MGM INSTITUTE OF HEALTH SCIENCES

Accredited by NAAC with 'A' Grade
(Deemed University u/s 3 of UGC Act, 1956)
Sector-01, Kamothe, Navi Mumbai - 410 209
Tel 022-27432471, 022-27432994, Fax 022 - 27431094
E-mail : registrar@mgmuhs.com ; Website : www.mgmuhs.com

CHOICE BASED CREDIT SYSTEM (CBCS)

(With effect from 2019-20 Batches)

Curriculum for Master of Physiotherapy

(Community Physiotherapy)

Dr. Rajesh B. Goel
Registrar
MGM Institute of Health Sciences
(Deemed University u/s 3 of UGC Act, 1956)
Navi Mumbai- 410 209

Dr. Shashank D. Dalvi
Vice Chancellor
MGM Institute of Health Sciences
Navi Mumbai - 410209

Approved as per BOM –57/2019, [Resolution No. 3.2.2.11 (i)], Dated 26/04/2019

CONTENTS

VISION AND MISSION OF MGM SCHOOL OF PHYSIOTHERAPY

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.

Name of the Degree Offered: Master of Physiotherapy (MPT)

Duration of Program:2 years (4 Semesters).

Program pattern:

First Semester	August- January
Second Semester	February- July
Third Semester	August- January
Fourth Semester	February- July

Eligibility Criteria:

- He/she has passed the Bachelor in Physiotherapy program recognized by any Indian University or a duly constituted Board
- Minimum percentage of marks: 50% aggregate.

Medium of Instruction:

English will be the medium of instruction for all the subjects of study and for examinations.

I. Preamble

Physiotherapy or Physical Therapy (PT) is a **Movement Science** with an established theoretical and scientific base and widespread clinical applications in the **Prevention, Restoration & Rehabilitation, Maintenance and Promotion of optimal physical function.** Physiotherapists **diagnose and manage movement dysfunction** and enhance physical and functional abilities. This physical dysfunction may be the sequelae of involvement of any of the systems like Musculoskeletal, Neurological, Cardiovascular, Respiratory or other body systems.

These practitioners contribute to society and the profession through practice, teaching, administration, and the discovery and application of new knowledge about physiotherapy experiences of sufficient excellence and breadth by research to allow the acquisition and application of essential knowledge, skills, and behaviors as applied to the practice of physiotherapy. Physiotherapist (PT) are autonomous, effective and compassionate professionals, who practice collaboratively in a variety of healthcare set ups such as neonatal to geriatric, from critical care to community fitness to sports training. Emerging graduate and post graduate students are required to demonstrate a substantial knowledge base, possess skills related to Physiotherapy practices, possess high emotional quotient to address family health and meet community responsibilities, demonstrate gender sensitivity and socio-culturally relevant competence. They should be aware of legal issues governing professional practice and follow evidence based clinical practices.

The Chairman, University Grants Commission (UGC) via letter D.O.No.F.1- 1/2015 (CM) dated 8th January, 2015, communicated the decision of the Ministry of Human Resources Development to implement Choice Based Credit System (CBCS) from the academic session 2015-2016 in all Indian Universities to enhance academic standards and quality in higher education through innovation and improvements in curriculum, teaching- learning process, examination and evaluation systems.

Diversity in the system of higher education, and multiple approaches followed by universities towards curriculum, examination, evaluation and grading system has led to the lack of uniformity. While the Universities must have the flexibility and freedom in designing the examination and evaluation methods that best fits the curriculum, syllabi and teaching– learning methods, there is a need to devise a sensible system for awarding the grades based on the performance of students. Presently the performance of the students is reported using the conventional system of marks secured in the

examinations or grades or both. The conversion from marks to letter grades and the letter grades used vary widely across the Universities in the country. This creates difficulty for the academia and the employers to understand and infer the relative performance of the students graduating from different universities and colleges in the country. Hence the UGC has recommended the implementation of CBCS in Universities.

The grading system is considered to be better than the conventional marks system and hence it has been followed in the top institutions in India and abroad. Introduction of a uniform grading system will facilitate student mobility across institutions within and across countries and also enable potential employers to assess the performance of students. To bring in the desired uniformity, in grading system and method for computing the cumulative grade point average (CGPA) based on the performance of students in the examinations, the UGC has formulated the guidelines and communicated it to all Universities for adoption.

UGC, subsequently, in its notification No.F.1-1/2015 (Sec.) dated 10/4/15 has provided a set of model curricula and syllabi for CBCS program under the Faculties of Arts, Humanities and Sciences providing the academic flexibility for Universities to make changes/ innovation upto 20% in the syllabi of these program. It has also specified that all UG program should be for a minimum of three years duration. UG Program with 120-140 credits in the 180 annual teaching days system being designated as regular B.A/B.Sc./B.Com., B.B.A etc., Those UG programs with 140-160 credits or more with fully supported higher number of annual teaching days can be designated as B.A (Hons)/ B.Sc.(Hons) /B.B.A(Hons)/B.Com(Hons) etc.,

Further , the University Grants Commission encourages higher education institutes to integrate learning outcome based framework into the curriculum for undergraduate education which is considered critical for enabling effective participation of young people in knowledge production , participation in knowledge economy, improving national competiveness in a globalised world and equipping young people with skills relevant to global and national standards. Outcome oriented curriculum enhances employability of graduates and enables translation of academic research into innovations for practical use in society and economy.

Learning outcomes-based approach specifies what graduates and post graduates are expected to know, understand and able to do after completing the program. The MPT degree is awarded based on

demonstration of achievement of outcomes in terms of knowledge, skills, attitudes and values and academic standards expected of the post graduate. The expected learning outcomes help define the post graduate attributes, qualification descriptors, program learning outcomes , course learning outcomes, curriculum planning, design, delivery and review of the academic program.

MGM Institute of Health Sciences, accredited A grade, has taken a proactive step in adopting the CBCS system for Physiotherapy programs implemented by its constituent unit, MGM School of Physiotherapy. The duration of Master of Physiotherapy (MPT) program is two years offering 90 credits with well-defined learning outcomes. The MPT CBCS Curriculum has been designed with reference to existing curriculum of state Universities within the country, generic guidelines of University Grant Commission, global guidelines for curriculum, input from experts in the field of Physiotherapy and feedback from stakeholders namely students, teachers, alumni, employers and professionals to remain in consonance with the spirit of choice based credit system and learning objective based curriculum.

II. Introduction : Physiotherapy is a branch of modern medical science which includes examination, assessment, interpretation, physical diagnosis, planning and execution of treatment and advice to any person for the purpose of preventing, correcting, alleviating and limiting dysfunction, acute and chronic bodily malfunction including life saving measures via chest physiotherapy in the intensive care unit, curing physical disorders or disability, promoting physical fitness, facilitating healing and pain relief and treatment of physical and psychological disorders through modulating psychological and physical response using physical agents, activities and devices including exercise, mobilization, manipulations, therapeutic ultrasound, electrical and thermal agents and electrotherapy for diagnosis, treatment and prevention.

(Definition as per the Maharashtra State Council for Occupational therapy & Physiotherapy, 2004)

`Physiotherapist' is a qualified professional who has acquired all the above mentioned knowledge and skills for entry into practice after being awarded a bachelor degree in the subject of " Physiotherapy" from a recognized institute affiliated to the University conducting a fulltime course not less than four years and six months of internship. Students who have passed BPT are eligible to pursue MPT program at MGM in specialty areas such as Cardiovascular Pulmonary Physiotherapy and Fitness, Neurological Physiotherapy, Musculoskeletal Physiotherapy, Sports Physiotherapy and Preventive and Community Physiotherapy.

III. Objectives of the Master of Physiotherapy (MPT) program:

This program is formulated to enable student to gain adequate knowledge, skills and clinical hands on experience leading to an ability to establish independent professional practice in the specialized areas of interest. The overall content of the curriculum focuses on learning experiences and clinical education experiences for each student that encompasses the following.

1. Ethical, evidence-based, efficient Physiotherapy treatment of adult as well as pediatric patients/clients with an array of conditions (e.g. musculoskeletal, neuromuscular, cardiovascular/pulmonary, integumentary etc) across the lifespan and the continuum of care, to all people irrespective of gender, caste, nation, states and territories, region, minority groups or other groups.
2. Ability to prevent movement disorders or maintain/restore optimal function and quality of life in individuals with movement disorders.
3. Ability to operate as independent practitioners, as well as members of health service provider teams, act as first contact practitioners, from whom patients/clients may seek direct services without referral from another health care professional.
4. Ability to promote the health and wellbeing of individuals and the general public/society, emphasizing the importance of physical activity and exercise.
5. Prevent impairments, activity limitations, participatory restrictions and disabilities in individuals at risk of altered movement behaviors due to health factors, socio-economic stressors, environmental factors and lifestyle factors.
6. Provide interventions/treatment to restore integrity of body systems essential for movement, maximize function and recuperation, minimize incapacity, and enhance the quality of life, independent living and workability in individuals and groups of individuals with altered movement behaviors resulting from impairments, activity limitations, participatory restrictions and disabilities.
7. Ability to modify environmental, home and work access and barriers to ensure full participation in one's normal and expected societal roles.
8. Become an essential part of the health and community/welfare services delivery systems, practice independently of other health care/service providers and also within interdisciplinary rehabilitation/habilitation programs, independent professional practice in self employed set up or

employment at the multiple settings such as hospitals, nursing homes, institutions catering services to specific conditions (like paraplegic /geriatric homes), primary as well as rural & urban health care set up, community health , domiciliary practice like residential areas, education & research centers, fitness /wellness centers like health clubs, occupational health centers g]- Schools including special schools, geriatric care units, and others.

