2 days
4) Visit to Home for aged and discussion - 2 days

on geriatric health problems

5) Students' seminars on topics like - 5 days
   - Disaster management
   - Road traffic accidents
   - Population explosion etc.

6) Examinations - 3 days.

Phase III (6th and 7th Semester)

3rd Clinical Posting - 66 hours.

Posting : Clinical case presentation by students

1. Introduction to infectious diseases – history taking
2. Exanthematous fever.
3. Diarrhoea / Cholera / Dysentery.
4. Tuberculosis
5. Leprosy.
6. Dog – bite case.
7. Tetanus.
8. PUO / Enteric fever / Malaria.
9. S.T.D. / AIDS.
10. Hepatitis
11. Introduction to non- communicable diseases.
    - Rheumatic heart disease.
    - Cancer.
    - Obesity / diabetes.

Examinations.

Dept. of Community Medicine (PSM), RMC, PIMS-DU, Loni.

Pattern & Syllabus for UG University Examination

Community medicine

Sr. No.	Paper – I (Topics) (60 marks)
01	Man and Medicine: Towards Health for all
02	Concept of Health and Disease
03	Principles of Epidemiology and Epidemiologic Methods
04	Screening for Disease
05	Epidemiology of Communicable Diseases
06	Epidemiology of Chronic Non-Communicable and Conditions
07	Health Programmes in India
08	Essential Medicines and Counterfeit Medicines
09	Demography and Family Planning

Sr. No.	Paper – II (Topics) (60 marks)
01	Preventive Medicine in Obstetrics, Paediatrics and Geriatrics
02	Nutrition and Health
03	Medicine and Soxial Sciences
04	Environment and Health
05	Hospital Waste Management
06	Disaster Management
07	Occupational Health
08	Genetics and Health
09	Mental Health
10	Health information and Basic Medical Statistics
11	Communication for Health Education
12	Health Planning and management
13	Health Care of the Community
14	International Health

New Evaluation system for Third MBBS Part I
Subject : Community Medicine (PSM)
(MU 301 & MU 302)
December 2015 onwards

a. Methods

Theory, Practical and Viva

Type of exam	Maximum marks		Minimum Marks
Theory (Two Papers)	120	130	65
Oral Viva	10		
Practicals	30		15
Internal Assessment (Theory 20+ Practical 20)	40		20 (14 eligibility for Univ. exam 35%)
Total	200		100

b. Pattern of Theory University examination including Distribution of Marks, Questions, and Time.

i) **Two theory papers of 60 marks each**
ii) Total duration –3 hrs each paper
iii) There will be 2 sections in each. paper
iv) **Paper I** will be on Man and Medicine : Towards Health for all, Concept of Health and Disease, Principal of Epidemiology and Epidemiologic Methods, Screening for disease, Epidemiology of communicable Diseases, Epidemiology of chronic Non-communicable and conditions. Health programmes in India, **Essential Medicines and counterfeit Medicines, Demography and Family Planning.**
v) **Paper II** will be on Preventive Medicine in Obstetrics, Paediatrics and Geriatrics, Nutrition and Health, Medicine and Soxial Sciences, Environment and Health, Hospital Waste Management, Disaster Management, Occupational Health, Genetics and Health, Mental Health, Health information and Basic Medical statistics, Communication for Health Education, Health Planning and Management, Health Care of the community, International Health.
vi) **Both Papers will have same following pattern:**
vii) **Section A (MCQ)** will be of 20 minutes and Section B will be of 160 minutes **(Duration 3 hours)**

Sections	Nature of Questions	Total No. of Questions	Mark(s) per Question	Total Marks
A)	Q.1 Multiple Choice Questions (MCQs)-	15	1	**15**
B)	Q.2 BAQ,s a,b,c,d,e.f.	5 out of 6	2	**10**
	Q.3 SAQ,s a,b,c,d.	3 out of 4	05	**15**
	Q.4 Long Question a,b	2	10	**20**
Total				**60**

c. *Nature of practical examination in finals*

Number	Exercise	
1	Spots 05 Spots Total Time : 20 min 02 Marks each	**10 Marks**
2	Exercises : Total 5 exercises (out of which 03 from Epidemiology and 02 from Bio-statistics having 2 Marks each)	**10 Marks**
3	Clinical case (Medico-Social Case)	**10 Marks**
	Total	**30 Marks**

d. *Nature of Oral Viva examination in finals*
(These will be included in theory marks)

	Oral (Viva)	**10 Marks**

e. Plan for internal assessment:

Theory : 20

Practical : 20

Total Marks: : 40

Minimum Marks: : 20 (14 eligibility for Univ. exam 35%)

Term	Examination Head		Total
	Theory	Practical	
III	50	50	
IV	50	--	
VI	50	50	
VII	--	50	
	150 converted to out of 10	**150 converted to out of 10**	
Preliminary Examiation	**60+60=120 converted to out of 10**	**40 converted to out of 10**	
Total	**20**	**20**	**40**

Pass : In each of the subjects a candidate must obtain 50% in aggregate with a minimum of 50% in Theory including orals and minimum of 50% in practices/clinicals.

PRAVARA INSTITUTE OF MEDICAL SCIENCES
(DEEMED UNIVERSITY)

MARKS LIST FOR PRACTICAL AND VIVA

III M.B.B.S. (Part I) Practical Examination **Month/Year:** _____

Center: -Rural Medical College **Date: -** _____

Sub: - ***Community Medicine (PSM)*** **Max. Marks: - (Practical – 30, Oral – 10)**

1. **Spots** - 05 spots of 2 Marks each - **10 Marks**
2. **Exercises** - Out of which 03 from Epidemiology & 02 from Bio-stat. having 02 Marks each) - **10 Marks**
3. **Clinical case** - (Medico-Social Case) – **10 Marks**

Seat No.	Spots (10 Marks)	Exercises (10 Marks)	Clinical case (10 Marks)	Practical Total Out of (30 Marks)	Oral (Viva Voce) Total Out of (10 Marks)

Name of Examiners: **College** **Signature & Date**

1. _____ _____ **Chairman** ----------
2. _____ _____ **Internal** ----------
3. _____ _____ **External** ----------
4. _____ _____ **External**----------

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR

THIRD MBBS PART I

NEW EVALUATION SYSTEM

DECEMBER 2015 ONWARDS

OPHTHALMOLOGY
(MU 303)

NOTIFICATION NO. 11/2016

Dated : 03rd March 2016

Pravara Institute of Medical Sciences

(Deemed University)

Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR THIRD MBBS PART - I
NEW EVALUATION SYSTEM DECEMBER 2015 ONWARDS

The syllabus shall be presented in the following format

Course Code:- MU 303 Title - OPHTHALMOLOGY

Teaching Hours			
	Theory	:	70 Hours
	Tutorials	:	10 Hours
	Practical	:	80 Hours
	Total	:	160 Hours

1) Goal

The board goal of the teaching of students in ophthalmology is to provide such knowledge and skills to the students that shall enable him/her to practice as a clinical and as a primary eye care physician and also to function effectively as a community health leader to assist in the implementation of national Programmes for the prevention of blindness and rehabilitation of the visually impaired.

2) Objectives

a) knowledge

At the end of the course student shall have the knowledge of

1. Common problems affecting the eye
2. Principles of management of major ophthalmic emergencies
3. Main systemic disease affecting the eye
4. Effects of local and systemic disease on patients vision and the necessary action required to minimize the sequel of such disease
5. Adverse drug reactions with special reference to ophthalmic manifestations
6. Magnitude of blindness in India and its main causes
7. National Programmes for control of blindness and its implementation at various levels.
8. Eye care education for prevention of eye problems
9. Role of primary health center in organization of eye camps
10. Organization of primary health care and the functioning of the ophthalmic assistant
11. Integration of the national Programmes for control of blindness with the other national health Programmes.
12. Eye bank organization

b) Skills

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

1. Elicit a history pertinent to general health and ocular status
2. Assist in diagnostic procedures such as visual acuity testing examination of eye, Schiotz tonometry, staining of Corneal pathology confrontation perimetr refraction including correction of presbyopia and aphasia, direct ophthalmoscopy and conjuntival smear examination and cover test.
3. Diagnose and treat compunemon problems affecting the eye
4. Interpret opthalmic signs in relation to common systemic disorders
5. Assist/ observe therapeutic procedures such as subconjunctival injection corneal conjunctival foreign body removal carbolic cautery for corneal ulcers nasolacrimal duct syringing and tarsorrphy
6. Provide first aid in major ophthalmic emergencies
7. Assist to organize community surveys for visual check up
8. Assist to organize primary eye care service through primary health centers
9. Use effective means of communication with the public and individual to motivate for surgery in cataract and for eye donation
10. Establish rapport with his seniors, colleagues and paramedical workers, so as to effectively function as a member of the eye care team.

INTEGRATION

The undergraduate training in ophthalmology will provide an integrated approach toward other disciplines especially neuro-sciences, ent,general surgery and medicine.

LEARNING METHOD

- Total teaching hours:100
- Theory lectures : 70(4^{th} , 6^{th} ,7^{th} term)
- Tutorial : 30(7^{th} term)
- Clinical postings – Two clinical posting of 4 weeks
  First in 4^{th} semester and second in 6^{th} semester and 3^{rd} posting of 2 weeks in 7^{th} term Bedside clinics 10 weeks of three hours per day 180 hours

SYLLABUS OF III MBBS IN OPHTHALMOLOGY

INTRODUCTION ANATOMY & PHYSIOLOGY OF THE EYE
COMMON DISEASE OF EYE

a). Conjunctiva

Symptomatic conditions:- Hyperemia, Sub conjunctival Haemorrhage
Disease :- Classification of Conjunctivitis
:- Mucopurulant Conjunctivitis
:- Membranous Conjunctivitis Spring Catarrh
:- Degeneration :- Pinguecula and Pterygium

b)Cornea

:- Corneal Ulcers. Bacterial, Fungal, Viral, Hypopyon.
:- Interstitial Keratitis
:- Pannus
:- Corneal Opacities
:- Keratoplasty

c) Sclera

:- Episcleritis
:- Scleritis
:- Staphyloma

d) Uvea :- Classification of Uveitis
:- Gen. Etiology, Investigation and Principles Management of Uveitis
:- Acute & Chronic Iridocyclities
:- Panophthalmitis
:- End Ophthalmitis
:- Choroiditis

e) Lens

1. Cataract – Classification & Surgical Management of Cataract
   :- Including Preoperative Investigation
   :- Anaesthesia
   :- Aphakia
   :- IOL Implantation

f) Glaucoma

:- Aqueous humor dynamics.
:- Tonometry
:- Factors controlling Normal I.O.P.
:- Provocative tests
:- Classification of glaucoma
:- Congenital glaucoma
:- Angle closure glaucoma
:- Open angel glaucoma
:- Secondary glaucoma

g) Vitreous

:- Vitreous Opacities
:- Vitreous. Haemorrhage.

h) Introcular Tumours

:- Retinoblastoma
:- Malignant melanoma

i) Retina

:- Retinopathies : Diabetic Hypertensive Toxemia of Pregnancy, Retinopathy Prematurity (ROP)
:- Retinal Detachment
:- Retinitis Pigmentosa, Retinobalstoma

j) Optic Nerve
:- Optic Neuritis
:- Papilloedema
:- Optic Atrophy

k) Optics
:- Principles : V.A testing Retinoscopy, Ophthalmoscopy
:- Refractive Errors
:- Refractive Keratoplasty
:- Contact lens, Spectacles

l)Orbit
:- Proptosis – Aetiology, Clinical Evaluation, Investigations & Principles of management
:- Endocrinal Exophthalmos
:- Orbital Haemorrhage.
:- Orbital Cellulitis

m) Lids
:- Inflammations of Glands.
:- Blepharitis
:- Trichasis, Entropion
:- Symblepharon
:- Ptosis

n) Lacrimal System
:- Wet Eye
:- Dry Eye
:- Naso Lacrimal Duct Obstruction
:- Dacryocystitis

o) Ocular Mobility
:- Extrinsic Muscles
:- Movements of Eye Ball.
:- Squint : Gen.Aetiology, Diagnosis and Principles of Management
:-Paralytic and Non Paralytic Squint
:- Heterophoria
:- Diplopia

p) Miscellaneous
:- Colour Blindness
:- Laser in Ophthalmology – Principles

q) Ocular Trauma
:- Blunt Trauma
:- Perforating Trauma
:- Chemical Burns
:- Sympathetic Ophthalmitis

2. Principles of Management Of Major Ophthalmic Emergencies
:- Acute Congestive Glaucoma
:- Corneal Ulcer
:- Intraocular Trauma

:- Chemical Burns
:- Sudden Loss of Vision
:- Acute Iridocyclitis
:- Secondary Glaucomas

3. Main Systemic Disease Affecting the Eye
:- Tuberculosis
:- Syphilis
:- Leprosy
:- AIDS
:- Diabetes
:- Hypertension

4. Drugs
:- Antibiotics, Antifungal, Antiviral
:- Steroids, NSAID
:- Glaucoma drugs
:- Mydriatics , Cucloplegics
:- Fluoresceue, Fluoresceine

5. Community Ophthalmology
:- Blindness : Definition Causes & Magnitude
N.P.C.B. - Integration of N.P.C.B. with other health
:- Preventable Blindness
:- Eye Care
:- Role of PHC's in Eye Camps
:- Eye Banking
:- Vision 2020

6. Nutritional
:- Vit. A. Deficiency

Clinical Ophthalmology Cases To Be Covered MBBS

History taking & Eye Examination
Assessment of visual functioning
Conjunctiva
:- Pterygium
:- Pinguecula
:- Conjunctivitis
:- Sub Conjunctival . Haemorrhage

Cornea
:- Corneal opacity
:- Corneal Ulcer
:- Corneal abscess
:- Corneal transplant

Sclera

:- Scleritis, Epi Scleritis
:- Staphyloma

Uvea

:- Iridocyclitis

Lens

:- Cataract
:- Aphakia
:- IOLs (pseudophakia)
:- Complications

Glaucoma – Types, Sign, Symptoms & management

Squint

Lids

:- Lacrimal Sac - Dacryocystitis
:- Entropion
:- Ectropion
:- Ptosis.
:- Chalazion, stye

OPHTHALMOLOGY – MBBS

TUTORIAL TOPICS (Total 30 Hours)

SURGICAL TECHNIQUES

Cataract

:- ECCE
:- ICCE
:- IOL Implantation
:- Phaco – emulsification

- Pterygium
  Chalazion
- Glaucoma
- Foreign Body Removal
- Enucleation
- Keratoplasty
- Basic of squint,

Instruments

- OPD
- Operative
- Basic Examination and Diagnostic Instruments Tunometer, Sac Syringing, Slit Lamp.

