

# **MGM INSTITUTE OF HEALTH SCIENCES**

(Deemed to be University u/s 3 of UGC Act, 1956) Grade 'A' Accredited by NAAC Sector-01, Kamothe, Navi Mumbai -410 209 Tel 022-27432471, 022-27432994, Fax 022 -27431094

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#### **Amended History**

- 1. Amended upto Resolution No. 40, BOM 28/2013.
- 2. Amended upto Resolution No. 3.2 d, Resolution No. 3.3 f BOM 43/2015, dated 06/11/2015.
- 3. Amended upto Resolution No. 3.7 e, BOM 45/2016, dated 28/04/2016.
- 4. Amended upto Resolution No. 5.12(g), Resolution No. 5.25 BOM 48/2017, dated 24/01/2017.
- 5. Amended upto Resolution No. 1.3.7.11(i), Resolution No. 1.3.23; BOM-51/2017, dated 28/08/2017.
- 6. Amended upto Resolution No. 3.11.4, BOM-52/2018, dated 13/01/2018.
- 7. Amended upto Resolution No. 4.6.3, Resolution No. 4.6.5; BOM-53/2018, dated 19/05/2018.
- 8. Amended upto Resolution No. 4.4.2.2, Resolution No. 4.13, BOM-55/2018, dated 27/11/2018.
- 9. Amended upto Resolution No. 3.2.2.5, Resolution No. 3.2.2.8, Resolution No. 3.2.2.11; Resolution No. 3.1.4.2; BOM-57/2019, dated 26/04/2019.

### **INSPIRING MINDS**



### Mission

To improve quality of the life for individuals and community by promoting health, preventing and curing disease, advancing biomedical and clinical research and educating tomorrow's Physicians and Scientists.

#### Vision

By 2020 the MGM University of Health Sciences will rank one of the top private Medical Institution. This will be achieved through ground breaking **discoveries in basic sciences and clinical research** targeted to prevent and relieve human suffering, **excellence in Medical Education** of the next generation of academic clinicians and intrinsic scientists.

MGM University of Health Sciences will transform the **Education of** tomorrow's Physicians and Scientists conducting Medical **Research** to advance health and improving lives by providing world-class patient care.

Many see the 21<sup>st</sup> Century as the golden age of biomedical research. The MGM University of Health Sciences will position for leadership at the horizon of this new era to promote and stabilise stand human health with a standard of excellence.



## Chancellor's Message

It is my pleasure to welcome you to join constituent colleges of Mahatma Gandhi Misson's (MGM) University of Health Sciences, Navi Mumbai. I wish to avail this opportunity to apprise you and your parents about the academic excellence of the deemed university.

The MGM University of Health Sciences was established u/s 3 of UGC Act, 1956 vide HRD Notification No.F.9-21/2005-U.3(A) dated 30-8-2006. The MGM University is an outcome of untiring efforts of our educationists, professionals, social activists, technocrat, students and parents. The Mahatma Gandhi Mission Trust that manages the University of Health Sciences and over 40 institutions in Navi Mumbai, Aurangabad, Nanded, and Noida has the vision to empower the masses with the availability of state-of-the-art education. Most of our institutions have ISO certifications that further endorse our commitment to stringent quality standards. I am proud to state that we have succeeded in these accomplishments during our journey of the past 25 years.

I recollect the memories of struggle and determination when the MGM Trust established its two medical colleges, one each at Navi Mumbai and Aurangabad some twenty years ago. Both the medical colleges have grown into institutions imparting both undergraduate and postgraduate courses, and delivering quality health care to communities in their respective areas. While both colleges are engaged in their primary functions of teaching, patient care and research, they have also excelled in their pursuit for advancement of science and in taking health services to communities through extension programmes. A shining example is the establishment of the Department of Infectious Diseases in 1993 in collaboration with the University of Texas-Houston, USA. This department has established the stateof-the-art clinical services and laboratories for research and care of infectious diseases and received the acclaim of Director General of ICMR when he stated "MGM is the first medical college in India to establish a separate department of infectious diseases. This is the need of the hour." The department has undertaken pathbreaking research and shaped the course of our national control programmes on HIV/AIDS and tuberculosis. The original research of the constituent colleges has been acclaimed among the scientific world globally.

In an era of economic liberalization and the competition among varsities, both in and out of India, the task of grooming professionals who will compete with the best in the world , is tough. To aid our efforts to excel, MGM University of Health Sciences has the latest research facilities, a dedicated research faculty, as well as an array of distinguished visiting faculty members. The quiet ambience of our campuses, the well filled library with subscriptions to international and national journals, and the lush-green gardens add to our accomplishments.

Considering the manpower needs of

educational, industrial agricultural, and health sector to maintain their steady growth, several fresh M.Sc. courses have courses have been launched. M.Sc. courses introduced at the

University from the current academic year shall provide knowledge, skills and subsequent employability that are at par with the counterparts in India and abroad. The curricula of the courses have been designed by experts and peer-reviewed with an emphasis on the job requirements of educational institutions, industries, health care, and research institutions. These courses will empower the students to choose a career in a classroom, a research laboratory or an industry. I am happy that the university is ticking towards the pinnacle with the introduction of these value-added postgraduate courses in medical biotechnology, medical genetics and other basic sciences.

Finally, I wish to place on record my gratitude to the founder members, stake-holders, faculty, staff, students and their parents for providing the MGM Trust with your advice and support.

Once again, it is my pleasure to welcome you to join constituent colleges of MGM University of Health Sciences' at Navi Mumbai and Aurangabad.

Kamal Kishore Kadam Chancellor



Dr R.D.Bapat Vice Chancellor



Dr S.N.Kadam Pro Vice Chancellor



Dr N.N.Kadam Director (Examination)



Dr Ajit shroff Dean (Aurangabad Campus)



Dr Z.G. Badade Registrar



Dr G.S.Narshetty Dean (Navi Mumbai Campus)

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## Syllabus for Master of Physiotherapy Speciality (MPTh [specialty])

### Preamble

This full time Masters degree program of two years duration focuses on gaining advanced knowledge & exclusive skills in Physiotherapeutic specialty subjects. This course offers Four Clinical specialties & emphasizes on self learning by "Hands on". The course also emphasizes on self learning. It is conducted in Two parts-Part-I includes nine modules mandatory to all the students irrespective to selected specialty. In addition to a module on Medical statistics & Research methodology, the modules also include overview as well as an update in Physiotherapeutic & applied sciences. During this course the student shall also submit the protocol of the dissertation based on selected specialty. University examination shall be conducted at the end of Part-I

Part-II -focuses on exclusive training in respective specialty, so that at the end of the respective course, he/she will develop an ability to give expert clinical reasoning, & shall be able to function as a consultant as well as expert clinician in the respective specialty. This course shall also incorporate dissertation submission on the topic related to respective specialty.

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University examination shall be conducted at the end of Part-I & II

#### SPECIALITIES OFFERRED-

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1]-Musculoskeletal Physiotherapy

2]-Neuro-physiotherapy

3]-Cardio-pulmonary Physiotherapy

4]-Community[Preventive] Physiotherapy

### **Course Details**

Transcript Hours- 40hrs / week x 36 weeks/year = 1440 hrs/year x 2=Fotal duration-2880 hrs

Eligibility for admission	BPTh or equivalent from the recognized university, which should also be recognized by the IAP
Teacher to student ratio	1: Not > 3 per specialty .
<b>Eligibility for admission</b>	BPTh or equivalent
Objectives-	<ul> <li>-Develop expertise in Physiotherapy diagnosis, planning &amp; delivering clinical skills with clinical reasoning</li> <li>-Improve understanding of professional ethics, legal issues</li> <li>-Develop research skills</li> </ul>

#### Part-I

The course shall be divided in to Two parts, Part-I & II , each having duration of One academic year respectively .In the Part-I, the didactic & lab training will include Nine Mandatory modules which will be common to all the candidates irrespective of their specialty subject, where as -II shall focus on modules of respective Specialty subject . However, the Clinical "Hands on Training" shall focus on rotational clinical assignments in respective specialty subject through out the course. . In addition to the didactic /laboratory & clinical "hands on" training, the course shall also include Seminars, case presentations, & administrative work under the supervision of faculty members. The candidate shall prepare & submit the Dissertation protocol during Part-I & shall complete the research study during Part-II

#### A1 Course content:

The course shall include total nine modules, training in which will be conducted as Didactic /Laboratory/ Clinical Demo &/or as seminars where ever applicable .

All the module shall be mandatory to all the students irrespective of the specialty selected

Module-I	Biomedical statistics & research methodology
Module-II	Teaching technology
Module-III	Clinical Biomechanics
Module-IV	Exercise sciences
Module-V	Advanced Electrotherapy
Module-VI	Electrophysiology & Principles of Electro-diagnosis
Module-VII	Neuro-physiological principles
Module-VIII	Manual Medicine
Module-IX	Principles of Ethics/Administration & Management in clinical practice

Academic activities - Assistance in Undergraduate training ; college administration B 40hrs  $\boldsymbol{C}$ Clinical postings-Candidate shall attend rotational clinical postings in the respective 1000 specialty through out the course [part I + II] in Outdoor/Indoor /ICU & Community area where ever applicable hrs

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400 hrs

# **EXAMINATION SCHEME**

Attend:         a       100%         > 90%          > 85 % -         80% -85         8         8         90% of         90% of         8         8         8         8         8         90% of         8         90% of         8         90% of         8         90% of         8         8         90% of         8         90% of         90% of         90% of	90%       5         90%       2         No marks because 80% is mandatory         de towards seniors , peer group         istrative-based on feedback from faculty staff10marks         ning skills         rnal assessment [10% of a+b+c ]         heory & Practica[where ever applicable] at the end of Each module -         average marks obtained in the tests conducted at the end of all the respective mod         all the seminar `presentations         all the clinical case presentations         opear for the university examination-         omission of Dissertation proposal [minimum THREE months before the commence					
a $100\%$ > 90%          > 85 % - $80\%$ b:       Attitu         c:       -Admin         d:       Teach         - Formative Inte         There shall be T         a       20% of         b-       10% of         c       10% of         a       Sut         of       0	Ance %       Marks AllottedMax10         10       10         90%       5         5%       2         de towards seniors ,peer group       10         istrative-based on feedback from faculty staff10marks         ning skills10marks         rnal assessment [10% of a+b+c ]Total 40 marks         heory & Practica[where ever applicable] at the end of Each module -         average marks obtained in the tests conducted at the end of all the respective mode all the seminar presentations         all the clinical case presentations         opear for the university examination-         omission of Dissertation proposal [minimum THREE months before the commence					
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	satisfactory performance in the Summative & Formative Let					
	icate of satisfactory performance in the Summative & Formative Internal assess					
	UNIVERSITY EXAMINATION-PART-I					
<b>2.1</b> The ex	amination shall be conducted at the end of Part-I There shall be two examiners -i					
Interna	al [Convenor] & One external examiner. Both shall jointly set the question papers the same & submit result signed by both					
assess	the same & submit result signed by both					
2.2 Theory	71 It will include Two Theory papers of 100 mortes and 4					
shall in	iclude three compulsory questions					
2.2A Paper-	Q-IResearch methodology & Biostatistics					
. Q-2	2: Teaching Technology OR Principles of Ethics (Administration of the second					
Q: 2.2B Paper	c					
raper	s significantes					
	Q-2: Exercise sciences					
	Q-3: Manual Therapy OR Electrodiagnosis & Electrophysiology					
2.3 Clinica	Bioengineering I Examination – Total Marks – 200 [ Case presentation 75 x $2 = 150+50$ marks Sp					
Chinta						

#### Criteria for Passing In The Examination 2.4

There shall be combined passing in the Theory paper -I & II.. The student shall require minimum 50% marks to pass in the examination under each head of passing & minimum 40%marks in individual sub-head paper in which he/she fails. The details about the scheme of assessment is as follows-

	Passing Head	Theory		Total marks	Result	
-	Sub-Head	Paper-I	Paper-II		Fails / Passes	
	Max marks	- 100	100	200	/passes with	
dules	Minimum marks for passing	40	40	100	Distinction	
	Marks obtained			4		

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#### **Result of Examination MPTh Part-I** ssmen

- 2.4 A :The candidate who fails in the Part-I examination shall be allowed to carry over the subjects to the next academic year.
- -i.e-2.4 B Candidate who fails in the examination shall have to repeat the entire examination & rs, shall not be granted any exemption for having passed in individual passing Head /subhead. h pape
  - 2.4 C Supplementary examination for the failed students shall be conducted within 15 days after the declaration of results of MPTh Part -I examination-Candidate who fails again in the supplementary examination will have to appear for the exam with the regular batch at the end of next academic year.

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# Syllabus PART – I

	Manual medicine & principles of Therapeutic exercise	o1 :0
Objectives	-at the end of the course, the candidate will	Obje
A)	-Acquires the knowledge & skill of various approaches of Manual therapy for joints of the limbs / spine	A)
		B)
B)	-Be able to integrate the manual Therapies to rehabilitate the mechanical & neuro	(U
	problema,	
C)	-Be able to impart knowledge & train the undergraduates in Manual Therapy.	<b>C</b> )
1	Syllabus	
1.	-Physiology movements – biophysics of connective Tissue, Demonstration	1.
2.	interneting,	2.
2. 3.	-Articular Neurophysiology & principles of applications.	3.
5.	- History of manual Therapy, Overview of various Monual therapy	4.
4.	the follets,	5.
••	-Clinical reasoning & deferential clinical diagnosis based on deferent approaches such as Maitland Kaltenbourne, Currier Melli	6. 7.
5.	The second of th	8.
	-Soft tissue approach – Myofacial technique, Neural tissue mobilization, Muscle Energy methods.	9. '
6.		· · ·
7.	-Practical approach of various manual therapy modes given in no 4 & 5 above.	10.
v	-Therapeutic exercises – an adjourn to manual therapy.	
	Advonce Elect D	11.
	Advance Electro Therapeutics	
Objectives		· 12.
A)	-at the end of the course, the candidate will	
	-Acquire the updated knowledge of production / biophysics as well as the	
	Physiological / therapeutic effects ( at the cellular level) of various electrical	Obj
	Currents. Thermal agents, ultra sound & electro magnetic forces & potential risk factors on prolong exposure.	A)
B)	-Acquire the knowledge about various Discours of	<b>B</b> )
	-Acquire the knowledge about various Pharmaco therapeutic agents to be used in combination with various electro – therapeutic modes, with appropriate clinical decision & reasoning in the management of the second	
	decision & reasoning in the managements of pain / tissue healing / would care &	<b>C</b> )
	skin conditions.	10.1
<u>C)</u>	- Be able to train the undergraduate students in this subject at pre-clinical level.	D)
	in this subject at pre-clinical level.	E)
	Syllabus	F)
1.	- Medical Physics of therapeutic currents, ultra sound & electro-magnetic	<b>G</b> )
_	speenum	
2.	- Cellular response to environmental & man-made electro magnetic field-risk	
	racions of promiged exposities-safety measures	1.
3.	-Advance Electro Therapeutics in the management of pain	2.
4.	- r incipies of combination of Therapeutic currents / ultra sound with	
	i narmaco- incrapeutics with special reference to Musculoskeletal/ normal state	
<i>c</i>	$\infty$ psychosomatic pam.	
5.	- advance Electro Therapeutics in tissue healing; wound care, managements of	4.
	scars, keloids & De-pigmentation-skin conditions.	
		5,

****	Objectives A) B)	- Be able to interprets the E.M.G & nerve conduction studies with appropriate clinical reasoning Acquire the sound knowledge of use of E.M.G machine for the simple electro diagnostics studies of a motor unit & methodology of sensory & motor conduction, reflex study.
	C) . 1. 2.	- Be able to train the undergraduate students at Preclinical & clinical level.
		Syllabus-
	1.	- Bio electricity – (R.M.P- action potential)
		<ul> <li>Neuro – transmitters</li> <li>- classification – a) Muscle fiber, b) - Nerve fiber c) Motor unit</li> </ul>
	3. 4.	Synapse & synaptic transmission
	4. 5.	Propagation of nerve impulses, Physiology of muscle contraction
	6.	Reflex – classification & Properties
	7.	Sensations – path ways & classification
	8.	Type of Nerve injury & Wallerian degeneration
	9. ´	- Electro diagnosis with therapeutic currents-SD curves for motor, sensory & pain assessment
	10.	Electromyography – a) instrumentation, electrodes b) E.M.G normal & abnormal.
	11.	- Nerve conduction – a) Sensory/motor, b) "F" wave, C)"H" reflex, d) – Blink reflex.
	12.	Neuro - muscular junction disorders – decrement-studies
		Biomechanics & Bio-engineering
	Objectives	- at the end of the course, the candidate will
	A) P)	- Acquire the updated knowledge of the patho-mechnics of human movement
	B)	- Be able to apply the principles of Biomechanics in functional analysis of
	÷.	movement argonomic enclusis / advise & meathered Outlester
	C)	movement, ergonomic analysis / advice & prostheses/ Orthotics.
	C)	Be able to prescribe, check out & train in the application of lower limbs
		- Be able to prescribe, check out & train in the application of lower limbs prostheses & spinal / lower extremity orthoses used as mobility aids
	C) D) E)	<ul> <li>Be able to prescribe, check out &amp; train in the application of lower limbs prostheses &amp; spinal / lower extremity orthoses used as mobility aids</li> <li>Be able to pre4scribe Ergonomic alteration at the work place &amp; Industry</li> </ul>
	D) E) F)	<ul> <li>Be able to prescribe, check out &amp; train in the application of lower limbs prostheses &amp; spinal / lower extremity orthoses used as mobility aids</li> <li>Be able to pre4scribe Ergonomic alteration at the work place &amp; Industry</li> <li>Be able to fabricate, temporary hand splint &amp; functional splint for gait training.</li> </ul>
	D) E) F)	<ul> <li>Be able to prescribe, check out &amp; train in the application of lower limbs prostheses &amp; spinal / lower extremity orthoses used as mobility aids</li> <li>Be able to pre4scribe Ergonomic alteration at the work place &amp; Industry</li> </ul>
	D) E) F)	<ul> <li>Be able to prescribe, check out &amp; train in the application of lower limbs prostheses &amp; spinal / lower extremity orthoses used as mobility aids</li> <li>Be able to pre4scribe Ergonomic alteration at the work place &amp; Industry</li> <li>Be able to fabricate, temporary hand splint &amp; functional splint for gait training. Acquire a skill in disability evaluation &amp; will be able to CERTIFY the same.*</li> </ul>
	D) E) F)	<ul> <li>Be able to prescribe, check out &amp; train in the application of lower limbs prostheses &amp; spinal / lower extremity orthoses used as mobility aids</li> <li>Be able to pre4scribe Ergonomic alteration at the work place &amp; Industry</li> <li>Be able to fabricate, temporary hand splint &amp; functional splint for gait training. Acquire a skill in disability evaluation &amp; will be able to CERTIFY the same.*</li> <li>Be able to impart knowledge &amp; train the students in this subjects a the undergraduate level.</li> </ul>
	D) E) F)	<ul> <li>Be able to prescribe, check out &amp; train in the application of lower limbs prostheses &amp; spinal / lower extremity orthoses used as mobility aids</li> <li>Be able to pre4scribe Ergonomic alteration at the work place &amp; Industry</li> <li>Be able to fabricate, temporary hand splint &amp; functional splint for gait training. Acquire a skill in disability evaluation &amp; will be able to CERTIFY the same.*</li> <li>Be able to impart knowledge &amp; train the students in this subjects a the undergraduate level.</li> </ul>
	D) E) F)	<ul> <li>Be able to prescribe, check out &amp; train in the application of lower limbs prostheses &amp; spinal / lower extremity orthoses used as mobility aids</li> <li>Be able to pre4scribe Ergonomic alteration at the work place &amp; Industry</li> <li>Be able to fabricate, temporary hand splint &amp; functional splint for gait training. Acquire a skill in disability evaluation &amp; will be able to CERTIFY the same.*</li> <li>Be able to impart knowledge &amp; train the students in this subjects a the undergraduate level.</li> <li>Syllabus-</li> <li>Force, Equilibrium, Level- Law- mechanics advantage</li> </ul>
	D) E) F)	<ul> <li>Be able to prescribe, check out &amp; train in the application of lower limbs prostheses &amp; spinal / lower extremity orthoses used as mobility aids</li> <li>Be able to pre4scribe Ergonomic alteration at the work place &amp; Industry</li> <li>Be able to fabricate, temporary hand splint &amp; functional splint for gait training. Acquire a skill in disability evaluation &amp; will be able to CERTIFY the same.</li> <li>Be able to impart knowledge &amp; train the students in this subjects a the undergraduate level.</li> <li>Syllabus-</li> <li>Force, Equilibrium, Level- Law- mechanics advantage</li> <li>Applied mechanics in the evaluation procedures.</li> </ul>
	D) E) F)	<ul> <li>Be able to prescribe, check out &amp; train in the application of lower limbs prostheses &amp; spinal / lower extremity orthoses used as mobility aids</li> <li>Be able to pre4scribe Ergonomic alteration at the work place &amp; Industry</li> <li>Be able to fabricate, temporary hand splint &amp; functional splint for gait training. Acquire a skill in disability evaluation &amp; will be able to CERTIFY the same.*</li> <li>Be able to impart knowledge &amp; train the students in this subjects a the undergraduate level.</li> <li>Syllabus-</li> <li>Force, Equilibrium, Level- Law- mechanics advantage</li> <li>Applied mechanics in the evaluation procedures.</li> <li>Kinetics/ kinematics of extremity &amp; spinal joints [including T.M joint], posture,</li> </ul>
	D) E) F)	<ul> <li>Be able to prescribe, check out &amp; train in the application of lower limbs prostheses &amp; spinal / lower extremity orthoses used as mobility aids</li> <li>Be able to pre4scribe Ergonomic alteration at the work place &amp; Industry</li> <li>Be able to fabricate, temporary hand splint &amp; functional splint for gait training. Acquire a skill in disability evaluation &amp; will be able to CERTIFY the same.</li> <li>Be able to impart knowledge &amp; train the students in this subjects a the undergraduate level.</li> <li>Syllabus-</li> <li>Force, Equilibrium, Level- Law- mechanics advantage</li> <li>Applied mechanics in the evaluation procedures.</li> <li>Kinetics/ kinematics of extremity &amp; spinal joints [including T.M joint], posture, Gait, jogging, running, climbing up/down &amp; ADL, applied mechanism,</li> </ul>
	D) E) F)	<ul> <li>Be able to prescribe, check out &amp; train in the application of lower limbs prostheses &amp; spinal / lower extremity orthoses used as mobility aids</li> <li>Be able to pre4scribe Ergonomic alteration at the work place &amp; Industry</li> <li>Be able to fabricate, temporary hand splint &amp; functional splint for gait training. Acquire a skill in disability evaluation &amp; will be able to CERTIFY the same.*</li> <li>Be able to impart knowledge &amp; train the students in this subjects a the undergraduate level.</li> <li>Syllabus-</li> <li>Force, Equilibrium, Level- Law- mechanics advantage</li> <li>Applied mechanics in the evaluation procedures.</li> <li>Kinetics/ kinematics of extremity &amp; spinal joints [including T.M joint], posture, Gait, jogging, running, climbing up/down &amp; ADL, applied mechanism, physiology 7 pathological deviations.</li> </ul>
	D) E) F)	<ul> <li>Be able to prescribe, check out &amp; train in the application of lower limbs prostheses &amp; spinal / lower extremity orthoses used as mobility aids</li> <li>Be able to pre4scribe Ergonomic alteration at the work place &amp; Industry</li> <li>Be able to fabricate, temporary hand splint &amp; functional splint for gait training. Acquire a skill in disability evaluation &amp; will be able to CERTIFY the same.*</li> <li>Be able to impart knowledge &amp; train the students in this subjects a the undergraduate level.</li> <li>Syllabus-</li> <li>Force, Equilibrium, Level- Law- mechanics advantage</li> <li>Applied mechanics in the evaluation procedures.</li> <li>Kinetics/ kinematics of extremity &amp; spinal joints [including T.M joint], posture, Gait, jogging, running, climbing up/down &amp; ADL, applied mechanism, physiology 7 pathological deviations.</li> <li>Analysis of functional hazard related to environment industry &amp; Clinical</li> </ul>
	D) E) F)	<ul> <li>Be able to prescribe, check out &amp; train in the application of lower limbs prostheses &amp; spinal / lower extremity orthoses used as mobility aids</li> <li>Be able to pre4scribe Ergonomic alteration at the work place &amp; Industry</li> <li>Be able to fabricate, temporary hand splint &amp; functional splint for gait training. Acquire a skill in disability evaluation &amp; will be able to CERTIFY the same.*</li> <li>Be able to impart knowledge &amp; train the students in this subjects a the undergraduate level.</li> <li>Syllabus-</li> <li>Force , Equilibrium, Level- Law- mechanics advantage</li> <li>Applied mechanics in the evaluation procedures.</li> <li>Kinetics/ kinematics of extremity &amp; spinal joints [including T.M joint], posture, Gait, jogging, running, climbing up/down &amp; ADL, applied mechanism, physiology 7 pathological deviations.</li> <li>Analysis of functional hazard related to environment industry &amp; Clinical reasoning for the appropriate ergonomic advice.</li> </ul>
	D) E) F) G) 1. 2. 3. 4.	<ul> <li>Be able to prescribe, check out &amp; train in the application of lower limbs prostheses &amp; spinal / lower extremity orthoses used as mobility aids</li> <li>Be able to pre4scribe Ergonomic alteration at the work place &amp; Industry</li> <li>Be able to fabricate, temporary hand splint &amp; functional splint for gait training. Acquire a skill in disability evaluation &amp; will be able to CERTIFY the same.*</li> <li>Be able to impart knowledge &amp; train the students in this subjects a the undergraduate level.</li> <li>Syllabus-</li> <li>Force, Equilibrium, Level- Law- mechanics advantage</li> <li>Applied mechanics in the evaluation procedures.</li> <li>Kinetics/ kinematics of extremity &amp; spinal joints [including T.M joint], posture, Gait, jogging, running, climbing up/down &amp; ADL, applied mechanism, physiology 7 pathological deviations.</li> <li>Analysis of functional hazard related to environment industry &amp; Clinical</li> </ul>
6	D) E) F)	<ul> <li>Be able to prescribe, check out &amp; train in the application of lower limbs prostheses &amp; spinal / lower extremity orthoses used as mobility aids</li> <li>Be able to pre4scribe Ergonomic alteration at the work place &amp; Industry</li> <li>Be able to fabricate, temporary hand splint &amp; functional splint for gait training. Acquire a skill in disability evaluation &amp; will be able to CERTIFY the same.*</li> <li>Be able to impart knowledge &amp; train the students in this subjects a the undergraduate level.</li> <li>Syllabus-</li> <li>Force , Equilibrium, Level- Law- mechanics advantage</li> <li>Applied mechanics in the evaluation procedures.</li> <li>Kinetics/ kinematics of extremity &amp; spinal joints [including T.M joint], posture, Gait, jogging, running, climbing up/down &amp; ADL, applied mechanism, physiology 7 pathological deviations.</li> <li>Analysis of functional hazard related to environment industry &amp; Clinical reasoning for the appropriate ergonomic advice.</li> </ul>