9. Ability to carry out research projects

IV. Physiotherapy Post-Graduate Attributes:

The following post graduate attributes are considered as "essential requirements" to strengthen abilities of a Physiotherapist for widening knowledge, skills and abilities through meaningful learning experiences, and critical thinking. These attributes are necessary for completing the professional education enabling each post graduate to develop expertise in the specialty area and offer exclusive services in clinical practice. The purpose of this curriculum is to delineate the cognitive, affective and psychomotor skills deemed essential for completion of this program and to perform as a competent physiotherapist who will be able to evaluate, plan & execute physiotherapy treatment independently. Some of the characteristic attributes that a post graduate should demonstrate are as follows:

1. **Disciplinary knowledge:** The student must demonstrate comprehensive knowledge and understanding of curricular content over and above that of a graduate. The student must demonstrate enhanced cognitive learning skills, ability to receive, interpret, remember, reproduce and use information in the cognitive, psychomotor, and affective domains of learning to solve problems, evaluate work, and generate new ways of processing or categorizing similar information listed in course objectives. Students will undergo clinical "Hands on Training" with focus on rotational clinical assignments in specialty subject throughout the course which enable the student to develop expert clinical reasoning and be able to function as a consultant as well as expert clinician in the specialty. In addition to the didactic /laboratory and clinical "hands on" training, the program includes seminars, case presentations, journal article reading and appraisal and administrative work under the supervision of faculty members. During the program the student is expected to prepare and submit a dissertation based on research in a selected specialty.
2. **Pyschomotor Skills:** Physiotherapy post graduate students must demonstrate psychomotor skills of locomotor ability to access lecture halls, practical laboratory and clinics.

a. They must possess ability to move with reasonable swiftness in emergency situations to

protect the patient (e.g. from falling).

b. They should be competent to perform physical tasks such as positioning patients to effectively perform evaluation, manipulate assessment tools used for evaluation of joint mobility, muscle strength, testing musculoskeletal, neurological and cardiorespiratory systems.

c. Students should be competent to perform risk assessment, safely and effectively guide, facilitate, inhibit, and resist movement and motor patterns through physical facilitation and inhibition techniques (including ability to give timely urgent verbal feedback),perform transfers, positioning, exercise, mobilization techniques and use assistive devices and perform cardiopulmonary resuscitation.

d. Students must possess fine motor skills to legibly record thoughts for written assignments (including diagrams) and tests, document evaluations, patient care notes, referrals, etc. in standard medical charts in hospital/clinical settings in a timely manner and consistent with the acceptable norms of clinical settings and safely use electrotherapy modalities and fine mobilisation techniques.

e. Students must possess visual acuity to read patient's treatment chart, observe demonstrations, visual training, receive visual information from patients, treatment environment and clues of treatment tolerance. Auditory acuity to distinguish between normal and abnormal sounds, enage in conversation with patients and retrieve meaningful information relevant to patient care.

3. **Communication skills** :The student must be able to express thoughts and ideas effectively in writing and verbally, communicate with others using appropriate media, share views, demonstrate ability to listen carefully, write analytically, present complex information in a clear, and concise manner. Student must be able to effectively communicate information and safety concerns with other students, teachers, patients, peers, under graduate students, staff and personnel by asking questions, giving information, explaining conditions and procedures, or teaching home programs. They should be able to receive and send verbal communication in life threatening situations in a timely manner within the acceptable norms of clinical settings. Physiotherapy education presents exceptional challenges in the volume and breadth of required reading and the necessity to impart information to others. Students must be able to communicate quickly, effectively and efficiently in oral and written English with all members of the health care team.

4. **Critical thinking :** Post graduate **s**tudent should be able to apply analytical thought to a body of knowledge , analyse based on empirical evidence, draw relevant assumptions or implications, formulate arguments, critically evaluate policies and theoretical framework and formulate a scientific approach to knowledge development. They should be able to identify structural and functional impairments, identify contextual factors influencing function, critically appraise treatment options and implement care that is socio-culturally relevant to each patient.
5. **Problem Solving:** Students must demonstrate capacity to extrapolate theoretical knowledge and apply competencies gained to solve non- familiar problems, complex problems and real life situations.
6. **Analytical reasoning:** Post graduate students should be able to evaluate reliability and relevance of evidence, synthesize data, assess validity of arguments supporting hypothesis, debate theoretical frameworks, draw valid conclusions and support them with evidence.
7. **Research – Related Skills:** Post graduate **s**tudents should be able to define research problem, formulate hypothesis, manage resources, analyse and interpret data, explore cause – effect relationships, plan and execute a report, present results of the experiment in form of scientific peer reviewed publications and demonstrate a sense of scientific enquiry, reflective thinking, self-directed learning and creativity.
8. **Co-operation /Team Work:** Students should demonstrate the ability to work effectively and respectfully with a multi-disciplinary team, facilitate co-operative and co-ordinated effort for the common cause in various clinical settings.
9. **Socio-cultural and multicultural competency**: Knowledge of socio-cultural values, attitudes and beliefs relevant to a particular society, nation and global perspectives must be present to effectively engage and identify with diverse groups.
10. **Awareness of moral, ethical and legal issues:** Students must demonstrate moral /ethical values in conduct, awareness of ethical issues related to patient care, work practices, refraining from malpractice, unethical behaviour, falsification, plagiarism, misinterpretation of data, non-adherence to intellectual property rights, adhering to truthful, unbiased actions in all aspects of work without discrimination based on age, race, gender, sexual preference, disease, mental status, lifestyle, opinions or personal values.

11. **Leadership qualities:** Students must demonstrate ability for task allocation, organization of task elements, setting direction, formulating an inspiring vision, team building, to achieve a vision, engaging, knowledge and respect individual values and opinions in order to foster harmonious working relationships with colleagues, peers, under graduate students and patients.
12. **On-goingLearning**: Students must demonstrate ability to acquire knowledge and skills through on-going learning, participation in continuous education programs, engaging in self-paced, self-directed learning aimed at personal development, meeting social and cultural objectives, skill development, adapting to changing environment and workplace requirements and challenges.

V. Qualification Descriptors for Master of Physiotherapy (MPT) program:

Students who complete the 2 years Master of Physiotherapy program will be awarded a Master's degree. Expected outcomes that a student must demonstrate include:

1. Systematic, extensive and coherent knowledge and skill in Physiotherapy and its applications including critical understanding of established theories, principles and concepts, knowledge of advanced and emerging issues in Physiotherapy, skills in cardiovascular and pulmonary Physiotherapy and Fitness, recent advances and research in Physiotherapy evaluation and treatment procedures.
2. Comprehensive information regarding appropriate use of electrotherapy modalities, exercise equipment, advanced learning material, skills and techniques as indicated.
3. Skill in collecting quantitative and qualitative data, analysis and interpretation of data using appropriate methodology and communicating results to scientific community and beneficiaries for formulating appropriate evidence based health care solutions.
4. Address self-learning needs related to current and emerging areas of study, use research and professional material, apply knowledge to new concepts and unfamiliar areas and seek solutions in real life situations.
5. Demonstrate profession related transferable skills relevant to patient care and employment opportunities.

VI. Program Outcomes for Master of Physiotherapy Program

Students who complete 2 years postgraduate program in Physiotherapy would earn a Master of Physiotherapy (MPT) specialty degree. The learning outcomes that a student should be able to demonstrate on completion of a degree level program include academic, personal, behavioral, entrepreneurial and social competencies. It is expected that a student completing a particular course must have a level of understanding of the subject and its sub-areas in consonance with the learning outcomes mentioned at the end of that course. Program learning outcomes include Physiotherapy specific skills, generic skills, transferable global skills and competencies that prepare the student for employment, higher education, research and develop them as contributing members for overall development of the society.

The program learning outcomes relating to MPT degree program Specialty - Community Physiotherapy are summarized below:

PO 1	To design, implement and assess the effects of interventions and technology in the community based rehabilitation and to become well-trained grass-root CBR functionaries
PO 2	Toapply behavioral skills and humanitarian approach while communicating with patients, relatives, society at large and co-professionals
PO 3	To apply and examine moral, ethical values and legal aspects concerned with Physiotherapy management, demonstrate professional ethical behavior towards client and maintain respect, dignity and confidentiality of patients, to sensitize people about issues related to gender discrimination and socio-cultural factors
PO 4	To critically analyze interactions between structure and function of human body, applied anatomy, physiology in physiotherapy practice pertaining to cardiovascular, pulmonary and musculoskeletal system with sound clinical reasoning, detailed knowledge of exercise physiology and fitness.
PO 5	To explain biopsychosocial component of pain and dysfunction
PO 6	To analyze biomechanics of human movement and apply biomechanical principles in Physiotherapy management, ergonomic and job analysis, especially in movement disorders in women, children, elderly and industry.
PO 7	To plan and implement community based rehabilitation programs and to develop linkages with appropriate agencies and groups of individuals
PO 8	To apply strategies for prevention of disabilities and to carry out early identification and intervention for disability prevention, advise the family members and community regarding interventions with disabled people, inform people regarding legislations on disability and developmental schemes and concessions to persons with disabilities.

PO 9	To critically analyze assessment and treatment methods through scientific enquiry, experiential learning and demonstrate entrepreneurship and managerial skills related to task in day-to-day work for personal & societal growth, design innovative devices and techniques for treatment, invent intellectual property in specialized are of interest
PO10	To apply basic computer applications for data management, data storage, generating data bases and for research purposes.

VII. Program Specific Outcomes for Master of Physiotherapy Program Specialty - Community 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 examine 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	Post graduates will demonstrate ability to plan, recommend and implement Physiotherapy treatment and practice independently across a range of clinical settings such as tertiary care hospitals, out-patient departments, specialized intensive care units, cardiac and pulmonary rehabilitation units, fitness centers, geriatric homes, gymnasiums, sports units, pediatric units, community health centers, research-driven institutes and other interdisciplinary health care centers/industry, in both rural and urban areas.
PSO 6	Apply creativity and competency 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

VIII. **Course learning outcomes**: are defined within the course content that makes up the program. The courses are structured such that learning is vertically and horizontally integrated into the curriculum. The CBCS curriculum offers a certain degree of flexibility in taking courses. Course learning is aligned to the program learning outcomes and graduate attributes. The MPT program is inclusive of 4 semesters inclusive of 12 core courses, (35 Credits), 6 ability enhancement compulsory courses (AECC- 14 credits), 6 ability enhancement elective courses (AEEC – 6 credits) and 3 discipline specific skill electives (SEC – 4 credits) and 2 generic electives (GEC – 2 credits). Clinical training (CLT) is included in each semester (22 credits). Research project will be submitted as a mandatory requirement for award of Master's degree (7 credits).Evaluation of the courses vary as appropriate to the subject area, inclusive of formative and summative assessment, on-going comprehensive assessment in the form of closed and open book tests, objectively structured practical examination OSPE , objectively structured clinical examination OSCE, problem based assignments, practical assignments, observation of practical skills, project reports, case reports, viva, seminars, essays, and others.