Optics Lenses – Spheres, Cylinders, Prisms
Pinhole, Stenopic Slit, Maddox Rod & Maddox wing, Red & Green Glasses

- IOL's
- Ophthalmoscopy

- Retinoscopy
- Contact Lenses
- Colour Vision

Drugs

1. Miotics
2. Mydriatics
3. NS AIDS
4. Visoelastics
5. Antibiotics
6. Steroids
7. Anti Fungal
8. Antiglaucoma
9. Anti virals

Sr. No	*Lecture held each term for VI & /VII term : Topics*	*Undergraduate Theory Lectures*
1	Anatomy & Physiology	4
2	Optic of the eye & refractive errors	4
3	Conjunctiva	5
4	Cornea	6
5	Sclera	1
6	Uvea	5
7	Cataract	6
8	Glaucoma	6
9	Optic Nerve	2
10	Retina	6
11	Vitreous	1
12	Squint	4
13	Community Ophthalmology	2
14	Lids	4
15	Orbit	2
16	Lacrimal Appartus and Dry Eye	4
17	Misscellaneous & Others	5
18	Injuries	3
Total Lectures 70		
Tutorials 30		
100		

New Evaluation system for Third MBBS Part I
Subject: Ophthalmology
(MU 303)
December 2015 onwards

a. Methods

Theory, Practical and Viva

Type of exam	Maximum marks		Minimum Marks
Theory (One Paper)	40	50	25
Oral Viva	10		
Practicals	30		15
Internal Assessment (Theory 10+ Practical 10)	20		10 (7 eligibility for Univ. exam 35%)
Total	100		50

b. Pattern of Theory University examination including Distribution of Marks, Questions, and Time.

i) **One Paper**
ii) Total duration –2 hrs each
iii) There will be 2 sections in each.
iv) **Section A (MCQ)** 20 minutes and Section B 100 minutes
v) **Total Time : 2 hrs.**

Sections	Nature of Questions	Total No. of Questions	Mark(s) per Question	Total Marks
A)	Q.1 Multiple Choice Questions (MCQs)-	10	1	**10**
B)	Q.2 BAQ's a,b,c,d,e,f	5 out of 6	2	**10**
	Q.3 SAQ's a,b,c	2 out of 3	5	**10**
	Q.4 One Long Question (Question on Pre & para - clinical aspects)	1	10	**10**
Total				**40**

c. *Nature of practical examination in finals*

Number	Exercise	Marks
	One Long Case:	
1.	History taking	05 Marks
2.	Examination	10 Marks
3.	Diagnosis	05 Marks
4.	Management	10 Marks
	Total	**30**

d. *Nature of Oral Viva examination in finals*
(These will be included in theory marks)

	Viva	
1.	Instrument	05 Marks
2.	Drugs & Dark Room	05 Marks
	Total	**10**

e. Plan for internal assessment:

Theory : 10

Practical : 10

Total Marks: : 20

Minimum Marks: : 10 (07 eligibility for Univ. exam 35%)

Term	Examination Head		Total
	Theory	**Practical**	
6th	40 (A)	40 (A)	
7th Preliminary Examination	40 (B)	40 (B)	
	Calculation Method : **Theory = A + B / 08**	**Calculation Method :** **Theory = A + B / 08**	
Total	**10**	**10**	**20**

Pass : In each of the subjects a candidate must obtain 50% in aggregate with a minimum of 50% in Theory including orals and minimum of 50% in practices/clinicals.

PRAVARA INSTITUTE OF MEDICAL SCIENCES
(DEEMED UNIVERSITY)

MARKS LIST FOR PRACTICAL AND VIVA

III M.B.B.S. (Part I) Practical Examination **Month/Year:** _____

Center: -Rural Medical College **Date: -** _____

Sub: - Ophthalmology **Max. Marks: - (Practical – 30, Oral – 10)**

Seat No.	ONE LONG CASE				Practical Total Out of (30 Marks)	ORAL (VIVA VOCE)		Viva Total Out of (10 Marks)
	History taking, (05 Marks)	Examination (10 Marks)	Diagnosis (05 Marks)	Management (10 Marks)		Instrument (05 marks)	Drugs & Dark room (05 marks)	

Name of Examiners: **College** **Signature & Date**

1. _____ _____ **Chairman** ----------

2. _____ _____ **Internal** ----------

3. _____ _____ **External** ----------

4. _____ _____ **External**----------

(10)

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR

THIRD MBBS PART I

NEW EVALUATION SYSTEM

DECEMBER 2015 ONWARDS

OTO RHINO- LARYNGOLOGY (ENT)
(MU 304)

NOTIFICATION NO. 11/2016

Dated : 03rd March 2016

Pravara Institute of Medical Sciences

(Deemed University)

Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR THIRD MBBS PART - I
NEW EVALUATION SYSTEM DECEMBER 2015 ONWARDS
TITLE: - OTORHINOLARYNGOLOGY (ENT)
CODE :- 304

These guidelines are based on MCI recommendations.

Teaching has to be done keeping in mind the goals and objectives to be achieved by medical student

1. GOAL

The basic idea of undergraduate students teaching and training in otolaryngology is that he /she should have acquired adequate knowledge and skills for optimally Dealing with common disorders, emergencies in E.N.T .and basic principles of impaired hearing rehabilitation.

I. OBJECTIVES

(a) KNOWLEDGE

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

(1) Describe the basic pathophysiology and common Ear ,Nose ,Throat diseases and emergencies.

(2) Adopt the rationale use of commonly used drugs,keeping in mind their side effects

(3) Suggest common investigative methods and their interpretation.

(B)Skills

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

1.Examine and diagnose common ear ,nose ,throat problems including premalignant and malignant diseases of head and neck.

2.Manage ear ,nose ,throat (E.N.T)problems at the first level of care and be able to refer whenever and wherever necessary.

3.assist/do independently basic E.N.T. procedures like ear syringing, Ear dressings, nasal packing removal of foreign bodies from nose, ear, throat.

4.Assist in certain procedures like tracheostomy, endoscopies

5.conduct CPR (cardiopulmonary resuscitation).

6. be able to use auroscope, nasal speculum, tongue depressor, tunning fork and head mirror.

INTEGRATION

The undergraduate training in E.N.T. will provide an integrated approach towards other disciplines especially neurosciences, ophthalmology and general surgery.

LEARNING METHODS

1. Total teaching hours :70
2. Theory lectures :48(4th,6th,7th term.)
3. Tutorials :22(7th term)
4. Clinical Postings Two clinical postings of 4weeks
   First in 4th semester and second in 6th semester
   Bedside clinics – 8 weeks of three hours per day 144 hours

Course distribution and Teaching Programme

This is suggested programme and can vary at institute level
Total 70 hours of teaching has to be done in ENT including Tutorials
Details of syllabus is given separately below after distribution as per semester

Theory lectures will be taken once a week and their distribution will be as below:

1. 4th term :16(nose and Paranasal sinuses/throat)
   a. NOSE AND P.N.S. :10
   b. THROAT AND NECK:6
2. 6th term :16 (Remaining topics of throat, head and neck and / ear)
   a. THROAT AND NECK:8
   b. EAR :8
3. 7 th term :16 lectures
   a. RECENT ADVANCES AND OTHERS :4
   b. EAR 12

   Total Theory lectures 48

Tutorials 7th Term 22 hours teaching

THEORY LECTURES: 4th, 6th, 7th term (one hour per week)

Topics	No.of lectures
Throat	
• Anatomy/physiology	1
• Diseases of buccal cavity	1
• Diseases of pharynx	2
• Tonsils and adenoids	2
• Pharyngeal tumours and related Topics (trismus, Plummer .Vinson Syndrome etc.)	1
• Anatomy /physiology/examination Methods/symptomatology of larynx	2
• Stridor /tracheostomy	2
• Laryngitis /laryngeal trauma/ Laryngeal paralysis/ foreign body larynx/	

Bronchus, etc. 2

- Laryngeal tumours 1

Nose and paranasal sinuses

- Anatomy /physiology/ exam.
- Methods /symptomatology 2
- Diseases of ext. nose/cong. Conditions 1
- Trauma to nose/p.n.s/Foreign Body. / Rhinolith 1
- Epistaxis 1
- Diseases of nasal septum 1
- Rhinitis 1
- Nasal polyps/nasal allergy 1
- Sinusitis and its complications 1
- Tumours of nose and Para nasal sinuses 1

EAR

- Anatomy /physiology 2
- Methods/methods of examination 1
- Cong.diseases/ ext.ear /middle ear 1
- Acute/chronic supp. otitis media Aetiology, clinical features and its Management/complications 6
- Serous/adhesive otitis media 1
- Mastoid/middle ear surgery 1
- Otosclerosis/tumours of ear 2
- Facial paralysis/Meniere's disease 2
- Tinnitus /ototoxicity 2
- Deafness/hearing aids/rehabilitation Audiometry 2

New Evaluation system for Third MBBS Part I
Subject: Otorhinolaryngology (ENT)
(MU 304)
December 2015 onwards

a. Methods

Theory, Practical and Viva

Type of exam	Maximum marks		Minimum Marks
Theory (One Paper)	40	50	25
Oral Viva	10		
Practicals	30		15
Internal Assessment (Theory 10+ Practical 10)	20		10 (7 eligibility for Univ. exam 35%)
Total	100		50

b. Pattern of Theory University examination including Distribution of Marks, Questions, and Time.

i) **One Paper**
ii) Total duration –2 hrs each
iii) There will be 2 sections in each.
iv) **Section A (MCQ)** 20 minutes and Section B 100 minutes
v) **Total Time : 2 hrs.**

Sections	Nature of Questions	Total No. of Questions	Mark(s) per Question	Total Marks
A)	Q.1 Multiple Choice Questions (MCQs)-	10	1	**10**
B)	Q.2 BAQ's a,b,c,d,e,f	5 out of 6	2	**10**
	Q.3 SAQ's a,b,c	2 out of 3	5	**10**
	Q.4 One Long Question (Question on Pre & para - clinical aspects)	1	10	**10**
Total				**40**

e. *Nature of practical examination in finals*

Number	Exercise		Total Marks
1.	**One Long Case:**		
	History taking	05 Marks	
	Examination	05 Marks	**20 Marks**
	Diagnosis	05 Marks	
	Management	05 Marks	
2.	**One Short Case;**		**10 Marks**
	Presentation	05 Marks	
	Discussion	05 Marks	
		Total:	**30**

f. *Nature of Oral Viva examination in finals*
(These will be included in theory marks)

	Viva	
1.	Audiograms	**02 Marks**
2.	X-ray	**03 Marks**
3.	Specimens	**02 Marks**
4.	Instruments	**03 Marks**
	Total :	**10 Marks**

e. *Plan for internal assessment:*

Theory : **10**

Practical : **10**

Total Marks: : **20**

Minimum Marks: : 10 (07 eligibility for Univ. exam 35%)

Term	Examination Head		Total
	Theory	**Practical**	
6th	40 (A)	40 (A)	
7th Preliminary Examination	40 (B)	40 (B)	
	Calculation Method : **Theory = A + B / 08**	**Calculation Method :** **Theory = A + B / 08**	
Total	**10**	**10**	**20**

Pass : In each of the subjects a candidate must obtain 50% in aggregate with a minimum of 50% in Theory including orals and minimum of 50% in practices/clinicals.

PRAVARA INSTITUTE OF MEDICAL SCIENCES
(DEEMED UNIVERSITY)

MARKS LIST FOR PRACTICAL AND VIVA

III M.B.B.S. (Part I) Practical Examination **Month/Year:** _____

Center: -Rural Medical College **Date: -** _____

Sub: - OTO-RHYNO-LARNGOLOGY (ENT) **Max. Marks: - (Practical – 30, Oral – 10)**

Seat No.	Long case					Short case			Practical Total Out of (30 Marks)	Viva				Viva Total Out of (10 Marks)
	History taking, (05 Marks)	Examination (05 Marks)	Diagnosis (05 Marks)	Management (05 Marks)	Total out of (20 Marks)	Presentation (05 Marks)	Discussion (05 Marks)	Total out of (10 Marks)		Audiograms (02 Marks)	X – ray (03 Marks)	Specimens (02 Marks)	Instruments (03 Marks)	

Name of Examiners: **College** **Signature & Date**

1. _____ _____ **Chairman** ----------
2. _____ _____ **Internal** ----------
3. _____ _____ **External** ----------
4. _____ _____ **External**----------

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR

THIRD MBBS PART I

ENVIRONMENTAL STUDIES

(Academic Council meeting held on 24th September 2010 Resolution No. 04/AC/20101)

Pravara Institute of Medical Sciences

(Deemed University)

Loni Bk. 413 736, Tal. Rahata, Dist. Ahmednagar, (MS)

Ref. No : PIMS/AC/R/2010/1351 **Date : 15/11/2010**

To,

The Principal / Director,
Rural Medical College, Loni
Rural Dental College, Loni,
College of Physiotherapy, Loni
College of Nursing, Loni,

Sir / Madam,

Please find enclosed herewith the approved resolution No. 04/AC/2010, on Item No. 04 of Academic Council at its meeting held on 24th Sept. 2010 on recommendation of Environmental Studies Expert Committee.

The approved syllabus and pattern of examination of Environmental Studies is forwarded herewith for your information and implementation from the Academic Year 2010-11 and onwards for all under graduate courses.

Registrar

Encl. As above

Copy to :

Controller of Examinations,
PIMS(DU), Loni

O/C

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413 736, Tal. Rahata, Dist. Ahmednagar, (MS)

Item No. (4): To Consider and approve the inclusion of Environmental studies syllabus at under graduate level courses.

[Note : The meeting of expert committee under medical faculty for implementaion of environmental studies at under graduate courses of all branches held on 14th June 2010 recommended for inclusion in Under Graduate Courses.
The detail syllabus and examination pattern enclosed as **Annexure III]**

Resolution No. 4 / AC / 2010 :

It was resolved to approve the Environmental Studies Course at under graduate degree course (M.B.B.S / B.D.S / B.P.Th / B.Sc (Nursing) , P.B.B.Sc (N) at all constituent colleges / Institutes recommended by the Expert Committee.

It was further resolved to approve to include the grade obtained at the said examination in university marksheet.

The passing in Environmental Studies shall be compulsory to allow the student to appear university examination.

Registrar

Annexure - III

PRAVARA INSTITUTE OF MEDICAL SCIENCES (DU), LONI.

A Course in Environmental Studies

Syllabus

SECTION - I

Sr. No.	Topic	Sub-Topic	Periods /Hours
1	Nature and Scope of Environmental Studies	Defination, Scope, Importance, Multidisciplinary Nature, Need for Public Awarness.	01
2	Natural Resources	Renewable and Non-Renewable Natural Resources and associated problems of Forest, Water,Mineral, Energy, Land and food - case studies, Conservation of resources, Non conventional sources of Energy.	02
3	Ecosystem	Types, Characteristics, Structure and function.	01
4	Biodiversity and its Conservation	Defination, Genetic Species and Ecosystem Diversity, Biological Classification of India, Biodiversity at Global, National and Local levels, Conservation of Biodiversity.	02
5	Agriculture and Environment	Integrated Nutrient Managment, Integrated Pest Managment, Integrated Vector Control, Sustanable development and Sustainable agriculture. Health hazards of Pesticides in India- Causes and Prevention.	02
6	Environmental Sanitation	Magnitude of problem of Sanitation in India, Ecofriendly environmental practices.	01

SECTION - II

7	Environmental Pollution	Defination, course effects and controll measures of air (indoor and outdoor), Water, Soil, Marine, Noise, Thermal, Nuclear. Role of individual in prevention of pollution – case studies, Disaster managment.	06
8	Social Issues and the Environment	Urban problems, Ressetlement problems, Climate change, Global Warming, Acid Rain, Ozone layer Depletion, Nucler Accidents, Air act, Environment protection act, Water, Forest, Wildlife act, Public awarness.	05
9	Human Population and Environment	Population Explosion, Family Welfare Programme, Environment and Human Health, Human Rights, Value education, HIV/AIDS, Role of I.T. in Environment and Human health-case studies.	02
10	Field Work / Practical	1) Study of simple ecosystem- pond, river, hill etc. 2) Visit to Biogas Plant 3) Visit to Water Treatment Plant 4) Visit to Sugar Factory 5) Visit to Medicinal Plant Garden	
11	Examination	a) MCQ-25 marks. b) SAQ – 30 marks. c) LAQ – 20 marks. d) Practical / Project work / Field Work – 25 marks	

S. VENKATARAMANI
PRINCIPAL
RURAL MEDICAL COLLEGE
PRAVARA MEDICAL TRUST LONI

Rural Medical College of Pravara Medical Trust LONI 413 736

Proposed Examination Pattern for Environmental Studies

Theory Examination :

Section A : Multiple Choice Questions (25 MCQs) 25 Marks
Each MCQ carry one mark

Section B : Short Answer Questions & Long Answer Questions 50 Marks

Que. 1 : Two Long Answer Questions (out of three) for 10 marks each (20 Marks)

Que. 2 : Six Short Answer Questions (out of nine) for 5 marks each (30 Marks)

Practical Examination :

Journal of Field Visit	:	05 Marks
Spots	:	10 Marks
Viva	:	10 Marks

Reference Book : Text Book of Environmental Studies (Author : Erach Bharucha) for UG Course published by UGC.

Rural Medical College of Pravara Medical Trust LONI 413736

DR. S. VENKATARAMANI
PRINCIPAL
RURAL MEDICAL COLLEGE
PRAVARA MEDICAL TRUST LONI

Pravara Institute of Medical Sciences
(Deemed to be University)

Loni Bk - 413 736, Tal. Rahata, Dist. Ahmednagar (M.S.)