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Materials design, & biomechanical compatibility

- Requirement & prescription criteria in Orthotic/ prosthetic application, with reference to Biomechanical and & ergonomic consideration of energy efficiency

Check out procedure in P & O-fabrication of temporary splints for face , hand & lower limbs for support, prevention of deformities & Functional training.

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Neuro Development & principles of neuro Physiological approach

**Objectives** - at the end of the course, the candidate will

- Acquire updated knowledge of development of nervous system with emphasis On sensory motor behavior with special reference to locomotion.

- Be able to understand various aspect of physiological ageing of the nervous - Be able to identify the abnormalities in the development of nervous system.

- Be able to examine, assess & analyze dysfunction of nervous system with special reference to locomotion.

- Describe concepts of various neuro-Physiological approaches of physiotherapy

Syllabus-

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- Applied neuro-anatomy & Neuro-Physiology, Neuron, Synapse, factors exerting On influence in motor neuron pool, production. Voluntary movement, reflexes and reactions .

- Normal neuro development- a] sensory- Motor Integration with emphasis to locomotion. B] congnition & social behavior.

- Assessment of movement- a] tone, b] co-ordination, c] abnormal movement.
- Integration of assessment data & analysis to form principles of management.

- prioritizing short & long term goals in management.

- learning techniques of neuro-physio Therapeutic skill and models.
- Motor re learing of movement, posture & gait - Assessment of neurogenic Hand & Foot.

- Neuro- physiology of aging & its effect on movement, posture and gait.

# Exercise Physiology, Fitness & Health Promotion -

Objectives A]	- at the end of the course, the candidate will
7 <b>x</b> ]	- Acquire the updated knowledge of physiology physical exercise, & will be able to interpret the physiological effect of the vital parameter of simple laboratory tests, such as "stress test"
N1	
B]	-Acquire the skill of using Bicyle – Ergometry & Treadmill for the purpose of General fitness & Exercise to large for the purpose of
C]	a sector we were able to the top the top Handthy many
D]	- Be able to prescribe & train for general fitness & health promotion for children Pregnant/ lactating female, obese & elderly subjects.
J	- Be able to import knowledge for training the undergraduate students.
	Syllabus

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- Cardio-vascular & respiratory dynamics [including neuro control]

- Body temperature regulation

-Acute effect of Steady level exercise on following parameter, blood flow/H.R/B.P & T.P.R/R.R./Acid base balance/body temperature & fluid

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	abatuabuta balance (Cubatuata at 11 - 21
	electrolyte balance/Substrate utilization. - Fatigue –type –relevance with exercise tolerance test & training.
	- Conditioning effect of various level of sub-maximal exercise
5.	- Acute effect of High-Burst -short duration exercise
6. 1	- Fitness Testing & its relationship with exercise prescription principles of
7.	essessment with emphasis to cardio-respiratory fitness.
8.	- Conditioning exercise for - strength /power / Endurance mobility.
9.	- Principle of health promotion, for growing children healthy adults, pregnant /
	lactating females / Elderly.
10.	- Obesity - exercises for weight reduction
*	-Nutrition & Diet -
Objectives -	- at the original the considere with the considered with
	- Acquire the update knowledge of requirement of ideal nutrition for general
A]	fitness, & health promotion, in children, pregnant & lactating females, sportsmen
	in fields games, athletics & in aging population.
	- Be able to prescribe appropriate diet during weight reduction program & later,
	for maintenance / prevention of obesity.
B] 1. 2. 3.	
	Syllabus
1.	- Nutrition- aerobic & anaerobic metabolism & various components of food &
	Energy values-hormonal influence – 02/CO2 transport- Acid –base balance- Electrolyte balance.
7	•
610	- Energy uptake – expenditure during rest, confinement during illness & Various levels of physical exercises- factors influencing energy uptake & substrate
	utilization.
3.	- Diet – for growing age, pregnancy / lactation acute illness convalescent period,
	High levels of physical activity & aging.
4.	- Body composition- Obesity- prescription of Diet & its modification during
	weight reduction program.
011	Professional issues, Ethics & Constitution
Objectives	At the end of the course, the candidate will acquire the knowledge of -
A]	- Ethical codes, of physio Therapy Practice as will as its moral & legal aspects.
B)	- Constitution & Function of the Indian Association of Physio Therapy
C] D]	- Be able to impart the knowledge with the undergraduate students.
<b>D</b> ]	- acquire the brief Knowledge of role of W.H.O & W.C.P.T.
-	Syllabus Concept of momility. Ethion 8. Long line
2.	Concept of morality, Ethics & Legality
-ui (	- Professional Ethics towards client-Respect & dignity, Confidential, Responsibility
3.	
4.	<ul> <li>Communication skills, informed consent, Client interest &amp; satisfaction</li> <li>Interdisciplinary relation - Co-partnership, mutual respect, confidence &amp;</li> </ul>
	Communication
5.	- Laws – Constitution of India. & Rights of a citizen, responsibilities of the
	Therapist & Status in healthcare-practice self regulatory role of professional
	Association- Consumer- protection act.
6,	- Role of professional in Socio- Cultural & socio-economical Context.
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7.	- Constitution & functions of I.A.P.
8	- Role of W.C.P.T, its various branches / special interest groups.
	Administration, Management & Professional Practice
Objectives A]	At the end of course, the candidate will - Acquire the managerial & management skills in planning, implementation ,& administration in clinical practice [service / self employment] & academic activities including the skill of Documentation & use the of information technology in professional practice
B]	-Be able to impart the knowledge with the undergraduate students.
	Syllabus * *
1]. <sup>°</sup>	- Management- concept of Theories of Management & their application to physio therapy practice with quality assurance at various levels of health delivery system, teaching institution, & self-employment.
2]	- Administration & marketing-personal policies-communication & contact administration principles based on Goal & Functions at large hospital / domiciliary set up / private clinic / academic institution- methods of maintaining records –Budget planningperformance analysis-physical structure/ reporting system / man power status / function / quality & quantity of services / turn over – cost benefit / revenue Contribution.
	C.B.R .& Bioengineering
Objectives	At the end of course, the candidate will
A]	-Acquire the In-depth understanding of the concept of community based rehabilitation.
B] C]	<ul> <li>Be able to assist in planning &amp; organizing camps at community level.</li> <li>Be able to impart services &amp; training at the community level effectively with minimum resources.</li> </ul>
D]-	Acquire the In-depth understanding of the concept of Bioengineering Syllabus
1]	- National Health care delivery system.
2] 3]	<ul> <li>Institution based &amp; Community based Rehabilitation</li> <li>Community physic Therapy as Home care program, transfer of skills, to non-</li> </ul>
51	professional workers as well as the family members.
4]	- Concept of Multi- purpose Health program
5]	- Syllabus formation of the short courses for the Multi purpose Health program - Epidemiological research problem-identification-preventive measures,
6]	Community participation
7]-	Principles of Bioengineering: Evaluation & assessment for the application for the orthotic /prosthetic appliances for the spine, & extremities-Prescription, & fitting-& traing with prosthetic/orthotic aids
	At the end of course, the condidate will
Objectives 1]	At the end of course, the candidate will - Acquire the knowledge of concepts of educational objectives, various methods
- I	of teaching & learning, Evaluation methods & principles of curriculum planning.
2]	- Acquire the skills in communication, teaching skills in classromm laboratory &

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clinical teaching (including bed-side teaching) Syllabus - Role of an educator the environment, student teacher relationship 1 - Teaching-Educational objectives. Teaching learning media. Micro & small 2 group teaching, integreated teaching - skills in various types of teaching (including didactic, clinical etc) 3 Learning methods of learning, problem based learning, motivation & learning 4] - Evaluation methods- mechanics of paper setting, M.C.Q's S.A.Q's viva, 5 O.S.C.E & O.S.P.E - Principles of curriculum planning. 6 Objectives At the end of course, the candidate will - Basic, concept of research, Design, problems & sampling techniques of 1] research. - The knowledge of various types of study designs & planning for the same 2 - The skill of planning for a research study 3 - The skill of various methods of Data analyses 4] Syllabus - Basic concept of research -a] Definition & scope b] - Research design 1 C] - Research problems, d] - Sampling techniques 2 - Types of studies – a) - Case – control studies, b] - cross sectional studies, C] - Cohort studies, d] - Prospective & retrospective studies a] - Types of data, b] - Measures of Average & dispersion, 3 - Statistics -C] Correlation & Regression, d] - Test of significance, -Parametric tests & Non parametric tests.

### MPTh PART-II

This program shall offer following Four Clinical specialties

Muculo-skeletal Physiothearpy <u>, A</u> 1

Neuro- Physiotherapy B]

Cardiovascular & Pulmonary Physiotherapy CI

Community (Decosition) Physiotherapy . 197

- Course details- Duration -- one academic year -----Didactic & Laboratory A--1440hrs Seminars on Over view of respective topics + Journal reading B] ·C]
- Clinical postings-\_\_Candidate shall attend rotational clinical posting in the Intensive care[if applicable], Indoor, Outdoor & Community areas of the respective SPECIALITY Intensive care[if applicable], Indoor, Outdoor & Community areas of the respective SPECIALITY D
- Assistance in Undergraduate training & administrative work of the dept. El
  - Conduct of Dissertation studies

Submission of Dissertation- The student shall submit four copies of duly completed dissertation, signed by the Guide [as "accepted" or otherwise ], not later than the stipulated dates given in advance for regular submission & late submission respectively.

Each speciality program shall include following Four modules related to respective speciality-Module-I:--Applied Anatomy & Physiology & environmental sciences & Physical Therapy diagnosis Module-II:- Manual medicine : skill training & Clinical decision making Module-III :- Recent advances Module-IV : Elective subject

The modules shall incorporate the respective topics mentioned in the syllabus of each speciality subject & the training program shall be conducted in the form of Didactic/Laboratory, seminars & Clinical presentations where ever applicable

### Examination pattern-

1 Internal assessment [Formative & Summative] shall be based on same as conducted in Part-I

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A + B

40hrs 300hrs

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1.) Eligibility to write MPTh Part-II exam in respective specialty
The candidate shall be eligible subject to fulfillment of the following
a Submission of dissertation, which is duly completed, accepted & signed by the guide
b Satisfactory performance [Minimum 50% marks] in the Internal assessment
2 University Examination
2.1 Shall be held at the end of the course.
There shall be _Three_examiners -i.e-Internal [Convenor] & Two external examiners.All_shall jointly set the question papers, assess the same &also conduct the Clinical examination & compile the result jointly & submit the same to the university
2.17. Theory examination There shar be three incompapers under one head of passing-Each paper shall be of three hours duration carrying 100 marks & shall include three questions of equal marks
Paper-I Shall be based on applied sciences of respective speciality
Paper-II Shall be based on recent advances related to respective speciality
Paper-III Shall be based on Elective subject.
2.1. B Clinical examination
Total marks-300 under one head of passing
Two case presentations based on subjects not selected as Elective paper (one $: 75 \times 2 = 150$ marks
One case based on Elective subject : 100 marks
Viva –[includes demo of specific skills on model & investigation viva 50marks
: 50 marks

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Result of Pa	irt II E>	amination
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Passing Heads	Theory				Clinical	• Result [Total marks:650]
Sub-Head	Paper-1	Paper-II	Paper-III	Total	******	
Max marks	100	100	100	300	300	Fails /
Minimum marks Required for passing	40	40	40	150	150	Passes / Passes with
Marks obtained	, ,					distinction

Candidate who passes in all the three Passing heads of passing -i.e- scores minimum 50% marks separately in Theory and Clinical Examination & Internal assessment respectively with minimum 40% marks in each Sub-head mentioned above ; shall be considered as Passed in the Part-II examination & shall be awarded MPTh degree in respective speciality -e.g- MPTh [Musculoskeletal /Neuro/Cardiovascular & pulmonary / Community ] subject to the fulfillment of the following-

He/She successfully passes in Part-1 examination

2 Dissertation is accepted by minimum one out of two external examiners

Candidate who scores 75% or more in the aggregate marks of Part-1 & II examination shall be declared to have passed with Distinction.

Eligibility as Guide/ Paper setter/Examiner BPTh or equivalent with minimum five years of m teaching experience after securing MPTh [Gen/Speciality] or equivalent adgree from an University recognized by UGC

OR.

Recognized full-time post-graduate teacher and supervisor/guide for Masters Degree in Physiotherapy an University recognized by UGC.

### Syllabus-

## Musculoskeletal Physiotherapy

Syllabus:-Shall focus on Physiotherapeutic Management of Traumatological [including spon injuries]& cold musculoskeletal conditions.

#### No. Topic

- Functional and applied Anatomy 1.
- Clinical biomechanics Kinesiology & Neuro-biomechanics. 2.
- Clinical decision making skills in evaluation & management of all pediatric, adult and geriatric 3. dysfunction due to various pathology/patho-physiology of musculo-skeletal system.
- 4. Advances in functional diagnostic procedures & various outcome measures
- Recent advances in pain evaluation and management 5.
- Advances in the field of Manual Medicine. 6.
- 7. Ergonomics in Musculoskeletal dysfunction.
- Assistive technology used for stability and mobility to enhance function. 8.
- 9. Evidence based practice
- 10. Evaluation of disability

Elective Subject---[Any One]

1] Pain Management

2] Hand & Foot rehab

- 3] Sports injury management
- 4] Applied clinical Biomechanics [including Bioengineering]

### Neuro Physiotherapy

Shall focus on Physiotherapeutic Management of Adult & Pediatric Neurological & Neurosurgical conditions.

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- J. Neuro-anatomy & Neuro-physiology
- 2. Development and growth
- 5. Theories of motor control & learning
- 4. Advanced skills in assessment of pediatric, adult and geriatric neuropathological,
- neuropsychological and neurosurgical conditions.
- 5. Clinical decision-making & evidence based practice to formulate effective assessment and treatment program.
- sport 6. Advanced neuro-therapeutic skills for management.
  - 7. Outcome measures to assess effectiveness of treatment.
    - 8. Assistive technology used for stability and mobility to enhance function
    - 9. Intensive care management & early intervention of neurological conditions.
    - 10. Management of terminally ill
    - 11. Management of progressive neuro-degenerative disorders due to disease and ageing.
  - 12. Home program and counseling of care-takers, genetic counseling.
    - 13. Evaluation of disability
    - 14. Legislation and social care.

Elective subject-[Any One ]

- 1] Adult Neuro-rehab
- 2] Developmental & Pediatric Neuro-rehab

- 3] Applied Neuro & Electro physiology
- 4] Physiotherapy in Neuro-ICU

# Cardio-Vascular & Pulmonary Physiotherapy

# [Including Integumentary Conditions]

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#### Syllabus:-

Shall focus on Physiotherapeutic management of Adult & Pediatric Cardiovascular [inelude Integumentary conditions of vascular & Metabolic origin] & Pulmonary conditions-with relation to the

#### No, Topic

Anonomy and Physically, a clearchevascular & Punnonary system - Changes occurring with Growth and Development.

- Patho-physiology of Cardiopulmonary system. 2. 3.
- Biomechanics of Cardio- Pulmonary system 4.
- Principles of Exercise Physiology in health & disease. 5.
- Assessment of Physical and functional capacity.
- Clinical decision making skills in functional diagnosis & management of cárdiovascular 6. pulmonary dysfunction in neonates, pediatrics, adult, women and geriatrics in intensive care units.
- Outcome measures to assess effectiveness of treatment. 7.
- 8. Peripheral vascular dysfunction assessment and management.
- Management of the critically ill. 9.
- 10. Cardio-Pulmonary Rehabilitation
- Ergonomics in Cardiopulmonary dysfunction 11,
- Risk stratification, Prevention and health promotion 12.
- Cardio-Pulmonary fitness training and disability evaluation. 13.