IX. CBCS DEFINITION AND BENEFITS :

Choice Based Credit System is a flexible system of learning. The distinguishing features of CBCS are the following:

- It permits students to learn at their own pace.
- The electives are selected from a wide range of elective courses offered by the other University Departments.
- Undergo additional courses and acquire more than the required number of credits.
- Adopt an inter-disciplinary and intra-disciplinary approach in learning.
- Make best use of the available expertise of the faculty across the departments or disciplines
- Has an inbuilt evaluation system to assess the analytical and creativity skills of students in addition to the conventional domain knowledge assessment pattern.

1. Definitions of Key Words:

i. **Academic Year:** Two consecutive (one odd + one even) semesters constitute one academic year.

ii. The CBCS provides choice for students to select from the prescribed courses (core, elective or minor or soft skill courses).

iii. **Course**: Usually referred to, as "papers" is a component of a programme. All courses need not carry the same weight. The courses should define learning objectives and learning outcomes. A course may be designed to comprise lectures/ tutorials/ laboratory work/ outreach activities/ project work/ viva/ seminars/ term papers/assignments/ presentations/ self-study etc. or a combination of some of these.

iv. **Credit Based Semester System (CBSS):** Under the CBSS, the requirement for awarding a degree or diploma or certificate is prescribed in terms of number of credits to be completed by the students.

v. **Credit:** A unit by which the course work is interpreted. It functions the number of hours of instructions required per week. One credit is equivalent to one hour of teaching (lecture or tutorial) or two hours of practical work/field work per week.

vi. **Cumulative Grade Point Average (CGPA):** It is a measure of overall cumulative performance of a student over all semesters. The CGPA is the sum total of the credit points obtained by the student in various courses in all semesters and the sum of the total credits of all courses in all the semesters.

vii. **Grade Point:** It is a numerical marking allotted to each letter grade on a 10-point scale.

viii. **Letter Grade:** It is an appreciated point of the student's performance in a selected course. Grades are denoted by letters O, A+, A, B, C and RA x. Programme: An educational programme leading to award of a Degree certificate.

ix. **Semester Grade Point Average (SGPA):** It is index of performance of all performance of work in a semester. Its total credit points obtained by a student in various courses registered in a semester and the total course credits taken during that semester. It shall be expressed up to two decimal places.

x. **Semester:** Each semester will extend for 6 months and will consist of minimum of 130 teaching/learning days, exclusive of examinations and holidays. The odd semesters will be scheduled from July to December and even semesters from January to June.

xi. **Transcript or Grade Card or Certificate**: Based on the grades earned, a gradecertificate shall be issued to all the registered students after every semester. The grade certificate will display the course details (code, title, number of credits, grade secured) along with SGPA of that semester and CGPA earned till that semester.

X. SEMESTER SYSTEM AND CHOICE BASED CREDIT SYSTEM

The semester system accelerates the teaching-learning process and enables vertical and horizontal mobility of students in learning. The credit based semester system provides flexibility in designing curriculum and assigning credits based on the course content and hours of teaching. The choice based credit system enables students to take courses of their choice, learn at their own pace, undergo additional courses and acquire more than the required credits, and adopt an interdisciplinary approach to learning.

10.1. Semesters:

An academic year consists of two semesters:

Semesters	**PG**
Odd Semesters 1^{st},3^{rd},	August – January
Even Semesters 2^{nd}, 4^{th}	February – July

10.2Credits:

Credit defines the coefficient of contents/syllabus prescribed for a course and determines the number of hours of instruction required per week. Credits will be assigned in each course on the basis of number of lectures/ practical/tutorial/ laboratory work and other forms of learning required, to complete the course contents in a 15-20 week schedule:

a. ***1 credit*** **=** 1 hour of lecture per week
b. ***3 credits*** = 3 hours of instruction per week
   - ✓ Credits will be assigned on the basis of the lectures (L) / tutorials (T) / Clinical Training (CR) / laboratory work (P) / Research Project (RP) and other forms of learning in a 15-20 week schedule L - One credit for one hour lecture per week
c. **P/T -** One credit for every two hours of laboratory or practical
d. **CR -** One credit for every three hours of Clinical training/Clinical rotation/posting
e. **RP** - One credit for every two hours of Research Project per week – Maximum Credit 20- 25

	Lecture - L	**Tutorial - T**	**Practical - P**	**Clinical Training/ Rotation– CT/CR**	**Research Project– RP***
1 Credit	1 Hour	2 Hours	2 Hours	3 Hours	2 Hours
RP*	Maximum Credit 20 – 25 / Semester				

10.3Types of Courses: Courses in the programme are of three kinds:

- **Core Course**
- **Elective Course**
- **Ability Enhancement Course**

1. **Core Course:** A course, which should compulsorily be studied by a candidate as a basic requirement to complete the program, is termed as a Core course. There are Core Courses in every semester.

2. **Elective Course:** A course which can be chosen from a very specific or advanced subject of study or which provides an extended scope or which enables exposure to some other domain or expertise, is called an Elective Course. Elective courses may be of two types

2a. Discipline Specific Skill Elective (SEC) Course: Elective courses offered by the main subject of study are referred to as Discipline Specific Elective. The Institute may also offer discipline related Elective courses of interdisciplinary nature. An elective may be "Discipline Specific Electives (DSE)" gazing on those courses which add intellectual efficiency to the students.

2b. Generic Elective (GE) Course: An elective course chosen generally from an unrelated discipline/subject, with an intention to seek exposure is called a Generic Elective.

Dissertation / Project: An Elective/Core course designed to acquire special / advanced knowledge, such as supplement study / support study to a project work, and a candidate studies such a course on his own with an advisory support by a teacher / faculty member is called dissertation / project.

3. Ability Enhancement Courses (AEC): The Ability Enhancement (AE) Courses may be of two kinds: Ability Enhancement Compulsory Courses (AECC) and Skill Enhancement Courses (SEC).

   Ability Enhancement Compulsory Courses (AECC): "AECC" courses are the courses based upon the content that leads to knowledge enhancement.

   Skill Enhancement Courses (SEC): SEC courses are value-based and/or skill-based and are aimed at providing hands-on-training, competencies, skills, Indian and foreign languages etc. These courses may be chosen from a pool of courses designed to provide value-based and/or skill-based knowledge.

10.4 Assigning Credit Hours per Course: While there is flexibility for the departments in allocation of credits to various courses offered, the general formula would be:

- All core courses will be restricted to a maximum of 4 credits
- All electives will be restricted to a maximum of 3 credits
- All ability enhancement courses will be restricted to a maximum of 2 credits

- Projects will be restricted to a maximum of 20-25 credits

Any course requiring more than 4 credit hours for covering the syllabus content will be divided into two courses i.e., 6 Credits Course 1 - 3 credits + Course 2 – 3 credits or 6 Credits Course 1 Theory - 4 credits + Course 2 Lab – 2 credits.

10.5 Assigning total Credits for a Program: The UGC, in its notification No.F.1-1/2015 (Sec.) dated 10/4/15 has provided a set of Model curricula and syllabi for CBCS programs. In conformation with this notification, the MPT program credits for 2 years duration will be 94 credits in total, inclusive of clinical rotation/clinical training and research project training.

XI. CREDIT VALUE PER COURSE & STRUCTURE OF SYLLABUS:

To ensure uniformity in assigning the credits to a course, a structured and unitized syllabus shall be observed. For PG Programs each course will be provided a structured syllabus in the following format:

a) Title of the Course
b) Learning Objectives
c) Units for syllabus Content
d) Learning Outcomes
e) References
    a. Text Books – 2
    b. Reference Books –2
    c. Web Resources – 2 Web Portals

Minimum credit allocation will be as per requirements of each course curriculum.

Structure of CBCS MPT Curriculum
Community Physiotherapy

Semester I		Semester II	
Course Code	**Core Course**	**Course Code**	**Core Course**
MPT061	Ergonomics and Applied Biomechanics	MPT063	Early Growth And Development
MPT062	International Classification of Function	MPT064	Preventive and Community Physiotherapy- Applied Science
MPT003	Exercise physiology in health and disease	MPT065	Applied Sociology and Psychology
Semester III		**Semester IV**	
Course Code	**Core Course**	**Course Code**	**Core Course**
MPT066	Physiotherapy for Geriatric Health	MPT069	Recent Advances in Preventive and Community Physiotherapy
MPT067	Preventive physiotherapy and health promotion	MPT070	Recent advances in Woman's Health
MPT068	Physiotherapy for Woman's Health	MPT071	Industrial Therapy

XII. SELECTION OF ABILITY ENHANCEMENT ELECTIVE AND SKILLS ENHANCEMENT COURSES:

The students should apply in the prescribed format and should reach the CBCS coordinator before the start of the semester. All candidates must register for the courses of the said semester.

List of Ability Enhancement Compulsory Courses AECC (Credits= 2/3)			
SrNo	Elective Code	Title	Semester
1	MPTAECC001	Cardiopulmonary Resuscitation	1
2	MPTAECC002	Research methods	1
3	MPTAECC003	Administration, management , professional ethics	1
4	MPTAECC004	Teaching technology	1
5	MPTAECC005	Legal issues and professional ethics	2
6	MPTAECC006	Intellectual property rights and publication ethics	4

List of Ability Enhancement Elective Courses (Credits=2)			
SrNo	Elective Code	Title	Semester
1	MPTAEEC001	Strengthening and relaxation techniques	3
2	MPTAEEC002	Exercise Psychology	3
3	MPTAEEC003	Radiological diagnosis	4
4	MPTAEEC004	Clinical Nutrition	4
5	MPTAEEC005	Physiotherapy in oncology	4
6	MPTAEEC006	Vestibular Rehabilitation	4

List of Skill Enhancement Elective Courses (Credits=2)			
SrNo	Elective Code	Title	Semester
1	MPTSEC001	Global Health care Issues	2
2	MPTSEC002	National Healthcare Policies	2
3	MPTSEC003	Applications of Yoga in Physiotherapy	3

List of Generic Elective Courses (Credits=2)			
SrNo	Elective Code	Title	Semester
1	MPTGEC001	Medical Device Innovation	2
2	MPTGEC002	Scientific Writing	2

Elective courses from Swayam/ NPTEL platform [www. https://swayam.gov.in & http://nptel.ac.in] maybe included in the above pool as and when needed.