NAAC Re-accredited with 'A' Grade (CGPA 3.17)

Established Under Section 3 of UGC Act 1956, Vide Govt. of India Notification No. F.9-11/2000-U.3, dated 29th September, 2003

Medical Faculty Revised Syllabus

Third Year MBBS (Part-II)

New Evaluation System 2013 Onwards

Approved Vide Academic Council Dated 19th May, 2015

Circular No. 11/2016 dated 3rd March 2016
Notification No.17/2016 dated 6th May 2016

Mail : registrar@pmtpims.org,
Fax: +91-2422-273413 Phone No.: 273600
Homepage : http: // pravara.com

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR THIRD MBBS PART II

MEDICINE

(MU 401 & MU 402)

SURGERY

(MU 403 & MU 404)

OBSTETRICS & GYNAECOLOGY

(MU 405 & MU 406)

PAEDIATRICS

(MU 407)

NOTIFICATION NO. 17/2016

Dated : 06th May 2016

Pravara Institute of Medical Sciences

(Deemed University)
Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

PIMS/COE/AC/2016/620 Date: 06/05/ 2016

NOTIFICATION NO. 17/2016

It is hereby notified for information of all concerned that, as per the revised curriculum of M.B.B.S. First, Second & Third Part I is being implemented from the academic year 2013, 2014 & 2015 as per the decision of the Academic Council.

The pattern of Internal Assessment and theory examination in Third MBBS Part II will be as per enclosure herewith. The examination of the course will be held in the Dec. 2017 and onward.

For the information and necessary action please.

(Dr. A. N. Badwe)
Registrar

Registrar
Pravara Institute of
Medical Sciences
Loni-413 736, India.

Pravara Institute of Medical Sciences Loni (Bk) Pin 413736 Maharashtra India Deemed University

Place: Loni- 413 736
Date: 06/05/2016

Copy for information & necessary action to: -

1. The Dean,
   Rural Medical College, Loni.
2. Dean, Faculty of Medicine,
3. HOD Dept. of Medicine, Surgery, Orthopedics, Obstetrics and Gynecology, Pediatrics.
4. The Controller of Examination,
5. Assistant Registrar (Academic)

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR

THIRD MBBS PART II

NEW EVALUATION SYSTEM

DECEMBER 2016 ONWARDS

MEDICINE

(MU 401 & MU 402)

NOTIFICATION NO. 17/2016

Dated : 06th May 2016

PRAVARA INSTITUTE OF MEDICAL SCIENCES
Loni Bk. 413736 (Maharashtra)

Syllabus for III[rd] Part II M.B.B.S.

Course Code : MU-401 & 402 **Title : General Medicine**

Teaching Hours :

Theory	: 370 Lectures
General Medicine	: 300 Lectures
T. B.	: 20 Lectures
Psychiatry	: 20 Lectures
Skin VD and Laprosy	: 30 Lectures

Practical	
General Medicine	: 26 weeks
T. B.	: 02 weeks
Skin and VD	: 06 weeks
Psychiatry	: 02 weeks

(i) **GOAL** :

The broad goal of the teaching of undergraduate students in Medicine is to have the knowledge, skills and behavioral attributes to function effectively as the first contact physician.

(ii) **OBJECTIVES** :

(a) KNOWLEDGE :

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

(1) Diagnose common clinical disorders with special reference to infectious diseases, nutritional disorders, tropical and environmental diseases;
(2) Outline various modes of management including drug therapeutics especially dosage, side effects, toxicity, interactions, indications and contra-indications;
(3) Propose diagnostic and investigative procedures and ability to interpret them;
(4) Provide first level management of acute emergencies promptly and efficiently and decide the timing and level of referral, if required;
(5) Recognize geriatric disorders and their management.

(iii) **SKILLS** :

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

(1) develop clinical skills (history taking, clinical examination and other instruments of examination to diagnose various common medical disorders and emergencies;
(2) refer a patient to secondary and/or tertiary level of health care after having instituted primary care;
(3) perform simple routine investigations like hemogram, stool, urine, sputum and biological fluid examinations;
(4) assist the common bedside investigative procedures like pleural tap, lumber puncture, bone marrow aspiration/ biopsy and liver biopsy.

A course of systematic instruction in the principles and practice of medicine, including medical disease of infancy;

a. Lecture - demonstrations, seminars and conferences in clinical medicine during the 3 years shall run concurrently with other clinical subjects.;
b. Instructions in comprehensive medical care;
c. Instructions in applied anatomy and physiology and pathology throughout the period of clinical studies;
d. Instructions in dietetics, nutrition and principles of nursing Medical and in simple ward procedure e.g. should be imparted during clinical concurrently.

iv) **Attitude** :

a. The teaching and training in clinical medicine must aim at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.

b. It is necessary to develop in students a sense of responsibility towards holistic patient care & prognostic outcomes.

c. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co-professionals.

SYLLABUS

(General Instruction: 1) **The Lectures** Stated below shall cover knowledge about applied aspects of basic & allied sciences, practical approaches in the management of patients in the outdoor & indoor settings as well as their management in the community. Special emphasis shall be placed on preventive aspects, National Health Programs & dietetics & nutrition.)

2) **During practical teaching & training in wards**, OPD & field works proper emphasis should be given to common health problems in addition to other diseases. Emphasis should be given to learning of tacit knowledge & skills in diagnosis & interpretation of finding & Lab. data.

INTRODUCTION TO MEDICINE : 4 TH SEMESER

Lect.01. : History of Medicine.

Lect.2/3. : Concept & objectives of history taking. Diagnosis, Provisional Diagnosis, Differential diagnosis.

Lect.04. : Symptomatology of Cardiovascular Diseases.

Lect.05. : Symptomatology of Respiratory diseases.

Lect.06. : Symptomatology in Nervous system.

Lect.07. : Symptomatology in Gastrointestinal and Hepatobiliary diseases.

Lect.08. : Approach towards a patient with Fever / Oedema.

Lect.09. : Approach towards a patient with anaemia / jaundice.

Lect.10. : Approach towards a patient with Lymphadenopathy.

Lect.11. : Investigations (Non- Invasive)
X-rays, USG, Echocardiography
C.T. ./ M.R.I. Scan
Examinations of Sputum, Urine, Stool
Peripheral smear

Lect.12.: Investigations (Invasive)
Bone marrow
F.N.A.C.
Liver biopsy
Lymph node biopsy
Endoscopies
Lumber puncture.
Thoracocinlesis
Abdominal tapping

Lect.13/14.: Review of common diseases in India.

Lect.15/16,: Revision.

Lect.17.: Examination.

Lect.18/20: Buffer.

INFECTIOUS DISEASES : 5 TH SEMESTER

Lect. 01 : Introduction.
Infections – types, Modes of Infection transmission, Incubation period
Host defenses, Immunity & Immunization & Management
including Prevention

Lect. 02 : Viral hepatitis.

Lect.3/4/5: Tetanus/ Diphtheria

Lect.6/7: Malaria

Lect.08: Rabies

Lect.09: Typhoid fever

Lect.10/11: Gastroenteritis

Lect.12: Plague / Dengue

Lect.13/14: (HIV) Infection & AIDS

Lect.15.: Examination.

Note :- The course contents in above topics should also cover applied aspects in basic sciences like Anatomy, Physiology, Bio-Chemistry, Micro-Biology, Pharmacology, Pathology, FMT while giving training on Clinical features, investigations, Diagnosis, D/D treatment & prevention.

CARDIOVASCULAR SYSTEM : 5 TH SEMESTER

Lect.01 : Introduction
Functions / anatomy / physiology and its applications
Various terminologies used

Lect.2/3: Methods of evaluation
Non - invasive
Invasive

Lect.04 : Arrhythmias
- Concept & Classification
- Presentation
- Diagnosis
- Pharmacotherapy in short

Lect.05: Cardiac arrest.

Lect.06: C.C.F.
- Types
- Presentations
- Pathophysiology
- Management

Lect.07: C.H.D.
- Aetiology and classification
- CHD in adults & its importance

Lect.08: Rheumatic fever

Lect.09: Presentation and haemodynamics of various Valvular lesions including investigations, Diagnosis, D/D treatment & Prevention.

Lect.10: Infective endocarditis

Lect.11/12: C.A.D, (Coronary artery disease)

Lect.13: Pericardial diseases and cardiomyopathy

Lect.14: Hypertension

Lect.15: Examination.

GASTROENTEROLOGY, HEPATOBILIARY SYSTEM & PANCREAS : 6 TH SEMESTER

Lect.01: Introduction to GIT
- Oral Cavity
- Ulcers
- Bleeding
- Pigmentation
- Oral manifestation of systemic diseases

Lect.2/3: Oesophagus
- Inflammation, Dysphagia

Lect.4/5: Stomach
Peptic ulcers
Aetiopathogenesis
Clinical features
Investigations
D/D and management
Acute and Chronic gastritis

Lect.6/7. Small and large intestine diseases
Secretions & functions
MAS (Mal absorption syndrome)
Tuberculosis of Abdomen

Lect.08: Ulcerative colitis & Crohn's disease

Lect.09: Liver.
Introduction
LFT & their interpretation

Lect.10/11: Hepatitis - Acute & Chronic

Lect.12/13: Cirrhosis of liver

Lect.14: Gall bladder diseases

Lect. 15/16: Pancreas
Functions
Investigations
Acute and Chronic pancreatitis
Manifestation and D/D & treatment.

Lect.17/18: Misc. & Revision.

Lect.19: Examination.

RESPIRATORY SYSTEM : 6 TH SEMESTER

Lect.01: Applied Anatomy and physiology of R.S.

Lect.02: P.F.T. (Pulmonary Function Testing)

Lect.03: Resp. Infection- Pneumonias.

Lect.04: Chronic bronchitis and emphysema

Lect.5/6: Bronchiectasis and lung abscess.

Lect.07: Bronchial asthma

Lect.08: Malignancies

Lect.09: Mediastinum and its disorders.

Lect.10: Pleural disease - Emphasis on pneumothorax

Lect.11: Pleural effusion.

Lect.12: Occupational lung disease. Its concept and short review

Lect.13: Revision - Fungal & Parasitic diseases

Lect. 14:Respiratory emergencies & Introduction to mechanical ventilators

Collagen Vascular Disorders

Lect.1: Allergy - Concept & hypersensitity, Autoimmunity

Lect.2: Collagen disease.

Lect.3: Rheumatoid arthritis

Lect.4: Sero negative arthritis

Lect.5: Revision HIV , Alcohol related disease

Lect.6: Examination

TUBERCULOSIS : 6 TH SEMESTER

Lect.01: History and introduction

Lect.2/3: Pathogenesis and pathology

Lect.04: Role of host related factors

Lect.05: Microbiology of AFB

Lect.06: Clinical features of pulmonary tuberculosis and its investigations

Lect.07: Anti – Tubercular drugs

Pharmacology & Schedules of treatment.

Lect.8/9: Resistant tuberculosis
DOTS
Prophylaxis - Drugs /BCG/ Tuberculin test.
HIV & TB.

Lect.10: Extra - pulmonary tuberculosis
Plural effusion
Empyema
Others

Lect.11/12: Revision

Lect.13: Examination

NEUROLOGY: 7 TH SEMESTERS

Lect.01: Introduction
Applied anatomy & physiology
History taking in neurology

Lect.02: Investigations

Lect.3/4: CVD (Cerebro Vasular Disease)
Types & its differential diagnosis
Predisposing factors
Diagnosis and management

Lect.05: S.O.L. (Space Occupying Lesions)

Lect.06: Encephalitis and meningitis

Lect.07: Epilepsy

Lect.08: Cerebellar syndrome

Lect.09: Parkinsonism

Lect.10: Paripheral neuropathy

Lect.11: Muscle disorders in brief

Lect.12/13: Spinal cord disorders

Lect.14: CSF
Formation and absorption
Status in various disorders

Lect.15: Examination.

HEMATOLOGY: 7 TH SEMESTER

Lect.01: Introduction
- Cell line of hemopoisis
- Stimulating factors
- Physiology and Anatomy of RBCs.

Lect.02: Anemias
- Introduction
- Classification
- Symptoms & signs in general
- Basic investigations & its interpretation

Lect.03: Microcytic hypochromic anaemias
- Fe Kinetics
- C/F, investigations of Fe deficiency.
- Treatment of Fe deficiency.
- D/D - Sideroblastic / thallasemic.

Lect. 04: Macrocytic anaemias
- Kinetics of B-12 and Folic acid
- C/F, investigations and management of B-12 / FA deficiency.

Lect.05: Anaemias (continued)
Brief of Chronic infections and inflammation
Hemolytic anaemias

Lect.06: Hemoglobinopathies

Lect.07: Hypoplastic / Aplastic anemia
- Definition
- Classification
- Diagnosis and management

Lect. 08 Introduction to WBCs.
- Agranulocytosis - Aetiology & its significance
- Leukemias (AML, ALL, CML, CLL)

Lect.09: Management of leukemia

Lect.10: Lymphomas
Hodgkin's disease / NHL (Non-Hodgkin's lymphoma)

Lect.11: Approach to a patient with bleeding disorders
- Recognition
- Investigations
- Physiology of Platelets
- Therapy

Lect.12: Blood groups & Blood Tranfusion & Component Therapy
Lect.13-14: Revision

Lect. 15: Examination.

ENDOCRINOLOGY : 8 TH SEMESTER

Lect. 01: Introduction - Hormones
- Concept
- Types
- Action
- Endocrine system
- General
- Control

Lect.2/3: Pituitary
- Anatomy
- Regulation
- Disorders of Ant. Pituitary
- Acromegaly
- A.G. Syndrome
- Disorders of Post. Pituitary
- Hypopituitarism

Lect.4/5: Thyroid
- Anatomy
- Regulation
- Goiter
- Hypothyroid state & hyperthyroid state
- Classifications
- Management

Lect.6/7: Adrenal gland
- Anatomy
- Regulation
- Addison's & Cushing syndrome
- Recognition
- Investigations
- Management
- Pheocromocytoma

Lect.08: Vit. D. Metabolism.
- Ca. Metabolism and its relations to parathyroid
- Diagnosis & management of related disorders.

Lect.9/10: Diabetes Mellitus

Lect.11: FSH Oestrogens, Progesteron
- Significance

Disorders
Its recognition and diagnosis
Management

Lect.12: Multiple endocrine-syndrome and paraneoplastic syndrome Overview.
Diabetes incipidus.

Miscellaneous

Lect.13/14 : Poisoning
Suicidal / Homicidal / Accidental
Chemical / Biological / Corrosives / Drugs
Concepts of management
Barbiturate
DDT
Organophosphorus

Lect.15: Hyperpyrexia and Heat exhaustion
Aetiology
Pathophysiology
C / F. Types
Management
Preventive measures

Lect.16 : Electrical injury
Types
Manifestations
Management
Lightening

Lect.17: Shock
Types
Pathophysiology / Complications
Management

Lect.18/19: Introduction – Stem cells and Therapeutic Applications.

Lect.20: Examination

NEPHROLOGY, NUITRITION : 8 TH SEMESTER

NEPHROLOGY :

Lect.01: Anatomy & Physiology of Urinary system

Lect.02: R.F.T. (Renal Function Tests)

Lect.03: Acute Glomerulonephropathy

Lect.04: Chronic Pyelonetrhrilis

Lect.05: Infections of urinary system.

Lect.06: Nephrotic syndrome

Lect.07: Approach towards common problem

i. Proteinuria
ii. Hematuria
iii. Renal colics

Lect.08: Acute & Chronic renal failure

Lect.09: Dialysis, Diet, Drugs In renal failure

Lect.10:Revision

Lect.11: Examination

Genetics (3 lectures)

Lect.1 : Introduction

Lect.2 : Common genetic disorders

Lect.3 : Application of Genetic Engineering in Medicine

NUTRITION :

Lect.11: Concepts of carbohydrate, proteins, fats, vitamins and minerals. Balanced diet.

Lect.12: Protein energy malnutrition.

Lect.13/14: Vitamin deficiency state
Scurvy / Beribery / Pellegra / Vit.A

Lect.15: Obesity / Asthenia
Diagnosis
Complications and management

Lect.16: Revision

Lect.17: Examination.