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Elective subjects- [Any One]

1]-Intensive care [including neonatal & pediatric]

2]-Cardiopulmonary rehabilitation

3]- Integumentary care [including vascular & metabolic lesions] 4]-Exercise testing & cardio-pulmonary fitness training

# PREVENTIVE AND COMMUNITY BASED PHYSIOTHERAPY

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### syllabus:-

cluding Shall focus on the Preventive & health promotive role of Physical therapy at various stages of to the life situations including socio-cultural issues of life style- with regards to the following-

No. Topic

units.

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- 1. Principles of Preventive Physiotherapy -Institution & Community based
- 2. Risk factors at various stages of life from intra-uterine to aging stage
- 3. Influence of Life style on health- addictions-stress-sedentary life style
- 4. Socio-cultural factors affecting QOL
- 5. Methods of assessment of prevalence of risk factors
- 6. Role of Physical exercise in sustaining fitness & health pomotion
- 7. Exercise programming in community & institutional set up
- 8. Advances in disaster management-Role of Physiotherapist.
- 9. Principles of Community based rehabilitation.
- 10. Special consideration in women's health-Industry & aging population.
- 11. CBR for Physically handicapped
- 12. National & International Health policies Principles & delivery systems
- 13. Regulatory Agencies & Legal Issues.

Elective-[Any One]

- 1] Early intervention in developmental age
- 2] Women's health during reproductive age-
- 3] Geriatric health
- 4] Industrial health

#### **AURANGABAD**

- MGM's Jawaharlal Nehru Engineering College
- MGM's Institute of Management
- MGM's Mother Teresa College of Nursing
- MGM's Mother Teresa Institute of Nursing Education
- MGM's College of Journalism & Media Science • MGM's Medical Center & Research Institute
- MGM's College of Fine Arts
- MGM's Dr. D. Y. Pathrikar College of Comp. Sc. & Tech.
- MGM's Hospital & Research Center
- MGM's College of Agricultural Bio-Technology
- · MGM's Dept. of Bio-Technology & Bio-informaties.
- · MGM's Inst. of Hotel Management & Catering Tech.
- MGM's Institute of Indian & foreign Languages & Comm.
- MGM's College of Physiotherapy
- MGM's Hospital, Ajabnagar
- MGM's Sangeet Academy (Mahagami)
- · MGM's Institute Naturopathy & Yoga
- MGM's Sports Club & Stadium
- MGM's Institute of Vocational Courses
- MGM's Horticulture
- MGM's Health Care Management
- MGM's Junior College of Education (Eng. & Mar.)
- MGM's Sanskar Vidyalaya (Pri. & Sec. Mar.)
- MGM's Clover Dale School (Pri. & Sec. Eng.)
- MGM's First Steps School (Pre-Primary English)
- MGM's Sanskar Vidyalaya (Pre-Priamary Marathi)
- MGM's School of Biomedical Sciences

#### NAVI MUMBAI

- MGM's College of Engineering & Technology .
- MGM's Institute of Management Studies & Research
- MGM's Dental College & Hospital
- MGM's College of Physiotherapy
- MGM's College of Media Science
- MGM's Institute of Research
- MGM's New Bombay Hospital, Vashi
- MGM's Hospital, CBD
- MGM's Hospital, Kamothe
- MGM's Hospital, Kalamboli
- MGM's Infotech & Research Centre .
  - MGM's Pre-Primary School (English & Marathi)
- MGM's Primary & Secondatry School (Eng. & Mar.)
- MGM's Junior College Science
- MGM's Junior College of Vocational Courses
- MGM's Florence Nightingale Inst. Nursing Edu.
- MGM's College of Nursing
- MGM's College of Law

#### NANDED

- MGM's College of Engineering
- MGM's College of Fine Arts
- MGM's College of Computer Science
- · MGM's College of Journalism & Media Science
- · MGM's Centre for Astronomy & Space Tech.
- MGM's College of Library & Information Science

#### PARBHANI

MGM's College of Computer Science

#### NOIDA (U.P.)

MGM's College of Engineering & Technology

### IN PURSUIT OF **EXCELLENCE**

#### MGM DEEMED UNIVERSITY **OF HEALTH SCIENCES**

Constituent Colleges

M.G.M. Medical College M.G.M School of Biomedical Science M.G.M School of Physiotherapy M.G.M New Bombay College of Nursing M.G.M College of Nursing

#### Aurangabad

M.G.M. Medical College M.G.M School of Biomedical Science M.G.M School of Physiotherapy M.G.M College of Nursing



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MAHATMA GANDHI MISSION

Navi Mumbai



MGM University of Health Sciences (Education - Health Services - Research) A Mission started, nurtured and Managed by Professional Doctors, Scientists Engineers...

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#### **MGM INSTITUTE OF HEALTH SCIENCES**

(Deemed University u/s 3 of UGC Act, 1956) Post Box -6, MGM Educational Complex, Sector-18, Kamothe, Navi Mumbai – 410209 Ph : - 022-27422471, 65168127, 65138121 Fax : 022-27420320 E-mail : mgmuniversity@mgmuhs.com Website: www.mgmuhs.com

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Syllabus for Master of Physiotherapy Speciality (MPTh [specialty])

Bom 28/2013 Desciution Alo. - 40

### Preamble

This full time Masters degree program of two years duration focuses on gaining advanced knowledge & exclusive skills in Physiotherapeutic specialty subjects. At the end of the respective course, the candidate will develop an ability to give expert clinical reasoning & function as a consultant as well as expert clinical practitioner in the respective specialty with an additional ability as an academician in the respective specialty & its applied sciences

This course offers Four Clinical specialties & emphasizes on self learning by "Hands on". The course also emphasizes on self learning. It is conducted in FOUR semester ... The specialty subjects are spread out through out all the four semesters having three domains. The first two domains focus on Applied sciences, & recent advances related to respective specialty, where as the third domain focuses on the elective topic included under specialty subject. The first semester also includes three allied subjects – i.e.Research methodology + biostatistics; Teaching methodology & Management and ethics which will be mandatory to all the students irrespective to selected specialty University examination shall be conducted at the end of fourth semester This course shall also incorporate dissertation submission on the topic related to respective specialty.

#### **SPECIALITIES OFFERRED-**

- Musculoskeletal Physiotherapy
   Neuro-physiotherapy
   Cardio-pulmonary Physiotherapy
- 4]-Community[Preventive] Physiotherapy

### Course Details

Transcript Hours-40hrs / week x 18weeks/ semester = 720 hrs per semester x 4 semesters =Total duration-2880 hrs

Eligibility for admission	BPTh or equivalent from the recognized university, which should also be recognized by the IAP
Teacher to student ratio	1: Not > 3 per specialty
Eligibility for admission	BPTh or equivalent
Objectives-	<ul> <li>-Develop expertise in Physiotherapy diagnosis, planning &amp; delivering clinical skills with clinical reasoning</li> <li>-Improve understanding of professional ethics, legal issues</li> <li>-Develop research skills</li> </ul>

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COURSE DETAILS- This course shall include four Specialties, each having Four semesters.

### SCHEME OF TRAINING IN EACH SPECIALTY

EACH Specialty subject shall include three zones from Sem-I to IV as given in the following model



Serriester-1 shall also include following three subjects which will be common to all the students irrespective of any specialty

1]-Research methodology & Biostatistics

2]-Teaching Methodology

3]-Management -- Ethics & Legal issues

k	<b>ach semester [720 hrs] shall include the following</b> - Didactic/lab	and the second sec
h	Didactic/lab	-60 hrs
2	Seminars /case presentation/ Journal reading	60 hrs
3	-Research studies	-60 hrs
4	Assisting faculty in administration & UG training [Dida	ctic/ practical/Clinical]-40 hrs
C C	Clinical posting	500 http

#### Internal assessment at the end of each semester

#### shall include Two parts---A : Summative. B: Formative

Summative Internal Assessment ---- [-Average of A-a to c ]----- 10marks

Attendan	e % Marks AllottedMax10
a <u>100%</u>	10
> 90% <1	0 8
>85 % - 9	% 5
80% -85%	2
80%	No marks because 80% is mandatory

**b**: Attitude towards seniors , peer group ------10marks

c: -Administrative-based on feedback from faculty staff----10marks

d: Teaching skills -----10marks

### ormative Internal assessment [10% of a+b+c ] -----Total 40 marks

cory & Practica[where ever applicable] -

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20% of average marks obtained in the Theory [ 40 marks] & Clinical [where ever applicable] 40 marks

10% of all the seminar presentations

10% of all the clinical case presentations

### Iniversity examination at the end of fourth semester

### Eligibility to write exam in respective specialty

The candidate shall be eligible subject to fulfillment of the following--

Submission of dissertation, which is duly completed, accepted & signed by the guide Satisfactory performance [Minimum 50% marks] in the Internal assessment

# University Examination

2.1 There shall be Three examiners -i.e-Internal [Convenor] & Two external examiners.All shall jointly set the question papers, assess the same &also conduct the Clinical examination & compile the result jointly & submit the same to the university

IA Theory examination There shall be Four Theory papers under one head of passing- Each paper all be of three hours duration carrying 100 marks & shall incl<del>ude...</del>Four questions of equal marks



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Paper-II       Shall be based on applied sciences of respective speciality         Paper-II       Shall be based on recent advances related to respective speciality         Paper-IV       Shall be based on recent advances related to respective speciality         Paper-IV       Shall be based on recent advances related to respective speciality         Paper-IV       Shall be based on recent advances related to respective speciality         Sub- cad       Total marks-400 under one head of passing         Marks per Sub-head of paper (one case may include specialty skills on model)       Imarks         One case based on Elective subject       100 marks         Viva - on Dissentation       50marks         TATAL       Somarks         Somarks       50 marks         Sub-Heads       Paper         Passing Heads       Theory         Clinical       Result         Max marks       100         100       100         Max marks       100         100       100         Max marks       100         Marks obtained       distinction/1/11 & Pass class will be same as applied to         Postgraduate Degree program in Medicine         andidate who passes with aggregate minimum 50% marks in Theory as well Clinical Examination dith minimum 40% secre in each Sub-heads of Theory & Clinical Examinati	Pa	per-I	Shall be cc	ommon to	all the sr	- pecialties-1	t will include.	e Research mei	thodology /
Total marks-400 under one head of passing         Marks per Sub-head of Passing         Sub- ead       CLINICAL       Marks per Sub-head of Passing         1       Two case presentations based on subjects not selected as Elective : 100 x 2 -200 marks       100 x 2 -200 marks         2       One case based on Elective subject       : 100 x 2 -200 marks         3       Viva - on Dissertation       : 50marks         Teaching/Metho@emonstration of Teaching methods       : 50marks         TATAL         Result of MPTh <sub>[sp]</sub> Examination         Passing Heads       Theory       Clinical       Result         Sub-Heads       Paper       Paper       Paper       Total         Marks obtained       -1       II       -IV       Total       Passes /         Marks obtained       -1       II       -IV       Passes /       Passes with         Marks obtained       -1       II       -IV       Passes /       Pass	Pa	aper-II S aper-III S	Shall be bas Shall be bas	sed on ap sed on rec	//Manage oplied scie cent advas	ement ,Eth ences of re inces relate	ucs & Legal is espective spec	ssues ciality	
Passing Heads       Theory       Clinical       Result         Sub-Heads       Paper       Paper       Paper       Total       Result         Max marks       100       100       100       100       400       400       Fails /         Minimum marks       40       40       40       40       200       200       Passes /         Required for passing       1       1       10       100       100       200       200       Passes /         Marks obtained       1       1       40       40       40       200       200       Passes with distinction         * Criteria for offering Distinction/1 / JL & Pass class will be same as applied to       Postgraduate Degree program in Medicine         Clinical texturn 40% score in each Sub-heads of Theory & Clinical respectively mentioned above ; shall be eligible for the award of MPT degree in respective speciality – e.g.         APT [Musculoskeletal /Neuro/Cardiovascular & pulmonary / Community ] subject to the fulfillment of he following-       1       Dissertation is accepted by minimum one out of two external examiners         1       Dissertation is accepted by minimum one out of two external examiners       1       Dissertation is accepted by minimum one out of two external examiners         1       Dissertation is accepted by minimum one out of two external examiners       1	<ul> <li>2. Clinical examination Total marks-400 under one head of passing</li> <li>Sub- head</li> <li>1 Two case presentations based on subjects not selected as Elective paper ( one case may include specialty skills on model )</li> <li>2 One case based on Elective subject</li> <li>3 Viva - on Dissertation Teaching Method Semonstration of Teaching methods</li> </ul>								
Sub-Heads       Paper       Paper- I       Paper II       Paper -II       Total         Max marks       100       100       100       100       400       400       Fails / Passes / Passes / Passes / Passes with distinction         Minimum marks       40       40       40       40       200       200       Passes / Passes with distinction         Marks obtained       Image: Im	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	• • • •	·····	Result			amination		:
Image:	Pas	sing Heads		Theory		Clinical	Result		
Max marks       100       100       100       100       100       400       400       400       Fails / Passes / Passes / Passes / Passes with distinction         Minimum marks       40       40       40       200       200       Passes / Passes with distinction         Marks obtained       40       40       40       200       200       Passes / Passes with distinction         * Criteria for offering Distinction/I / II & Pass class will be same as applied to Postgraduate Degree program in Medicine       -       -       -         Candidate who passes with aggregate minimum 50% marks in Theory as well Clinical Examination with minimum 40% score in each Sub-heads of Theory & Clinical respectively mentioned above ; shall be considered as Passed & shall be eligible for the award of MPT degree in respective speciality -e.g. MPT [Musculoskeletal /Neuro/Cardiovascular & pulmonary / Community ] subject to the fulfillment of he following-       1       Dissertation is accepted by minimum one out of two external examiners         1       Dissertation is accepted by minimum one out of two external examiners       -       -         1       Dissertation is accepted by minimum one out of two external examiners       -         1       Dissertation is accepted by minimum one out of two external examiners       -         1       Dissertation is accepted by minimum one out of two external examiners       -         1       Dissertation is accepted by mi	S	ub-Heads		-			Total		
Required for passing       10       10       10       10       200       200       Passes with distinction         Marks obtained       1       10       10       10       10       200       Passes with distinction         * Criteria for offering Distinction/I / II & Pass class will be same as applied to Postgraduate Degree program in Medicine       Passes with distinction         Candidate who passes with aggregate minimum 50% marks in Theory as well Clinical Examination with minimum 40% score in each Sub-heads of Theory & Clinical respectively mentioned above ; shall be considered as Passed & shall be eligible for the award of MPT degree in respective speciality – e.g.         MPT [Musculoskeletal /Neuro/Cardiovascular & pulmonary / Community ] subject to the fulfillment of the following-       1       Dissertation is accepted by minimum one out of two external examiners         Eligibility as Guide/ Paper setter/Examiner BPTh or equivalent with minimum five years of full ime teaching experience after securing MPTh [Gen /Speciality] or equivalent degree from an University ecognized by 1 Ge       OR			100	100			400	400	
* Criteria for offering Distinction/I / II & Pass class will be same as applied to Postgraduate Degree program in Medicine Candidate who passes with aggregate minimum 50% marks in Theory as well Clinical Examination with minimum 40% score in each Sub-heads of Theory & Clinical respectively mentioned above ; shall be considered as Passed & shall be eligible for the award of MPT degree in respective speciality –e.g- MPT [Musculoskeletal /Neuro/Cardiovascular & pulmonary / Community ] subject to the fulfillment of he following- 1 Dissertation is accepted by minimum one out of two external examiners Eligibility as Guide/ Paper setter/Examiner BPTh or equivalent with minimum five years of full ime teaching experience after securing MPTh [Gen /Speciality] or equivalent degree from an University ecognized by t Ge	Requi	ired for passing	-	40	40	40	200	200	Passes with
1       Dissertation is accepted by minimum one out of two external examiners         Eligibility as Guide/ Paper setter/Examiner BPTh or equivalent with minimum five years of full         ime teaching experience after securing MPTh [Gen /Speciality] or equivalent degree from an University         ecognized by UGC         OR	Candida vith n be con:	raduate Degre late who passes ninimum 40% sidered as Pass Musculoskeleta	s with aggr score in e sed & sha	n in Medi regate mir each Sub-l all be eligi	icine nimum 5( heads of ' ible for th	0% marks Theory & he award o	in Theory as Clinical respe of MPT degree	well Clinical ectively mention	oned above ; shall
Eligibility as Guide/ Paper setter/Examiner BPTh or equivalent with minimum five years of full time teaching experience after securing MPTh [Gen/Speciality] or equivalent degree from an University recognized by t GC OR Recognized full-time post-graduate teacher and supervisor/guide for Masters Degree in Physiotherapy		The second	Dissertation						niners
	ime tea	aching experies	e/ Paper : ace after se	setter/Ex curing M	1PTh [Ge	en /Speciali	equivalent wi (ty] or equiva	th minimum f lent degree fro	ive years of full om an University
from an University recognized by UGC.	Recogn	nized full-time	post-gradu cognized b	ate teache y UGC.			uide for Maste	ers Degree in	Physiotherapy

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### Syllabus

### SUBJECTS COMMON TO ALL THE SPECIALTIES

#### ------Professional issues, Ethics & Constitution ------At the end of the course ,the candidate will acquire the knowledge of -

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#### - Ethical codes, of physio Therapy Practice as will as its moral & legal aspects.

- Constitution & Function of the Indian Association of Physio Therapy

- Be able to impart the knowledge with the undergraduate students.

- acquire the brief Knowledge of role of W.H.O & W.C.P.T.

#### Syllabus

Concept of morality, Ethics & Legality

- Professional Ethics towards client-Respect & dignity, Confidential, Responsibility

- Communication skills, informed consent, Client interest & satisfaction

- Interdisciplinary relation - Co-partnership, mutual respect, confidence & Communication

- Laws – Constitution of India, & Rights of a citizen, responsibilities of the Therapist & Status in healthcare-practice self regulatory role of professional Association- Consumer- protection act.

- Role of professional in Socio- Cultural & socio-economical Context.

- Constitution & functions of I.A.P.

- Role of W.C.P.T, its various branches / special interest groups.

#### -----Administration, Management & Legal issues

bjectives At the end of course, the candidate will

- Acquire the managerial & management skills in planning, implementation ,& administration in clinical practice [service / self employment] & academic activities including the skill of Documentation & use the of information technology in professional practice

-Be able to impart the knowledge with the undergraduate students.

#### Syllabus

- Management- concept of Theories of Management & their application to physio therapy practice with quality assurance at various levels of health delivery system, teaching institution. & self-employment.

- Administration & marketing-personal policies-communication & contact administration principles based on Goal & Functions at large hospital / domiciliary set up / private clinic / academic institution- methods of maintaining records –Budget planning,-performance analysis-physical structure/ reporting



system / man power status / function / quality & quantity of services / turn over – cost benefit / revenue Contribution. Medico-Legal issues IA

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Objectives 1]	At the end of course, the candidate will - Basic, concept of research, Design, problems & sampling techniques of research.
2]	- The knowledge of various types of study designs & planning for the same
3	- The skill of planning for a research study
4]	- The skill of various methods of Data analyses
	a · ·
Syllabus	
1]	- Basic concept of research – a] Definition & scope b] - Research design
	C] - Research problems, d] - Sampling techniques
2]	- Types of studies – a) - Case – control studies, b] - cross sectional studies,
	C] - Cohort studies, d] - Prospective & retrospective studies
3]	- Statistics - a] - Types of data, b] - Measures of Average & dispersion,
	C] Correlation & Regression, d] - Test of significance, -
	Parametric tests & Non parametric tests.

	Teaching Technology					
Objectives	At the end of course, the candidate will					
1]	- Acquire the knowledge of concepts of educational objectives, various methods of teaching & learning, Evaluation methods & principles of curriculum planning.					
2]	- Acquire the skills in communication, teaching skills in classromm laboratory & clinical teaching (including bed-side teaching)					
Syllabus						
1]	- Role of an educator the environment, student teacher relationship					
2].	- Teaching-Educational objectives, Teaching learning media, Micro & small group teaching, integreated teaching					
3]	- skills in various types of teaching (including didactic, clinical etc)					
4]	Learning methods of learning, problem based learning, motivation & learning					
5]	- Evaluation methods- mechanics of paper setting, M.C.Q's S.A.Q's viva, O.S.C.E & O.S.P.E					
6]	- Principles of curriculum planning.					