XIII. Framework of Curriculum

Semester I

MPT - Community Physiotherapy																		
Semester 1 (20 weeks teaching/ 40 hours/week)																		
			Credits per week				Hours per week			Hours per semester				Marks				
Course Code	Course Title	Course Description	T/S	P/RP	CLT	Total Credits	T/S	P/RP	CLT	L/S	T/RP	CLT	Total hours	IA Theory	Semester Exam Theory	IA Practical	Semester Exam Practical	Total
MPT061	Ergonomics & Applied Biomechanics	Core Theory and Practical	3	1		4	3	2		60	40		100	20 *	80	20 *	80	200
MPT062	ICF- International classification of function	Core Theory	2			2				40			40	40 #				
MPT003	Exerise physiology in health and disease	Core Theory and practical	2	1		3	2	2		40	40		80	20 *	80			100
MPTAECC001	Cardiopulmonary resuscitation	Ability Enhancement Compulsory Course	1	1		2	1	2		20	40		60	40 #				
MPTAECC002	Research methods	Ability Enhancement Compulsory Course	2			2	2			40			40	40 #				
MPTAECC003	Bioethics, Health management and Administration	Ability Enhancement Compulsory Course	3			3	3			60			60	40 #				
MPTAECC004	Teaching Technology	Ability Enhancement Compulsory Course	2	1		3	2	2		40	40		80	40 #				
	Clinical training				5	5			15			300	300					
	Research Protocol			1		1		2			40		40					
		Total	15	5	5	25	15	10	15	300	200	300	800					300

* Internal Assessment Exam will be conducted for 40 marks and be calculated out of 10/20 for inclusion in Semester Exam
# College Exam

Semester II

MPT - Community Physiotherapy																		
Semester II (20 weeks teaching/ 40 hours/week)																		
			Credits per week				Hours per week			Hours per semester				Marks				
Course Code	Course Title	Course Description	T/S	P/RP	CLT	Total Credits	T/S	P/RP	CLT	T/S	P/RP	CLT	Total hours	IA Theory	Semester Exam Theory	IA Practical	Semester Exam Practical	Total
MPT063	Early Growth and development	Core Theory	2			2	2			40			40	40 #				
MPT064	Preventive and Community Physiotherapy-Applied Science	Core Theory and Practical	2	1		3	2	2		40	40		80	20 *	80	20 *	80	200
MPT065	Applied sociology and psychology	Core Theory and Practical	2	1		3	2	2		40	40		80	20 *	80			100
MPTAECC005	Legal issues and Professional ethics	Ability Enhancement compulsory course	2			2	2			40			40	40 #				
MPTGEC001/002	Medical Device Innovation/ Scientific writing	General Elective Course	2			2	2			40			40	40 #				
MPTSEC001/002	Global health care issues /National Healthcare Policies	Skill Enhancement Elective Course	1	1		2	1	2		20	40		60				40 #	
	Research Project			2		2		5			100		100					
	Clinical Training				6	6			18			360	360					
		Total	11	5	6	22	11	11	18	220	220	360	800					300

* Internal Assessment Exam will be conducted for 40 marks and be calculated out of 10/20 for inclusion in Semester Exam

Semester III

MPT - Community Physiotherapy																		
Semester III (20 weeks teaching/ 40 hours/week)																		
			Credits per week				Hours per week			Hours per semester				Marks				
Course Code	Course Title	Course Description	T/S	P/RP	CLT	Total Credits	T/S	P/RP	CLT	T/S	P/RP	CLT	Total hours	IA Theory	Semester Exam Theory	IA Practical	Semester Exam Practical	Total
MPT066	Physiotherapy for geriatric health	Core Theory and Practical	2	1		3	2	2		40	40		80	20 *	80			100
MPT067	Preventive physiotherapy and health promotion	Core Theory and Practical	2	1		3	2	2		40	40		80	40#				
MPT068	Physiotherapy for women's health	Core Theory and Practical	2	1		3	2	2		40	40		80	20*	80	20 *	80	200
MPTAEEC001/002	Strengthening and relaxation techniques/Exercise Psychology	Ability Enhancement Elective Course	1	1		2	1	2		20	40		60	40 #				
MPTSEC003	Application of Yoga in Physiotherapy	Skill Enhancement Course	1	1		2	1	2		20	40		60	40 #				
	Research Data Collection and Analysis			2		2		4			80		80					
	Clinical Training				6	6			18			360	360					
		Total	8	7	6	21	8	14	18	160	280	360	800					300

* Internal Assessment Exam will be conducted for 40 marks and be calculated out of 10/20 for inclusion in Semester Exam

College Exam

Semester IV

MPT - Community Physiotherapy																	
Semester I V (20 weeks teaching/ 40 hours/week)																	
			Credits per week				Hours per week			Hours per semester				Marks			
Course Code	Course Title	Course Description	T/S	P/RP	CLT	Total Credits	T/S	P/RP	CLT	TS	P/RP	CLT	Total hours	IA Theory	Semester Exam Theory	IA Practical	Semester Exam Practical	Total
MPT069	Recent advances in preventive and community Physiotherapy	Core Theory and Practical	2	1		3	2	2		40	40		80	20 *	80	20 *	80	200
MPT070	Recent advances in women's health	Core Theory and Practical	2	1		3	2	2		40	40		80	20 *	80	20 *	80	200
MPT071	Industrial Therapy	Core theory and Practical	2	1		3	2	2		40	40		80	40 #				
MPTAEEC003/04	Radiological diagnosis/Clinical Nutrition	Ability Enhancement Elective Course	1	1		2	1	2		20	40		60	40 #				
MPTAEEC005/006	Vestibular Rehabilitation /Physiotherapy in oncology	Ability Enhancement Elective Course	1	1		2	1	2		20	40		60	40 #				
MPTAECC006	Intellectual property rights and publication ethics	Ability Enhancement Compulsory Course	2			2	2			40			40	40 #				
	Research Dissertation submission and manuscript preperation			2		2		4			80		80					
	Clinical Training				5	5			16			320	320					
		Total	10	7	5	22	10	14	16	200	280	320	800					400
			* Internal Assessment Exam will be conducted for 40 marks and be calculated out of 10/20 for inclusion in Semester Exam															
			# College Exam															

XIV. Rules and Regulation for Examination of Master of Physiotherapy Program

1. **Title of the courses offered : Master of Physiotherapy-Community Physiotherapy**
2. **Duration of the course:** Two years

3. **Medium of instruction:** The medium of instruction and examination shall be in English

4. **Letter Grades and Grade Points:**

MGMSOP has adopted the UGC recommended system of awarding grades and CGPA under Choice Based Credit Semester System for all the UG/PG courses.

4.1 MGMSOP would be following the absolute grading system, where the marks are compounded to grades based on pre-determined class intervals.

4.2 The UGC recommended 10-point grading system with the following letter grades will be followed:

Table 1: Grades and Grade Points:

Letter Grade	Grade Point
O (Outstanding)	10
A+ (Excellent)	9
A (Very Good)	8
B (Good)	7
C (Above Average)	6
F (Fail)/ RA (Reappear)	0
Ab (Absent)	0
Not Completed (NC)	0
RC (<50% in attendance or in Internal Assessment)	

4.3 A student obtaining Grade F/RA will be considered failed and will require reappearing in the examination.

4.4 Candidates with NC grading are those detained in a course (s); while RC indicate student not fulfilling the minimum criteria for academic progress or less than 50% attendance or less than 50% in internal assessments (IA). Registrations of such students for the respective courses shall be treated as cancelled. If the course is a core course, the candidate has to re-register and repeat the course when it is offered next time.

5. CBCS Grading System - Marks Equivalence Table

5.1 Table 2: Grades and Grade Points

Letter Grade	Grade Point	% of Marks
O (Outstanding)	10	86-100
A+ (Excellent)	9	70-85
A (Very Good)	8	60 -69
B (Good)	7	55 -59
Passing criteria for MPT C (Above Average)	6	50- 54
F (Fail))/ RA (Reappear)	0	Less than 50
Ab (Absent)	0	-
NC- not completed	0	-
RC- Repeat the Course	0	-

5.2Table 3: Cumulative Grades and Grade Points

Letter Grade	Grade Point	CGPA
O (Outstanding)	10	9.01 - 10.00
A+ (Excellent)	9	8.01 – 9.00
A (Very Good)	8	7.01 – 8.00
B (Good)	7	6.00 - 7.00
C (Above Average)	6	5.01 - 6.00

6. Assessment of a Course: Evaluation for a course shall be done on a continuous basis. Uniform procedure will be adopted under the CBCS to conduct internal assessments (IA), followed by one end-semester university examination (ES) for each course.

6.1 For all category of courses offered (Theory, Practical, Ability Enhancement Courses [AE]; Skills Enhancement Courses [SE] Theory or P (Practical) & RP(Research Project), assessment will comprise of Internal Assessment (IA) and the end–semester (ES) examination as applicable.

6.2 Courses in programs wherein Theory and Practical/Clinical are assessed jointly, the minimum passing head has to be 50% Grade each for theory and practical's separately. RA grade in any one of the components will amount to reappearing in both components. i.e. theory and practical.

6.3 Evaluation for a course with clinical rotation or clinical training will be done on a continuous basis.

7. Eligibility to appear for the end-semester examinations for a course includes:

7.1 Candidates having ≥ 75% attendance and obtaining minimum 40% in internal assessment in each course, qualify for appearing in the end-semester university examinations.
7.2 The students desirous of appearing for university examination shall submit the application form duly filled along with the prescribed examination fee.
7.3 Incomplete application forms or application forms submitted without prescribed fee or application form submitted after due date will be rejected and student shall not be allowed to appear for examination.

8. Passing Heads

8.1 Courses where theory and practical are involved, the minimum passing head shall be 50% in total including the internal assessment.