Recommended Books :

1. Hutchinson's Clinical Methods by Hunter and Bomford,
2. The Principles and practise of Medicine - Sir Stanley Davidson
3. Text book of Medical Treatment - Dunlop and Alstead.
4. Savill's system of Clinical Medicine - E. C. Warner.
5. Principles of internal Medicine - Harrison.
6. API Text Book of Medicine.
7. **Reference Book (Clinical Medicine) : "Clinical Examination in Medicine": Author: Dr. A. P. Jain**

SKIN

DERMATOLOGY / STD/ LEPROSY

Goals :

The aim of teaching the Under graduate students in Dermatology, S.T.D. and Leprosy is to impart such knowledge and skills that may enable him to diagnose and treat common ailments and to refer rare diseases or complications and unusual manifestations of common diseases to the specialist.

OBJECTIVES :

Knowledge :

At the end of the course of Dermatology, Sexually Transmitted Diseases & Leprosy the student shall be able to :

1. Demonstrate sound knowledge of common diseases, their clinical manifestations including emergent situations and of investigative procedures to confirm their diagnosis.
2. Demonstrate comparative knowledge of various modes of topical therapy.
3. Demonstrate the mode of action of commonly used drugs, their doses, side effects / toxicity, indications and contraindication & interactions.
4. Describe commonly used modes of management including the medical & Surgical procedures available for the treatment of various diseases and to offer a comparative plan of management for a given disorder.

Skills :

The student shall be able to

1. Interview the patient, elicit relevant and correct information and describe the history

in a chronological order :

2. conduct clinical examination, elicit and interpret physical findings and diagnose common disorders and emergencies :
3. perform simple, routine investigative and laboratory procedures required for making the bed-side diagnosis, especially the examination of scrapings for fungus, preparation of slit smears and staining for AFB for leprosy patients and for STD cases
4. take a skin biopsy for diagnostic purposes ;
5. manage common diseases recognizing the need for referral for specialized care, in case of inappropriateness of therapeutic response.

Syllabus for Skin Total lectures: 15

1. Structure and functions of its appendages

2. Infections of Skin : (Bacterial : Acne vulgaris Boil, carbuncles, cellulitis; Viral: Herpes Zoster, Herpes simplex)

3. and 4. Infestations : Scabies, Fungal infections Dermatophytic (tinea corporis, cruris, capitis, onychomycosis), candida infections.

5. Nutritional disorders of skin.

6. Allergic disorders : Urticaria, Anaphylaxis, Contact dermatitis, Erythema nodosum, Drug reactions.

7. Hanhans disease : Types, Diagnosis, Management.

8. and 9. Commonly sexually transmitted disease: Syphilis, Gonorrhoea, LGV, GI, Chancroid Clinical manifestations, Treatment and prevention. HIV and AIDS: Cutaneous manifestations.

10. and 11. Papulosquamous and Bullous disorders of skin ; Psoriasis, pemphigus vulgaris.

12. Cutaneous manifestations of: Connective tissue disorders; SIE, Scleroderma,

    Mixed connective tissue disorders.

13. Disorders of pigment and hairs : Hypermelanosis, Vitiligo, Hirsutism, Alopecia

14. Neurocutaneous syndromes

15. Cutaneous manifestations of systemic diseases.

Books recommended :

1. Skin and Sexually Transmitted Disease by Uday Khopkar

2. Skin and Sexually Transmitted Disease by Neena Khanna

Chest

TUBERCULOSIS AND RESPIRATORY DISEASES:

(i) GOAL :

The aim of teaching the undergraduate student in Tuberculosis and Chest Diseases is to impart such knowledge and skills that may enable him/her to diagnose and manage common ailments affecting the chest with the special emphasis on management and prevention of Tuberculosis and especially National Tuberculosis control programme.

(ii) **OBJECTIVES :**

(a) **KNOWLEDGE :**

At the end of the course of Tuberculosis and Chest diseases, the student shall be able to:

1) demonstrate sound knowledge of common chest diseases, their clinical manifestations, including emergent situations and of investigative procedures to confirm their diagnosis'
2) demonstrate comprehensive knowledge of various modes of therapy used in treatment of respiratory diseases;
3) describe the mode of action of commonly used drugs, their doses, side-effects/toxicity, indications and contra-indications and interactions.;
4) describe commonly used modes of management including medical and surgical procedures available for treatment of various diseases and to offer a comprehensive plan of management inclusive of National Tuberculosis Control Programme.

(b) **SKILLS** : The student shall be able to :

1) interview the patient, elicit relevant and correct information and describe the history in chronological order;
2) conduct clinical exami9nation, elicit and interpret clinical findings and diagnose common respiratory disorders and emergencies;
3) perform simple, routine investigative and office procedures required for making the bed side diagnosis, especially sputum collection and examination for etiologic organisms especially Acid Fast Bacilli (AFB), interpretation of the chest x-rays and respiratory function tests;
4) interpret and manage various blood gase4s and PH abnormalities in various respiratory diseases.

5) Manage common diseases recognizing need for referral for specialized care, in case of inappropriateness of therapeutic response;
6) Assist in the performance of common procedures, like laryngoscopic examination, pleural aspiration, respiratory physiotherapy, laryngeal intubation and pneumo-thoracic drainage/aspiration

(c) **INTEGRATION** :

The broad goal of effective teaching can be obtained through integration with departments of Medicine, Surgery, Microbiology, Pathology, Pharmacology and Preventive and Social Medicine

Lect. 01 : History and introduction.

Lect. 2/3: Pathogenesis and pathology

Lect. 04: Role of host related factors.

Lect. 05: Microbiology of AFB

Lect. 06: Clinical features of pulmonary tuberculosis

Lect. 07: Anti-tuberculous drugs
-Pharmacology & schedules of drug therapy

Lect. 08: Resistant tuberculosis (MDR and XMDR)

Lect. 09: DOTS
Prophylaxis - Drugs / BCG / Tuberculin test.

Lect. 10: HIV & TB

Lect. 11 Extra - Pulmonary tuberculosis
Pleural Effusion
Others.

Lect. 12: Revision

Lect. 13: Examination.

Respiratory System :

1. Applied anatomy & Physiology of R.S.
2. Lung function tests
3. Respiratory infections, pneumonias, fungus,

4. Bronchiectasis & lung Abscess.
5. Bronchial Asthma.
6. Lung & Pleural Malignancies.
7. Mediastinum & its disorders.
8. Pleural Diseases
9. Occupational Lung Disease
10. Respiratory emergencies.

Lecture cum Demos (Resp system)

1. Lung function test and blood gas Analysis and Resp. alkalosis & Acidosis.
2. Bronchitis and emphysema
3. Suppurative lung diseases
4. Bronchogenic carcinoma & other malignancies with Mediastinal obstruction
5. Pleural disease - pneumothorax, pyopneumothorax, Pleural effusion

L.C.D. In T.B.

1. Haemoptysis
2. Drug resistance
3. TB & HIV

Books recommended :

1. W.H.O. Book on T. B. - Questions and Answers by K. Tomen
2. Respiratory Diseases by Crofton and Duglus – 2005 edn.
3. Pleural diseases by Richard Light – 2006 edn.

Psychiatry

(i) **GOAL** :

The aim of teaching of the undergraduate student in Psychiatry is to impart such knowledge and skills that may enable him to diagnose and treat common Psychiatric disorders, handle Psychiatric emergencies and to refer complications/unusual manifestation of common disorders and rare Psychiatric disorders to the specialist.

(ii) **OBJECTIVES** :

(a) **KNOWLEDGE** :

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

1) Comprehensive nature and development of different aspects of normal human behaviour like learning, memory, motivation, personality and intelligence;
2) Recognize differences between normal and abnormal behaviour ;
3) Classify psychiatric disorders;
4) Recognize clinical manifestations of the following common syndromes and plan their appropriate management of organic psychosis, functional psychosis, schizophrenia, affective disorders, neurotic disorders, personality disorders, psychophysiological disorders, drug and alcohol dependence, psychiatric disorders of childhood and adolescence ;
5) Describe rational use of different modes of therapy in psychiatric disorders.

(b) **SKILLS :**

The Student shall be able to :

11. Interview the patient and understand different methods of communications in patient-doctor relationship ;
12. Elicit detailed psychiatric case history and conduct clinical examination for assessment of mental status;
13. Define, elicit and interpret psycho-pathological symptoms and signs;
14. Diagnose and manage common psychiatric disorders;
15. Identify and manage psychological reactions and psychiatric disorders in medical and surgical patients in clinical practice and in community setting.

(c) INTEGRATION:

Training in Psychiatry shall prepare the students to deliver preventive, promotive, curative and re-habilitative services for the care of patients both in the family and community and to refer advanced cases for a specialized Psychiatry / Mental Hospital. Training should be integrated with the departments of Medicine, Neuro-Anatomy, Behavioral and Forensic Medicine.

4th or 5th semester 5 lectures

1. Motivation (including) frustration, conflicts etc.) Emotion (including mind-body relationship)
2. Learning (different types) memory (Types of memory, cause of forgetting etc.)

3. Intelligence, emotional Quotient including M.R. and sifted child.
4. Personality-Different types with mental mechanisms
5. Difference between normal and abnormal behaviour. Doctor-Patient relationship and communication skills

In 8th & 9th Semester remaining 15 lectures.

1. Psychiatric classification. Difference between functional and organic psychosis. Difference between psychosis and neurosis.
2. Schizophrenia including drugs and rehabilitation.
3. Affective disorders including pharmacotherapy
4. Affective disorders including non-pharmocotherapy treatment.
5. Anxiety disorders-Generalised anxiety, disorders, panic disorders.
6. O.K.D. and Phobias.
7. Somatoform disorders.
8. Alcohol dependence
9. Psycho-Physiological disorders.
10. Scholastic problems.
11. Behavioural disorders.
12. Sexual disorders.
13. Psychiatric emergencies including suicide and organic brain disorders.
14. Psychotherapies including behaviour therapy.
15. Brain Death

Practical : Clinical Course

During third to ninth term, clinical postings of three hours duration daily as specified in the Table 1 is suggested for various departments, after introductory course in Clinical Methods in Medicine of two weeks for the whole class at the start of 3rd term.

Table 1 : Clinical Postings

Subject	*Weeks*							*Total*
Terms	3rd	4th	5th	6th	7th	8th	9th	
General Medicine	6	-	4	-	4	6	6	26
TB & Chest Diseases	-	2	-	-	-	-	-	02
Skin & STD	-	2	-	2	-	2	-	06
Psychiatry	-	-	2	-	-	-	-	02

Books recommended :

1. Hutchinsons Clinical Method
2. The Principle & Practice of Medicine – Sir Stanley Davidsons
3. Principles & Practice of Internal Medicine – Harrisons
4. Internal Medicine by Kumar & Clark
5. API Text Book of Medicine
6. Tropical Medicine – Manson and Bar
7. Psychiatry Basics – Dr. Ahuja

New Evaluation system for Third MBBS Part II
Subject: General Medicine
(MU 401 & MU 402)
January 2016 onwards (New course 2013 Batch)

a. Methods

Theory, Practical and Viva

Type of exam	Maximum marks		Minimum Marks
Theory (Two Papers)	120	140	70
Oral Viva	20		
Practicals	100		50
Internal Assessment (Theory 20+ Practical 20)	40		20 (14 eligibility for Univ. exam 35%)
Total	280		140

b. Pattern of Theory University examination including Distribution of Marks, Questions, and Time.

i) **Two theory papers of 60 marks each**
ii) Total duration –3 hrs each paper
iii) There will be 2 sections in each. paper
iv) **Paper I** will be on **General Medicine**: Cardiovascular system, Heamatology, Haemato-oncology & Collagen Disorders, Endocrinology, infectious diseases/Tropical Disease, Miscellaneous.
v) **Paper II** will be on **General Medicine (including Psychiatry, Dermatology and S.T.D.)**: Neurology, Psychiatry, Dermatology, Veneroleprology & Gastro-intestinal system, Hepatobilary system & Pancreas, Respiratory Diseases, Tuberculosis & Clinical Nutrition and Nephrology, Genetics,
vi) **Both Papers will have same following pattern:**
vii) **Section A (MCQ)** will be of 20 minutes and Section B will be of 160 minutes

Sections	Nature of Questions	Total No. of Questions	Mark(s) per Question	Total Marks
A)	Q.1 Multiple Choice Questions (MCQs)-	15	1	**15**
B)	Q.2 BAQ's **(Brief Answer Question)** a,b,c,d,e.f	05 out of 06	2	**10**
	Q.3 SAQ's **(Short Answer Question)** a,b,c,d.	03 out of 04	5	**15**
	Q.4 LAQ's **(Long Answer Question)** a, b	2	10	**20**
Total				**60**

(shall contain one question on basic sciences and allied subjects)

c. *Nature of practical examination in finals*

Number	Exercise	Marks
1	**One Long case**: The time for case taking for student is 45 min & for CROSS examination is 10 min.	**50**
2	**Two short case - 25 Marks each** The same for each short case is 10 min & CROSS examinations 5 min.	**50**
Total		**100**

d. *Nature of Oral Viva examination in finals (These will be included in theory marks)*

	Oral (Viva)	
1.	Interpretation of Investigations (Like X-ray, ECG etc.)	**10**
2.	Medical Emergencies	**10**
Total		**20**

e. Plan for internal assessment:

Theory : 20

Practical : 20

Total Marks: : 40

Minimum Marks: : 20 **(14 eligibility for Univ. exam 35%)**

Term	Examination Head		Total
	Theory	Practical	
VI	60 (A)	120 (A) #	
VIII	60 (B)		
Preliminary 9th Sem. (I 60 + II 60)	120 (C)	120 (B)	
	Calcu. Method : The = A+B+C / 12	Calcu. Method : The = A+B / 12	
Total	**20**	**20**	**40**

# *Practical (Clinical Post end examination)*									*Total*
Practical Posting	**II/I**	**II/III**	**III/II**	**III/III**	**III/IV**	**TB**	**Skin & VD**	**Psychiatry**	**(A) // 120**
Marks	**20**	**15**	**15**	**20**	**20**	**10**	**10**	**10**	

Pass : In each of the subjects a candidate must obtain 50% in aggregate with a minimum of 50% in Theory including orals and minimum of 50% in practices/clinicals.

PRAVARA INSTITUTE OF MEDICAL SCIENCES
(DEEMED UNIVERSITY)

MARKS LIST FOR PRACTICAL AND VIVA

III M.B.B.S. (Part II) Practical Examination **Month/Year:** _____

Center: -Rural Medical College **Date: -** _____

Sub: - ***General Medicine*** **Max. Marks: - (Practical – 100, Oral – 20)**

Clinical (Bed side)

A: One Long case **50 Marks**

B: short case (1) **25 Marks**

C: short case (2) **25 Marks**

Practical Total : 100 Marks

Oral (Viva Voce)

D: Interpretation of Investigations (Like X-Rays, ECGs, etc.) **10 Marks**

E: Medical Emergencies **10 Marks**

Oral Total : 20 Marks

Seat No.	A (50 Marks)	B (25 Marks)	C (25 Marks)	Practical Total Out of (100 Marks)	D (10 Marks)	E (10 Marks)	Oral (Viva Voce) Total Out of (20 Marks)

Name of Examiners: **College** **Signature & Date**

1. _____ _____ **Chairman** ----------

2. _____ _____ **Internal** ----------

3. _____ _____ **External** ----------

4. _____ _____ **External**----------

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR

THIRD MBBS PART II

NEW EVALUATION SYSTEM

DECEMBER 2016 ONWARDS

SURGERY

(MU 403 & MU 404)

NOTIFICATION NO. 17/2016

Dated : 06th May 2016

Pravara Institute of Medical Sciences

MEDICAL FACULTY

Presentation of Syllabus
(MBBS)
DEPARTMENT OF SURGERY

Course Code : 403/404
Title : General Surrgery

Teaching Hours :		
	Theory -Lectures & Seminars	- 236
	Tutorials	- 96
	Practicals	- 388
	Total	- 720

GOAL :

1. To train the student to become competent doctor who can deal with common health problems occuring in the society.
2. Stimulate the student to pursue further advanced studies and develop research attitude.

OBJECTIVES :

1. To train a ethically sound and competent, community oriented doctor.
2. He should be able to deal with commonly occuring health problems of the society.
3. He should be able to understand his academic limitations in dealing with certain clinical problems. He should be able to refer such patients to proper centres promptly.
4. He should become a productive member of the society.
5. He should be able to carry out health projects designed for the benefit of society with commitment.