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### MUSCULOSKELETAL PHYSIOTHERAPY

### **JAPPLIED SCIENCES -**

Manual therapy
 Biomechanics & Ergonomics
 Exercise Physiology & Therapeutic exercises
 Electrotherapy
 Bioengineering /Prosthesis & Orthotics
 Community based rehab for Orthopedically handicapped

### **II RECENT ADVANCES IN PHYSIOTHERAPY**

I]- Traumatology

nes

2]-Cold cases involving musculoskeletal conditions

3]-Clinical biomechanics & Applied Electrophysiology in Diagnosis

4]-Sports injury rehabilitation

5]-Pain management

6]-Wound care & Burns management

III ELECTIVE—any one from no 1-6 of II Recent advances

### NEUROPHYSIOTHERAPY

#### APPLIED SCIENCES-

1]-Neurodevelopment & Neuro-physiological skills

2]- Movement analysis & Balance coordination

3]-Exercise Physiology & Therapeutic exercises

4]-Electrophysiology & Electrotherapy

5]- Bioengineering & Orthotics

6]-Community based rehab

#### **RECENT ADVANCES**

I-Developmental & Pediatric Neurological-Neurosurgical conditions I-Adult & Pediatric Neurological-Neurosurgical conditions I-Electrodiagnosis I-CBR & Neurorehab I-ICU care in adult & Pediatric Neurosurgical-Medical conditions in care

RELECTIVE- Any one from no 1 to 5 from Recent advances



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### CARDIO-VASCULAR & PULMONARY PHYSIOTHERAPY

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I APPLIED SCIENCES1.Applied Anatomy
2]-Applied Physiology
3]-Therapeutic skills
4]-Principles of CBR in chronic CVR conditions

#### **II RECENT ADVANCES-**

1]-Disability evaluation & Outcome measures

2]-Treatment measures in Pulmonary rehabilitation

3]-Treatment measures in Cardiac rehabilitation

4]-ICU management

5]-Pediatric CVR rehab & ICU management

III ELECTIVE - Any one from no 1-5 in Recent advances

### PREVENTIVE COMMUNITY PHYSIOTHERAPY

#### **1 APPLIED SCIENCES-**

1]-Sociology & Psychology

2]-Exercise Physiology & Ergonomics

3]- Policies - Urban-Rural/ National - International

4]-Education-Awareness & Prevention strategies

### **II]-RECENT ADVANCES IN PHYSIOTHERAPY**

1]-Epidemiology relevant to Physiotherapy –Planned /Multilevel approach to Community health & Community Diagnosis

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2]-Women's health

3]-Age related-Child & Geri care

4]-Industrial health

5]-CBR for handicapped

6]-Primary care

III]-ELECTIVE - Any one from no 1-6 from II Recent advances

### Specialty program

This program shall offer following Four Clinical specialties

- A] Musculo-skeletal Physiothearpy
- B] Neuro- Physiotherapy

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- C] Cardiovascular & Pulmonary Physiotherapy
- D] Community [Preventive] Physiotherapy

### Course details- -----1440hrs

[A]	Didactic & Laboratory	A + B≃
A] B] C]	Seminars on Over view of respective topics + Journal reading	100hrs
C	Clinical postingsCandidate shall attend rotational clinical posting in the Intensive	1000
	care[if applicable] .Indoor, Outdoor & Community areas of the respective	hrs
	SPECIALITY Intensive care[if applicable], Indoor, Outdoor & Community areas of	
	the respective SPECIALITY	
[D]	Assistance in Undergraduate training & administrative work of the dept.	40hrs
D] E]	Conduct of Dissertation studies	300hrs

Submission of Dissertation- The student shall submit four copies of dulycompleted dissertation, signed by the Guide [as "accepted" or otherwise ], not later than the stipulated dates given in advance for regular submission & late submission respectively.

Each speciality of provide null include following Four modules or elated to represenve the bility-Module-1 - Anna 1997 Anatomy & Physiology & environmental science of Physica of Four py anguoun Module-11: Martin medicine (skill training & Clinical decision making Module-111 is Recent advances Module-111 is Recent advances



The modules shall incorporate the respective topics mentioned in the syllabus of each speciality subject & the training program shall be conducted in the form of Didactic/Laboratory, seminars & Clinical presentations where ever applicable

### Examination pattern-

1 Internal assessment [Formative & Summative] shall be based on same as conducted in Part-I

## Syllabus-

No

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### Musculoskeletal Physiotherapy

Syllabus:- Shall focus on Physiotherapeutic Management of Traumatological [including sports] 5. injuries]& cold musculoskeletal conditions.

No. Topic

- 1. Functional and applied Anatomy
- 2. Clinical biomechanics Kinesiology & Neuro-biomechanics.
- 3. Clinical decision making skills in evaluation & management of all pediatric, adult and geriatric dysfunction due to various pathology/patho-physiology of musculo-skeletal system.
- 4. Advances in functional diagnostic procedures & various outcome measures
- 5. Recent advances in pain evaluation and management
- 6. Advances in the field of Manual Medicine.
- 7. Ergonomics in Musculoskeletal dysfunction.
- 8. Assistive technology used for stability and mobility to enhance function.
- 9. Evidence based practice
- 10. Evaluation of disability

Elective Subject---[Any One]

- 1] Pain Management
- 2] Hand & Foot rehab
- 3] Sports injury management

4] Applied clinical Biomechanics [including Bioengineering]

# Neuro Physiotherapy

Shall focus on Physiotherapeutic Management of Adult & Pediatric Neurological & Neurosurgical conditions.

Topic No. Neuro-anatomy & Neuro-physiology Development and growth Theories of motor control & learning Advanced skills in assessment of pediatric, adult and geriatric neuropathological, neuropsychological and neurosurgical conditions. Clinical decision-making & evidence based practice to formulate effective assessment and Advanced neuro-therapeutic skills for management. Outcome measures to assess effectiveness of treatment. Assistive technology used for stability and mobility to enhance function Intensive care management & early intervention of neurological conditions. Management of terminally ill Management of progressive neuro-degenerative disorders due to disease and ageing. Home program and counseling of care-takers, genetic counseling. Evaluation of disability Legislation and social care. 

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lective subject-[Any One ]

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1] Adult Neuro-rehab

2] Developmental & Pediatric Neuro-rehab

- 3] Applied Neuro & Electro physiology
- 4) Physiotherapy in Neuro-ICU

### Cardio-Vascular & Pulmonary Physiotherapy

### [Including Integumentary Conditions]

### Syllabus:-

Shall focus on Physiotherapeutic management of Adult & Pediatric Cardiovascular [including Integumentary conditions of vascular & Metabolic origin] & Pulmonary conditions-with relation to the following-

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No. 1. 2. 3.

5. 6. 7. 8. 9. 10. 11. 12. 13.

Electiv

No.	Topic
1.	Anatomy and Physiology of Cardiovascular & Pulmonary system - Changes occurring with
	Growth and Development.
2.	Patho-physiology of Cardiopulmonary system.
3.	Biomechanics of Cardio- Pulmonary system
4.	Principles of Exercise Physiology in health & disease.
5.	Assessment of Physical and functional capacity.
6.	Clinical decision making skills in functional diagnosis & management of cardiovascular
	pulmonary dysfunction in neonates, pediatrics, adult, women and geriatrics in intensive care units.
7.	Outcome measures to assess effectiveness of treatment.
8.	Peripheral vascular dysfunction assessment and management.
9.	Management of the critically ill.
10.	Cardio-Pulmonary Rehabilitation
11.	Ergonomics in Cardiopulmonary dysfunction
12.	Risk stratification, Prevention and health promotion
13.	Cardio-Pulmonary fitness training and disability evaluation.
14.	

Elective subjects- [Any One]

1]-Intensive care [including neonatal & pediatric]

2]-Cardiopulmonary rehabilitation

3]- Integumentary care [including vascular & metabolic lesions]

4]-Exercise testing & cardio-pulmonary fitness training

#### Community [Preventive] Physiotherapy

Shall focus on the Preventive & health promotive role of Physical therapy at various stages of situations including socio-cultural issues of life style- with regards to the following-

Topic Principles of Preventive Physiotherapy –Institution & Community based Risk factors at various stages of life from intra-uterine to aging stage Influence of Life style on health- addictions-stress-sedentary life style Socio-cultural factors affecting QOL Methods of assessment of prevalence of risk factors Role of Physical exercise in sustaining fitness & health pomotion Exercise programming in community & institutional set up Advances in disaster management-Role of Physiotherapist. Principles of Community based rehabilitation. Special consideration in women's health-Industry & aging population. CBR for Physically handicapped National & International Health policies – Principles & delivery systems Regulatory Agencies & Legal Issues.

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**Elective**-[Any One]

bus:-

- 1] Early intervention in developmental age
- 2] Women's health during reproductive age-
- 3] Geriatric health
- 4] Industrial health
Resolution No. 3.2(d): Resolved to delete the topics OSPE, Mal absorption, PUO, Gastric Analysis in Practical of Pathology (UG) for the batch of Students entering into 2<sup>nd</sup> MBBS from the academic year 2016-17 onwards.

Resolution No. 3.2(e): Resolved to add following Demos for UG Students (Pathology)-Histogram & CBC for the batch of Students entering into 2<sup>nd</sup> MBBS from the academic year 2016-17 onwards.

Resolution No. 3.2(f): Resolved that 10% of Practical marks in Grand Viva for PG examinationcul & Gy (ouses mjims be alloted for Dissertation Viva with immediate effect.

Medicine and Allied : 3.3

Resolution No. 3.3(a): Resolved to include,

- Topics in Chest Medicine : ARDS, OSA and Pulmonary Thrambo-Embolism which (i) should be covered in two lectures.
- (ii) Care of Terminally ill patient under the heading of Geriatric Medicine.

For the batch of Students entering into 3rd MBBS (Part-I) from February 2016 onwards.

Resolution No. 3.3(b): Resolved to approve the changes in syllabus of MD Geriatric Medicine (Annexure-IX) with immediate effect.

Resolution No. 3.3(c): Resolved to approve the changes in syllabus of MD in Emergency Medicine (Annexure-X) with immediate effect.

Resolution No. 3.3(d): Resolved that the basic research methodology should be taught to UG and PG students for all courses as per their regulatory Council Norms.

Resolution No. 3.3(e): Resolved to accept the proposed pattern of redistribution of the marks in Dermatology and Psychiatry subjects in theory papers of Medicine subject at MBBS level for the batch of Students entering into 3rd MBBS (Part-II) from February 2016 onwards, as given below:

The change in Paper 2 section C should be as under:

Section C (Marks 10)

C1 Psychiatry Section (Marks 10)

Question 1 - long question (Marks 4)

Question 2- short answer question attempt any 2 (Marks 6)

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#### C2 Dermatology Section (Marks 10)

Question 1 – long question (Marks 4) Question 2 – Short answer question attempt any 2 (Marks 6) a. b.

Resolution No. 3.3(f): Resolved to adopt the change in internal assessment pattern of Community Medicine (Annexure-XI) for the batch of Students entering into  $2^{ad}$  MBBS from August 2016 onwards.

Resolution No. 3.3(g): Resolved to start Certificate Course and Fellowship in Critical Care Medicine (Annexure-XII) at MGM Medical College, Navi Mumbai from academic year 2016-17. Therefore, Dean, MGM Medical College, Navi Mumbai is requested to work on the feasibility and other regulatory norms to start this course.

Resolution No. 3.3(h): Resolved to start Certificate Course and Fellowship in Sleep Medicine (Annexure-XXVIII) at MGM Medical College, Navi Mumbai from academic year 2016-17. Therefore, Dean, MGM Medical College, Navi Mumbai is requested to work on the feasibility and other regulatory norms to start this course.

Resolution No. 3.3(i): Resolved to approve the Examination pattern for MD in Immuno Haematology & Biood Transfusion (Annexure-XIII) with immediate effect.

#### 3.4 <u>Surgery and Allied</u>:

c.

Resolution No. 3.4(a): Resolved that :

- (i) Topic of Polytrauma and its management be included in the Orthopedic UG syllabus in consultation with Surgery Department for the batch of Students entering into 3<sup>rd</sup> MBBS (Part-II) from February 2016 onwards.
- (ii) Following Topics be excluded from the Orthopedic UG syllabus for the batch of Students entering into 3<sup>rd</sup> MBBS (Part-II) from February 2016 onwards :
  - a) Acute poliomyelitis
  - b) Fungal infection and Leprosy in orthopedic
  - c) Cerebral Palsy and rehabilitation

**Resolution No. 3.6(1):** It was resolved to accept Post Graduate Journal [Annexure - XXI of BOM-45/2016] & log book [Annexure - XXII of BOM-45/2016] for M.Sc. Medical Genetics to be implemented from 2016-17 new Batch onwards and as well as for Students who have taken admission in 2015-16 and will be entering into their 2<sup>nd</sup> year in 2016-17.

**Resolution No. 3.6(m):** It was resolved to accept Post Graduate Journal [Annexure - XXIII, of BOM-45/2016] & log book [Annexure - XXIV of BOM-45/2016] for M.Sc. Clinical Embryology to be implemented from 2016-17 new Batch onwards and as well as for Students who have taken admission in 2015-16 and will be entering into their 2<sup>nd</sup> year in 2016-17.

Resolution No. 3.6(n): It was resolved to accept Academic Calendar for B.Sc. Paramedical Sciences (3 years courses) & M.Sc. Medical (2 & 3 year courses) for 2016-17. [Annexure - V of BOM-45/2016]

**Resolution No. 3.7(a):** Resolved to approve the BPT Academic calendar 2016-17 [for both syllabi (new & old)] & MPT Academic calendar 2016-17. [Annexure - V of BOM-45/2016]

**Resolution No. 3.7(d):** It was resolved to schedule the MPT university theory examination (Regular batch) in the month of July every year with effect from year 2017 onwards. It was also resolved to make the necessary changes in the academic calendar [Annexure] XXVI of BOM 45/2016] so as the course can commence every year in August.

**Resolution No. 3.7(e):** It was resolved to change the MPT theory paper pattern as follows with effect from MPT exam scheduled in the year 2017 onwards:

Question No.	Question pattern	Marks per question	<b>Total Marks</b>
Q 1	Three LAQs	20	60
Q2	Four SAQs	10	40
· ·	**************************************	Total	100

Resolution No. 3.8(a): It is resolved to include following minor corrections in the existing B.Sc. Nursing curriculum with immediate effect (April 2016): [Annexure - XXVII of BOM-45/2016]

- 1. Traditional procedures needs to be continued as part of teaching and demonstration as traditional procedures are still practiced in community field.
- 2. Specifications in the biochemistry practical hours (Enclosed)
- 3. Home visit and bag technique to be included as an objective and 5 hours to be allotted for demonstration of bag technique in unit II of Community Health Nursing -I (Enclosed)
- 4. Process recording to include in Mental Health Nursing Unit III (Enclosed)

(P.T.O)

## Resolution passed in BOM - 48/2017, dated 24/01/2017

## Item No. 5.12: BOS (Physiotherapy) dated 16.09.2016

g) To start sports specialty in MPT at Aurangabad

**Resolution No. 5.12(g):** Resolved to start sports specialty in MPT at Aurangabad from academic year 2017-18 onwards with the approved MPT Sports specialty curriculum. [Annexure-X of BOM-48/2017]

#### ANNEXURE - X

#### Item number 4:

i. Sports Physiotherapy is the specialised branch of physiotherapy which deals with injuries and issues related to sports people. This growing area provides work opportunities in dynamic and evolving environments such as sports chibs; clinics; health & recreation retreats, gyms, personal training studios; among many others. With sports therapy qualification we can provide rehabilitation, performance; mobility, fitness and injury treatment to athletes. As there is no physiotherapy college offering sports specialty at master level , there is lack and demand for sports physiotherapist in

marathwada region.

Successful completion of sports therapy will:

- Give all the qualifications which is need to establish and operate own sports clinic.
- Set up for career working in elite sports clubs and with professional athletes.
- Allow to work sports trainer.

#### Outline of sports physiotherapy:

The MPT sports is a two year program consisting of classroom teaching self-academic activities and clinical onfield postings. In the first year, the theoretical basis of fundamental physiotherapy subjects are refreshed along with sports fundamentals, biomechanics and assessment. In the second year students will learn the advanced treatment techniques and training related to sports injuries. During these two years, the students will be posted in various sports academy, and will be sending as sports physiotherapist for major sports event like cricket, football, lawn ternis, badminton etc. some of the clinical postings will be provided at other reputed centers in the country in order to offer a wider spectrum of experience. The students will be encouraged to attend sports training workshops, seminars to enhance their knowledge during their entire course the study. University examination will be held at the end of second year. To fulfill their course completion, the students will be required to complete and submit their dissertation.

Resource teaching faculty: Dr.Sarath Babu, MPT (Sports rehabilitation), Asso.prof. MGMUDPT, Aurangabad.

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Major Resources for onfield postings at aurangabad:

- 1. MGM Sports complex and stadium
- 2. Divisional sports complex at garkheda stadium
- 3. Auranagabd district cricket association (ADCA)
- 4. Garware cricket stadium
- 5. Sports Authority of India (SAI) academy

#### Infrastructure at MCM, Aurangabad:

Table termis court
 cricket/football ground-63.63 m radius/210 FT
 volley ball ground
 Basket ball court
 Badminton court
 Rifle shooting ball
 Lawn termis
 Swimming pool

#### Resource Staff at MGM sports club and stadium:

Mr. Manish Polkam – Manager, MGM sports club and stadius: Mr.S.P. Talegaonkar – Sports coordinator

Mr. Sagar shewale - Cricket Coach
 Mr. Nilesh harde - Tennis Coach
 Mr. Raheem khan - Foot ball Coach
 Also various coaches are available for indoor sports also.

Intake of students: 04 per year

Criteria for recognition of MPT teacher / guide: MPT with five years teaching experience in sports speciality.

#### Criteria for examiners:

For the practical subjects in the second year, there shall be 3 examiners. One internal examiner will be preferably from the same college or as decided by the university who should have minimum of 5 years of teaching experience after completion of masters of physiotherapy with sports specialty. Among two external examiners, one can be from within the state outside the university and other should be from outside state and both should have 5 years of teaching experience after completion of masters of physiotherapy with sports specialty completion of masters of physiotherapy with sports and other should be from outside state and both should have 5 years of teaching experience after completion of masters of physiotherapy with sports specialty.

## COURSE CONTENT AND STRUCTURE Master of sports physiotherapy

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		st year		
	Topics	1.000.000	Teaching 1	iours and a second
SEMESTER-L.	1: Research methodology/Teaching methodology/Management	<u>Theory</u> 100	Clinical/Practice	it Fotal 100
	2.Fundementals in sports 3. kinesiology	<u>50</u> 50	-	<u></u>
	1. Assessment and evaluation in sports	50	25	75
	2. Applied sports biomechanics	50	10	50
	3. Sports pharmacology	20	50 (Sec. 1997)	20
SEMESTER-II	4. Sports traumatology	+100		100
	5. Cardio Palmonary Resucitation	10	15	25
	6: Investigations: Basels of CT, MRI, X-ray, EMO interpretation	- 100 000 00 00 - 100 000 00 - 100 00 - 1000 - 100000 - 10000 - 100000 - 100000 - 100000 - 100000 - 10	10	10
Climeal training and Field training			750	750
Semibars, Journal Casepresentations,	clubs, Teaching skills, Field works etc.		150	150
Total	ewone en e			1380
	Second	year		Service Service
	Topics		Teachin Theory	thours Cli nic
				al/p ract
	J.Sports specific injuries.		50 .	lcal - 50
	2: Physiotherapeutic Intervention 3.Exercise physiology and nutritic			50 100
SEMESTER-III	4. Non-traumatic medical conditions. S. Doping in sports	ons S	<u>\$0</u> 20 10	- 50
ан на украј и какој на се од сул оконска какој си на Санка на какој си на се од с			10	- 10

4.Stress management     4.Unnary incontinence     05     -     05       5.Applied exercise     5.Mutitional concerns in Physiology     20     -     20       6.Principles and stages     6.Prevention and treatment of rehabilitation     20     -     20       1inical training and ield training     -     20     -     20       20     -     750     750	and the states of the second second	(Sports rehabilitation)	LECTIVE			
SEMESTER 1V     Disputes in female     20       SEMESTER 1V     3.Principles of sports injury Prevention     3.Principles of sports 3.Principles of sports     3.Principles and stages       5.Applied exercise bhysiology     5.Mutritional concerns in temale athlete     20     -     20       6.Principles and stages of rehabilitation     6.Prevention of mjuries in female athlete     20     -     20       1inical training and ield training c     -     750     750		1.Sports psychology	1. Exercise training and	05	-	05
Injury Prevention     20     20       4.Stress management     4.Urinary incontinence     05     -     05       5.Applied exercise     5.Murtitional concerns in Physiology     20     -     20       6.Principles and stages     6.Prevention and treatment of rehabilitation     20     -     20       1inical training and ield training     -     20     -     20       20     -     750     750		S CONSIGNOY	2 Common musculoskeletal a injuries in female	20	93 5.45 77 9 <u>9</u> 787 7.4	20
S.Applied exercise         5.Murtitional concerns in female athlete         20         -         20           6.Principles and stages         6.Prevention and treatment of rehabilitation         20         -         20           1inical training and ield training         -         20         -         20           20         -         20         -         20           20         -         20         -         20	SEMESTER IV	injury Prevention	3.Female athlete triad	20	~	20
Physiology     Temale athlete     20     -     20       6.Principles and stages     6.Prevention and treatment of rehabilitation     6.Prevention and treatment of munics in female athlete     20     -     20       Jinical training and ield training     -     20     -     20       20     -     750     750       20     -     150     150		9.Stress management	4.thinary incontinence	05		05
Of rehabilitation         of injuries in female addles         20         -         20           Jinical training and ield training eminars, Journal clubs, Teaching skills, Casepresentations, Kield works         -         750         750		5. Applied exercise Physiology	5,Nutritional concerns in Temale athlete	20	1	20
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eminars, Journal clubs, Teaching skills, Casepresentations, Vield works - 150 150	ield training			7	750	750
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	otal	<u>ter en en en este des ters en este des este</u> En este este este este este este este est			1 200	150

## Semester I

L. Rescarch methodology/Teaching methodology/Management

2. Fundementals in sports

a. Overview of applied anatomy and physiology

b.Basic science and injury of muscle, tendon, ligament and articular cartilage.

c. Pathophysiology of muscle, tendon, ligament and articular cartilage.

d. Applied biomechanics, pathomechanics of upperlimb, lower limb joins and soft tissues. 3. kinesiology

a. Motion- Motion, type of motion, Distance and speed, Displacement and velocity, Acceleration, Angular distance and Angular displacement, Angular Speed, Angular Velocity, Angular Acceleration, Inertia, mass, weight, Newton's Laws of motion, Units in linear and angular motion.

b. Forces. Force and its characteristics, internal and external forces, Classification of force system, Composition and resolution of forces. Friction, impact, elasticity, principles of spin and rebound,

Eccentric forces. Couple, moment, Principles of Lever, Rotatory force, Gravity, Methods of finding centre of gravity, Principles of Equilibrium, Fluid mechanics, principles of projectile.