8.2 Elective subjects – the minimum prescribed marks for a pass in elective subject will be 50%. The marks obtained in elective subjects will be communicated to the university before the commencement of university examination.

9 **Detention:** A student not meeting any of the above criteria maybe detained (NC) in that particular course for the semester. In the subsequent semester, such a candidate requires improvement in all, including attendance and/or IA minimum to become eligible for the next end-semester examination.

10 The maximum duration for completing the program will be 4 years (minimum duration of program x 2) i.e. (2x2) =4 years for PG program, failing which his/her registration will be cancelled. Full fees of entire program of 2 years as the case may be liable to be paid by the students.

11 Carry over benefit:

11.1 A student will be allowed to keep term for Semester II irrespective of number of heads of failure in Semester I.
11.2 A student will be allowed to keep term for Semester III if she/he passes each Semester I and II OR fails in not more than 2 courses combined in semester I and II.
11.3 Student will be allowed to keep term for Semester IV irrespective of number of heads of failure in Semester III. However, student must mandatorily have passed each course of Semester I and II in order to appear for Semester IV exam.

12 University End-Semester Examination

12.1 There will be one final university examination at the end of every semester.

12.2 A student must have minimum 75% attendance (Irrespective of the type of absence) in theory and practical in each subject to be eligible for appearing the University examination.

12.3 The Principal / Director shall send to the university a certificate of completion of required attendance and other requirements of the applicant as prescribed by the university, two weeks before the date of commencement of the written examination.

12.4 A student shall be eligible to sit for the examination only, if she / he has secured minimum 40% in internal assessment (individually in theory and practical as applicable) of that course. The internal examinations will be conducted at college/ department level.

12.5 Notwithstanding any circumstances, a deficiency of attendance at lectures or practical maximum to the extent of 10% - may be condoned by the principal / dean /director.

12.6 If a student fails either in theory or in practical, he/ she have to re-appear for both.

12.7 There shall be no provision of re-evaluation of answer sheets. Student may apply to the university following due procedure for recounting of theory marks in the presence of the subject experts.

12.8 Internal assessment shall be submitted by the Head of the Department to the University through Director of MGMSOP at least two weeks before commencement of University theory examination.

13. Supplementary examination: The supplementary examination will be held in the next semester. Eligibility to appear for supplementary examination will be as per rule number 11.1, 11.2 and 11.3.

14. Re-Verification

There shall be provision of re-totaling of the answer sheets; candidate shall be permitted to apply for recounting/re-totaling of theory papers within 8 days from the date of declaration of results.

15. Scheme of University Exam Theory PG Program: General structure / patterns for setting up question papers for Theory / Practical courses, for PG program of MGMSOP are given in the following tables. Changes may be incorporated as per requirements of specific courses.

15.1 : Theory Question Paper Pattern For Core Subjects in University Examinations

Under CBCS - 80 Marks

Question type	No. of questions	Marks/ question	Question X marks	Total marks
Section 1				
Short answer questions	4	10	4 x 10	40
Section 2				
Long answer question	2	20	2 x 20	40
				Total= 80

15.2 University Examination Pattern (Practical): 80 Marks

Long Case	40
OSCE Station(4)	40
	Total = 80 M

15.3 Internal examination

Mid Semester Examination pattern (Theory) : 40marks

Question type	No. of questions	Marks/question	Question X marks	Total marks
Long essays	2	10	2x10	20 marks
Short answers	4	5	4x5	20 marks
Total				**Total= 40 marks**

Note – Internal assessment marks will include continuous comprehensive evaluation inclusive of seminars, case presentations, essays, open book exams, summative evaluation (and others) and mid semester examination marks and will be converted to as per weightage.

15.4Internal Examination

Mid Semester Examination Pattern (Practical): 40 Marks

Short Case	20
OSCE Station (2)	20
	Total = 40 M

15.5Assessment of Seminar (100 Marks)

Description	Marks
Submission of seminar report	50
Subject knowledge	10
Concept and Methodology	10
Presentation	10
VIVA	20
	Total = 100

15.6Clinical Evaluation:

- Students will be placed in clinical areas based on specialty on a rotator basis. Each clinical posting will be of 6 weeks duration with a minimum of 3 postings in each semester.
- Presentation of minimum 2 cases to the respective clinical supervisors and documentation in the Log book for each posting is mandatory, failing which the particular posting will be repeated.
- Attendance is mandatory at all clinical postings.

Clinical competency

Students should demonstrate clinical competency in assessment, functional diagnosis on ICF basis, plan of care and therapeutic interventions relating to the specific dysfunctions, in all settings (inpatient and outpatient) , on all types of conditions (surgical, non-surgical, paediatric and geriatric).They should be able to document their findings in an efficient and organized manner .

During clinical practice, student should be able to demonstrate competency
A. in Assessment And Clinical Reasoning: Student should be able to apply the ICF framework in selecting measurement tools to ensure a holistic approach to evaluation of body structure and function, activities , participation; and select and administer assessment/evaluation tools and techniques suitable for the patients problems and condition(s) based on the best available evidence and interpret the information obtained demonstrating evidence-based decision-making and safe handling technique such as: 1. Risk factor screening (Red flags & Yellow flags). 2. Assessment of dysfunction. 3. Interpretation of radiological, electrophysiological, haematological and biochemical investigations. 4. Fitness and functional performance testing as appropriate 5. Identification and quantification of environmental and home barriers and facilitators 6. Identification and analysis of body mechanics during self-care, home management, work, community, tasks, or leisure activities.

7. Identification and analysis of ergonomic performance during work/school/play)
8. Assessment of Quality of Life through use of appropriate questionnaire and generic or disease-specific scales (nice to know)
9. Identification and prioritization of impairments in body functions and structures, and activity limitations and participation restrictions to determine specific body function and structure, and activities and participation towards which the intervention will be directed
10. State the evidence (patient/client history, lab diagnostics, tests and measures and scientific literature) to support a clinical decision.
11. Determine the predicted level of optimal functioning and the time required to achieve that level.
12. Recognize barriers that may impact the achievement of optimal functioning within a predicted time frame and ways to overcome them when possible.

B. In Developing Plan Of Care:

Student should be able to:
1. Identify patient goals and expectations.
2. Design a Plan of Care with measurable functional goals (short-term and long-term) that are prioritized and time bound.
3. Consult patient and/or caregivers to develop a mutual agreement regarding the plan of care.
4. Identify indications/ additional needs for consultation with other professionals & appropriate referrals.
5. Select the interventions that are safe, realistic and meet the specified functional goals and outcomes in the plan of care: (a) identify precautions and contraindications, (b) provide evidence for patient-centered interventions that are identified and selected, (c) define the specificity of the intervention (time, intensity, duration, and frequency).
6. Measure and monitor patient response to intervention and modify elements of the plan of care and goals in response to changing patient/client status, as needed.
7. Establish criteria for discharge based on patient goals and current functioning and disability.

C. in Physiotherapy Intervention:

Important influences on Physiotherapy management choices may include but not limited to:
1. Diverse settings of care including critical, acute, long term, rehabilitation, and community care;
2. Lifespan issues ranging from the neonatal stage to those associated with aging
3. Life style modification for diseases and for prevention
4. Skill of application of physical and electrical agents
5. Facilitation, re-education and training of mobility, strength, endurance, motor control, posture, gait, balance,fitness through skillful use of various therapeutic exercise techniques with appropriate manual treatment techniques or therapeutic gymnasium equipment.
6. Functional training in self-care, home, work (job, school and play), community and leisure activities

15.7 Performance evaluation:

An end semester performance report will be submitted to the Head of Department as per format provided.

15.8Research Project report:-

MPT student should submit a suitable research project topic forwarded by the guide to MGM School of Physiotherapy by November in semester I. Following approval of ethics & scientific committee, work should be carried out in subsequent semesters. Completed dissertation, checked for plagiarism, accepted & signed by the guide should be submitted to MGMIHS as a mandatory requirement for completion of MPT program in Semester IV (January).

16. Research Project report evaluation guidelines for MPT program:

The research project report allows the student to develop and display in-depth understanding of a theme in International Studies, as well as an in-depth understanding of the appropriate research tools, approaches and theories applicable to that theme. The dissertation should be based on a well-defined and clear research question of scholarly significance, and that the dissertation develops a theoretically and methodologically informed and evidence-based answer to that question.
Criteria for evaluating a research project report: The following guidelines and criteria should be applied when assessing a dissertation.

Guidelines to Prepare Research Proposal

1. **Selection of Research Problem:**
   Select your interest area of research, based on felt need, issues, social concern.
   a. State the problem in brief, concise, clear.
   b. State the purpose of selected study & topic.
   c. State the objectives of proposal/project.
   d. Prepare conceptual framework based on operational definition.
   e. Write scope of research proposal/project.

2. **Organizing Review of Literature**
   a. Study related and relevant literature which helps to decide conceptual framework and research design to be selected for the study.
   b. Add specific books, bulletins, periodicals, reports, published dissertations, encyclopedia and text books.
   c. Organize literature as per operational definition.
   d. Prepare summary table for review of literature.

3. **Research Methodology: To determine logical structure & methodology for research project.**
   a. Decide and state approach of study i.e. experimental or non-experimental.

b. Define/find out variables to observe effects on decided items & procedure.
c. Prepare simple tool or questionnaire or observational checklist to collect data.
d. Determined sample and sampling method
e. Mode of selection ii) Criteria iii) Size of sample iv) Plan when, where and how will be collected.
f. Test validity of constructed tool.
g. Check reliability by implementing tool before pilot study(10% of sample size)
h. Conduct pilot study by using constructed tool for 10% selected sample size.

4. Data collection: To implement prepared tool

a. Decide location.
b. Time
c. Write additional information in separate exercise book to support inferences and interpretation.