Lecture programme & syllabus for 4th & 5th term (II / II & II/III MBBS)

Approximate total lectures : 28

GENERAL SURGERY :

1. Asepsis, Antisepsis, Sterilization
2. Surgical sutures, drains, bandages, splints
3. Infections : -Acute Specific -tetanus, gas gangrene
   - Non -Specific
   - Subacute

- Chronic -Specific -Tuberculosis, Leprosy, Filariasis
- Non -Specific & Fungal

4. Preventation and treatment of infections
5. Rational use of Antibiotics
6. Hospital acquired infections
7. Trauma : Types of wounds
   Mechanisms of injuries
   Gun-shot & blunt injuries
8. Wound healing
9. Nutritional support to surgical patient
10. Benign & Malignant lesions of skin & sub-cutaneous tissue
11. Sinus & fistulae
12. Bites & stings
13. Shock : Types
    Pathophysiology
    Management
14. Fluid & electrolyte balance & homeostasis
15. Blood transfusion
16. Pre-operative & post-operative care
17. Thermal & electrical burns
18. Resuscitation of burn case
19. Frost-bite
20. Hand infection

Lecture programme & syllabus for 6th term (III / I MBBS)

Total Lectures – 40

Seminars : 4 (3 hours each = 12 hours)

Module I

1. Polytrauma; including Maxillo facial injuries.
2. Minimally invasive surgery
   a) Laparoscopy
   b) Endoscopy
3. Principles of Radiotherapy
4. OT Techniques
5. AIDS in surgery
6. Diabetic foot
7. Diseases of artery & their management
   a) Acute obstruction
   b) Chronic obstruction
   c) Trauma

8. Diseases of veins & their management
   a) Varicoseveins
   b) Deep vein thrombosis
   c) Thrombophlebitis
9. Lymphnodes & Lymphatics
   a) Infections
   b) Neoplasms

Module II

Head, neck, face, oral cavity

1. Congenital malformations
2. Premalignant & malignant lesions of oral cavity
3. Benign & malignant tumours of Jaw
4. Salivary glands
   a) Applied anatomy
   b) Acute & chronic infections
   c) Neoplasms
5. Congenital swelling in neck
6. Inflammetory swelling in neck
7. Thoracic outlet syndrom
8. Endocrines
   a) Thyroid
      - Anatomy, Physiology, Investigations
      - Types of goitre
      - Thyrotoxicosis
      - Neoplasma
      - Thyroglossal cyst
      - Hypothyroidism
   b) Parathyroid & adrenal glands
      - Hyperparathyroidism
      - Hypoparathyroidism
      - Tumours of adrenal gland
      - Surgical hypertension
      - Apudomas
   c) Disease of Thymus

Module III

1. Head injury
   - Mechanism
   - Clinical feature
   - Management
   - complication
2. Congenital anomalies of brain, vertebrae, spinal cord

3. Peripheral nerves

Tutorial – Surgical Pathology – 32 hrs

Lecture programme & syllabus for 7th term (III / II MBBS)

Total Lecture – 38

Seminars : 4 (3 hours each = 12 hours)

Module I

1. Cardio – theracic Surgery :
   - Trauma to chest wall, lungs and vessels.
   - Neoplasms of lung & bronchial tree.
   - Congenital heart diseases
   - Surgery of IHD & pericardium
   - Cardiae arrest
2. Breast
   - Surgical anatomy, Physiotherapy.
   - Acute & chronic infrctions
   - Congenital & acquired anomalies
   - Benign breast diseases
   - Malignant breast diseases

Module II

1. Hepatobiliary & pancreatie surgery + spleen
   - Congenital & hereditary causes & management of jaundice
   - Amoebic liver abscess
   - Liver trauma
   - Hydatid diseases
   - Neoplasms of liver
   - Splenomegaly : Causes & investigations
   - Splenic trauma & indications for splenectomy
   - Poratl hypertension
   - Anatomy, physiology of biliary tree
   - Cholecystitis & choledochal cyst.
   - Chole lithiasis
   - Neoplasms of gall bladder
   - Acute & chronic pancreatitis
   - Neoplasms of pancreas
   - Obstructive jaundice : General consideration

Module III

- Plastic & Reconstructive surgery :

- Injuries & their management of hand
- Skin grafting
- Myocutanows flaps
- Reconstructive surgery for congenital & acquired limbs deformities

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Lecture programme & syllabus for 8th term (III / III MBBS)

Total Lecture- 34

Seminars : 4 (3 hours each = 12 hours)

Module I

Upper gastro – intestinal tract & peritoneum :

1. Oesophagus :
   - Congenital atresia, cardiospasm
   - Dysphagia : causes, investigations, management
   - Cancer oesophagus – principles of management
2. Stomach & Doudenum :
   - Anatomy & physiology
   - Congenital hypertrophic pyloric stenosis
   - Intestinal atesis and other anomalies
   - Peptic ulcer disease : causes, inv.managment.
   - Upper G.I. Bleeding including oesophageal varices.
3. Small Intestine :
   - Acute intestinal obstruction (Dynamic)
   - Paralytic ileus.
   - Tuberculosis of G.I.T.
   - " Acute abdomen " including peritonitis
   - Sub – diaphragmatic abscessess

Module II

Lower gastrointestinal tract & abdominal wall :

1. Abdominal Wall :
   - Etio-pathogenesis, investigation & management of ventral hernias : Umbilical, epigastric incisional etc.
   - Inguinal & femoral hernias.
   - Congenital & acquired diaphragmatic hernia.
   - Exomphalus, Major & Minor
2. Large intestine :
   - Anorectal anomalies (Conjenital)
   - Acquired megacolon .
   - Parasitic infestations.
   - Ulcerative colitis
   - Neoplasms & premalignant conditions of colon.

3. Appendix :
    - Acute appendicitis
    - Appendicular lump & abscess
    - Carcinoid of appendix
4. Rectum & Anal Canal :
    - Prolapse of Rectum
    - Haemorrhoids, Fissure & fistula-in-ano.
    - Perianal & ischeo-rectal abscess.
    - Carcinoma of rectum & anal canal
    - Colostomy management.

Module III

Upper Genito – Urinary Tract & organ transplant

1. Kidney & Ureters :
    - Anatomy & embryology
    - Congenital anomalies
    - Investigations & symptomatology of Urinary tract
    - Urolithiasis
    - Complications & managment of urolithiasis
    - Infections including tuberculosis
    - Wilm's Tumour
    - Renal neoplasms

Tutorials :

Operative Surgery + Instruments (32 hrs)

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Lecture programme & syllabus for 9th term (III / IV MBBS)

Total Lectures - 24

Module I

Lower Genito – urinary tract

1. Conjenital anomalies :
    - Exthropy of bladder.
    - Epispadias & hypospadias .
    - Posterior urethral Valves.
    - Obstructive uropathy in children.
    - Testicular maldescent
2. Urinary Bladder :
    - Causes, diagnosis and principals of managment of haematuria, anuria.
    - Acute & chronic retention of urine

- Benign & malignant enlargment of prostate.

3. Urethra, Scrotum & Penis :
   - Phimosis, Paraphimosis.
   - Principles of managment of urethral injuries
   - Stricture urethra
   - Careinoma of penis
   - Varicocele, hydrocele, epididymo – orchitis, torsion.
   - Neoplasms of testes .

Module – 3

Upper Genito – Urinary Traact & organ transplant

A) Kidney & Ureters :
   - Anatomy & embryology
   - Congenital anomalies
   - Investigations & symptomatology of Urinary tract.
   - Urolithiasis
   - Complicaaations & managemnet of urolithiasis
   - Infections including tuberculosis
   - Wilms' Tumour
   - Renal neoplasms

Tutorials : Operative Sssurgery + Instruments – 32 hrs.

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Syllabus (Totorials) For III M.B.B.S.

A) Operative surgeery :

1. Sterilization methods : Autoclave, ETO, Chemicals, Radiaation.
2. Basic operation theater techniques.
3. prepation of patients.
4. Post operative care.
5. Basic anaesthesia procedures, instruments and drugs
6. Sutures,Drains, Splints, Bandaages
7. Surgery for : Various biopsies, Inguinal Hernias, Hydrocele, Breast lumps etc., Abscesses.
   APD, Urolithiasis, Thyroid, Acute abdominal conditions, Oral cavity.
   Wound management.
8. Trauma care in casualty and wards.
9. Minor O.T. Procedures.

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B) Surgical Pathology:

1. Basic concepts in Surgical Pathology.
2. Principles of Gen. Pathology
3. Collection, Storage, Transportation of Body Fluid samples to laabs.
4. Collection, Storage, Transportation of Tissue samples
5. Mounting & Maintenance of Specimens in surgical Museum.
6. Protection of self & otheer while working in pathology labs.
7. Pathological aspects of diseases of : GIT, GUT, ENDOCRINES, RS, CVS, SKIN, ORAL CAVITY, SOFT TISSUE etc.

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C) Preparation of patient for and Interpretation of investigations :

RADIOLOGICAL, BIOCHEMICAL & PATHOLOGICAL.IMMUNOLOGICAL

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SEMINARS :

APD, UROLITHIASIS, THYROID DISEASES,ACUTE ABDOMEN,HEAD INJURY,POLYTRAUMA,GALLSTONES, PORTALHYPERTENSION, HAEMATURIA,HEMATEMISIS,BLUNT ABDOMINAL & THORACIC TTRAUMA,OBSTRUCTIVE JAUNDICE,SHOCK,CHRONIC ABDOMEN, ABDOMINAL LUMP, RESEARCH METHODOLOGY, ORAL CAAVITY.

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SYLLABUS FOR PRACTICALS (CLINICAL POSTINGS)

TERMS : II/I (6 WEEKS) = 36 DAYS. (2.30 HRS / DAY)
II/III (4WEEKS) = 24 DAYS. (2.30 HRS / DAY)
III/II (4 WEEKS) = 24 DAYS. (2.30 HRS / DAY)
III/III (6 WEEKS) = 36 DAYS. (2.30 HRS / DAY)
III/IV (6 WEEKS) = 36 DAYS. (2.30 HRS / DAY)

TOTAL : 26 WEEKS 156 DAYS 388 HOURS.

Students will be posted in wards, operation theater, Casualty & OPD. They will learn case history taking, communication skills with the patients & their relatives & with their colleagues. They will také part in patient management under direct supervision of their teachers. They will perform common bed-side diagnostic & therapeutic procedures under supervision. They will get acquinted with laboratory and other investigation procedures. They will carry out minor surgical procedures under direct supervision of their teachers. They will obseerve major surgical procedures in operation theateer. They will be required to record case histories in the journal (15 cases in each term).

BOOKS RECOMMENDED:

NO	AUTHOR	TITLE	EDITION & YEAR	PUBLISHEEER
1	R.C.C.Russell	Bailey & Love's prractice of surgery	24th 2004	Edward Arnold
2	Daavid C. Sabiston	Sabiston textbook of surgeery the biological basis of Modern Surgical Practice	15th 1997	A Prism Indian Edition
3	John SP Lumley	Hamilton Bailey Demonstration of physical signs in clinical Surgery	18th 2000	Butter worth Heinmann
4	Sunil Chumber	Essentail of Surgery	1st 2005	Jaypee Brothers
5.	F harles Brunicardi Dana K. Andersen Timothy R Billiar David L. Dunn Jhon G. Hunter Raphaaael E. Pollock	Schwartz's Principles of Surgery	8th 2005	Mr. Graw Hill
6.	S. Das	A Manual of clinical Surgery	3rd 1990	Dr. sS. Das

PRAVARA INSTITUTE OF MEDICAL SCIENCES

(Deemed University)

Loni, Tal-Rahata, Dist- Ahmednagar

MEDICAL FACULTY (M.B.B.S)

(PRESENTATION OF SYLLABUS)

DEPARTMENT OF ORTHOPAEDICS

[redacted]

Title: Orthopaedics

Teaching hours:

1. Theory: Lectures & seminars-	
Theory classes / wk	100 hrs
a. Theory class for III/I, III/II & III/III combined for 3 Terms	72 hrs
b. Theory class for III/IV for 1 term	24 hrs
2. Practicals & Tutorials:-	138 hrs
III/I & III/II :- 2.5 hrs * 21 days :-	52.5 hrs
III/IV :- 2.5 hrs * 15 days :-	37.5 hrs
Tutorials 2 hrs / week for 1 term for 6 mts	48 hrs

GOALS:

1. To train the student to become competent doctor who can deal with common traumatic & orthopaedic problems occurring in the society.
2. Stimulate the student to pursue further advanced studies and develop research attitude.
3. To train the students to become competent enough for preliminary management of Polytrauma patients , whenever demanding referring to higher centres for further management

OBJECTIVES:

1. To train a ethically sound and competent,community oriented doctor.

2. He should be able to deal with commonly occurring traumatic problems of the society.

3. He should be able to understand his academic limitations in dealing with certain clinical problems. He should be able to refer such patients to proper centers promptly.

4. He should become a productive member of the society.

5. He should be able to carry out health projects designed for the benefit of society with commitment.

PRAVARA INSTITUTE OF MEDICAL SCIENCES.

DEPARTMENT OF ORTHOPAEDICS

(Syllabus)

Lecture programme & syllabus for III/I , III/II , III/III (combined)

Approx Total Lectures - 72

GENERAL ORTHOPAEDICS

1. Introduction & scope of orthopaedic traumatology & orthopaedic diseases , idea about scheme of examination.
2. Defination & classification of fracture & dislocation , signs , symptoms , & diagnosis of sprain,contusion fractures & dislocation.
3. First aid measures in poly trauma patient , spinal cord injury patients & knowledge about various splints.
4. Principles of management of sprain , fractures & dislocation with emphasis on various aspects of closed reduction ,immobilisation including internal fixation & rehabilitation.
5. complications of fracture & its management with specific reference to malunion , delayed union,nonunion,myosities ossificans , sudecks osteodystropy , volkman's ischemia , avascular necrosis , fat embolism , secondary osteoarthritis , injury to muscles ,tendon & blood vessels.

6. plaster techniques , plaster complications & plaster diseases.
7. Fracture healing in cortical & cancellous bones & factors affecting fracture healing.

REGIONAL TRAUMATOLOGY

A. INJURIES TO THE UPPER LIMB

1. Injuries around the shoulder.
2. Injuries of the arm.
3. Injuries around the elbow.
4. Injuries of the forearm.
5. Injuries to the wrist.
6. Hand injuries.

B. INJURIES TO THE THE LOWER LIMB.

1. Injuries around the hip.
2. Fracture femur.
3. Injuries of the knee.
4. Fracture of tibia & fibula.
5. Injuries of the ankle.
6. Injuries to the foot.

C. INJURIES OF THE AXIAL SKELETON

1. Pelvic injuries , rib & coccyx injuries.
2. Injuries of spine.

D. PERIPHERAL NERVE INJURIES.

1. Peripheral nerve injuries

Lecture programme & syllabus for III/IV MBBS.

Theory lectures :- 24

MODULE II :-

1. Congenital skeletal anamolies with emphasis on congenital talipus equinus varus(CTEV)
2. Congenital dislocation of hip (CDH) , osteogenesis imperfecta , spina bifida & torticolis.
3. Osteochondritis – various types.
4. Acute poliomylities & post polio residual palsy with stress on preventive & rehabilitative aspect.
5. Acute osteomylities.
6. Chronic osteomylities.
7. Pyogenic arthritis of hip , knee.
8. Osteo articular tuberculosis with special referance to tuberculosis of hip , knee, & elbow.
9. Tuberculosis of spine & paraplegia.
10. Fungal infections & Leprosy in orthopaedics
11. Cerebral palsy , diagnosis & rehabilitation
12. Rheumatoid arthritis.
13. Degenerative arthritis.
14. Nerve injuries & principles of management
15. Amputation & disarticulations – indications , method & complications
16. Metabolic bone diseases :- rickets , osteomalacia , & osteoporosis.
17. Tumours of bones & its classification.

    Benign :- osteochondroma , giant cell tumour, unicameral bone cyst, aneurysmal bone cyst.

    Malignant:-osteogenic sarcoma, ewings tumour, fibrosarcoma, chondrosarcoma, multiple myeloma, secondaries from primary (metastatic tumours)
18. Backache, spondylosis, spondylolisthesis.