## Semester U

L'Assessment and evaluation in sports

a. Assessment of upper/lower extremity joints and spine b.Method of evaluation and sports specific fitness testing. c. Assessment of gait 2. Applied sports biomechanics a. Biomechanics of running, throwing, swimming, jumping, landing -

3. Sports pharmacology

a. Common divigs in sports

b. Ergogenic drugs

4. Sports traumatology

a: Common acute and over use injuries of shoulder, arm, clbow, forearm, wrist and hand b. Common acute and over use injuries of pelvis, hip ,thigh, knce, jeg, ankle and foot c. Common mjuries to head and spine 5. Cardio Pulmonary Resucitation 6. Investigations: Baseis of CT, MRI, X-ray, EMG Interpretation

## Semester 111

1. Sports specific injuries. 2: Physiotherapeutic Intervention in sports injuries

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6. Hear therapy

c Hydrotherapy

d.Electrotherapy

e.Cryotherapy

EManual therapy

g.Taping/wraping

h.Plyometrics

I.PNF

J. Stretching

k.Strengthening

3. Exercise physiology and nutrition a. Energy transfer

b. Exercise effects on CVS, RS, Skeletal system c. pre, during, and post competetion meal

4. Non-traumatic medical conditions

 a. Diagnosis and management of Illness, Infections, skin conditions of Athletes, Bacterial infections, Fungal infections, Viral infections, boils and cellulitis.
 5.Doping in sports

#### Semester IV

1. Sports rehabilitation (Elective)

### 2. Female athlete (Elective)

#### Sports Rehabilitation (Elective)

1.Sports psychology

2. Athletic training and emergency management

3. Principles of sports injury Prevention

a. prevention of injury

b.protective equipment

4.Stress management

5.Applied exercise physiology

a. Composition of human body

b. Body composition analysis

c. Environmental considerations for exercises

d. Aging and exercises

6.Principles and stuges of reliabilitation

a. Physiological principles of conditioning

b. Phyisological principles of resistanc training

c. Return to competition: Functional rehabilitation

Female Athlete (Elective)

6

1. Exercise training and physiology:gender differences

2. Common musculoskeletal injuries in female athlete

3.Female athlete triad

a. Menstrual dysfunction and bone concerns

b.Disordered eating

4. Nutritional concerns in female athlete

5: Stress urinary incontinence

6. Prevention and treatment of sports injuries in female athlete

Resources:

1. Brunnstrom -- Clinical Kinesiology, F.A. Davis.

2 Luttgens K., Hamilton N.: Kinesiology - Scientific Basis of Human Motion 9a Edi, 1997, Brown

3. Rasch and Burk: Kinesiology and Applied Anatomy, Lee and Fabiger.

4. White and Punjabi – Biomechanics of Spine – Lippincott.

5. Kapandji: Physiology of Joints Vol. I, II & III, W.B. Saunders.

6. Dvir: Isokinetics: Muscle Testing, Interpretation and Clinical Applications, W.B. Saunders. 7. Reed: Sports Injuries - Assessment and Rehabilitation, W.B. Saunders.

8. Lillegard, Butcher & Rucker: Handbook of Sports Medicine: A symptom - Oriented Approach, 9. Baker: The Hughston Clinic Sports Medicine Book, Williams & Wilkins.

10. James G. Hay - The Biomechanics of Sports Techniques, Prentice Hall.

11. Norkin & Levangie: Joint Structure and Function - A Comprehensive Analysis - F.A. Davis. 12 Albert: Eccentric Muscle Training in Sports and Orthopeadies, W.B. Saunders.

Wilkins.

13. Voss et al – Proprioceptive Neuromuscular Facilitation – Patterns & Techniques – Williams & 14.Zulunga et al: Sports Physiotherapy, W.B. Saunders.

15. Brukner and Khan: Clinical Sports Medicine, McGraw Hill.

16. Reed: Sports Injuries - Assessment and Rehabilitation, W.B. Saunders. 17. Gould: Orthopaedic Sports Physical Therapy, Mosby.

18. C. Norris: Sports Injuries - Diagnosis and Management for Physiotherapists, Heinmann. 19. Nicholas Hershman: Vol. I The Upper Extremity in Sports Medicine.

Vol. II The Lower Extremity and Spine in Sports Medicine. Vol. III The Lower Extremity and Spine in Sports Medicine,

Mosby.

20. Lee & Dress: Orthopaedic Sports Medicine - W.B Saunders.

21. Lars Peterson and Per Renstron: Sports Injuries - Their prevention and treatment, Dunitz. 22. Exercise physiology by Mc Ardle, Katch & katch 23. Athletic injuries and rehabilitation-J. Zachazewski, D.J. Magee, and W.S. Quillen

Particulars of Theory question paper at the end of second year:

- PA	28D	SUBJECTS		
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	Construction of the ground structure in the structure is a set of the set of the set of the structure is a set of the s	2.Female athlete	•	1

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Practical exam pattern will be same like as other speciality subjects.

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ii. Proposed question paper pattern for MPT:

Question number	Question pattern	1999 S. S. P. Manatow & R. S. Strate W. S. Laboratow, and and the S. S. Sanata and S. S. Sanata and S. S. Sanata	
Contraction of the second s	and the second sec	Marks per question	Total
Q1	LAO		marks
	NUMBER OF		A design of the local data and the second
Q2	QUESTIONS : 2	20	40
	NUMBER OF		and the second se
TOTAL MARKS	QUESTIONS: 6	I.U.	60
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#### REFERENCES:

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I. DR.MGR Medical University, Tamil nadu (2-LAQ, 10 SAQ)

2 Rajiv Gandhi university of health sciences, Karnataka (2-LAQ, 6 SAQ)

3. KER university, Karnataka (2-LAQ, 6 SAQ)

4. Manipal University, Karnataka (LAQ, SAQ)

5. SRI Ramachandra University, Tamil nadu ( SAQ, LAQ)

6. Maharashtra University of health sciences, Maharashtra (3-LAQ, 4 SAQ)

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University Department of Phylictheracy Aurangabad

## Resolution passed in BOM – 48/2017, dated 24/01/2017

**Resolution No. 5.25:** Resolved to institute 6 monthly progress Report for PG Students of all Courses from the batches admitted in 2016-17. [Annexure-XVII of BOM-48/2017]

HII PQ Syllabus

**Resolution No. 1.3.7.11 (i) of BOM-51/2017:** Resolved that the following Bioethics topics in PG Curriculum are to be included for PG students of all specialization and a sensitization of these topics can be done during PG Induction programme:

- Concept of Autonomy
- Informed Consent
- Confidentiality
- Communication Skills
- Patient rights
- Withholding / Withdrawing life-saving treatment
- Palliative Care
- Issues related to Organ Transplantation
- Surgical Research and Surgical Innovation

- Hospital Ethics Committee
- Doctor-Patient relationship

Resolution No. 1.3.23 of BOM-51/2017: Resolved to implement a Structured Induction programme (07 days) for PG students. [Alinexure:XUIIV]

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#### MGM INSTITUTE OF HEALTH SCIENCES Navi Mumbai

## Induction Program for newly admitted Postgraduate students

Day 1	<ul> <li>Address by Dean, Medical Suptd, Dire</li> </ul>	ector (Academics)
	<ul> <li>Pre-test</li> </ul>	
	Communication Skills	
	<ul> <li>Universal Safety Precautions</li> </ul>	
	<ul> <li>Biomedical Waste Management</li> </ul>	
	Infection Control Policy	
Day 2	<ul> <li>Emergency services</li> </ul>	
	Laboratory services	
	Blood Bank services	
	Medicolegal issues	
	<ul> <li>Prescription writing</li> </ul>	
	Adverse Drug Reaction	
	Handling surgical specimens	
Day 3	Principles of Ethics	
	Professionalism	
an a	Research Ethics	
	<ul> <li>Informed Consent</li> </ul>	
	Confidentiality	
	Doctor-Patient relationship	
Day 4	Research Methodology	
	Synopsis writing	
Day 5	<ul> <li>Dissertation writing</li> </ul>	
Day 6	Statistics	
Day 7	ATLS	
	Post-test	

The Induction Program will be conducted in the first week of June. Timing: 9.30 am to 3.30 pm

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(Prof. Dr. Siddharth P. Dubhashi)

Director (Academics)

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Resolution No. 3.11.4 of BOM-52/2018: Resolved to approve minor corrections in MPT syllabus Sports Physiotherapy specialty. [Annexure-XX]

Annex use - 1



Anneruse-XX

MGM INSTITUTE OF HEALTH SCIENCES (Deemed University u/s 3 of UGC Act, 1956) Grade 'A' Accredited by NAAC MGM SCHOOL OF PHYSIOTHERAPY Sector-1, Kamothe, Navi Mumbai – 410209

# Syllabus for Master of Physiotherapy Speciality (MPT Specialty 2017)



#### MGM INSTITUTE OF HEALTH SCIENCES (Deemed University u/s 3 of UGC Act, 1956) Grade 'A' Accredited by NAAC

MGM SCHOOL OF PHYSIOTHERAPY Sector-1, Kamothe, Navi Mumbai – 410209

Syllabus for

## **Master of Physiotherapy Speciality**

# (MPT Specialty 2017)

RW-1-11.



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#### Syllabus for Master of Physiotherapy Speciality MPT specialty

#### Preamble

This full time Masters Degree program of two years duration focuses on gaining advanced knowledge & exclusive skills in Physiotherapeutic specialty subjects' right from the first year. This course offers four clinical specialties and emphasizes on self learning by "Hands on training".

The course pattern includes four semesters. Semester I, includes Biomedical statistics & Research methodology, Teaching technology, Principles of Ethics/Administration & Management in clinical practice, which will be common to all candidates irrespective of their specialty. There will be a college examination at the end of Semester-I based on above mentioned topics.

Semester II to IV will focus on exclusive training in respective specialty, so that at the end of the respective course the student will develop an ability to give expert clinical reasoning and will be able to function as a consultant as well as expert clinician in the respective specialty.

Clinical "Hands on Training" will focus on rotational clinical assignments in respective specialty subject throughout the course. In addition to the didactic /laboratory and clinical "hands on" training, the course shall also include seminars, case presentations, journal article reading and appraisal and administrative work under the supervision of faculty members.

During this course the candidate shall prepare and & submit the protocol of dissertation based on selected specialty during Semester-I and will be required to submit completed research manuscript before end of Semester IV.

University examination shall be conducted at the end of Semester IV.

#### **Specialties Offered :**

- 1. Musculoskeletal Physiotherapy
- 2. Neuro Physiotherapy
- 3. Cardiovascular pulmonary Physiotherapy & Fitness
- 4. Preventive & Community Physiotherapy
- 5. Sports Physiotherapy

#### **Course Details**

Transcript Hours- 40hrs / week x 36 weeks/year = 1440 hrs/year x 2=Total duration-2880 hrs

Eligibility for admission	BPT or equivalent from UGC/IAP recognized University/Institute
Teacher to student ratio	1: Not > 3 per specialty
Eligibility for admission	BPT or equivalent
Objectives-	<ul> <li>Develop expertise in Physiotherapy diagnosis, planning &amp; delivering clinical skills with clinical reasoning</li> <li>Improve understanding of professional ethics, legal issues</li> <li>Develop research skills</li> </ul>

#### A Course content:

500 hrs

3

The course shall include four semesters, training in which will be conducted as Didactic /Laboratory/ Clinical Demo &/or as seminars where ever applicable.



В Academic activities : Assistance in Undergraduate training; college administration 80 hrs С Student development : attend workshops/conferences/guest 100 hrs lecturers/library/participation in extracurricular activities D. Clinical postings : Candidate shall attend rotational clinical postings in the respective specialty throughout the course[Semester I- IV] in 1700 hrs Outdoor/Indoor/ICU & Community area where ever applicable. Should present cases with recent advances & journal article reading & appraisal E Conduct of Dissertation studies 500 hrs

## EXAMINATION SCHEME

## 1. Internal assessment:

#### Total - 200 Marks

#### 50 Marks

Δ

## Summative assessment (over 2 years)

	· ·	1		Marks allotte	d	
Sr.	Assessment	10	8	5	2	0
No.			90%-99%	85%-90%	80-85%	< 80%
1.	Attendance	100%		Good	Satisfactory	Poor
2.	Attitude	Excellent	Very Good		Satisfactory	Poor
3.	Administrative	Excellent	Very Good	Good	Satistactory	
٦.	abilities		TI Claud	Good	Satisfactory	Poor
4.	Teaching skills	Excellent	Very Good	0000	Dumber y	
	(Micro Teaching)		II. Cood	Good	Satisfactory	Poor
5.	Learning Initiative (Journal Clubs/Recent Advances/Critical	Excellent	Very Good	Good		
	Appraisals)					50 marks
	Total Score			·		1

Formative Internal assessment will be calculated out of 150 marks which will include averaging of marks under the following headers:

1. Examination pattern of the Part I (College exam) will include two theory papers & one Clinical examination of 100 marks each.

Paper	Nature of Questions	Total No. of Questions 4	Mark (s) Per Question 25	Total Marks
I	Basic Sciences and Research Methodology Question no. 1 & 2 based on specialty relate and Pathophysiology Question no. 3 & 4 related to Research Met technology			100
II	Basic Applied Sciences/Functional Diagnosis in specialty	4	25	100
	Clinical Examination based on Specialty	2 cases	50	100

- 2. Average of case presentation marks, seminars marks & scientific reading marks.
- 3. Preliminary theory examination based on University pattern of examination conducted at end of Semester IV.
- 4. Preliminary Clinical examination based on University pattern of examination conducted at end of Semester IV.

#### Eligibility to write MPT University exam in respective specialty

The candidate shall be eligible subject to fulfillment of the following:

- a. Submission of dissertation, which is duly completed, accepted & signed by the guide
- b. Minimum 50% marks in the Internal assessment (in both summative and formative assessment)

#### UNIVERSITY EXAMINATION

Shall be held at the end of the course.

There shall be Three examiners -i.e.-Internal [Convenor] & Two external examiners. All shall jointly set the question papers, assess the same & also conduct the Clinical examination & compile the result jointly & submit the same to the university

2.1A

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2.

Theory examination- There shall be three theory papers under one head of passing-Each paper shall be of three hours duration carrying 100 marks in following pattern:

Question No.	Question	Marks I	Per	Total Marks
	Pattern	Question		
Q 1	Three LAQS	20		60
Q 2	Four SAQs	10		40
14		To To	tal	100

Paper-I

Shall be based on applied sciences of respective specialty

Paper-II Shall be based on recent advances related to respective specialty Paper-III Shall be based on Elective subject

2. I. B Clinical examination -

Total marks-300 under one head of passing

- (i) Two case presentations based on subjects of specialty not selected as : Elective paper (one adult and one pediatric case wherever applicable)
- (ii) One case based on Elective subject

(iii) Viva-Demonstration of specific skills on model & investigation viva

75 x 2 =150 marks

5

: 100 marks : 50 marks

Passing Heads	· .	The	eory	-	Clinical	Result (Total marks : 650)
Sub-Head	Paper-	Paper-II	Paper-II1	Total		
Max marks	100	100	100	300	300	Fails / Passes / Passes with
Minimum marks Required for passing	40	40	40	150	150	distinction
Marks obtained						

## Result of University Examination –Part II exam

Candidate who passes in all the three Passing heads of passing -i.e.- scores minimum 50% marks separately in Theory and Clinical Examination & Internal assessment respectively with minimum 40% marks in each Sub-head mentioned above ; shall be considered as Passed in the MPT examination & shall be awarded MPT degree in respective specialty -e.g.- MPT (Musculoskeletal /Neuro/Cardiovascular & pulmonary / Preventive & Community PT/Sports) subject to the fulfillment of the following:

He/ She successfully passes in MPT examination 1

Dissertation is accepted by minimum one out of two external examiners 2

Candidate who scores 75% or more in the aggregate marks MPT examination shall be declared to have passed with Distinction.

Eligibility as Guide/ Paper setter/Examiner BPT or equivalent with minimum five years of full time teaching experience after securing MPT (Gen /Specialty) or equivalent degree from an University recognized by UGC

OR

Recognized full-time post-graduate teacher and supervisor/guide for Masters Degree in Physiotherapy from a University recognized by UGC.

#### Semester I (Common for all Specialties) Total Hours – 100

#### **Bioethics**

#### Professional issues, Ethics & Constitution Hours – 20

#### Objectives

a.

b.

c.

d.

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At the end of the course, the candidate will acquire the knowledge of : Ethical codes, of Physiotherapy Practice, its moral & legal aspects. Constitution and function of the Indian Association of Physio Therapy

- Be able to impart knowledge to undergraduate students.
- Acquire knowledge of role of W.H.O & W.C.P.T.

#### Syllabus

Semester	Topics	Hours
I	Concept of morality, ethics and legality	20
	Professional ethics towards client-Respect and dignity, Confidential, Responsibility	
	Communication skills, informed consent, Client interest & satisfaction	
	Interdisciplinary relation – Co-partnership, mutual respect, confidence & Communication	
	Laws – Constitution of India, & Rights of a citizen , responsibilities of the	
	Therapist & Status in healthcare-practice self regulatory role of professional Association- Consumer- protection act.	
	Role of professional in Socio- Cultural & socio-economical Context.	
	Constitution & functions of I.A.P.	
	Role of W.C.P.T, its various branches / special interest	
	groups.	

#### Administration, Management & Professional Practice Hours - 10

At the end of course, the candidate will

- **a.** Acquire managerial and management skills in planning, implementation and administration in clinical practice (service / self employment) and academic activities including the skill of documentation and use of information technology in professional practice.
- **b.** Be able to impart knowledge to undergraduate students.

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Syllabus

Semester	Topics	Hours
I	Management- concept of Theories of Management and their application to Physiotherapy practice with quality assurance at various levels of health delivery system, teaching institution and self-employment.	10
	Administration and marketing-personal policies-communication and contact administration principles based on Goal and Functions at large hospital / domiciliary set up / private clinic / academic institution- methods of maintaining records - Budget planningperformance analysis-physical structure/ reporting system /man power status / function / quality & quantity of services / turn over - cost benefit / revenue Contribution.	

#### Teaching Technology Hours – 20

#### **Objectives** :

a.

At the end of course, the candidate will

- Acquire knowledge of concepts of educational objectives, various methods of teaching and learning, Evaluation methods and principles of curriculum planning.
- b. Acquire skills in communication, teaching skills in classromm laboratory & clinical teaching (including bed-side teaching)

#### **Syllabus**

	Topics	Hours
I	Role of an educator the environment, student teacher relationship	20
	Teaching-Educational objectives, Teaching learning media, Micro	
	& small group teaching, integreated teaching	
	Skills in various types of teaching (including didactic, clinical etc)	
	Learning methods of learning, problem based learning, motivation	
	& learning	
	Evaluation methods- mechanics of paper setting, M.C.Q's S.A.Q's	
	viva, O.S.C.E & O.S.P.E	
	Principles of curriculum planning.	

#### Research Methodology & Bio-statistics Hours - 50

8

#### **Objectives**

At the end of course, the candidate will have

- a. Basic concept of research, design, problems & sampling techniques of research.
- b. Knowledge of various types of study designs and planning for the same
- c. Skill of planning for a research study
- d. Skill of various methods of data analyses

## Syllabus

Sr. No.	Topics	Didactic Hours
1	RESEARCH IN PHYSIOTHERAPY	5
	a. Introduction	
	b. Research for Physiotherapist: Why? How? When?	
	c. Research – Definition, concept, purpose, approaches	
	d. Internet sites for Physiotherapists.	
2	RESEARCH FUNDAMENTALS	5
	a. Define measurement	
·-	b. Measurement framework	
	c. Scales of measurement	
	d. Pilot Study	
	e. Types of variables	
	f. Reliability & Validity	
	g. Drawing Tables, Graphs, Master chart	
3	WRITING A RESEARCH PROPOSAL	3
	a. Defining a problem	
	b. Review of Literature	
	c. Formulating a question, Operational Definition	
	d. Inclusion & Exclusion criteria	
	e. Methodology- Forming groups Data collection & method for	
	analysis	
	f. Informed Consent Steps of documentation – Title to Scope of	
	study	
4	RESEARCH ETHICS	2
	a. Importance of Ethics in Research	
	b. Main ethical issues in human subjects" research	
	c. Main ethical principles that govern research with human	
	subjects	
	d. Components of an ethically valid informed consent for	
	research.	
5	OVERVIEW OF STUDY DESIGNS	3
	, a. Observational-	- 1. m.
	i. Descriptive-Case study/ series, Cross sectional,	
	Normative, Correlational	
	ii. Analytical; case control, cohort	İ.
	5. Experimental- True & quasi experimental	
6	SAMPLING	3

	a. Random and non-random sampling.	
]	b. Various methods of sampling – simple random, stratified,	
	systematic, cluster and multistage. Sampling and non-sampling	
	errors and methods of minimizing these errors.	· .
7	BASIC PROBABILITY DISTRIBUTIONS AND SAMPLING	2
	DISTRIBUTIONS	
	a. Concept of probability and probability distribution.	
	b. Normal, Poisson and Binomial distributions, parameters and	
	application.	
	c. Concept of sampling distributions.	
	d. Standard error and confidence intervals.	
	e. Skewness and Kurtosis	
8	TESTS OF SIGNIFICANCE	3
	a. Basics of testing of hypothesis – Null and alternate hypothesis,	
	type I and type II errors, level of significance and power of the	
	test, p value.	
	b. Tests of significance (parametric) - $t$ - test (paired and version). Chi against test and test of respective and version.	
	unpaired), Chi square test and test of proportion, one way analysis of variance.	
	c. Repeated measures analysis of variance.	
	d. Tests of significance (non-parametric)-Mann-Whitney u test,	
	Wilcoxon test,	
	e. Kruskal-Wallis analysis of variance. Friedman's analysis of	
	variance.	
9	CORRELATION AND REGRESSION	1
	Simple correlation – Pearson"s and Spearman"s; testing the	
	significance of correlation coefficient, linear and multiple	
10	regressions.	10
10	STATISTICAL DATA	12
	Tabulation, Calculation of central tendency and dispersion, Using software packages (e.g. SPSS), Analysis,	
	Durantation of data in diagrammatic & Complete forms	in a state of the
11	RESEARCH REPORT	11
		· · · · · · · · · · · · · · · · · · ·
	Overview, Types and Publication	
L		L

#### Semester II-IV

Next three semesters will concentrate on following specialties:

- Musculoskeletal Physiotherapy Α.
- Neuro Physiotherapy Β.
- Cardiovascular Pulmonary Physiotherapy & Fitness Preventive & Community Physiotherapy C.
- D.
- Sports Physiotherapy E.