5. Data analysis and processing presentation

a. Use appropriate method of statistical analysis i.e. frequency and percentage.
b. Use clear frequency tables, appropriate tables, graphs and figures.
c. Interpretation of data:
d. In relation to objectives
e. Hypothesis
f. Variable of study or project
g. Writing concise report

6. Writing Research Report

a. **Aims**:
i. To organize materials to write project report
ii. To make comprehensive full factual information
iii. To make appropriate language and style of writing
iv. To make authoritative documentation by checking footnotes, references & bibliography
v. To use computers & appropriate software

b. Points to remember

i. Develop thinking to write research report
ii. Divide narration of nursing research report
iii. Use present tense and active voice
iv. Minimize use of technical language
v. Use simple, straightforward, clear & concise language
vi. Use visual aids in form of table, graphs & figures
vii. Treat data confidentially
viii. Review & rewrite if necessary

Evaluation Criteria for Project Report

Sr. No	Criteria	Rating					Remark
		1	2	3	4	5	
I	**Statement of the problem**						
	1. Significance of the problem selected						
	2. Framing of title and objectives						
II	**Literature Review**						
	1. Inclusion of related studies on the topic and its relevance						
	2. Operational definition						
III	**Research Design**						
	1. Use of appropriate research design						
	2. Usefulness of the research design to draw the inferences among study variables/ conclusion						
IV	**Sampling Design**						
	1. Identification & description of the target population						
	2. Specification of the inclusion & exclusion criteria						
	3. Adequate sample size, justifying the study design to draw conclusions						
V	**Data Collection Procedure**						
	1. Preparation of appropriate tool						
	2. Pilot study including validity & reliability of tool						
	3. Use of appropriate procedure/ method for data collection						
VI	**Analysis of Data & Interpretation**						
	1. Clear & logical organization of the finding						
	2. Clear presentation of tables(title, table & column heading)						
	3. Selection of appropriate statistical tests						
VII	**Ethical Aspects**						
	1. Use of appropriate consent process						
	2. Use of appropriate steps to maintain ethical aspects & principles						
VIII	**Interpretation of the finding**						
	& appropriate discussion of the results						

IX	**Conclusion**						
	Summary & recommendations						
X	**Presentation/ Report Writing**						
	Organization of the project work including language & style of presentation						

Signature of the Evaluator

XV. Eligibility for award of degree

1. 1. A candidate shall have passed in all the subjects of all semester's I-IV, completed and submitted dissertation to be eligible for award of Masters degree.
2. The performance of a candidate in a course will be indicated as a letter grade, whereas grade point will indicate the position of the candidate in that batch of candidates. A student is considered to have completed a course successfully and earned the prescribed credits if he/she secures a letter grade other than F/RA. A letter grade RA in any course implies he/she has to re-appear for the examination to complete the course.
3. The RA grade once awarded in the grade card of the student is not deleted even when he/she completes the course successfully later. The grade acquired later by the student will be indicated in the grade sheet of the subsequent semester in which the candidate has appeared for clearance in supplementary exams
4. If a student secures RA grade in the Project Work/Dissertation, he/she shall improve it and resubmit it, if it involves only rewriting / incorporating the revisions suggested by the evaluators. If the assessment indicates lack of student performance or data collection then the student maybe permitted to re-register by paying the prescribed re-registration fee and complete the same in the subsequent semesters.

A candidate shall be declared to have passed the examination if he/she obtains the following minimum qualifying grade / marks:-

(a) For Core courses CT (Core Theory) and CP (Core Practical), student shall obtain Grade C (50 % of marks) in the University End Semester Examination (ES) and in aggregate in each course which includes both Internal Assessment and End Semester Examination.

(b) For Elective Courses student shall obtain minimum Grade C (50 % of marks) in the college examination, clinical rotation, case studies, seminars, journal clubs, microteaching and research work.

XVI. Computation Of SGPA and CGPA

The UGC recommends the following procedure to compute the Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA):

i. The SGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone & earned by a student, i.e.,

SGPA (Si) = $\sum$(Ci x Gi) / $\sum$Ci

where Ci is the number of credits of the ith course and Gi is the grade point scored by the student in the ith course.

ii. The CGPA is also calculated in the same manner taking into account all the courses undergone & earned by a student over all the semesters of a programme, i.e.

CGPA = $\sum$(Ci x Si) / $\sum$ Ci

where Si is the SGPA of the ith semester and Ci is the total number of credits in that semester.

iii. The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.

Illustration of Computation of SGPA and CGPA

Course	Credit	Grade Letter	Grade Point	Credit Point (Credit x Grade)
Course 1	3	A	8	3 X 8 = 24
Course 2	4	B+	7	4 X 7 = 28
Course 3	3	B	6	3 X 6 = 18
Course 4	3	O	10	3 X 10 = 30
Course 5	3	C	5	3 X 5 = 15
Course 6	4	B	6	4 X 6 = 24
	20			139
Illustration for SGPA Thus, SGPA = 139/20 = 6.95				

Semester 1	**Semester 2**	**Semester 3**	**Semester 4**
Credit : 20 SGPA : 6.9	Credit : 22 SGPA : 6.8	Credit : 25 SGPA : 6.6	Credit : 26 SGPA : 6.0
Semester 5	**Semester 6**		
Credit : 26 SGPA : 6.3	Credit : 25 SGPA : 8.0		
Illustration for CGPA			

Thus,

$$\text{CGPA} = \frac{20 \times 6.9 + 22 \times 6.8 + 25 \times 6.6 + 26 \times 6.0 + 26 \times 6.3 + 25 \times 8.0}{144} = 6.75/\text{B+}$$

ii. Transcript : Based on the above recommendations on Letter grades, grade points and SGPA and CGPA, the transcript for each semester and a consolidated transcript indicating the performance in all semesters may be issued.

XVII. Course Registration

17.1. After admission to a Program, a student identity number is generated .This PRN number maybe used in the process of registration for a course.

17.2 The registration process is a registration for the courses in a semester. The registration card is generated after a student completes the choice of electives. Every student shall register for the stipulated number of Courses/Credits semester wise even if electives are not prescribed in their regulations for the said semester. Every student must register for Elective/Ability Enhancement Courses semester-wise for the courses he/she intends to undergo in that semester within two weeks of commencement of the semester.

The list of students registered for each elective will be communicated to the HoDs/ Course Chairpersons. Students will be requested to authenticate the chosen electives by appending their signature in acceptance with approval by the HoDs/ Course Chairpersons. A soft copy of the registered students will be submitted to the elective course offering departments for their official use.

XVIII. Re - Entry After Break of Study:

The University regulations for readmission are applicable for a candidate seeking re-entry to a program.

a) Students admitted the program and absenting for more than 3 months must seek readmission into the appropriate semester as per university norms.

b) The student shall follow the syllabus in vogue (currently approved / is being followed) for the program.

c) All re-admissions of students are subject to the approval of the Vice-Chancellor.

XIX. Ranking

The first two ranks of the programme will be decided on the basis of grades of CGPA in the courses (core and DE courses only). In case of a tie, marks % [of core and DE courses only] will be taken into account.

XX. CLASSIFICATION OF SUCCESSFUL CANDIDATES

Overall Performance in a Program and Ranking of a candidate is in accordance with the University regulations.

Consolidated Grade Card		
Letter Grade	CLASSIFICATION	CGPA RANGE
O	First Class with Distinction	9.01 – 10
A+	First Class	8.01 - 9.00

A	First Class	7.01 - 8.00
B+	First Class	6.0 1- 7.00
B	Second Class	5.01- 6.00

A successful candidate will be :

(i) Who secures not less than O grade with a CGPA of 9.01 – 10.00 shall be declared to have secured 'OUTSTANDING' provided he/she passes the whole examination in the FIRST ATTEMPT;

(ii) Who secures not less than A+ grade with a CGPA of 8.01 – 9.00 shall be declared to have secured 'EXCELLENT' provided he/she passes the whole examination in the FIRST ATTEMPT;

(iii) Who secures not less than A grade with a CGPA of 7.01 –8.00 and completes the course within the stipulated course period shall be declared to have passed the examinations with 'Very Good'

iv) All other candidates (with grade B and above) shall be declared to have passed the examinations.

Master Of Physiotherapy (MPT)
Specialty - Community Physiotherapy

Semester-I (0-6 months)

Course Code	Course Title	Course Description	Theory/ Seminar Hours	Practical/ Research Hours	Clinical Hours	Credits
MPT061	Ergonomics and applied biomechanics	Core Theory and practical	60	40		4
MPT062	ICF- International classification of function	Core Theory	40			2
MPT003	Exercise physiology in health and disease	Core Theory and practical	40	40		3
MPTAECC001	Cardiopulmonary resuscitation	Ability Enhancement Compulsory Course	20	40		2
MPTAECC002	Research methods	Ability Enhancement Compulsory Course	40			2
MPTAECC003	Bioethics, Health management and Administration	Ability Enhancement Compulsory Course	60			3
MPTAECC004	Teaching technology	Ability Enhancement Compulsory Course	40	40		3
	Clinical Training				300	5
	Research Protocol			40		1

Name of the Programme	**Master Of Physiotherapy (MPT) Specialty - Community Physiotherapy**
Name of the Course	**Ergonomics & Applied Biomechanics**
Course Code	**MPT-061**
Credit per Semester	**4 credits**
Hours per Semester	**100 hours**

Course Learning Outcomes	
Student will be able to	
CO 1	Describe basic concept of ergonomics, importance of ergonomics, diagnose work related disorders, manage them and modify the work station accordingly, Provide advice about creation of healthy work environment, work station exercises, and home exercises.
CO 2	analyze basic and complex motions, perform posture and gait analysis, identify and co-relate normal movements and movement dysfunction
CO 3	asses movement dysfunction of various joints in upper extremity, lower extremity and spine, apply advance techniques /therapy to manage movement dysfunction

Unit	Topics	No. of Hrs.
1	**Ergonomics** Definition, principles, purpose and benefits of ergonomics. Anthropometric measurement Identifying work station Hazards Work station design, assessment and management Ergonomic Approach to lifting and handling, workspace and Environment. Recent advances in ergonomics	**10**
2	**Work related musculoskeletal disorders** Introduction Work related Fatigue and Stress, Chronic work related musculoskeletal disorders Repeated movements and repeated trauma affecting the musculoskeletal system Assessment, prevention and management of work related musculoskeletal disorders.	**5**
3	**Basic Concept in Biomechanics** • Fundamental concepts of biomechanics • Types of Motion, Structure and properties of Connective tissues, Joint Arthrokinematics and Osteokinematic, muscle structure • Methods of kinetics and kinematics investigations • Movement Analysis(Basic and advance techniques) • Posture and Gait Analysis • Biomechanics of respiration	**15**