19. Frozen shoulder, tennis elbow, dequervain's disease, duputren's contracture, osgood schatller's disease, planter fascities.

PRACTICALS IN ORTHOPAEDICS:-

TUTORIALS:-

2 hrs/ week for III/I Term batch for 6 mts. :- 48 hrs.

AIMS:-

- To make student understand about some important & commonly occuring trauma.
- To make them proficient enough to take history, clinical examination,investigations, & management.
- To make them know about management of polytrauma.

TOPICS COVERED:-

1. First aid & acute life saving measures.
2. History, examination, investigations & management of polytauma.
3. General principals of treatment of fractures.
4. Plaster techniques & splints.
5. Traction in orthopaedics.
6. Introduction to physiotherapy.
7. Imaging in orthopaedics for common problems.
8. Supracondylar fracture humerus.
9. colle's fracture , fracture lower end radius.
10. Monteggia fracture dislocation.
11. dislocation of shoulder & elbow joints.
12. fracture spine.
13. Hip examination :- fracture & dislocation of hip.
14. Clinical features & management of fracture pelvis.
15. Examination of knee joints:-
    a. internal derailment of knee.
    b. fractures around knee joint.

16. fracture tibia.
17. ankle & foot injuries.
18. osteomylities.
19. nerve examination & nerve injuries.
20. CTEV
21. Congenital hip dysplegia.
22. Bone tumours.

BED SIDE CLINICS:-

Case discussion covering history taking , clinical signs – demonstration & management.

DEMONSTRATION.

- Common X rays of orthopaedic conditions.
- Common pathology specimens
- Common instruments & implants in orthopaedics

PRAVARA INSTITUTE OF MEDICAL SCIENCES

SYLLABUS FOR SURGERY&ALLIED SUBJECTS
RADIO-DIAGNOSIS AND IMAGING

a) Goal

The broad goal of teaching the undergraduate medical students in the field of Radio Diagnosis should be aimed at making the students realize the basic need of various radio diagnostic tools in medical practice. They shall be aware of the techniques to be undertaken in different situations for the diagnosis of various ailments as well as during prognostic estimations.

b) Objectives

Knowledge

The student shall be able to:

1) Understand basic of x-ray production, its uses and hazards.
2) Appreciate and diagnose changes in bone – like fractures,infections,tumours and metabolic bone diseases;
3) Identify and diagnose various radiological changes in disease condition of chest and Mediastinum, Skeleton system, Gastro intestinal tract, Hepatobilliary system and Genito Urinary system;
4) Learn about various imaging techniques, including isotopes, Computerized Tomography (C.T), Ultrasound, Magnetic Resonance Imaging (M.R.I) and D.S.A.

Skills

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

1) Use basic protective techniques during various imaging procedures;
2) Interpret common x-ray, radio-diagnostic techniques in various community situations;
3) Advise appropriate diagnostic procedures in specialized circumstances to appropriate specialists.

Departmental Objectives

At the end of the course in Radiodiagnosis, the student should:

1) Be familiar with various imaging techniques, their advantages and disadvantages.
2) Be aware of indications for common x-ray investigations and view to be taken for various organs. Know the indications for C.T Scan and Ultrasound.

3) Be aware of radiation hazards and protection with reference to self, patient and public.

c) Course Contents

RESPIRATORY SYSTEM

1. Diagnosis of common conditions like tuberculosis, consolidation, pleural effusion, pnuemothorax, lung abscess, collapse, bronchogenic carcinoma and mediastinal masses.

2. Differential diagnosis of mediastinal masses.
3. Indications for bronchography, tomography and CT scan.

I. CARDIOVASCULAR SYSTEM

1. Normal Topography of heart, cardiomegaly.
2. Common rheumatic heart diseases and pericardial effusion.

II. GASTROINTESTINAL SYSTEM

1. Diagnosis of acute abdominal conditions like intestinal obstruction and perforation.
2. Indications and Contraindications for Barium studies.
3. Differential diagnosis of calcification and stones on plain x-ray.
4. Diagnosis of gastric ulcer, duodenal ulcer, cancer stomach, esophageal cancer on Barium studies.

III. OBSTETRICS AND GYNAECOLOGY

1. Radiation hazards to a pregnant woman and child. Appropriate time to take x-ray during pregnancy and number of views to be taken.

IV. SKELETAL SYSTEM

1. Diagnosis of common fractures, caries spine, osteomyelitis of bones, nutritional deficiencies like rickets, and common bone tumours and diseases of joints.

V. CENTRAL NERVOUS SYSTEM

1. Signs of raised intra cranial tension, ICT on plain x-rays of skull.

VI. EXCRETORY SYSTEM

1. Identification of renal calculi, Skill
1. Interpret skiagrams of common diseases.

New Evaluation system for Third MBBS Part II
Subject: General Surgery
(MU 403 & MU 404)
January 2016 onwards (New course 2013 Batch)

a. Methods

Theory, Practical and Viva

Type of exam	Maximum marks		Minimum Marks
Theory (Two Papers)	120	140	70
Oral Viva	20		
Practicals	100		50
Internal Assessment (Theory 20+ Practical 20)	40		20 (14 eligibility for Univ. exam 35%)
Total	280		140

b. Pattern of Theory University examination including Distribution of Marks, Questions, and Time.

i) **Two theory papers of 60 marks each**
ii) Total duration –3 hrs each paper
iii) **Paper I** will be 3 sections
iv) **Paper II** will be 2 sections
v) **Paper I** will be on course contents of:
Section B: - General Surgery including Chest & Cardiac, Breast and abdomen Wall, Burns, Applied Anatomy & Physiology.
Section C: - Orthopaedics
vi) **Paper II** will be on course contents of :
General Surgery including systemic surgery GIT-Lower & Upper, GUT Lower & Upper, Head, Neck & Face, Oral cavity, Pharynx, Endocrines, Salivary Glands, Basic Sciences, Trauma, Hepato – Biliary, Pancreas & Spleen, Plastic & Paediatric Surgery, Retroperitonum, Anaesthesiology, Radio-diagnosis, Dental diseases.
vii) Both Papers will have same following pattern:
viii) **Section A (MCQ)** will be of 20 minutes and Section B will be of 160 minutes

Paper – I

Sections	Nature of Questions	General Surgery	Orthopaedics	Mark(s) per Question	Total Marks
A)	Q.1 Multiple Choice Questions (MCQs)-	10	05	1	**15**
B)	Q.2 SAQ's **(Short Answer Question)** a,b,c,d.	03 out of 04	------	05	**15**
	Q.3 One LAQ **(Long Answer Question)**	01	------	10	**10**
C)	Q.4 SAQ's **(Short Answer Question)** a,b,c.	-----	02 out of 03	05	**10**
	Q.5 One LAQ **(Long Answer Question)**	------	01	10	**10**
Total					**60**

(shall contain one question on basic sciences and allied subjects)

Paper – II

Sections	Nature of Questions	Total No. of Questions	Mark(s) per Question	Total Marks
A)	Q.1 Multiple Choice Questions (MCQs)-	15	1	**15**
B)	Q.2 BAQ's **(Brief Answer Question)** a,b,c,d,e.f	05 out of 06	2	**10**
	Q.3 SAQ's **(Short Answer Question)** a,b,c,d.	03 out of 04	5	**15**
	Q.4 LAQ's **(Long Answer Question)** a, b	2	10	**20**
Total				**60**

e. ***Nature of practical examination in finals***

Number	Exercise	Total Marks
1.	**General Surgery - Long case (01)**	**50**
2.	**General Surgery - Short case (01)**	**25**
3.	**Orthopaedics - Short case (01)**	**25**
Total		**100**

f. ***Nature of Oral Viva examination in finals***
(These will be included in theory marks)

	Oral (Viva)	
1.	**General Surgery** (Pathology, Radio diagnosis, Instrument, Drugs, Anaesthesia)	**10**
2.	**Orthopaedics** (Osteology, Radio diagnosis, Instrument)	**10**
	Total	**20**

e. Plan for internal assessment:

Theory	**:**	**20**	
Practical	**:**	**20**	
Total Marks:	**:**	**40**	
Minimum Marks:	**:**	**20**	**(14 eligibility for Univ. exam 35%)**

Term	Examination Head		Total
	Theory	Practical	
VI	60 (A)	120 (A) #	
VIII	60 (B)		
Preliminary 9th Sem. (I 60 + II 60)	120 (C)	120 (B)	
	Calcu. Method : The = A+B+C / 12	Calcu. Method : The = A+B / 12	
Total	**20**	**20**	**40**

# *Practical (Clinical Post end examination)*									*Total*
Practical Posting	**1st**	**2nd**	**3rd**	**4th**	**Casualty**	**Ortho.**	**Dentistry**	**Radiology**	**(A) 120**
Marks	**20**	**20**	**20**	**20**	**10**	**10**	**10**	**10**	

Pass : In each of the subjects a candidate must obtain 50% in aggregate with a minimum of 50% in Theory including orals and minimum of 50% in practices/clinicals.

PRAVARA INSTITUTE OF MEDICAL SCIENCES
(DEEMED UNIVERSITY)

MARKS LIST FOR PRACTICAL AND VIVA

III M.B.B.S. (Part II) Practical Examination

Center: -Rural Medical College

Sub: - ***General Surgery***

Month/Year: _____

Date: - _____

Max. Marks: - (Practical – 100, Oral – 20)

Clinical (Bed side)

One Long case — **50 Marks**

A).History — **10 Marks**
B) Ilicitating Clinical Signs & Clinical Exam. — **15 Marks**
C) Investigation — **05 Marks**
D) Diagnosis — **10 Marks**
E) Management — **10 Marks**

General Surgery

Short case (1) — **25 Marks**

F) Ilicitating Clinical Signs — **10 Marks**
G) Investigation & Diagnosis — **10 Marks**
H) Management — **05 Marks**

Orthopaedics

Short case (2) — **25 Marks**

I) Ilicitating Clinical Signs — **10 Marks**
J) Investigation & Diagnosis — **10 Marks**
K) Management — **05 Marks**

Oral (Viva Voce)

General Surgery — **10 Marks**

A)Inst. + Operation — 05 Marks
B) X – ray — 05 Marks

Orthopaedics — **10 Marks**

C) Surgical Pathology — 05 Marks
D) Inst. + Operation + X – ray (2+2+1) — 05 Marks

Practical Total : 100 Marks **Oral Total : 20 Marks**

Seat No.	Long case Surgery (50)					Short case (25) Surgery (1)			Short case (25) Orthopaedics (2)			Practical Total Out of (100 Marks)	General Surgery (10)		Orthopaedics (10)		Oral (Viva Voce) Total Out of (20 Marks)
	(A) (10)	(B) (15)	(C) (05)	(D) (10)	(E) (10)	(F) (10)	(G) (10)	(H) (05)	(I) (10)	(J) (10)	(K) (05)		(A) (05)	(B) (05)	(C) (05)	(D) (05)	

Name of Examiners: **College** **Signature & Date**

1. _____ _____ **Chairman (Sur.)-**
2. _____ _____ **Internal –**
3. _____ _____ **Chairman (Ortho.) -**

Name of Examiners: **College** **Signature & Date**

4. _____ _____ **External -**
5. _____ _____ **External-**
6. _____ _____ **External-**

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR

THIRD MBBS PART II

NEW EVALUATION SYSTEM

DECEMBER 2016 ONWARDS

OBSTETRICS & GYNAECOLOGY

(MU 405 & MU 406)

NOTIFICATION NO. 17/2016

Dated : 06th May 2016

Pravara Institute Of Medical Sciences

(Deemed University)

Loni, **Tal:- Rahata, Dist:- Ahmednagar**

MEDICAL FACULTY

Presentation of Syllabus

III M.B.B.S.

Department of Obstetrics & Gynaecology

Course Code : MU- 405 **Title : Obstetrics & Gynaecology**

Course Code : MU- 406 **Title : Obstetrics & Gynaecology**

Teaching Hours:

a) Theory : 300 hours

Didactic Lectures : 140 Hours

Tutorials + Seminar : 160 Hours

b) Practical : 300 Hrs

Bedside Clinic : 300 Hours

Total : 600 hours

1. GOALS:

The broad goal of the teaching of undergraduate students in Obstetrics and Gynaecology is that he/she shall acquire understanding of anatomy, physiology and pathophysiology of the reproductive system & gain the ability to optimally manage common conditions affecting it.

2. OBJECTIVES:

(A) Knowledge:

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

1. Outline the anatomy, physiology and pathophysiology of the reproductive system and the common conditions affecting it.
2. Detect normal pregnancy, labour puerperium and manage the problems he/she is likely to encounter therein,
3. List the leading causes of maternal & perinatal morbidity and mortality.
4. Understand the principles of contraception and various techniques employed, methods of medical termination of pregnancy, sterilization and their complications
5. Identify the use, abuse and side effects of drugs in pregnancy, pre-menopausal and post-menopausal periods.
6. Describe the national programme of maternal and child health and family welfare and their implementation at various levels.
7. Identify common gynaecological diseases and describe principles of their management.
8. State the indications, techniques and complications of surgeries like Caesarian Section, laparotomy, abdominal and vaginal hysterectomy, Fothergill's operation and vacuum aspiration for Medical Termination of Pregnancy (MTP)
9. Examine a pregnant woman; recognize high-risk pregnancies and make appropriate referrals.*(B)* **Skills:**

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

1. Conduct a normal delivery, recognize complications and provide postnatal care.
2. Resuscitate the newborn and recognize the congenital anomalies.
3. Advise a couple on the use of various available contraceptive devices and assist in insertion and removal of intra-uterine contraceptive devices.
4. Perform pelvic examination, diagnose and manage common gynaecological problems including early detection of genital malignancies.
5. Make a vaginal cytological smear, perform a post coital test and wet vaginal smear examination for Trichomonas vaginalis, Moniliasis and gram stain for gonorrhoea.
6. Interpretation of data of investigations like biochemical, histopathological, radiological ultrasound etc.

(C) **Integration:** The student shall be able to integrate clinical skills with other disciplines and bring about coordination of family welfare programme for the national goal of population control.

(D) **General guidelines for training:**

Attend the maternity wards of Rural hospital including antenatal clinics & the management of the puerperium .A minimum period of 5 months in-patient and out-patient training including family welfare planning of this period of clinical instruction, not less than one month shall be spent as a resident pupil in a maternity ward of a general hospital. In this period, the student shall conduct at least 10 cases of labour under adequate supervision and assist 10 other cases. A certificate showing the number of cases of labour attended by the student in the maternity hospital and shall be signed by a lecturer or responsible medical officer on the staff of the hospital and shall state:

(a) That the student has been present during the course of labour and personally conducted each case, making the necessary abdominal and other examinations under the supervision of the certifying officer who shall describe his official position.
(b) That satisfactory written histories of the cases conducted including wherever possible antenatal and postnatal observations, were presented by the student and initialed by the supervising officer.

3. THEORY SYLLABUS:

A. **Obstetrics:**

1. Fundamentals of Reproduction.
2. The fetus.
3. Structure, function and anomalies of placenta.
4. Amnion, Amniotic fluids & the umbilical cord.
5. Physiological changes during pregnancy.
6. Diagnosis of pregnancy.
7. Antenatal care, nutrition in pregnancy.
8. Common / minor ailments of pregnancy and management.
9. Detection of high-risk pregnancy.
10. Normal labour - Physiology, mechanism, clinical course, management of partography, labour, pain relief in labour.
11. Normal puerperium and breast-feeding.
12. Examination and care of newborn.
13. Complications in early pregnancy-Hyperemesis gravidarum /Abortion /Ectopic pregnancy /Gestational trophoblastic disease.
14. Obstetrical complications during pregnancy.
    APH -Accidental hemorrhage, Placenta praevia.
15. Poly hydramnios / oligohydramnios.
16. Multiple pregnancy.
17. Medical disorders in pregnancy.
    Anaemia, Heart disease, Hypertensive disorder, PIH & Eclampsia ,Diabetes, Jaundice, Pulmonary disease, in pregnancy.
18. Infections in pregnancy-Urinary tract disease, Sexually transmitted infections including HIV , malaria, TORCH etc.
19. Gynaecological and surgical condition sin pregnancy.
    Fibroid with pregnancy, ovarian tumors, acute abdomen, genital prolapse.
20. High risk pregnancy-preterm labour, PROM, post-term labour, IUFD, pregnancy. Wastages, Rh – incompatibility, post caesarean pregnancy.