Semester	Торіс	Didactic/ Seminar	Practical/ Clinical Hours
I	Anatomy & Physiology Assessment skills Integration of assessment data & analysis to form principles of management	20	30
	Clinical Biomechanics & Exercise Physiology pertaining to specialty		
	Revision (Extremities) Revision (Spine) Biomechanics of throwing, running & swimming		
II	Therapeutic skills (basic & advanced) for assessment and treatment	30	70
	Skills for assessment and treatment of pain, joint mobility, muscle function, posture, gait, proprioception, balance & function		
	Manual therapy skills Investigations		
	Reading of X rays, MRI & CT scan reports pertaining to musculo skeletal conditions		
III	Specialty modules	30	70
	Scapular stability and scapular stability exercises		
	Pathomechanics of shoulder		
	Pathomechanicsof RA hand	1	
	Pathomechanics of knee		
	Pathomechanics of excessive subtalar pronation		
. 1	and supination		
	Pathomechanics of spine		
	Recent advances in clinical reasoning		
•	Clinical Decision Making		
	Hypothesis formation		
	Management related to specialty & various conditions		
	evaluation of disability	1	\$. ··
	Physiotherapy management of degenerative joint	1.086	3. <sup>-</sup>
	disorders, inflammatory conditions, soft tissue	1.4	
}	pathologies, sports injuries		
	Evaluation of disability due to musculo skeletal		
	disorders		
	Joint mobility		
	Muscle Function		
1	Posture and Gait		
	Function		
1	EBP for LBP		
	EBP for OA knee		

#### Musculoskeletal Physiotherapy Hours - 400

	EBP in shoulder dysfunction EBP for cervical pain		
IV	Specialty modules Pain (Revision) Recent advances on pain assessment and management	50	100
	Advances in field of manual medicine		

**Books & Journals:** 

- 1. Gray's Anatomy: The Anatomical Basis of Clinical Practice
- 2. Clinical Anatomy by RegionsBy Richard S. Snell
- 3. White and Punjabi Clinical Biomechanics of Spine Lippincott.
- 4. Human movement- an introductory text by Tony Everett, Elsevier, 6<sup>th</sup> edition, 2010
- 5. Biomechanics of sports and exercises by Peter M. McGinnis. 3<sup>rd</sup> Edition
- 6. Campbell's operative orthopedics. By S. Terry Can ale, James H. Beaty Mosby
- 7. Fractures & joint injuries By Watson Jones Churchill Livingston
- Practical Fracture Treatment by Ronald McRae, Max Esser Churchill Livingston 5<sup>th</sup> Edition
- 9. Oxford Textbook of Orthopaedic & Trauma by Christopher Bulstrode, Joseph Buckwalter Oxford University Press
- 10. Skeletal Growth and development: Clinical issues and basic science advances. The Symposium Series by Joseph A Buckwalter AAOS
- 11. Clinical Orthopaedic Examination by Ronald McRae Churchill Livingstone 6<sup>th</sup> Edition
- 12. Orthopedic Physical Assessment, By David J. Magee, PhD, BPT Saunders 6<sup>th</sup> Edition
- 13. Joint Range of Motion and Muscle length testing By Nancy Berryman Reese Saunders 3<sup>rd</sup> Edition
- 14. Isokinetics: Muscle Testing, Interpretation and Clinical Applications, W.B. Saunders
- 15. Diagnostic Imaging for Physical Therapists by James Swain, Kenneth W. Bush, and Juliette Brosing Elsevier
- 16. **Differential Diagnosis forPhysical Therapists: Screening for Referral**, By Catherine C. Goodman, and Teresa Kelly Snyder Saunders
- 17. A Physiotherapist's Guide to Clinical Measurement by John Edward Fox, and Richard Jasper Day Elsevier
- 18. Modern musculoskeletal physiotherapy by Grieve's 4<sup>th</sup> Edition
- 19. Evidence based management of low back painby Scott Haldeman
- 20. **Treatment and rehabilitation fractures by** Vasantha L Moorthy&Stanley Hoppenfield Lippincott 33.
- 21. Physiotherapy for Amputees: The Roehampton Approach by Barbara Engstrom Churchill Livingsto

22. BACPAR

23. Orthotics and Prosthetics in Rehabilitation, By Michelle M. Lusardi, PhD, PT and Caroline C. Nielsen, PhD - Butterworth-Heinemann 3<sup>rd</sup> Edition

- 24. Guttman-SCI
- 25. Paraplegia & Tetraplegia A Guide for Physiotherapists by Id a Bromley Churchill Livingston 6<sup>th</sup> Edition
- 26. Documentation for Rehabilitation: A Guide to Clinical Decision Making, By Lori Quinn, and James Gordon Saunders 3<sup>rd</sup> Edition
- 27. Clinical Neurodynamics: A New System of Musculoskeletal Treatment By Michael Shacklock
- 28. Therapeutic exercises using swiss ball By Caroline corning creager Executive Physical therapy
- 29. Clinical Application of Neuromuscular Techniques: The Upper Body by Leon Chaitow, and Judith DeLany, Elsevier
- 30. Hand and Upper Extremity Rehabilitation: A Practical Guide, By Susan L. Burke, Churchill Livingston
- 31. Cervical and Thoracic spine : Mechanical Diagnosis & Therapy Vol I & II By Robin Mckenzie
- 32. The Lumbar Spine: Mechanical Diagnosis & Therapy Vol I & II By R obinMckenzie
- 33. The Human Extremities: Mechanical Diagnosis & Therapy by Robin Mckenzie
- 34. Manual Therapy: NAGS, SNAGS, MWMS Etc by Brain R Mulligan
- 35. Lillegard, Butcher & Rucker: Handbook of Sports Medicine: A symptom Oriented Approach, Butterworth & Heinemann
   26. Clinical O. dl.
- 36. Clinical Orthopaedic Rehabilitation by S Brent Brotzman 3<sup>rd</sup> Edition
- 37. Reed: Sports Injuries Assessment and Rehabilitation, W.B. Saunders

#### Journals

- 1. Clinical Kinesiology
- 2. Clinical biomechanics
- 3. Clinical Rehabilitation
- 4. Journal of Orthopaedic& Sports Physical Therapy (JOSPT).
- 5. Journal of Manual Therapy
- 6. Journal of Manual & Manipulative Therapy
- 7. Spine
- 8. Journal of Hand Therapy
- 9. Australian Association of physiotherapists
- 10. Amercian Association of Physical therapists
- 11. British society of Physical therapists (not sure of this name. Please confirm through Google)
- 12. Canadian society of Physical therapists
- 13. IAP
- Students are encouraged to refer to recent advances and updates in the field of physiotherapy in the form of scientific publications apart from the books and journals listed above

#### Neuro Physiotherapy Hours – 400

Semester	Торіс	Didactic/ Seminar	Practical/ Clinical Hours
Semester	In addition to the common topics, the following topics will be included:	20	30
. 1	Neuro Anatomy, Growth & Maturation of Nervous		
	system & Neuro Physiology	1	
	Pain assessment & management.		525 E
	Integration of assessment based on ICF guidelines of		
	WHO		- 2
	Goal setting & principles of management		
	Pathomechanics of Spine & all joints of Extremities		
÷.	related to Neurological conditions		
	Pathomechanics of Neurological Gait & Posture		
	related to Neurological condition		×
Semester	Paediatric & Adult Neuro Assessment skills	30	70
	Fitness testing & exercise prescription in Neuro		
II	rehabilitation.		
	Basic Therapeutic skills: Neurophysiological		
	approaches like Rood's, Brunnstrom's, PNF, Motor	5	
8	Relearning Programme etc.	f fact v ,	
	Basic Electro diagnosis: FG Test, Strength Duration		
	Curve etc. X ray, MRI, CT scan, routine investigations		
	for Neurological conditions etc	· · · .	-
	Analysis of movement for reach, grasp, manipulation,		
	sit to stand, squatting etc.		
	Balance & coordination: Assessment & training.	1	
Semester	Theories of Motor control & Learning	30	70
***	Prosthetics & Orthotics: Principles & practice in		
III	Neuro rehabilitation	7.5. F	
	Assessment & Treatment Techniques for Neonates &		
	infants		
	Recent advances in electrotherapeutics	50 A	4.5
	Assistive Technology	2.4	all some
	Evaluation of disability		199.2
	Legislation & Social Care		
	Evidences for Management of Adult and Pediatric	a 01.	1.1.1
	Neurological Physical Therapy based on :		
	• systematic reviews of randomized controlled trials,		
	<ul> <li>individual randomized controlled trials,</li> </ul>		
÷	• systematic review of cohort studies,		
	<ul> <li>individual cohort studies,</li> </ul>		

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	<ul> <li>outcomes research,</li> <li>systematic review of case-control studies,</li> <li>individual case-control studies</li> <li>case-series and expert opinion</li> <li>Outcome measures to assess effectiveness of treatment in neurorehabilitation(adult/pediatric)</li> <li>Application of Standardized assessments (Administration, recording and reporting)</li> <li>Use of Standardized Vs Non- assessments</li> <li>Methods of Assessments (Descriptive, Discriminative, Evaluative &amp; Predictive)</li> </ul>		· · · · · · · · · · · · · · · · · · ·
	Validity, Reliability and effectiveness of Outcome measures		
Semester	Adult Neuro Rehabilitation:	50	100
IV -	Posture & Movement Control-		
Elective	<ul><li>a. Neural Basis of Postural Control</li><li>b. Development of Postural Control</li></ul>		
Topics	<ul> <li>c. Changes in Postural Control across life span</li> <li>d. Assessment of Postural Control Impairments and Tools and Outcome measures for the same</li> <li>e. Management of Postural Control Disorders – Evidences and Recent advances</li> </ul>		
	<ul> <li>f. Neuroplasticity and its application in management of Postural control disorder</li> <li>g. Postural control and changes in Post-menopausal women.</li> </ul>		-
	Advanced Therapeutic Skills: NDT, Principles of SI, Vojta's, Brazelton's, MFR, CIMT, Mental Imagery, Mirror Therapy, Vietual molity etc. Papie Principles		
	Mirror Therapy, Virtual reality etc.: Basic Principles and Philosophies of approaches, Principles and techniques of application		×
•	PT Management of Conditions of CNS, PNS & ANS – For Adult and Pediatric population		
	Developmental & Pediatric Neuro-rehab :		
	Development of Postural Control Neural Basis of Growth & Development Assessment, Outcome Measures & PT Management for Conditions of CNS, PNS & ANS in Pediatric population	х. Х.	
	Advanced Therapeutic Skills: NDT, Principles of SI,	]	

	Vojta's, Brazelton's, MFR, CIMT, Mental Imagery,	
	Mirror Therapy, Virtual reality etc.: Basic Principles	1
	and Philosophies of approaches, Principles and	
	techniques of application	
	Applied Neuro & Neurophysiology:	 
	Neuro-physiology of muscle contraction.	
	Resting membrane potential and Actio n Potential	
	Nerve physiology, Types of Nerves and Muscle fibers	
	Use of various low frequency currents in Electro	
·	diagnosis – Faradic, Galvanic and Micro-currents.	
	Strength-Duration curve, F-G Tests.	
	Advanced Diagnostic Skills in Electrophysiology:	
	a. Principles of application of EMG& NCV	
	b. Application of EMG& NCV in Neurogenic and	
	myogenic disorders	
	c. Single fiber EMG	
	d. Repetitive Nerve Stimulation	
	e. Evoked Potentials: Brainstem, Auditory, Visual,	
	Motor and Cognitive	
	f. Electro diagnosis in Pediatric Neurological	· · · · · · ·
	disorders	
	Physiotherapy in Neuro ICU	
	Acute care of adult & pediatric neurological	
·	conditions:	
	a. Acute Care: Physical Therapy Examination,	
	Physiologic Monitors and patient-support	
	equipments	
	b. Bed rest, deconditioning and hospital acquired	
	neuromuscular disorders	
	c. Early intervention: For Pediatric and Adult Neurologic	l.
	· Conditions.	No.
	Palliative care in life limiting neurological conditions:	
	a. End of life care in progressive adult and pediatric	
	neurological conditions	
	b. Communication regarding end of life care	 ·
	c. Holistic Care : Psychological, Physical, Spiritual	
	aspects in palliative care	\

#### **Books & Journals**

- 1. Text book of clinical Neuroanatomy by Vishramsingh (Elsevier 2007) 3rd Edition
- 2. Clinical Neuroanatomy for Medical Students by Richard S Snell, 7th Edition (Lippincott Williams & Wilkins, 2010)
- 3. Neurophysiology by RHS Carpenter, 4th edition (Arnold 2003)
- 4. A physiological approach to clinical neurology by James W. Lance and James G. McLeod, 3rd edition (Butterworth's 1981)
- 5. Pathophysiology of the motor systems: Principles and Clinical presentations by Christopher M. Fredericks and Lisa K. Saladin (F.A. Davis Company 1996) 1<sup>st</sup> edition
- 6. Brain's diseases of the nervous system by John Walton, 12th edition (Oxford University press)
- 7. Muscle and its diseases: An outline primer of basic science and clinical methods by Irwin M. Siegel (Year book medical publishers 1986) 1<sup>st</sup> edition
- 8. Adams & Victor's Principles Of Neurology 10 th edition by Victor, Maurice; Ropper, Allan H. published by McGraw-Hill
- 9. Nerve and nerve injury by Sydney Sunderland, Churchill living stone. (1<sup>st</sup> edition)
- 10. Motor control: Translating research into clinical practice by Anne Shumway -Cook And Marjorie Woollacott, 3 edition (Lippincott Williams and Wilkins)
- 11. Neurological physiology by Edwards Susan, Elsevier (2<sup>nd</sup> edition)
- Physical rehabilitation laboratory manual: Focus on functional training by Susan B O Sullivan and Thomas J Schmitz. (F.A. Davis Company)(6<sup>th</sup> edition)
- Reflex and Vestibular Aspects of Motor Control, Motor Development and Motor Learning, R.Barnes, Carolyn A Crutch field, 1990, Stokes ville Publishing Company.(1<sup>st</sup> edition)
- 14. Neurological Rehabilitation, Darcy A. Umphred, 6th edition, 2013 MOSBY Elsevier.
- 15. Cash's Textbook of Neurology for Physiotherapists, Patricia A. Downie, 4th edition, 1992, Jaypee Brothers.
- 16. Spinal cord injury functional rehabilitation by Martha Freeman Somers, 4th edition (Prentice Hall publication)
- 17. Physiotherapy in disorders of the brain : A clinical guide by Janet H.Carr and Roberta B. Shepherd (William Heinemann medical books limited)
- 18. Tetraplegia and Paraplegia, Ida Bromley; 6th edition
- 19. The development of the infant young child: Normal and Abnormal by R.S. Illingworth, 10th edition (Churchill Livingstone 2013)
- 20. Pediatric Physical Therapy, Jan Stephen Tecklin, 4th (2008) editions, Lippincott Williams & Wilkins.
- 21. Physical Therapy for Children, Suzann K.Campbell, 4th edition, 2011, Saunders Elsevier.
- 22. Physiotherapy for Children, Teresa Pountney, 2007, Butterworth Heinemann Elsevier.(1<sup>st</sup> edition)
- 23. Meeting the Physical Therapy Needs of Children, Susan K.Effgen, 2013 (2<sup>nd</sup> edition), F.A.Davis Company, Philadelphia.
- 24. Physiotherapy in Pediatrics, Roberta B. Shepherd, 3rd edition, 1995, Butterworth Heinemann
- 25. Physiotherapy and the growing child, Yvonne R Borns& Julie MacDonald, 1996, W.B.Saunders Company Ltd.
- 26. Pediatric Rehabilitation, Gabriella E. Molnar, 3rd edition, 1999. Hanly&Belfus, Philadelphia.
- 27. Pediatric rehabilitation. Principles and practice. Micheal Alexander and Dennis Mathews 2015 (5<sup>th</sup> edition)
- 28. Treatment of Cerebral Palsy & Motor Delay, Sophie Levett, 5<sup>th</sup> edition. Blackwell Publishing.
- 29. Pediatric Therapy, A Systems Approach, Susan Miller Porr, 1999, F.A.Davis Company (1<sup>st</sup> edition).
- 30. Cerebral palsy, Freeman miller, (2005)
- 31. Components of typical and atypical motor development, Lois Bly;2011; Neurodevelopmental Treatment Association
- 32. Sensory Integration : theory and practice; Anne G. Fisher, Elizabeth A. Murray, Anita C. Bundy.(2002)
- 33. Bickerstaff's neurological examination in clinical practice by John Spillane, 6th edition (Blackwell science limited 1996)
- 34. **Illustrated neurology and neurosurgery** by Kenneth Lindsay and Ian Bone 5th Edition (Churchill Livingston, 2004)
- 35. Hand book of neurologic rating scales by Robert Herndon, 2nd edition, (Demos publications 2005)
- 36. Pediatric Physical Examination, Karen G.Dunderstadt, 2<sup>nd</sup> Edition 2006, MOSBY Elsevier.
- 37. Clinics in Physical Therapy Assessment in Early Infancy, Edited by Irma. - Wilhelm, 993, Churchill Livingstone.
- 38. Motor Assessment of the Developing Infant ,1st edition Martha Piper, 1994, Saunders
- 39. Electrodiagnosis in disease of nerve and muscles. Principles and Practice; Jun kimura, 4th Edition. (2014)
- 40. Neurological examination made easy by Fuller Grant, Churchill Living stone.5<sup>th</sup> edition 2013
- 41. Neurological differential diagnosis by John Patten, 2 nd edition Springler
- 42. Electrotherapy evidence based practice, Sheila kitchen, 12th edition
- 43. Miclovitz's Modalities for Therapeutic Interventions, 6th edition
- 44. Electromyography and Neuromuscular Disorders 3rd Edition, Preston Barbara Shapiro
- 45. Dejong's The Neurologic Examination by Campbell 7<sup>th</sup> edition 2013
- 46. Orthotics and Prosthetics in Rehabilitation, By Michelle M. Lusardi, PhD, PT and Caroline C. Nielsen, PhD Butterworth-Heinemann. 3<sup>nd</sup> edition
- 47. Neuroscience fundamental for rehabilitation by Laurie Lundy Ekman 4<sup>th</sup> edition (W.B Saunders 2012)
- 48. Functional Movement Reeducation A contemporary model for stroke rehabilitation by Susan Ryerson and Kathryn Levit (Churchill Livingston and Elsevier, 1997)
- 49. Neurological Physiotherapy, Maria Stokes

50. Neurologic Intervention for Physical Therapist Assistant, Martin Kessler, 2nd Edition, 2008, W.B.Saunders Company Ltd.

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- 51. Functional neurorehabilitation through the life span by Dolores B. Bertoti 1<sup>st</sup> edition (F.A. Davis Company 2004)
- 52. Brunnstrom's movement therapy in hemiplegia: A neurophysiological approach by Kathryn A. Sawner and Jeanne M. La Vigne, 2nd edition (Lippincott Company 1992)
- 53. Neuro developmental treatment approach : theoretical foundations and principles of clinical practice by Janet M. Howle (NDTA 2016)
- 54. PNF in practice: Susan Adler 3rd edition 2007
- 55. Vestibular rehabilitation by Susan J.Herdman, 4th edition (F.A. Davis Company 2014)
- 56. Mobilization of the nervous system by David S.Butler 1<sup>st</sup> edition (Churchill Livingstone 1996)
- 57. Myofascial Manipulation: Theory and Clinical Application 2012 3<sup>rd</sup> edition by Robert I. Cantu ,Alan J. Grodin ,Robert W. Stanborough
- 58. Stroke Rehabilitation: Guidelines for exercise and training to optimize motor skill By Janet Carr and R. Shepherd 1<sup>st</sup> edition (Elsevier, 2003)
- 59. Neurological Rehabilitation, Optimizing motor performance by Janet Carr and R. Shepherd 2<sup>nd</sup> edition (Butterworth and Heinemann Ltd, 2010)
- 60. A Motor Relearning Programme for Stroke by Janet Carr and R. Shepherd 2<sup>nd</sup> edition (Butterworth and Heinemann Ltd, Oxford Publication)
- 61. Recent advance in clinical neurology by Kennard, Churchill Living stone
- 62. Right in the middle : Selective Trunk Activity in the Treatment of Adult Hemiplegia by Davis Patricia, Springler 2<sup>nd</sup> edition (2006)
- 63. Steps to follow by Davis Patricia, 2<sup>nd</sup> edition (2000) Springler
- 64. Stroke rehabilitation : A functional approach by Gillen, Elsevier (4th edition)

#### Journals

1. Pediatric Physical Therapy

- 2. Journal of Neurological Sciences
- 3. Indian Journal of Cerebral Palsy.
- 4 Stroke
- 5. Developmental Medicine & Neurology
- 6. Journal of Neurosciences
- 7. Journal of Neurological Physical Therapy
- 8. Journal of Paediatric Neurosciences
- 9. Archives of Physical Medicine & Rehabilitation
- 10. Neurology & Neurorehabilitation

### Cardiovascular Pulmonary Physiotherapy & Fitness

#### **Hours** - 400

The course entails a vertical integration pattern. At the base of the pyramid in semester I - are the common topics like administration and management, ethics, teaching technology and research methodology. The syllabus will then be divided amongst the 3 systems viz - cardiac, pulmonary and vascular system. Semester I will include modules on basic sciences like anatomy, physiology and biomechanics.