4	**Application of biomechanics and outcome of movement impairments on Upper extremity joints** • Basic biomechanics of Upper extremity joints • Movement impairments of Shoulder girdle: Scapular dyskinesia and akinesia, Shoulder medial and lateral rotation syndrome, Glenohumeral Hypomobility Syndrome. Elbow Complex- Elbow dislocation, tennis elbow, golfers elbow and pulled elbow. Wrist Complex- Caprel tunnel syndrome, proximal and distal carpal bone mal-alignment • Applied biomechanics on Hand function	**10**
5	**Application of biomechanics and outcome of movement impairments on Lower extremity joints** • Basic biomechanics of Lower extremity joints • Movement impairments of Hip: Femoral Anterior Glide Syndrome, Femoral Anterior Glide with medial and lateral rotation, Hip medial and lateral rotation. Knee: patellofemoral, tibiofemoral joint dysfunction Ankle: Calcaneal eversion and inversion, flat foot, hallux valgus deformity.	**10**
6	**Application of biomechanics and outcome of movement impairments on Spinal joints** • Basic biomechanics of spine • Movement impairments of Cervical Spine: Flexion-Extension syndrome, rotation, rotation with flexion, rotation with extension, forward head posture, excessive cervical lordosis, upper cross syndrome. Thoracic Spine: Flexion-Extension syndrome, rotation, rotation with flexion, rotation with extension, thoracic kyphosis, scoliosis. Lumbar Spine: Flexion-Extension syndrome, rotation, rotation with flexion, rotation with extension, exaggerated lordosis, flat back, scoliosis.	**10**
Practical applications in ergonomics and biomechanics		**40**
Total		**100**

EXAMINATION SCHEME

Theory question paper pattern for University Semester Examination under CBCS - 80 marks

Question type	No. of questions	Marks/ question	Question X marks	Total marks
Section 1				
Short answer questions (2 from unit 1&2, 2 from unit 3-6)	4 out of 5	10	4 x 10	40
Section 2				
Long answer question (1 from unit 1&2, 1 from unit 3-6)	2 out of 3	20	2 x 20	40
				Total= 80

Internal examination pattern (Theory): 40marks

Question type	No. of questions	Marks/question	Question X marks	Total marks
Short answer questions (2 from unit 1&2, 2 from unit 3-6)	4	5	4x5	20
Long answer question (1 from unit 1&2, 1 from unit 3-6)	2	10	2x 10	20
Total				**Total= 40**

Practical question paper pattern for University Semester Examinations under CBCS - 80 marks

Exercise	Description	Marks
Q No 1	Long Case (Emphasis on assessment and outcome measures)	40
Q No 2	OSCE stations (4)	40
		Total = 80

Internal Examination Pattern (Practical): 40 Marks

Short Case(Emphasis on Emphasis on assessment and outcome measures)	20
OSCE stations (2)	20
	Total = 40 M

Internal Assessment marks will be weighted out of 20 marks, for theory and practical, respectively

Recommended Text Books:

- Peter j Baxter, Tar Ching Aw, Anne Cockcroft, Paul Durrington.**H**unter's Disease Of Occupation
- Robert B Wallace, Neal Kohatsu Public Health and Preventive Medicine
- Sahrmann, S. (2001). Diagnosis and treatment of movement impairment syndromes. Elsevier Health Sciences.
- Magee, D. J. (2013). Orthopedic physical assessment. Elsevier Health Sciences.
- Carol A. Oatis, Kinesiology: The Mechanics and Pathomechanics of Human Movement

Name of the Programme	**Master Of Physiotherapy (MPT) Specialty –Community Physiotherapy**
Name of the Course	**ICF- International classification of function**
Course Code	**MPT-062**
Credit per Semester	**2credits**
Hours per Semester	**40 hours**

Course Learning Outcomes	
Student will be able to	
CO 1	formulate plan of physiotherapy management based on ICF model
CO 2	outline functional impairments
CO 3	examine the different outcome measures
CO 4	prioritize treatment goals for management, identify strategies for cure, care and prevention; apply restorative & rehabilitative measures for maximum possible functional independence of a patient at home, work place and in the community following conservative or surgical management of cardiovascular disease.

Unit	**Topics**	**No. of Hrs.**
1	a. ICF 2000 biopsychosocial model of care Introduction Use of ICF model as clinical problem solving and others Development of ICF	**5**
2	a. Concepts of structural, functional impairment(musculoskeletal, neurological, cardiopulmonary etc.), contextual factors influencing function , b. evaluation of performance and assessment of capacity c. Measurement of activity limitations d. Measurement of participation restrictions **e.** Quality of life	**15**
3	**Functional diagnosis in** Musculoskeletal conditions, neurological conditions, cardiopulmonary conditions	**20**
Total		**40**

EXAMINATION SCHEME

Internal examination pattern (Theory): 40marks

Question type	No. of questions	Marks/question	Question X marks	Total marks
Short answers	8	5	8x5	40
Total				**Total= 40**

Recommended books-

- E-book. International Classification of Functioning, Disability and Health - Children and Youth Version. ICF-CY (PDF Format) , World Health Organization, ISBN-13 9789240682634
- ICIDH-2 , WHO 2001https://unstats.un.org/unsd/disability/pdfs/ac.81-b4.pdf
- ICF, WHO https://www.who.int/classifications/icf/en/

Name of the Programme	**Master Of Physiotherapy (MPT) Specialty - Community Physiotherapy**
Name of the Course	**Exercise physiology in health and disease**
Course Code	**MPT-003**
Credit per Semester	**3 credits**
Hours per Semester	**80 hours**

Course Learning Outcomes	
Student will be able to	
CO 1	describe the physiology of different body systems while exercising.
CO 2	examine the role of heart and lung during exercise performance.
CO 3	compare /contrast between aerobic and anaerobic exercises
CO 4	describe and assess the effects of environment on exercises.
CO 5	describe , assess and analyze physiological response to acute and long term exercise in health and disease.
	Expected Competencies: Student will be able to
EC1	perform prescreening of participants using Physical Activity Readiness Questionniare, Health History Questionnaire, ACSM Risk Factor Profile,other appropriate screening tools – rule out contra indications/ red flags to exercise ,identify yellow flags , end points of exercise

EC2	describe pre preparation for exercise, plan and design exercise prescription based on FIIT principle,
EC3	analyze physiological response to exercise using variables like heart rate, respiratory rate, BP, SaO2 prior to test , during , post exercise and during recovery period in healthy people and people with dysfunction
EC4	document and evaluate results of exercise sessions and provide clinical interpretation

Unit	Topics	No. of Hrs.
1	**Exercise physiology** a. Energy production, expenditure and transfer during exercise in cells. b. O2 metabolism and transfer c. O2 deficit and O2 debt d. O2 measurement during exercise and recovery e. Short term and long term energy system.	**5**
2	**Role of pulmonary and cardiovascular systems during exercise performance** a. Lung function and its role in exercise b. Ventilation and blood pressure during exercise c. CVS adjustments during exercise d. Muscle fibers and its role in aerobic and anaerobic e. BP response and cardiac output during exercise in trained and untrained f. Cardiovascular drift **g.** Fatigue assessment and organization of work rest regimes to control fatigue.	**5**
3	**Aerobic and anaerobic exercises** a. Principals of training b. Anaerobic system changes with training c. Aerobic changes during exercise d. Factors affecting aerobic and anaerobic training e. Adaptations during aerobic and anaerobic exercises f. Methods of training, circuit training, detraining g. Effect of climate on exercise.	**10**
4	**Exercise physiology and exercise prescription for special population** a. Children b. Elderly c. Obese d. Pregnant women e. Diabetes mellitus f. Hypertension g. Cardio-respiratory dysfunction	**20**
Practicals – Monitoring physiological response to exercise in healthy people and people with cardiovascular pathology		**40**
Total		**80**

EXAMINATION SCHEME

Theory question paper pattern for University Semester Examination under CBCS - 80 marks

Question type	No. of questions	Marks/ question	Question X marks	Total marks
Section 1				
Short answer questions	4 out of 5	10	4 x 10	40
Section 2				
Long answer question	2 out of 3	20	2 x 20	40
				Total= 80

Internal examination pattern (Theory): 40marks

Question type	No. of questions	Marks/question	Question X marks	Total marks
Short answers	4	5	4x5	20
Long answers	2	10	2x 10	20
Total				**Total= 40**

Internal Assessment marks will be weighted out of 20 marks for theory

Recommended books-

1. Plowman, S. A., & Smith, D. L. (2013). *Exercise physiology for health fitness and performance*. Lippincott Williams & Wilkins.
2. McArdle, W. D., Katch, F. I., & Katch, V. L. (1991). Exercise physiology: energy, nutrition, and human performance.
3. Roberg, R. A., & Roberts, S. O. (1996). Exercise physiology: exercise, performance, and clinical applications. *Boston: WBC Mcgraw-Hill*, *73*.
4. Roberts, S., Robergs, R. A., & Hanson, P. G. (1997). *Clinical exercise testing and prescription: theory and application*. Informa HealthCare.