21. Induction of labour.
22. Abnormal presentation and position :Occipito-posterior, Breech, Transverse lie, Face & Brow, Compound presentation, Cord presentation & cord prolapse,
23. Abnormal labour –Abnormal uterine actions, CPD., Obstructed labour, uterine rupture.
24. Evaluation of Foetal Health during pregnancy and labour.
25. Third stage complications -Retained placenta, PPH, Obstetric Shock, Uterine inversion, Amniotic Fluid Embolism.
26. Puerperal Sepsis and Other Complications in puerperium.
27. Operative procedures in Obstetrics: Caesarean Section, Instrumental Vaginal, Delivery; Forceps, Vacuum.
28. Maternal mortality and morbidity, Perinatal mortality and morbidity, National health programme - safe-motherhood, reproductive and child health, social obstetrics, Rural obstetrics.
29. NEW BORN
    - Examination and care of new born & low birth weight babies.
    - Asphyxia and neonatal resuscitation.
    - Diagnosis of early neonatal problems.
    - Birth injuries, jaundice.
    - Neonatal infection.
    - Anencephaly & Hydrocephalus and other Congenital Anomalies of fetus.
30. Miscellaneous.
    - Medical Counseling.
    - Drugs in Pregnancy.
    - Medical Ethics.
    - Evidence Based Medicine.
    - PNDT Act.

B. Gynaecology:

1. Applied anatomy of female genital tract. . }-- 2 classes.
2. Development of genital tract, congenital anomalies and clinical significance. }-- 2 classes.
3. Chromosomal abnormalities and intersex.
4. Lower genital Tract Infections (Leucorrhoea, Pruritus vulvae,Vaginitis, Cervicitis). . }-- 2 classes
5. Sexually transmitted infections including HIV infection., Syndromic approach }-- 2 classes.
6. Pelvis Inflammatory Diseases (PID) .
7. Genital Tuberculosis.
8. Chronic Pelvis Pain and Dyspareunia.
9. Support of the uterus and displacement of uterus}-- 2 classes.
10. Genital Prolapse}-- 2 classes.
11. Genital Tract displacement.
12. Uterine Fibromyoma }-- 2 classes
13. Benign Ovarian Tumors.
14. Benign Lesions of Vulva.
15. Perineal Tears,
16. Genital Fistulae, RVF & VVF.
17. MTP Act and procedures of MTP in first & Second trimester
18. Contraception.(Introduction and basic principles, Temporary methods./ Permanent methods, Emergency contraception) }-- 3 classes.

19. Physiology of Menstruation.
20. Amenorrhoea: Primary & Secondary}-- 2 classes
21. Dysmenorrhoea.
22. Premenstrual Syndrome.
23. Abnormal Uterine Bleeding, DUB.
24. Postmenopausal bleeding PV.
25. Puberty and its disorders, Adolescent Gynaecological problems.
26. Infertility and Assisted Reproductive Technology }-- 3 classes.
27. Adenomyosis, Endometriosis
28. Menopause & H R T.
29. Endoscopy in Gynaecology.
30. Hormonal Therapy in Gynaecology.
31. Ultrasonography and Radiology in Gynaecology
32. Screening for Gynecological Cancer.
33. Cervical Intraepithelial Neoplasm.
34. Carcinoma Cervix.
35. Endometrial Carcer.
36. Malignant Ovarian Tumors
37. Carcinoma of Vulva.
38. Gestational Trophoblastic Disease.
39. Radiotherapy & Chemotherapy in Gynaecology.
40. Urinary Disorders in Gynaecology (Anatomy of Urinary Continence, Genuine Stress Incontinence, Detrusor Over-activity) }-- 3 classes
41. Principles of Gynaecological Surgical Procedures.
42. Pre and Post Operative Care in Gynaecology.
43. Dilatation and Curettage.
44. Hysterectomy.

Suggested Lecture Modules Semester Wise

Distribution of syllabus in respective semesters:

This is suggested modules may be modified from time to time depending availability of faculty members and time frame. Total 300 hours of didactic lectures are to be taken and in OB GY and the entire syllabus is being covered and distributed semester wise.

LECTURE MODULES

4TH SEMESTER

Module: I (Obstetrics)

1. Anatomy of female genital tract. }-- 2 classes.
2. Physiology of normal menstruation. }--- 2 classes.
3. Fundamentals of Reproduction -Ovulation.
4. Fertilization, Implantation, Growth of fetus.
5. Placenta and its function: Amniotic fluids: formation and function.
6. Maternal Physiology in pregnancy.
7. Diagnosis of pregnancy.
8. Obstetrics terminology.
9. Obstetric History taking.
10. Antenatal Care -Management of normal pregnancy, maternal nutrition, common complications of pregnancy and management.
11. Common / minor ailments of pregnancy and management.

12. Detection of high-risk pregnancy.
13. Normal labour - Physiology, mechanism, clinical course & management.
14. Examination and care of newborn.
15. Normal puerperium and breast-feeding.

6TH SEMESTER

Module: II (Obstetrics)

1. Hyperemesis gravidarum.
2. Abortion.
3. Ectopic pregnancy.
4. Gestational trophoblastic disease.
5. Accidental hemorrhage.
6. Placenta praevia.
7. Poly hydramnios / oligohydramnios.
8. Multiple pregnancy- I /II.
9. Multiple pregnancy II /II.
10. Beech- I /II.
11. Beech -II /II.
12. Recurrent pregnancy wastages.
13. Fibroid with pregnancy, ovarian tumors, genital prolapse.
14. Acute Pain Abdomen in Pregnancy.

6TH SEMESTER

Module: I (Gynaecology)

1. Applied anatomy of female genital tract. . }-- 2 classes.
2. Development of genital tract, congenital anomalies and clinical significance. }-- 2 classes.
3. Chromosomal abnormalities and intersex.
4. Lower genital Tract Infections (Leucorrhoea, Pruritus vulvae, Vaginitis, Cervicitis). . }-- 2 classes
5. Sexually transmitted infections including HIV infection., Syndromic approach . }-- 2 classes.
6. Pelvis Inflammatory Diseases (PID).
7. Genital Tuberculosis.
8. Chronic Pelvis Pain and Dysparunia.

7TH SEMESTER

Module: III (Obstetrics)

1. Anemia in pregnancy–I/III .
2. Anemia in pregnancy–II/III.
3. Heart disease in pregnancy.
4. Hypertensive disorder, PIH.
5. Eclampsia.
6. Diabetes in pregnancy- I/III.
7. Diabetes in pregnancy- II/III.
8. Jaundice in Pregnancy.
9. Pulmonary disease in pregnancy.
10. Urinary tract diseases in pregnancy.
11. Sexually transmitted infections including HIV, malaria, TORCH etc.
12. Malaria in pregnancy, Epilepsy in pregnancy.
13. Rh – incompatibility.

7TH SEMESTER

Module: II (Gynaecology)

1. Support of the uterus and displacement of uterus}-- 2 classes.
2. Genital Prolapse}-- 2 classes.
3. Genital Tract displacement.
4. Uterine Fibromyoma }-- 2 classes
5. Benign Ovarian Tumors.
6. Benign Lesions of Vulva.
7. Perineal Tears,
8. Genital Fistulae; RVF & VVF.
9. MTP Act and procedures of MTP in first & Second trimester

Contraception.

10. Introduction and basic principles.
11. Temporary methods./ Permanent Methods.
12. Emergency contraception

8TH SEMESTER

Module: IV (Obstetrics)

High risk pregnancy

1. Pre -term labour.
2. PROM.
3. Post term pregnancy.
4. IUGR- I/II.
5. IUGR-I I/II.
6. IUFD.
7. Post caesarean pregnancy.
8. Induction of labour /Augmentation of labour.

NEW BORN:

9. Examination and care of new born & low birth weight babies.
10. Asphyxia and neonatal resuscitation.
11. Diagnosis of early neonatal problems.
12. Birth injuries, jaundice.
13. Neonatal infection.
14. Congenital anomalies - Anencephaly & Hydrocephalus and other Congenital.

8TH SEMESTER

Module: V (Obstetrics)

1. Contracted pelvis.
2. Malposition and malpresentations.
3. Occipital-posterior position.
4. Face presentation, Brow presentation.
5. Compound presentation ,Shoulder presentation (transverse lie).
6. CPD, Obstructed labour.
7. Abnormal uterine action.
8. Prolonged labour.
9. Dystocia due to oversized fetus.

10. Maternal obstetric injuries - Uterine rupture

Third stage complications
11. Postpartum hemorrhage.
12. Retained placenta.
13. Acute inversion of the uterus.
14. Shock in obstetrics.
15. Amniotic fluid embolism.
16. Puerperal Sepsis and Other Complications in puerperium.

8TH SEMESTER

Module: III (Gynaecology)

1. Physiology of Menstruation.
2. Amenorrhoea: Primary & Secondary}-- 2 classes
3. Dysmenorrhoea.
4. Premenstrual Syndrome.
5. Abnormal Uterine Bleeding, DUB.
6. Postmenopausal bleeding PV.
7. Puberty and its disorders, Adolescent Gynaecological problems.
8. Infertility and Assisted Reproductive Technology }-- 3 classes.
9. Adenomyosis, Endometriosis
10. Menopause & H R T.
11. Endoscopy in Gynaecology.
12. Hormonal Therapy in Gynaecology.
13. Ultrasonography and Radiology in Gynaecology

9TH SEMESTER

Module: VI (Obstetrics)

1. Instrumental Vaginal Delivery. Forceps, Vacuum.
2. Caesarean section.
3. Version.
4. Episiotomy.
5. Destructive operations.
6. Maternal mortality and morbidity.
7. Perinatal mortality and morbidity.
8. National health programme - safe-motherhood, reproductive and child health, social obstetrics.
9. Rural obstetrics.
10. Drugs in Pregnancy.
11. Pregnancy wastages.
12. PNDT Acts.
13. Medical Ethics.
14. Counseling in Obstetrics.

9TH SEMESTER

Module: IV (Gynaecology)

1. Screening for Gynecological Cancer.
2. Cervical Intraepithelial Neoplasm.
3. Carcinoma Cervix.
4. Endometrial Carcer.
5. Malignant Ovarian Tumors

6. Carcinoma of Vulva.
7. Gestational Trophoblastic Disease.
8. Radiotherapy & Chemotherapy in Gynaecology.
9. Urinary Disorders in Gynaecology (Anatomy of Urinary Continence, Genuine Stress Incontinence, Detrusor Over-activity) }-- 3 classes
10. Principles of Gynaecological Surgical Procedures.
11. Pre and Post Operative Care in Gynaecology.
12. Dilatation and Curettage
13. Hysterectomy.

(A) Teaching Hours Theory : 300 hours

Teaching of Obstetrics and gynecology starts from 3rd semester and extends to 9th term during phase II and III .Theory is taught for 300 hrs starting from 4th term till 9th term as follows.

1) Theory Lectures / Didactic Lectures: 140 Hours

Semesters	No of Classes per week	Total Hours
4th	1	14
6th	2	28
7th	2	28
8th	3	42
9th	2	28
TOTAL no of teaching hours		**140**

2) Tutorials + Seminar: 160 Hour

Semester	Hours/Week	Total
8th Term	4 / Week	64
9th Term	6 / Week	96
TOTAL *		**160**

- Part of seminar and tutorial time will be used for Integrated Teaching

Seminars on:

1. Hypertensive disorders in Pregnancy (PIH, PE & Eclampsia).
2. APH.
3. PPH
4. Induction and Augmentation of Labour.
5. Family Planning: 1. Different methods of MTP,
   2. IUD and Tubectomy.
6. Gynaecology: 1. Fibroid Uterus.
   2. Ovarian Tumour

Demonstration classes :

1) Foetus & Maternal Pelvis -4 classes.

a) Foetal Skull & Maternal Pelvis.

b) Mechanism of normal Labour.

c) Mechanism of Labour in breech presentation.

d) Mechanism of Labour in occipito posterior position.

2) Instruments:_ Instruments used in Obstetrics -2 classes.

a) Instruments used in D/E and Tubectomy.

b) Obstetrics Forceps.

3) Gynae. Instruments:
Instruments used in Laparotomy D/C, HSG: Retractors & speculum = 2 classes

4) Specimen: Obstetrics- 4 classes:
a) Ectopic Pregnancy in Fallopian Tube.
b) Normal & Abnormal placenta.
c) Rupture Uterus.
d) Hydatidiform mole.

5) Gynaecology- 4 classes. :
a) Fibroid Uterus.
b) Ovarian Tumour.
c) Fibroid Polyp.
d) Ca. Cervix

INTEGRATED TEACHING :_

Topics for integrated teaching with other depts.:

Sr no	Topics	No of Hrs	Department
1	Family planning	4	Postpartum center
2	Embryology - Integrated fetal growth and development	4	Anatomy
3	Physiological changes in pregnancy with maternal adaptation	4	Physiology
4	Rational use of drugs and prescribing in pregnancy	4	Pharmacology
5	Nutrition and anemia in pregnancy	4	Medicine
6	Urological problems in OBGY	2	Urology
7	Acute abdomen-management and care of abdomen	4	Surgery
8	Neonatal resuscitation	4	Pediatrics
9	Ultrasound in Obstetrics	2	Radiology
10	Radiology in obstetrics	1	Radiology
11	Gynaecological malignancies	2	Pathology
12	MCH services: Objectives & implementation	2	Community medicine
13	Psychiatric Problems related to obstetrics and Gynaec	1	Psychiatry
14	Neonatal problems (Jaundice, umbilical, infection, convulsion)	2	Pediatrics

B) **Clinical Posting :** During semesters 3 to 9 ,clinical posting of 3hrs duration is suggested. This posting will include maternity training and family welfare medicine and the 3rd semester posting shall be in family welfare.

Semester	Weeks	Total days	Hrs/ day	Total Hrs
3rd	2	12	2 hrs/ day	24 hrs
4th	6	36	2 ½ hrs/ day	90hrs
6th	4	24	2 ½hrs/ day	60 hrs
8th	6	36	2 ½ hrs/ day	90 hrs
9th	6	36	2 ½ hrs/ day	90 hrs
Total	24 wks	144 days		354 hrs

4. PRACTICAL SYLLABUS: Students will be posted in wards, Operation theater,Labour Room & OPD.

They will,

1. learn case history taking, communication skills with the patients & their relatives & with their colleagues.
2. take part in patient management under direct supervision of their teachers.
3. perform common bed-side diagnostic & therapeutic procedures under supervision.
4. get acquinted with laboratory and other investigation procedures.
5. carry out minor surgical procedures under direct supervision of their teachers.
6. observe major surgical procedures in operation theater.
7. be required to record case histories in the journal(15 cases in each term).