Semester II and III will include exercise physiology in health and disease, pathophysiology, advances in assessment and treatment techniques in various disorders, outcome measures, disability evaluation and evaluation and treatment in critical care setup in the following conditions.

- a. Cardiac congenital and acquired
- b. Pulmonary obstructive, restrictive, traumatic and surgeries
- c. Vascular arterial, venous and lymphatic

Semester IV will focus exclusively on the elective topic selected by the student from one of the following topics :

1. Intensive care

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- 2. Cardiovascular and pulmonary rehabilitation
- 3. Exercise testing and cardiopulmonary fitness training

Semester	Topic	Didactic/ Seminar	Practical / Clinical Hours
I	<ul> <li>In addition to the common topics, the following topics will be included:</li> <li>1. Anatomy and physiology of the cardiovascular and pulmonary system</li> <li>2. Foet a development</li> <li>3. Changes occurring with growth ,effects of ageing , changes seen during pregnancy</li> <li>4. Biomechanics of the thoracic cage and Pathomechanics in disease states</li> </ul>	20	-30
П	<ol> <li>Exercise physiology in health</li> <li>Exercise testing – principles, methods, indications, contraindications</li> <li>Exercise physiology in disease states like cardiac, pulmonary, metabolic disorders, obesity, special considerations in neonates, pediatric, pregnancy</li> </ol>	30	70

	and geriatric population.		
	4. Cardiopulmonary fitness testing and training in		
	sports.		
	5. Outcome measures.		
	6. Evaluation of disability.		:
· ·	7. Risk stratification and prevention and health		
	promotion.		
	1. Pathophysiology, assessment, clinical decision	1 <b>30</b>	70
	making, treatment techniques and recent advance	S	
	in different cardiac conditions - congenital an	d l	
	acquired		
	2. Pathophysiology, assessment, clinical decisio	n	
ш	making, treatment techniques and recent advance	S	
	in pulmonary conditions-restrictive, obstructiv	e	
	traumatic and surgical		
	3. Pathophysiology, assessment, clinical decisio	n	
	making, treatment techniques and recent advance	s	
	in vascular disorders – arterial, venous an	d	
	lymphatic		
	4. Ergonomics in cardiopulmonary dysfunction		
	Assessment, clinical decision making and manageme	nt	
-	of the critically ill patient		100
IV-	A) Intensive care :	50	100
Elective	1. Causes of Cardiogenic, respiratory failure		
topics	2. Types of respiratory failure		
·	3. Mechanical ventilation and oxygen therapy		
	4. Effects of deconditioning		· · · -
	5. Artificial airways		
	6. CPCR		
·	7. Assessment, clinical decision making and		
	management of the critically ill patient.		
	8. Mobilization and ambulation of the crtically ill		
	9. Special considerations in neonatology,		
	paediatrics,	<i>8</i> .	
	geriatrics, cardiology, burns, terminally ill,		
	kidney failure unit.		
	<b>10.</b> Evidence based practice – critical appraisal of		
	articles		
	B) Cardiovascular and pulmonary rehabilitation	ı:	
	1. Basis of cardiac rehabilitation in different phase	s	
1			
	<ol> <li>Rationale of pulmonary rehabilitation</li> <li>Management strategies and ergonomics for the</li> </ol>		

	<ol> <li>Management of vascular disorders – arterial ,venous and lymphatic</li> <li>CPCR</li> <li>Preventive aspect of cardiopulmonary diseases</li> </ol>		
	C) Exercise testing and Cardiopulmonary fitness	S 8	
	training :		
		2 <sup>10</sup> 12	
	1. Physical fitness and functional capacity		
	2. Types of fitness testing – aerobic , anerobic ,	1 m	
12. 1	power, strength testing		
	3. Body composition analysis		
	4. Maximal /submaximal testing		~
	5. Rationale of using different types of testing		
	methods	n n	1
	6. Training in different types of sports		1.5
	7. Phases of training	1 B 8	
	8. Role of nutrition of athlete and performance		1
1.1	9. Training of differently abled athletes		
	10. Critical review of literature and newer trends in		
1.5	fitness training		
	11. CPCR		

Books & Journals:

Sr. No	Author	Title	
	REC	OMMENDED TEXT BOOKS	
1	Guyton	Human Physiology	
2	Schamroth	ECG	
3	Donna Frownfelter	Chest Physical therapy & pulmonary rehabilitation	
4		Brampton's hospital guide	
5	Pryor and Prasad	Physiotherapy in respiratory and cardiac problem	
6	Webber	Physiotherapy in Cardiovascular rehabilitation	
7	Colin Mackenzie	Chest physiotherapy in intensive care	
8	Irwin Scott	Cardiopulmonary Physical Therapy	
9	Pierce	Management of Mechanical ventilation	
10	Robert Wilkins	Egan's Fundamentals Of Respiratory Care	
11 -	M'cardle	Exercise physiology, energy, nutrition and human performance	
12	Skinner	Exercise testing and prescription	
13	Hyatt, Robert E	Interpretation Of Pulmonary Function Tests: A Practical Guide	
14	Hough A	Physiotherapy In Respiratory Care	

	RECOM	MENDED REFERENCE BOOKS:
1	David W. Chang	Mechanical Ventilation
2	Kalman Wasserman	Principles Of Exercise Testing And Interpretation: Including Pathophysiology And Clinical Applications
3	Seaton	Crofton And Douglas's Respiratory Diseases
4	Hillgass And Sodosky	Essential of cardio pulmonary physical therapy
5	Froelicher V.F.	Exercise And The Heart
6	Douglas PS	Cardiovascular Health And Disease In Women
7	Jamie C.Paz Michel	Acute Care Handbook For Physical Therapist
8	Burton G.G. &Hodgkin	Respiratory Care – A Guide To Clinical Practice
9	Joanne Watchie	Cardio Pulmonary Physical Therapy
10	Skinner	Exercise Prescription
11	Astrand	Exercise Physiology

	RECOMMENDED JOURNALS	
1	Journal of Cardiopulmonary Rehabilitation and Prevention	
2	Cardiopulmonary Physical Therapy Journal	
3	Journal of American Thoracic Society - Thorax	
4	American Heart Association - Chest	
5	Indian Journal of Critical Care Medicine	
6	Respiratory Care – European	

#### Preventive & Community Physiotherapy Hours - 400

This specialty program includes total four semesters. The First semester will include two sections-Sections I will include topics common to all the four specialties having university examination at the end of semester. Section two will include topics based on Sciences applied to Preventive Community Physiotherapy. & integrate vertically to Semester - II. Semester III will include topics related to recent advances pertaining to four Community areas such as Women's health developmental health, Geriatric health, Industrial health (including Sports). The last semesters will be dedicated to clinical hands on the Elective area having option between Women's health or Geriatric health.

Semester	Торіс	Didactic/ Seminar	Practical/ Clinical Hours
	In addition to the common topics, the following topics will be included:	20	30
Ι	Seminars:	$a^{C}$	а н 1 н н
	<ol> <li>Applied. Sociology</li> <li>Applied Psychology</li> <li>Applied Physiology</li> <li>Ergonomics &amp; Applied Biomechanics</li> </ol>		
1 B 2		30	70
н 1. соб 2. соб	1. Public health - non-communicable conditions & health issues related to life style, occupation	11 U II 8	-
II Applied	2. Environmental & socio-cultural & economic influence.		· · · ·
Sciences	3. National, & international health schemesTypes of community services.		
	4. Principles :Epidemiology- PATCH & MATCH – Common modes of Intervention – modes of	1 () () () () () () () () () () () () ()	ina <sup>B</sup> e
	Patient education /training of trainers		30 <sup>10</sup>
	<ol> <li>Modes of Community approach for Com. diagnosis &amp; intervention</li> </ol>		
	<ul> <li>6. Foetal development</li> <li>7. Changes occurring with growth ,effects of ageing , obstetrical conditions,</li> <li>8. Concept of CBR</li> </ul>		400

1. Recent advances in the Community health	30	70
management in		
<ul> <li>a. Developmental health</li> <li>b. Women's health</li> <li>c. Geriatric health</li> <li>d. Industrial health</li> <li>2. Practical: Community Survey : Practical: data collection on prevalence in any one non-elective</li> </ul>		а 1
area Dissertation based on the elective topic should be		
1. Women's health		- <u>11.2</u>
Didactic & Practical Hands on (clinical)	25	125
	<ul> <li>a. Developmental health</li> <li>b. Women's health</li> <li>c. Geriatric health</li> <li>d. Industrial health</li> </ul> 2. Practical: Community Survey : Practical: data collection on prevalence in any one non-elective area Dissertation based on the elective topic should be submitted <ol> <li>Women's health</li> <li>Geriatric health</li> </ol> Didactic & Practical	<ul> <li>management in</li> <li>a. Developmental health</li> <li>b. Women's health</li> <li>c. Geriatric health</li> <li>d. Industrial health</li> <li>2. Practical: Community Survey : Practical: data collection on prevalence in any one non-elective area</li> <li>Dissertation based on the elective topic should be submitted</li> <li>1. Women's health</li> <li>2. Geriatric health</li> <li>25</li> <li>Didactic &amp; Practical</li> </ul>

#### Books & Journals :

- 1. Geriatric Physical Therapy By Andrew A. Guccione, 2nd Edition (Mosby 2000)
- 2. Developing Cultural Competence In Physical Therapy Practice By Jill Black Lattanzi, Larry D. Purnell (F.A.Davis Company, Philadelphia 2006)
- 3. Rehabilitation Of The Aging And Elderly Patient By Gerald Felsenthal, Susan J. Garrison, Franz U. Steinberg (Williams & Wilkins 1994)
- 4. Physical Therapy Of The Geriatric Patient By Jackson Osa. Churchill Livingstone. New York.
- 5. Geriatric Physical Therapy: A Clinical Approach By Carole B. Lewis And Jennifer Bottomley (1993)
- 6. Geriatric Rehabilitation Manual By Timothy L. Kauffman (1999)
- 7. Manual Of Geriatric Rehabilitation By David X. Cifu (2003)
- 8. Functional Fitness For Older Adults By Patricia A. Brill (2004)
- 9. Epidemiology Of Aging An Ecological Approach By William A. Satariano (Jones And Bartlett Publishers, 2006).
- 10. Little Black Book Of Geriatrics, By Karen Gershman, Mccullough Dennis 4th Edition (Jones And Bartlett Publishers, 2008).
- 11. Burnside's Working With Older Adults, Group Process And Techniques By Barbara Haight, Faith Gibson; 4th Edition (Jones And Bartlett Publishers, 2005).
- 12. Developing Cultural Competence In Physical Therapy Practice, Jill Black Lattanzi, Larry D. Purnell (2006 F.A. Davis).
- 13. Industrial Therapy, Key.G.L. (1987 Mosby)
- 14. Physiotherapy In The Community, Gibson, Ann. 1988, Woodhead-Faulkner (Cambridge, Wolfeboro, N.H., USA)
- 15. Community Rehabilitation In Neurology, Michael P. Barnes, Harriet Radermacher, Cambridge University Press 2009
- 16. Community Care For Health Professionals, Ann Crompton And Mary Ashwin, (Butterworth Heinemann 2000)

- 17. Ruth Sapsford, Joanne Bullock Saxton, Sue Markwell, "Women's Health: A Textbook For Physiotherapists, 1998, Bailliere Tindall.
- 18. Physiotherapy In Obstetrics And Gynecology, Margaret Polden And Jill Mantle, Butterworth-Heinemann Publishers, Stoneham, MA, 1990
- 19. Obstetrics And Gynecologic Physiotherapy, Elaine Wilder, Churchill Hill Livingstone.
- 20. Rebecca G. Stephenson, Linda J. O' Connor, "Obstetric And Gynecologic Care In Physical Therapy", 2000, Slack Incorporated 2 Edition.
- 21. Carolyn Kisner, Colby Allen lynn, "Therapeutic Exercise Foundations And Techniques, 5th Edition.
- 22. Bo, Kari; Berghmans, Bary, "Evidence-Based Physical Therapy For The Pelvic Floor: Bridging Science And Clinical Practice", 2007, Churchill Livingstone (London)
- 23. Irion, Jean M.; Irion, Glenn, "Women's Health In Physical Therapy: Principle And Practices For Rehabilitation Professional", 2009, Lippincott Williams And Wilkins (Philadelphia).
- 24. David Wise, Rodney U. Anderson, J. Laycock, "Therapeutic Management Of Incontinence And Pelvic Pain: Pelvic Organ Disorders", 2007, Springer; 2nd Ed. Edition.
- 25. Matthew Parsons, Linda Cardozo, "Female Urinary Incontinence In Practice", 2004, Royal Society Of Medicine Press.
- 26. John Cox And Jeni Holden, "Perinatal Mental Health A Guide To The Edinburgh Postnatal Depression Scale", 2003, Gaskell Publisher.
- 27. Carrie Hall And Lori Thein Brody, "Therapeutic Exercise: Moving Towards Function, 2005, Lippincott Williams & Wilkins.
- 28. Padubidri Vg Shirish N Daftary, Shaw's Textbook Of Gynecology, Elsevier India P Ltd 2008.
- 29. Gary Cunningham Et Al, Williams Obstetrics, Mcgraw Hill Professional, 2001
- 30. Kevin P Hanretty, Et Al, Obstetrics Illustrated, Churchill Livingstone; 6 Edition
- 31. David Makay Hart, Et Al Gynaecology Illustrated, Churchill Livingstone 2000. WHO Library Cataloguing-in-Publication Data
- 32. I. World Health Organization. II. UNESCO.
- 33. III.International Labour Organisation. Iv.International Disability Development Consortium.
- 34. IsBn 978 92 4 154805 2 (nlm classifi cation: wB 320)
- 35. © World Health Organization 2010
- 36. Prejudice & Dignity : An introduction to Community-Based Rehabilitation by Einar Helander United Nations Development Programme . Publication NO, E93-III-B.3, ISBN92-1-126032-9.
- 37. Training in the Community for People with Diasabilities by E. Helander, P.Mendis, G.Nelson, and A.Goerdt. Published by WHO Geneva 1989.
- 38. Finnie's Handling the Young Child with Cerebral Palsy at Home, 4th Edition 2008, Editor: Eva Bower

#### Journals

- 1. Journal Of Rehabilitation Research And Development
- 2. Archives Of Physical Medicine And Rehabilitation
- 3. Geriatric Physical Therapy
- 4. Journal Of Geriatrics
- 5. Journal Of Indian Academy Of Geriatrics
- 6. Journal Of Clinical Gerontology & Geriatrics

## Sports Physiotherapy Hours - 400

Semes	er Topic	Didactic/ Seminar	Practical/ Clinical Hours
1.	In addition to the common topics, the following topics will be included:	20	30
	<ul> <li>Anatomy &amp; Physiology Assessment skills Integration of assessment data &amp; analysis to form principles of management.</li> <li>Skills for assessment and treatment of pain, joint mobility, muscle function, posture, gait, proprioception, balance &amp; function, Manual therapy skills</li> </ul>		
	<ul> <li>Clinical Biomechanics &amp; Exercise Physiology pertaining to specialty</li> <li>Review of general health screening for co- morbidities and non-musculoskeletal sources of nociception and disability.</li> </ul>	<b>.</b>	
II.	<ul> <li>Advanced biomechanics</li> <li>Peripheral joints</li> <li>Spine</li> <li>Sporting activities</li> <li>Pathomechanics associated with injuries</li> <li>Exercise prescription for the normal population, athletic population and those suffering from chronic illness &amp;/or impairment.</li> <li>Analysis of motor learning and motor control theory and its application to the assessment.</li> </ul>	30	70
	<ul> <li>management of patients with movement impairments associated with pain or dysfunction.</li> <li>Application of education theory to the development of collaborative reasoning in the context of advanced examination and management of movement disorders.</li> </ul>		€ ~

75

III.	Biopsychosocial model of pain; working pain	30	70
	definitions.		
15	Pain mechanisms and contributors; integration		
	of the pain sciences into clinical reasoning		
	models.		1.0
1 - E.	<ul> <li>Evidence-based practice of a variety of issues</li> </ul>		
	relevant to orthopedic and sports physiotherapy,		2.26
1	in childpoint in analysis in or		120 C
	the spine, upper and lower limbs and associated	100 A	
	postoperative management.		
2.11	Sport and exercise in specific population groups	-	8 g <sup>10</sup>
	(older athletes, women, disabled athletes,		
	children), sports psychology, sports nutrition,		
	sports podiatry.		8 P (
IV.	Elective Topics	50	100
	Fitness & Sports for children		
	Elective topic will be covered under the following sub	- 14 C	
	topics		
		1	
	1. Exercise physiology & Fitness	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	
	2. Nutrition	10	
	3. Psychology	di senar di di	1
	4. Biomechanical considerations		
	5. Adapting performance testing	2 	
	6. Common sports	e e	
	a. Injury prevention	- e a . E . * .	
	b. Management of common injuries	1 a.c. 1	
	Fitness & Sports for elderly		
	Elective topic will be covered under the following sub	- <sup>10/4</sup>	1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 -
	topics	19 <sup>11</sup> 8 2 3	1
	1. Exercise physiology & Fitness		
	2. Nutrition		a-s e ana a a
		0 4 9	
	3. Psychology		
	4. Biomechanical considerations		
	5 A close time a sufference to stime		1 a 1 <sup>a</sup>
	5. Adapting performance testing		7. 3. (二)(三)(三)(三)(二)(二)(二)(二)(二)(二)(二)(二)(二)(二)(二)(二)(二)
	6. Common sports		
	<ul><li>6. Common sports</li><li>a. Injury prevention</li></ul>		to.

 Fitness & Sports for women			
Elective topic will be covered under the following sub			
topics			]
1. Exercise physiology & Fitness			
2. Nutrition			
3. Psychology			
4. Biomechanical considerations			
5. Adapting performance testing			
6. Common sports		· · ·	
a. Injury prevention			
b. Management of common injuries			
Fitness & Sports for disabled people			]
Elective topic will be covered under the following sub			
topics	-		
1. Exercise physiology & Fitness	4		
2. Nutrition			
 3. Psychology			. :
4. Biomechanical considerations			
5. Adapting performance testing			
6. Common sports			
a. Injury prevention			
b. Management of common injuries	· · ·		

#### **Books & Journals**

- 1. Brunnstrom Clinical Kinesiology, F.A. Davis.
- 2. Luttgens K., Hamilton N.: Kinesiology Scientific Basis of Human Motion 9th Edi, 1997, Brown & Benchmark.
- 3. Rasch and Burk: Kinesiology and Applied Anatomy, Lee and Fabiger.
- 4. White and Punjabi Biomechanics of Spine Lippincott.
- 5. Kapandji: Physiology of Joints Vol. I, II & III, W.B. Saunders.
- 6. Dvir: Isokinetics: Muscle Testing, Interpretation and Clinical Applications, W.B. Saunders.
- 7. Lillegard, Butcher & Rucker: Handbook of Sports Medicine: A symptom Oriented Approach, Butterworth & Heinemann
- 8. Baker: The Hughston Clinic Sports Medicine Book, Williams & Wilkins.
- 9. James G. Hay The Biomechanics of Sports Techniques, Prentice Hall.
- 10. Norkin & Levangie: Joint Structure and Function A Comprehensive Analysis F.A. Davis.
- 11. Albert: Eccentric Muscle Training, in Sports and Orthopeadics, W.B. Saunders.
- 12. Voss et al Proprioceptive Neuromuscular Facilitation Patterns & Techniques Williams & Wilkins.
- 13. Zulunga et al: Sports Physiotherapy, W.B. Saunders.
- 14. Brukner and Khan: Clinical Sports Medicine, McGraw Hill.

15. Reed: Sports Injuries - Assessment and Rehabilitation, W.B. Saunders.

16. Gould: Orthopaedic Sports Physical Therapy, Mosby.

17. C. Norris: Sports Injuries - Diagnosis and Management for Physiotherapists, Heinmann.

18. Nicholas Hershman: Vol. I The Upper Extremity in Sports Medicine.

Vol. II The Lower Extremity and Spine in Sports Medicine.

Vol. III The Lower Extremity and Spine in Sports Medicine.

31

Mosby.