Name of the Programme	**Master Of Physiotherapy (MPT)** **Specialty - Community Physiotherapy**
Name of the Course	**Cardiopulmonary Resuscitation**
Course Code	**MPTAECC-001**
Credit per Semester	**2 credits**
Hours per Semester	**60 hours**

Course Learning Outcomes **Student should be able to**	
CO 1	describe the importance of basic life support skills in case of emergency situation and to be able to give victims the best chance of survival, effect of high quality CPR and its impact on survival
CO 2	describe signs of cardiac arrest, activate emergency response system early, and respond quickly and confidently
CO 3	describe steps of chain of survival and apply BLS concepts of chain of survival
CO 5	perform high quality CPR for an adult/ child/ infant
CO6	describe the importance of early use of Automated external defibrillator (AED)
CO7	demonstrate appropriate use of an Automated External Defibrillator AED
CO8	demonstrate use of effective ventilations by using a barrier device
CO9	demonstrate skills both as a single rescuer and a member of a multi rescuer team
CO10	demonstrate techniques of relief of foreign-body airway obstruction for an adult/child/infant

Unit	**Topic**	**Hours**
1	Course Introduction, Life is Why activity	2
2	Adult BLS , Adult chain of survival Scene safety and assessment Adult compressions, AED and Bag Mask Device	3
4	Successful Resuscitation teams	2
5	Infant and Child BLS, Pediatric chain of survival, AED for Infants and children less than 8 years age	3
6	Special considerations :	2

	Mouth to mouth breaths Breaths with an advanced airway Opioid associated life- threatening emergency	
7	Adult, infant and child choking Relief of choking in a responsive adult or child Relief of choking in a unresponsive adult or child	3
8	Skills Practice on mannequin: Adult and child CPR	45
	Total	60

EXAMINATION SCHEME

This course will not be assessed as Semester University Examination. Assessment will be conducted as Internal College Exam

Internal examination pattern (Theory): 40marks

Question type	No. of questions	Marks/question	Question X marks	Total marks
Short answers	8	5	8x5	40
Total				**Total= 40**

Recommended books-

1. Ellis, P. D., & Billings, D. M. (1980). *Cardiopulmonary resuscitation: procedures for basic and advanced life support*. CV Mosby.
2. Safar, P. (1977). *Advances in cardiopulmonary resuscitation* (pp. 263-275). J. O. Elam (Ed.). New York: Springer.
3. Field, J. M., Gonzales, L., Hazinski, M. F., Ruple, J., Elling, B., & Drummonds, B. (2006). *Advanced cardiovascular life support: provider manual* (pp. 51-62). American Heart Association.

Name of the Programme	**Master Of Physiotherapy (MPT)** **Specialty - Community Physiotherapy**
Name of the Course	**Research methods**
Course Code	**MPTAECC062**
Credit per Semester	**2 credits**
Hours per Semester	**40 hours**

Course Outcomes	
Student will be able to	
CO 1	apply basic concept of research, design, problems & sampling techniques of research.
CO 2	describe types of study designs and apply basic concepts of statistics & principles of scientific enquiry in planning and evaluating the results.
CO 4	analyze various methods of quantitative and qualitative data analyses
CO 5	describe the terminology in research, ethical issues and research process.
CO 6	use important sources, and explain steps in reviewing of literature.
CO 7	apply sampling technique, research process, data collection, biostatics, correlation and statistical significance tests.
CO 8	conduct descriptive, explorative, survey studies in physical therapy practice with use of biostatistics.
	Expected Competencies : Student will be able to
EC1	formulate a research proposal with a relevant research question, with definition of PICO-population /problem under study, intervention /exposure, comparison or control group and outcome measures. Identify study design and use appropriate guidelines like PRISMA, STROBE etc
EC2	obtain ethical approval from designated ethics committee
EC3	critically analyze and review existing literature using available search engines and other legitimate sources
EC4	plan project budget and timeline
EC4	examine reliable and valid outcome measures relevant to the project
EC5	identify statistical methods to be employed in the project
EC6	apply ethics of research and publication

Unit	Topics	No. of Hrs.
1	**Introduction** Terminology in research, ethical issues in research, research process, importance, sources & steps in reviewing the literature Basic probability distribution and sampling distribution Standard error and confidence interval Skewness and Kurtosis	**5**
2	**Research design** Type of research – qualitative & quantitative. Experimental & non experimental, survey – advantages & disadvantages	**5**
3	**Research process and sampling** a. Research question, aim & objectives, assumptions, limitations & delimitations, variables, hypothesis – formation & testing b. Sampling technique, population, sample, sample size & determination, sampling methods, sampling error.	**10**
4	**Data collection and analysis and interpretation & presentation of data, statistical analysis, tests of significance** a. Data sources, technique of data collection, tools, reliability & validity, process of data collection, pilot study-method, Quantitative & qualitative analysis b. Graphical representation of data c. Conclusion & discussion d. Testing of hypothesis - Parametric tests-'t' tests, Tukeys following Oneway ANOVA,ANOVA (One way, two way – for parametric & nonparametric), ANCOVA, Multistage ANOVA e. Nonparametric tests-Chi-square test, Mann Witney U test, 'Z' testWilcoxon's matched pairs test. f. Correlation and regression analysis	**10**
5	**Writing a research proposal** Defining a problem , review of literature, formulating a question , inclusion exclusion criteria, operational definitions, methodology, forming groups , data collection, data analysis, informed consent	**10**
	Total	**40**

EXAMINATION SCHEME

This course will not be assessed as Semester University Examination. Assessment will be conducted as Internal College Exam

Internal examination pattern (Theory): 40marks

Question type	No. of questions	Marks/question	Question X marks	Total marks
Short answers	8	5	8x5	40
Total				**Total= 40**

Recommended books-

1. Kothari, C. R. (2004). *Research methodology: Methods and techniques*. New Age International.
2. K. S. Negi. Biostatistics. Aitbs, 2002 - Biometry
3. Radhakrishna, R. C., & Bhaskara, R. M. (1998). *Matrix algebra and its applications to statistics and econometrics*. World Scientific.

Name of the Programme	**Master Of Physiotherapy (MPT) Specialty - Community Physiotherapy**
Name of the Course	**Bioethics, Health management and Administration**
Course Code	**MPTAECC-063**
Credit per Semester	**3 credits**
Hours per Semester	**60 hours**

Course Learning Outcomes	
CO 1	describe the nature, meaning and principals of bioethics, concepts related to administration and management with professional ethics.
CO 2	apply ethical codes of physical therapy practice as well as moral and legal aspects related to human dignity and human rights.
CO 3	describe the benefit and harm of patient's right & dignity in Health care settings.
CO 4	discuss the role of governing councils, constitutions and functions of W.H.O. and W.C.P.T and IAP.
CO 5	discuss role of management and administration, budget planning, leadership and teamwork, management skills in planning and implementing the administration in clinical practice.
CO 6	use information technology for documentation, record maintenance, data storage in professional practice.

Unit	**Topics**	**No. of Hrs.**
1	**Introduction** a. Meaning and nature of ethics, b. Concept of morality, Ethics & Legality, confidentiality and responsibility	**10**
2	**Laws and responsibilities** a. Councils for regulation of professional practice b. Constitution of India, & Rights of a citizen, c. responsibilities of the Therapist, & status in health care d. Self-regulatory role of Professional Association e. Consumer protection act f. Persons with Disability Act	**10**
3	**Human dignity and human rights and benefit and harm of patient's right & dignity in health care settings** **a.** Human dignity as an intrinsic value**,** respect ,care and Equality in dignity of all human beings, human dignity in different cultural and moral traditions. b. The WHO definition, health benefit by physiotherapy, possible harm for a patient during physiotherapy.	**15**

4	**Role of W.C.P.T. IAP and W.H.O.** a. Constitution & Functions of I.A.P. Role of W.C.P.T. and W.H.O.	**10**
5	**Administration, management and marketing** **a.** Management theories and their application to physiotherapy practice, service quality at various levels of the health delivery system, teaching institution & self-employment and principles and concepts**.** b. Personal policies – Communication & Contact, administration principles based on goal & functions at large hospital / domiciliary set up / private clinical / academic institution. c. Methods of maintaining records – Budget planning d. Quality control **e.** Budget planning**.**	**15**
	Total	**60**

EXAMINATION SCHEME

This course will not be assessed as Semester University Examination. Assessment will be conducted as Internal College Exam

Theory question paper pattern for College Examination under CBCS - 40 marks

Question type	No. of questions	Marks/ question	Question X marks	Total marks
Short answer questions	8	5	8 x 5	40
				Total= 40

Recommended books-

1. C S Ram, Pedagogy Physiotherapy Education.
2. Gabard, D. L., & Martin, M. W. (2010). *Physical therapy ethics*. FA Davis.

Name of the Programme	**Master Of Physiotherapy (MPT) Specialty - Community Physiotherapy**
Name of the Course	**Teaching Technology**
Course Code	**MPTAECC-064**
Credit per Semester	**3 credits**
Hours per Semester	**80 hours**

Course Learning Outcomes	
Student will be able to	
CO 1	describe the the aims, philosophy and trend and issues in education.
CO 2	describe the role of education philosophy, current issues and trends in education.
CO 3	understand the concepts of teaching and learning with curriculum formation.
CO 4	describe methods of teaching, and conduct educational seminars and microteachings using new trends in education.
	Expected Competencies : Student will be able to
EC1	demonstrate basic teaching methods and use them for conducting micro teaching session-didactic class, problem based learning session, experiential learning, on field learning
EC2	formulate MCQs, prepare OSPE and OSCE stations,
EC3	assist in conducting practical sessions for undergraduate students

Unit	**Topics**	**No. of Hrs.**
1	**Introduction** Aims, agencies, formal and in-formal education, philosophies of education (past, present & future)	**5**
2	**Role of education philosophies with current new trends and issues in education**	**5**
3	**Concepts of teaching and learning** a. Theories of teaching b. Relation between teaching and learning c. Dynamics of behavior d. Learning perception e. Individual differences	**5**

4	**Curriculum formation, principles and methods of teaching** a. Development & types of curriculum b. Formation of philosophy & course objectives c. Master plans of courses d. Strategies and planning e. Organization and teaching methods - micro teaching f. Measurement and evaluation with steps of constructing test measurements, standard tools.	**5**
5	Role of an educator the environment, student teacher relationship	**5**
6	**Teaching methods** Educational objectives, Teaching learning media, Micro& small group teaching, integrated teaching, Skills in various types of teaching (including didactic, clinical etc), Learning methods of learning, problem based learning, motivation& learning	**5**
7	**Evaluation methods** mechanics of paper setting, M.C.Q's S.A.Q's, viva, O.S.C.E & O.S.P.E	**10**
	Practical	**40**
	Total	**80**

EXAMINATION SCHEME

This course will not be assessed as Semester University Examination. Assessment will be conducted as Internal College Exam

Theory question paper pattern for College Examination under CBCS - 40 marks

Question type	No. of questions	Marks/ question	Question X marks	Total marks
Short answer questions	8	5	8 x 5	40
				Total= 40

Recommended books-

1. C S Ram,Pedagogy Physiotherapy Education.
2. Gabard, D. L., & Martin, M. W. (2010). *Physical therapy ethics*. FA Davis.
3. Grayson, E. (1999). Ethics, injuries and the law in sports medicine.