Books Recommended Obstetrics:

Authors	Title of book	Year of edition	Publisher
D.C Dutta	Text book of Obstetrics	6th Edition: 2004	New Central Book Agency,Kolkata
Dawn,C S	Text book of Obstetrics	14th edition	Dawn Books,kolkata
V Padubidri, Ela Anand	Textbook of Obstetrics	First Published 2006	B I publications, New Delhi
Howkin's and Bourne	Shaw's Textbook of Gynecology	Twelfth edition	Churchill Livingstone
Shirish N Daftery	Manual of Obstetrics	16 th edition	Churchill Livingstone

Reference Books:

Williams Obstetrics - Cunningham,Mc Donald & Gant

Gynecology

Authors	Title of book	Year of edition	Publisher
D C Dutta	Text Book of Gynaecology	4th Edition: 2003	New Central Book Agency,Kolkata
Howkin's and Bourne	Shaw's Textbook of Gynecology	Twelfth edition	Churchill Livingstone
Dawn,C S	Text book of Gynecology & contraception	12th edition	Dawn Books,kolkata

Reference Books:

Jaeffcoates principles of gynecology - by V R Trindall

New Evaluation system for Third MBBS Part II
Subject: Obstetrics and Gynecology
(MU 405 & MU 406)
January 2016 onwards (New course 2013 Batch)

a. Methods

Theory, Practical and Viva

Type of exam	Maximum marks		Minimum Marks
Theory (Two Papers)	80	110	55
Oral Viva	30		
Practicals	50		25
Internal Assessment (Theory 20+ Practical 20)	40		20 (14 eligibility for Univ. exam 35%)
Total	200		100

b. Pattern of Theory University examination including Distribution of Marks, Questions, and Time.

i) **Two theory papers of 40 marks each**
ii) Total duration – 2 hrs each paper
iii) There will be 2 sections in each. Paper
iv) **Paper I** will be on: **Obstetrics including social obstetrics and newborn care**
v) **Paper II** will be on: **Gynaecology, Family Welfare and Demography**
vi) **Both Papers will have same following pattern:**
vii) **Section A (MCQ)** will be of 20 minutes and Section B will be of 100 minutes

Sections	Nature of Questions	Total No. of Questions	Mark(s) per Question	Total Marks
A)	Q.1 Multiple Choice Questions (MCQs)-	10	1	**10**
B)	Q.2 BAQ's (Brief Answer Question) a,b,c,d,e,f	05 out of 06	2	**10**
	Q.3 SAQ's (Short Answer Question) a,b,c	02 out of 03	5	**10**
	Q.4 One LAQ's (Long Answer Question)	01	10	**10**
Total				**40**

(shall contain one question on basic sciences and allied subjects)

g. *Nature of practical examination in finals*

Number	Exercise		Marks
1	**One Long case: Obstetrics** **a)** History taking b) Clinical examination c) Investigation and Diagnosis d) Management	 05 Marks 10 Marks 05 Marks 10 Marks	30 Marks
2	**One short case - Gynecology** a) Case presentation b) Case Discussion	 10 Marks 10 Marks	20 Marks
Total			**50**

h. *Nature of Oral Viva examination in finals*
(These will be included in theory marks)

	Oral (Viva)	
1.	**Obstetrics Viva**	10 Marks
2.	**Gynecology Viva**	10 Marks
3.	**Record of delivery cases**	10 Marks
Total		**30**

e. Plan for internal assessment:

Theory : 20

Practical : 20

Total Marks: : 40

Minimum Marks: : 20 **(14 eligibility for Univ. exam 35%)**

Term	Examination Head		Total
	Theory	Practical	
VI	40 (A)	40 (A)	
VIII	40 (B)	40 (B)	
Preliminary 9th Sem. (I 40 + II 40)	**80 (C)** Calcu. Method : The = A+B+C --- 08	**80 (C)** Calcu. Method : The = A+B+C --- 08	
Total	**20**	**20**	**40**

Pass : In each of the subjects a candidate must obtain 50% in aggregate with a minimum of 50% in Theory including orals and minimum of 50% in practices/clinicals.

PRAVARA INSTITUTE OF MEDICAL SCIENCES
(DEEMED UNIVERSITY)

MARKS LIST FOR PRACTICAL AND VIVA

III M.B.B.S. (Part II) Practical Examination **Month/Year:** _____

Center: -Rural Medical College **Date: -** _____

Sub: - ***Obstetrics and Gynecology*** **Max. Marks: - (Practical – 50, Oral – 30)**

Clinical				**Oral (Viva Voce)**	
One Long case (Obstetrics)	**30 Marks**	**Short case (Gynecology)**	**20 Marks**	A) Obstetrics Viva	**10 Marks**
A).History	05 Marks	E) Case presentation	10 Marks	B) Gynecology Viva	**10 Marks**
B) Clinical examination.	10 Marks	F) Case Discussion	10 Marks	C) Record of delivery cases	**10 Marks**
C) Investigation and Diagnosis	05 Marks				
D) Management	10 Marks				
		Practical Total :	**50 Marks**	**Oral Total :**	**30 Marks**

Seat No.	Long case (Obstetrics) (30 Marks)				Short case (Gynecology) (20 Marks)		Practical Total Out of (50 Marks)	Obstetrics Viva	Gynecology Viva	Record of delivery cases	Oral (Viva Voce) Total Out of (30 Marks)
	(A) (05)	(B) (10)	(C) (05)	(D) (10)	(E) (10)	(F) (10)		(A) (10)	(B) (10)	(C) (10)	

Name of Examiners: **College** **Signature & Date**

1. _____ _____ Chairman -
2. _____ _____ Internal –

Name of Examiners: **College** **Signature & Date**

4. _____ _____ External -
5. _____ _____ External-

Pravara Institute of Medical Sciences
(Deemed University)
Loni Bk. 413736, Tal. Rahata, Dist. Ahmednagar

SYLLABUS FOR

THIRD MBBS PART II

NEW EVALUATION SYSTEM

DECEMBER 2016 ONWARDS

PAEDIATRICS

(MU 407)

NOTIFICATION NO. 17/2016

Dated : 06th May 2016

Pravara Institute of Medical Sciences

(Deemed University)

Medical Faculty

Presentation of Syllabus

III MBBS

Course Code : MU – 407 **Title – Paediatrics**

Teaching Hours :	Theory	- 120 Hours
	Practical	- 120 Hours
	Total	- 240 Hours

The course includes systematic instructions in growth and development, nutritional needs of a child, immunization schedules and management of common diseases of infancy and childhood including scope for Social Paediatrics and counseling.

1. Goal :

The broad goal of the teaching of undergraduate students in Paediatrics is to acquire adequate knowledge and appropriate skills for optimally dealing with major health problems of children to ensure their optimal growth and development.

2. Objectives :

(a) KNOWLEDGE :

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

(1) Describe the normal growth and development during foetal life, neonatal period, childhood and adolescence and outline deviations thereof;

(2) Describe the common paediatric disorders and emergencies in terms of Epidemiology, aetiopathogenesis, clinical manifestations, diagnosis, rational therapy and rehabilitation;

(3) Age related requirements of calories, nutrients, fluids, drugs etc, in health and disease;

(4) Describe preventive strategies for common infectious disorders, malnutrition, genetic and metabolic disorders, poisonings, accidents and child abuse;

(5) Outline national Programmes relating to child health including immunization Programmes.

(b) SKILLS :

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

(1) take a detailed paediatric history, conduct an appropriate physical examination of children including neonates, make clinical diagnosis, conduct common bedside investigative procedures, interpret common laboratory investigation results and plan and institute therapy.

(2) Take anthropometric measurements, resuscitate newborn infants at birth, prepare oral rehydration solution, perform tuberculin test, administer vaccines available under current national programmes, perform venesection, start an intravenous saline and provide nasogastric feeding :

(3) Conduct diagnostic procedures such as a lumbar puncture, liver and kidney biopsy, bone marrow aspiration, pleural tap and ascitic tap;

(4) Distinguish between normal newborn babies and those requiring special care and institute early care o all new born babies including care of preterm and low birth weight babies, provide correct guidance and counseling in breast feeding ;

(5) Provide ambulatory care to all sick children, identify indications for specialized / inpatient care and ensure timely referral of those who require hospitalization :

(c) INTEGRATION :

The training in paediatrics should prepare the student to deliver preventive, promotive, curative and rehabilitative services for care of children both in the community and at hospital as part of team in an integrated form with other disciplines, e.g. Anatomy, Physiology, Forensic Medici9ne, Community Medicine and Physical Medicine and Rehabilitation.

3. Theory Syllabus : Enclosure - I

Total syllabus be divided into units/modules/sections and number of Lectures for a particular unit/module/section should be specified.

4. Practical Syllabus : Enclosure – II

Details of practical training should be given. Laboratory and Clinical training required to cover the syllabus should be given.

PAEDIATRICS

ENCLOSURE - I

Paediatrics including - Neonatology

The course includes systematic instructions in growth and development. Nutritional needs of a child. Immunization schedules and management of common diseases of infancy and childhood including scope for Social Paediatrics and counseling.

(I) GOAL:-

The broad goal of the teaching of undergraduate students in Paediatrics is to acquire adequate knowledge and appropriate skills for optimaly dealing with major health problems of childs and to ensure their oplimal growth & development

(II) OBJECTIVES :-

a)Knowledge:-

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

1. Describe the normal growth and development during fetal life neonatal period . childhood & adolescence and outline deviation their of.
2. describe the common Paediatric disorders and emergencies in terms of Epidemiology , aetiopathogentics . clinical manifestations, diagnosis rational therapy and rehabilitation.
3. Age related requirement of calories, nutrients, fluid, drug etc. in health and disease.
4. Describe preventive strategies for common infectious disorders, malnutrition , genetic and metabolic disorders, poisonings, accidents and child abuse.
5. Outline national Programmes relating to child health including immunization programmes

(b) SKILLS:

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

1. Take a detailed Paediatric history, conduct an appropriate physical examination of children including neonates make clinical diagnosis, conduct common bedside investigative procedures interpret common laboratory investigations resultrs and plan and institute therapy
2. Take anthropomertric measurements, resuscitate newborn infants and prepare oral rehydration solution , perform tuberculin test, administer vaccines available under current national programmes, perform venescction, start an intravenous saline and provide nasogastric feeding.
3. Conduct diagnostic procedures such as a lumber puncture, liver and kidney biopsy, bone marrow aspiration, pleural tap and ascitic tap.
4. Distinguish between normal newborn babies and those requiring special care and institute early care to all new born babies including care of preterm and low birth weight babies, provide correct guidance and counseling in breast feeding.
5. Provide ambulatory care to all sick children, identify indications for specialized / inpatient care and ensure timely referral of those who require hospitalization.

(C)INTEGRATION :-

The training in Paediatrics should prepare the student to deliver preventive , promotive, curative and rehabilitative services for care of children both in the community and at hospital as part of team in an integrated form with other disciplines, e.g. Anatomy , Physiology, Forensic Medicine . Community Medicine and Physical Medicine and Rehabilitation.

LEST OF LECTURES/ SEMINARS

Lectures :- 3rd / 4th & 6th Semester :-

1. Introduction of Paediatrics
2. History taking in Children
3. Examination of Children
4. Normal Growth
5. Normal Development
6. Introduction to Newborn and normal Newborn Baby
7. Temperature regulation in Newborn
8. Breast feeding and lactation management
9. Infant and child feeding (Include complimentary feeding)
10. Normal fluid and electrolyte balance in children
11. Immunization

Lectures :- 6th / 8th / 9th Semester :-

1. Prematurity
2. Birth asphyxia
3. Low Birth weight Babies
4. Neonatal Respiratory Distress
5. Jaundice in Newborn
6. Neonatal Infections
7. Neonatal convulsions
8. PEM and its management
9. Vitamin and micronutrient deficiencies
10. Nutritional anaemia in infancy and childhood
11. Acute diarrhoea
12. Hypothyroidism in children
13. Congestive heart failure-diagnosis and management
14. Congenital heart disease
15. Rheumatic heart disease
16. Hypertension
17. Acute respiratory infections
18. Bronchial asthma
19. Nephrotic syndrome
20. Acute Glomerulonephritis and Thalassemia
21. Abdominal pain in children
22. Chronic liver disease including ICC
23. Haemolytic anaemia including Thalassemia
24. Leukaemias
25. Bleeding and coagulation disorders
26. Seizure disorders
27. Cerebral Palsy
28. Common exanthematous iliness
29. Childhood tuberculosis

Other Lectures to be covered :-

1. Fluid and electrolyte balance- pathophysiology and principals of management.
2. Acid -base disturbances – pathophysiology and principals of management
3. Adolescent growth and disorders of puberty
4. Congenital heart disease
5. Acute respiratory infections, Measles , Mumps, Chicken pox
6. Other childhood malignancies
7. coagulation disorders- Haemophilia
8. Mental retardation
9. Approach to handicapped child
10. Acute flaccid paralysis
11. Behaviour disorders
12. Meningitis
13. Diphtheria, Pertussis and Tetanus
14. Childhood Tuberculosis
15. HIV infections
16. Malaria
17. Neurocysticercosis
18. Enteric fever
19. Immunization
20. Paediatric prescribing
21. Common childhood poisonings.

TUTORIAL :-

1. Convulsions
2. Coma
3. PUO
4. Jaundice
5. Portal Hypertension
6. Respiratory Jaundice
7. Short stature
8. Reumatic Heart diseases
9. Nutrition
10. Diabetic Mellitus
11. Anemia
12. Bleeding
13. Renal failure
14. Tuberculosis
15. Malaria
16. HIV infection
17. Neurocysticercosis
18. Perinatal asphyxia (with obstetrics)
19. Intrauterine retardation (with obstetrics)
20. NALS
21. PALS
22. Immunization
23. Feeding problems
24. Respiratory Emergencies
25. X-rays, Instruments

forwards

New Evaluation system for Third MBBS Part II
Subject: Pediatrics
(MU 407)
January 2016 onwards (New course 2013 Batch)

a. Methods

Theory, Practical and Viva

Type of exam	Maximum marks		Minimum Marks
Theory (One Paper)	40	50	25
Oral Viva	10		
Practicals	30		15
Internal Assessment (Theory 10+ Practical 10)	20		10 (7 eligibility for Univ. exam 35%)
Total	100		50

b. Pattern of Theory University examination including Distribution of Marks, Questions, and Time.

i) **One Paper**
ii) Total duration –2 hrs each
iii) There will be 2 sections in each.
iv) Pediatrics : (including Neonatology)
v) **Section A (MCQ)** 20 minutes and Section B 100 minutes
vi) **Total Time : 2 hrs.**

Sections	Nature of Questions	Total No. of Questions	Mark(s) per Question	Total Marks
A)	Q.1 Multiple Choice Questions (MCQs)-	10	1	**10**
B)	Q.2 BAQ's **(Brief Answer Question)** a,b,c,d,e,f	05 out of 06	2	**10**
	Q.3 SAQ's **(Short Answer Question)** a,b,c	02 out of 03	5	**10**
	Q.4 One LAQ's **(Long Answer Question)**	01	10	**10**
Total				**40**

(shall contain one question on basic sciences and allied subjects)

c. *Nature of practical examination in finals*

Number	Exercise		Marks
1	**One Long Case:** a) History taking, b) Clinical examination, c) Investigation and Diagnosis, d) Management.	 05 Marks 05 Marks 05 Marks 05 Marks	**20**
2	**One Short Case; (Neonate)**	10 Marks	**10**
Total			**30**

d. *Nature of Oral Viva examination in finals*
(These will be included in theory marks)

	Viva	Marks
	Related to Drug, Instruments, emergency in Pediatrics, X-ray	**10**

e. Plan for internal assessment:

Theory : **10**

Practical : **10**

Total Marks: : **20**

Minimum Marks: : 10 (07 eligibility for Univ. exam 35%)

Term	Examination Head		Total
	Theory	**Practical**	
VI Sem.	20 (A)	20 (A)	
VIII Sem.	20 (B)	20 (B)	
Preliminary 9th Sem. (I 40 + II 40)	40 (C) **Calcu. Method :** **The = A+B+C** --- **08**	40 (C) **Calcu. Method :** **The = A+B+C** --- **08**	
Total	**10**	**10**	**20**

Pass : In each of the subjects a candidate must obtain 50% in aggregate with a minimum of 50% in Theory including orals and minimum of 50% in practices/clinicals.

PRAVARA INSTITUTE OF MEDICAL SCIENCES
(DEEMED UNIVERSITY)

MARKS LIST FOR PRACTICAL AND VIVA

III M.B.B.S. (Part II) Practical Examination **Month/Year:** _____

Center: -Rural Medical College **Date: -** _____

Sub: - Pediatrics **Max. Marks: - (Practical – 30, Oral – 10)**

Clinical

One Long case **20 Marks**

a) History taking, 05 Marks
b) Clinical examination, 05 Marks
c) Investigation and Diagnosis, 05 Marks
d) Management. 05 Marks

short case : (Neonate) **10 Marks**

Practical Total : 30 Marks

Oral (Viva Voce)

Related to Drug, Instruments, emergency in Pediatrics, X-ray **10 Marks**

Oral Total : 10 Marks

Seat No.	One Long case				short case (Neonate)	Practical Total Out of (30 Marks)	Oral (Viva Voce) Related to Drug, Instruments, emergency in Pediatrics, X-ray Total Out of (10 Marks)
	(A) (05)	(B) (05)	(C) (05)	(D) (05)	(10)		

Name of Examiners: **College** **Signature & Date**

1. _____ _____ **Chairman** ----------
2. _____ _____ **Internal** ----------
3. _____ _____ **External** ----------
4. _____ _____ **External**----------