19. Lee & Dress: Orthopaedic Sports Medicine - W.B Saunders.

20. Lars Peterson and Per Renstron: Sports Injuries - Their prevention and treatment, Dunitz.

21. Exercise physiology by Mc Ardle, Katch & katch

22. Athletic injuries and rehabilitation-J. Zachazewski, D.J. Magee, and W.S. Quillen

23. Orthopedic Sports Medicine, DeleeDrez Miller, 3rd edition: 2009, Saunders Elsevier

- 24. Orthopedic and sports physical therapy, Terry R.Macone:3rd edition, 1997: Mosby
- 25. Post surgical orthopedic sports rehabilitation knee and shoulder, Robert C. Maske:2006:Mosby Elsevier.38

26. Sports medicine secrets, Hanley and belters, 2nd edition: 2001: jaypee.

27. Sports medicine problem and practical management, Eugene sherry, 1st edition:1997: GMM

28. Exercise and sports science, Garrett, Kirkendall: 2000: Lippincott Williams And Wilkins

78

29. Sports medicine in primary care, Rob jonson M.D: 2000: saunders company

#### Journals

1. American Journal of Sports Exercises

2. Journal of Orthopaedic& Sports Physical Therapy (JOSPT).

3. American Journal of Sports Medicine.

4. British Journal of Sports Medicine.

5. American Journal of Sports Exercise



# MGM Institute of Health Sciences Navi Mumbai

Six monthiy Progress Report for Postgraduate Students PART A

Name of the College:		<i>_</i>			
Name of the PG stude	ent:				
Department:				· · ·	
Admitted in (Month a					
Name of the PG Guid	e:			•	
Report for the period	•	to			
Attendance:	days out of		days (	%	}

## PART B Grading as per performance

Grade	Percentage	
A	80% and above	
В	65% to 79%	
C	50% to 64%	
D	Below 50%	

79

1. OPD work:

2. Ward work:

3. Teaching assignments:

\*\*\*

# PART C

# Progress of Thesis

# PART D

Activities from serial No. 1 to 4 should be rated on a scale of 0 to 10.

1. Case Presentations

Sr. No.	Торіс	Date	Faculty In Charge	Marks
8			# 0	
		4		2
- - 				

# 2. Microteaching

Sr. No.	Торіс		Date	Faculty In Charge	Marks
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800 (1407) 800 (1407)	an a strate and and and a	ne de la	и <sup>н</sup> с.	1 <sup>2</sup> 12	
					а а

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# 3. Seminars

Sr. No.	Торіс	Date	Faculty In Charge	Marks
			· · · · · · · · · · · · · · · · · · ·	
·				
	·			

# 4. Journal Clubs/ Recent Advances/Critical Appraisals

Sr. No.	Journal	Title of Paper	Date	Faculty In Charge	Marks
	· · · · · ·				
<u> </u>					-
	· ·				
······					
		1			an a

# 5. Academic Activities

Sr. No.	Date	Type of Work
		·
	-	

81

# 1. Papers presented

Sr. No.	Title of Paper	Authors	Event	Date
,			-	
				· · · · · · · · · · · · · · · · · · ·

# 2. Posters presented

Sr. No.	Title of Poster	Authors	Event	Date
	· · ·			
	·			

### 3. Publications

(Note: Mention only those publications that are published or are accepted for publication during the said period only)

					· · · · ·		19.
Sr.	Title of Paper	Authors	Journal	Year/	Page	Indexed/	Status
No.				Vol/			
					Nos	Non-	
	2 1 - 2			Issue		Indexed	
							1

82

## Certificate by the PG Guide and Head of Unit

This is to certify that Dr.\_\_\_\_\_\_, has an attendance of \_\_\_\_\_%, during the period \_\_\_\_\_to\_\_\_\_. His /Her performance during the said period has been satisfactory/ average / unsatisfactory.

Overall Grading:\_\_\_\_\_

Date:\_\_\_\_

Name and Signature of PG Co-ordinator:

#### Certificate by the Head of Department

This is to certify that the performance of Dr.\_\_\_\_\_, during the period \_\_\_\_\_\_to\_\_\_\_, has been satisfactory/ average / unsatisfactory.

Overall Grading:

Date:

Name and Signature of HOD:

**Final Remarks** 

Satisfactory / Average / Unsatisfactory

83

Director (Academics) (Physiotherapy)

Director

Date:

BPT & MPT

4.2

Resolution No. 4.6.3 of BOM-53/2018: Resolved to include "Textbook of Prevention Practice and Community Physiotherapy" by Dr. Bharati Vijay Bellare in BPT & MPT curriculum. [Annexure-XXVI]

;

# Textbook of Prevention Practice and COMMUNITY PHYSIOTHERAPY

our website www.jaypeebrothers.com, for detailed information on physiotherapy books, visit our website www.jaypeebrothers.com



Chief Editor Dr Bharati Vijay Bellare

Sub-Editors Pavithra Rajan Dr Unnati Nikhil Pandit



ANNEXURE 4 -BOS PT MARCH 2018

# *Textbook of* Prevention Practice and Community Physiotherapy

1

*Chief Editor* Dr Bharati Vijay Bellare

BSc (PT), PGCR, FIAP, PhD Ex-Prof and HOD Physiotherapy Lokmanya Tilak Municipal Medical College Ex-Prof MGM School of Physiotherapy, Navi Mumbai, Maharashtra, India

> Sub-Editors Pavithra Rajan BPT (India), MSc (Canada) PhD Candidate in Physiotherapy Faculty of Health Sciences University of Sydney, NSW, Australia

Dr Unnati Nikhil Pandit MPTh (CVR), PhD Prof-Director, Dept of Physiotherapy Padmashree Dr DY, Patil University, Nerul, Navi Mumbai, Maharashtra, India



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Email: kathmandu@jaypeebrothers.com

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Textbook of Prevention Practice and Community Physiotherapy

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Acres

**Resolution No. 4.6.5 of BOM-53/2018:** Resolved that for multi-specialty and multi-disciplinary MPT projects, apart from having a Guide from core physiotherapy subject, a co-guide can be identified from respective allied specialty or discipline. Eligibility criteria for co-guide will be a qualified post graduate teacher within MGMIHS. In case of absence of eligible post graduate teacher, a qualified undergraduate teacher with more than three years of experience may be appointed as a co-guide.

#### Resolution No. 4.4.2.2 of BOM-55/2018:

- Resolved to incorporate Vision & Mission before Preamble in existing MPT curriculum of all 5 specialties which was approved through resolution no. 4.6.3 of BOM-53/2018 dated 19/05/2018. [Annexure 17]
- (ii) Resolved to incorporate well defined common program outcome and program specific outcome after Preamble in existing MPT curriculum of all 5 specialties which was approved through resolution no. 4.6.3 of BOM-53/2018 dated 19/05/2018. [Annexure 21]
- (iii) Resolved to incorporate well defined course outcomes before syllabi of each of 5 specialties namely Musculoskeletal Physiotherapy, Neuro Physiotherapy, Cardiovascular Pulmonary Physiotherapy and Fitness, Preventive and Community Physiotherapy and Sports Physiotherapy. [Annexure 22]

### Annexure-17

#### VISION AND MISSION OF MGM SCHOOL OF PHYSIOTHERAPY, NAVI MUMBAI

#### Vision

MGM Institute of Health Sciences aims to be a top ranking centre of Excellence in Health Science Education, Health Care and Research.

#### Mission

- Students graduating from the Institute will have the required skills to deliver the quality health care to all the sections of the society with compassion and benevolence, without prejudice or discrimination at an affordable cost.
- As a Research Centre, it shall focus on finding better, safer and affordable ways of diagnosing, treating and preventing diseases. In doing so, it will maintain highest ethical standard.

40

# Annexure-21

jin to

# **PROGRAM OUTCOMES**

### **MASTER OF PHYSIOTHERAPY**

PO 1	Professional ethic towards client respect, dignity and confidential responsibility.
PO 2	To practice communication skills with patient, caregiver and interdisciplinary relations.
PO 3	To identify the biopsychosocial component of pain.
PO 4	To have knowledge of basic sciences pertaining to musculoskeletal system with sound clinical reasoning
PO 5	To have detailed knowledge of exercise physiology, neurological rehabilitation, Cardio-pulmonary rehabilitation and fitness, rehabilitation of common sports injuries, biomechanics of swimming, running and throwing
PO 6	To understand the pathomechanics of spine and thoracic cage, upper extremity and lower extremity
PO 7	To know evidence based practice and advances in clinical reasoning
PO 8	To understand the mechanism of pain
PO 9	To formulate hypothesis and clinical decision-making skills 10. To assess and manage all musculoskeletal, neuro, cardio and sports injuries

### **PROGRAM SPECIFIC OUTCOMES**

### **MASTER OF PHYSIOTHERAPY**

Graduates of the Master of Physiotherapy program will be proficient in skills imbibed in the undergraduate program and in addition demonstrate skills to:

PSO 1	Critically evaluate, prioritize and apply physiotherapy approaches, paradigms and techniques and utilize appropriate, evidence-based skills, techniques and practice in managing and treating people with injury, disability or illness in a range of health care and/or rehabilitation settings.
PSO 2	Identify, analyze and respond appropriately to ethical dilemmas and challenges, and ethical implications of patient/client presentations.
PSO 3	Develop a reasoned rationale for clinical evidence-based physiotherapy intervention and design appropriate treatment/management plans to meet the needs of patients/clients within legislative, policy, ethical, funding and other constraint.
PSO 4	Acquire and utilize new knowledge, research, technologies and other appropriate resources and methods to optimize, and to ensure cost-effectiveness, quality and continuous improvement of health care delivery and outcomes.
PSO 5	Prepare students for professional practice as Physiotherapists. Graduates will be able to practice across a range of settings, including rural and remote areas. Emphasis will be placed on preparing a contemporary health professional to be client-centered and to work effectively within an interdisciplinary team.
PSO 6	Work creatively and effectively whilst upholding professional standards and relationships with a range of stakeholders (including clients, colleagues, careers, families, employers, insurers and others whose presence impacts on the patient/client, and other treatment providers and team members) with different understandings, perspectives and priorities influencing physiotherapy practice.
PSO 7	Adapt communication styles recognizing cultural safety, cultural and linguistic diversity

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# **COURSE OUTCOMES**

# MPT in Musculoskeletal Physiotherapy

At the	end of the course, the students will have:
CO 1	Detailed knowledge of anatomy, Physiology and Biomechanics pertaining to Musculoskeletal System, enabling them to formulate management based on tissue specific assessment of the structures.
CO 2	Sound clinical reasoning with a thorough rationale toward prescribed therapeutic management.
CO 3	Detailed knowledge of biomechanics of swimming, running and throwing.
CO 4	Detailed knowledge of exercise physiology pertaining to musculoskeletal system.

# MPT in Neuro Physiotherapy

At the e	nd of the course, student will,
CO 1	Be able to formulate evidence based therapy based on recent advances of physiotherapy management of neurological conditions including advances in electrotherapeutics.
CO 2	Have strong foundation on basics of motor control and motor learning and formulate physiotherapy management.
CO 3	Have in depth knowledge about disease specific and generic outcome measures used for neurorehabilitation along with their psychometric properties.
CO 4	Knowledge about evaluation of disability, legislation & social care and prosthetics & orthotics applicable to various neurological conditions as a mean of prevention and management.

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# MPT in Cardiovascular and Pulmonary Physiotherapy and fitness

	- intervie Interview and		
A) Physiotherapy in Intensive care			
At the end of the course the student will,			
CO 1	Have detailed knowledge regarding etiology of respiratory failure, types		
	of failure and methods of assessing and managing respiratory failure		
	Knowledge regarding artificial airways and mechanical ventilation.		
	Management of patient on mechanical ventilator, phases of ventilation,		
CO 2	modes of artificial ventilation, volumes and settings on the ventilator $-$		
	implications of settings on Physiotherapy treatment ,special needs of		
	patients on ventilator		
00.2	Assessment ,clinical decision making and evidence based Physiotherapy		
CO 3	intervention in various specialized ICUs		
B) Carc	B) Cardiovascular and pulmonary rehabilitation:		
At the end of the course the student will,			
CO 4	Have detailed knowledge and clinical skills regarding cardiac and		
	pulmonary rehabilitation, guidelines provided by global bodies relevant		
	to national needs of our population, challenges faced in managing		
	cardiopulmonary conditions specific to our local population, preventive		
	measures that can be adopted to delay NCDs and generate awareness		
	regarding preventable risk factors .		
CO 5	Management of vascular disorders and recent advances.		

in National States (Second States (

# MPT in Preventive and Community Physiotherapy

At the end of the course student should be able		
CO 1	To understand and assist in the planning and implementation of community based Rehabilitation programs and to develop linkages with appropriate agencies and groups of individuals;	
CO 2	To promote action for the prevention of disabilities and to carry out early identification and intervention.	
CO 3	To be able to identify persons with disabilities and their rehabilitation needs and to make functional assessment of individuals with disabilities;	
CO 4	To provide support in the implementation of inclusive education at primary, higher and post metric level and in all the development programmes/ poverty alleviation	
CO 5	To advise the family members and community regarding interventions with disabled people;	
CO 6	To follow up and monitor programs and to maintain a system of records and reports;	
CO 7	To make appropriate referrals.	
CO 8	To be aware of legislations on disability and developmental schemes and concessions to persons with disabilities.	
CO 9	To sensitize about the issues related to gender discrimination and socio- cultural factors;	
CO 10	understand the importance and strategies for resource mobilization.	

1

# MPT in Sports Physiotherapy

At the e	nd of this course student will develop in depth knowledge of the following w.r.t.
selected	electives:
CO 1	Exercise physiology & Fitness
CO 2	Nutrition
CO 3	Psychology
CO 4	Biomechanical considerations
CO 5	Adapting performance testing
CO 6	Common sports
CO 7	Injury prevention
CO 8	Management of common injuries

#### Resolution No. 4.13 of BOM-55/2018: Resolved as follows:-

- (i) Slow learners must be re-designated as potential learners.
- (ii) Students scoring less than 35% marks in a particular subjects/course in the 1<sup>st</sup> formative exam are to be listed as potential learners. These learners must be constantly encouraged to perform better with the help of various remedial measures.
- (iii) Students scoring more than 75% marks in a particular subjects/course in the 1<sup>st</sup> formative exam are to be listed as advanced learners. These learners must be constantly encouraged to participate in various scholarly activities.

**Resolution No. 3.2.2.5 of BOM-57/2019:** It was resolved to propose one mandatory submission supervised by PG guide in indexed & peer reviewed journal for award of degree during 2 years of MPT program duration.

## Resolution No. 3.2.2.8 of BOM-57/2019:

• Resolved to approve the list of textbooks/reference books to be added for MPT Sports Physiotherapy speciality. [Annexure-37]



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## **Annexure-37**

#### List of books to be added in MPT Sports Physiotherapy syllabus

Sr.	Text Books:
No	
	Must Read
1	ACSM's Introduction to Exercise Science, Second Edition
2	ACSM's Guidelines for Exercise Testing and Prescription, Second Edition
3	ACSM's Exercise Management for Persons with Chronic Diseases and Disabilities,
	Fourth Edition
4	ACSM's Nutrition for Exercise Science, First Edition
5	Biomechanics of Sports and Exercise, Third Edition
	Reference Books:
	Nice To Read
6	NSCA Essentials of Strength Training and Conditioning, Fourth Edition
7	Foundations of Sports and Exercise Psychology, Sixth Edition
	Desirable To Read
8	Nutrition for Sport, Exercise, and Health, First Edition
9	Augustus A. White, Manohar M. Panjabi, clinical biomechanics of the spine, Second
	Edition
## Resolution No. 3.2.2.11 of BOM-57/2019:

## **Physiotherapy:**

iii. Suggested to add satisfactory/non satisfactory remark in addition to the final Grade on the 6 monthly progress report of MPT Students. In an event of non satisfactory performance, the candidate will be required to repeat the respective clinical placement. [Annexure-66]



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## **Annexure-66**

#### Six monthly Progress Report for Postgraduate Students

## PART A

Name of the College	: MGM School of Physiotherapy
Name of the PG student	:
Department	
Admitted in (Month and Year)	:
Name of the PG Guide	:
Report for the period	:
Attendance	:

#### PART B Grading as per performance

Grade	Percentage
Α	80% and above
В	65% to 79%
С	50% to 64%
D	Below 50%

- 1. OPD work:
- 2. Ward work:
- 3. Lab work :
- 4. Teaching assignments:

### PART C

#### **Progress of Thesis**



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### PART D

#### Activities from serial No. 1 to 4 should be rated on a scale of 0 to 10.

#### 1. Case Presentations

Sr. No.	Торіс	Date	Faculty In Charge	Marks
1				

#### 2. Microteaching

Sr. No.	Торіс	Date	Faculty In Charge	Marks
1				

#### 3. Seminars

Sr. No.	Торіс	Date	Faculty In Charge	Marks

#### 4. Journal Clubs/ Recent Advances/Critical Appraisals

Sr. No.	Journal	Title of Paper	Date	Faculty In Charge	Marks
1					

#### 5. Administrative Activities

Sr. No.	Date	Type of Work
1		

#### PART E

1. Papers presented:

2. Posters presented:

3. Publications:



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#### Certificate by the PG Guide

This	is to cert	ify that	h	as an atte	endance of	· %,	during th	e period
	to							
His	/Her	performance	during	the	said	period	has	been
-								

#### Excellent /Good /Satisfactory/Unsatisfactory

Header	Category	Grade	Remarks
Academic	Part D $-2$ , 3		
Clinical	Part B, Part D – 1		
Research	Part D- 4, Part E		
Name and Signa	ature of PG Guide		

:

:

:

#### Certificate by the Head of Department

This is to certify that the performance of \_\_\_\_\_\_, during the period \_\_\_\_\_\_, to \_\_\_\_\_\_, has been Excellent /Good /Satisfactory/Unsatisfactory

Overall Grading

Date

Name and Signature of HOD

#### **Final Remarks**

#### Excellent /Good /Satisfactory/Unsatisfactory

Director (Academics)

Director (Physiotherapy)

Date:

#### Resolution No. 3.1.4.2 of BOM-57/2019:

- i. Resolved to include "Gender Sensitization" into UG (from new batch 2019-2020) and PG (from existing batches) curricula. [Annexure-21]
- **ii.** Resolved to align the module of "Gender Sensitization" with MCI CBME pattern for MBBS students.
- iii. Resolved that Dr. Swati Shiradkar, Prof., Dept. of OBGY., MGM Medical College, Aurangabad will coordinate this activity at both campuses.

# Annexure - 21

Gender sensitization for UG (2<sup>nd</sup>, 3<sup>rd</sup>, 8<sup>th</sup> semesters) and PG (3 hours)

## **INCLUSION OF "GENDER SENSATIZATION" IN CURRICULUM**

## Introduction :

The health care provider should have a healthy gender attitude, so that discrimination, stigmatization, bias while providing health care will be avoided. The health care provider should also be aware of certain medico legal issues related with sex & gender.

Society particularly youth & adolescents need medically accurate, culturally & agewise appropriate knowledge about sex, gender & sexuality. So we can train the trainers for the same. It is need of the hour to prevent sexual harassment & abuse .

To fulfill these objectives, some suggestions are there for approval of BOS.

## <u>Outline</u>

1)For undergraduates :- Three sessions of two hours each, one in  $2^{nd}$  term, one in  $3^{rd}$  term & one in  $8^{th}$  term.

2)For Faculties and postgraduates :- One session of two hrs .

3)For those want to be trainers or interested for their ownself, value added course, which is optional about sex, gender, sexuality & related issues.

## **Responsibility**

ICC of MGM, MCHA , with necessary support from IQAC & respective departments.

## **Details of undergraduate sessions**

## 1)First session in 2<sup>nd</sup> term

Aim – To make Students aware about the concept of sexuality & gender.

To check accuracy of knowledge they have,

To make them comfortable with their own gender identify & related issues.

To make them aware about ICC & it is functioning.

**Mode** – Brain storming , Interactive power point presentation experience sharing.

**Duration** – Around two hours

**Evaluation** – Feedback from participants.

## 2)Second session in 3<sup>rd</sup> / 4<sup>th</sup> term

**Aim** – To ensure healthy gender attitude in these students as now they start interacting with patients.

To ensure that the maintain dignity privacy while interacting with patients and relatives, particularly gender related.

To make them aware about importance of confidentiality related with gender issues.

--2--

To encourage them to note gender related issues affecting health care & seek solutions.

Mode – focused group discussions on case studies, Role plays & discussion.

--3--

Duration – Around two hours.

Evaluation – Feedback from participants.

Third session in 8<sup>th</sup> term.

**Aim** – To understand effect of gender attitudes on health care in various subjects.

To develop healthy gender attitude while dealing with these issues.

**Mode** – Suggested PBL by departments individually. (In collaboration with ICC till faculty sensitization is complete)

**Evaluation** – Feedback

\*\*\*\*

--4--

## FOR POSTGRADUATES

Session of 2-3 hrs preferably in induction program.

- **Aim** To introduce medically accurate concept of gender, sex, gender role & sex role.
- To ensure healthy gender attitude at workplace.

To understand gender associated concepts on health related issues & avoid such bias wile providing health care.

To make them aware about ICC & it's functioning.

Mode – Interactive PPT

Role plays & discussion

Duration – 2 to 3 hrs

**Evaluation** – Feedback.

## --5--

## FOR FACULTIES

Session of 2 hours may be during combined activities.

**Aim** – To ensure clarity of concept abut gender & sex.

To discuss effect of these concept on health related issues.

To identify such gender & sex related issues in indivual subject specialties.

To discuss methodology like PBL for under graduate students when whey are in  $7^{\text{th}}-8^{\text{th}}$  semester.

Mode – Role play

Focused group discussion

**Case studies** 

**Evaluation** – Feed back.

\*\*\*\*\*

Sdp-Pimple/joshi-obgy



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