MANIPAL
ACADEMY of HIGHER EDUCATION
(Deemed to be University under Section 3 of the UGC Act, 1956)

Manipal College of Health Professions

(Mangaluru Campus)

Manipal Academy of Higher Education, Manipal

Outcome-Based Education (OBE) Framework

Two Years Full Time

Postgraduate Program

(Choice - Based Credit System)

Master of Physiotherapy (Obstetrics and Gynecology)

MPT (Obstetrics and Gynecology)

With effect from July 2021

C O N T E N T P A G E

Head of the Department **Dean**

Deputy Registrar - Academics **Registrar**

1. NATURE AND EXTENT OF THE PROGRAM

Background and need of the program:

Physiotherapy in India has a history of over 70 years. It is a changing and evolving profession which encompasses the concepts of public health and primary/secondary prevention, rehabilitation and fitness for work, self-management of long term conditions and the provision of palliative care for all ages. The physiotherapist works in a complex environment and with multidisciplinary teams in primary healthcare industry, schools, hospitals and private practices. This work takes place in diverse communities and cultures. In a climate of changing health needs and healthcare provision, the physiotherapist requires skills in leadership and decision making. Lifestyle changes over the years resulted in an increase in the problems of neurological, musculoskeletal and cardiopulmonary systems. This means that the services of physiotherapists are in greater demand. Here at MAHE, we constantly upgrade our education and clinical skills to keep up with the current needs. The infrastructure at Kasturba Hospital Udupi, Manipal, and Mangalore and Manipal Hospital Bangalore provide an almost unending canvas to work on.

Duration of the Program: Two years

- Four Semesters (Two years) of academic program

Aim of the Program:

i. To provide an opportunity for qualified physiotherapists with an undergraduate degree to practice as Women's Health Physiotherapists.
ii. To educate and empower the students to be independent practitioners using an advanced body of knowledge in a competent manner towards those who need such services, using evidence based practice with autonomy in quality assurance while maintaining the humanitarian approach of service.
iii. To acquire skills required to be an effective theoretical & clinical teacher in physiotherapy, be proficient in research methods and apply these in the pursuance of research in physiotherapy.
iv. To learn elements of administration in order to be an effective physiotherapy manager.

v. To practice life-long learning, professional development, for the benefit of students, the profession and to increase the effectiveness of health and social care delivery.

Entry level Qualification:

i. The candidate must have passed Bachelor of Physiotherapy from any recognized University in India or abroad.

ii. The candidate should have obtained an aggregate of 50% in all subjects of Bachelor of Physiotherapy

Scope of the Program:

On completion of the M.P.T. program, the graduates will be a competent physiotherapy specialist having heightened ethical and moral responsibilities as a health professional, demonstrating strong clinical reasoning skills with evidence based approach in assessment, clinical diagnosis and intervention of a wide range of diseases and dysfunctions in women across life span. Postgraduates will have job opportunities in various acute hospitals, rehabilitation centers, multispecialty hospitals, special schools, geriatric centers, private organizations, non-government organizations and government institutions.

- Postgraduates can also pursue doctoral studies in clinical areas of their interest and become teaching faculty in the academic institutions.
- Postgraduates may also undertake research in Physiotherapy.

2. PROGRAM EDUCATION OBJECTIVES (PEOs)

The overall objective of the learning outcome-based curriculum framework (LOCF) for MPT (Obstetrics and Gynecology) are as follows:

PEO No.	Education Objective
PEO 1	Students will be able to apply advanced body of knowledge and clinical competency with evidence based practice in Physiotherapy to achieve professional excellence.
PEO 2	Students will execute high order skills in analysis, critical evaluation and/or professional application of clinical and practical skills in Physiotherapy
PEO 3	Students will practice the profession by ethical norms and communicate effectively with the multi-disciplinary team.
PEO 4	Students will acquire creative proficiency in interpersonal and collaborative skills to identify, assess and formulate problems and execute the solution.
PEO 5	Students will synthesize research ideas, develop innovations, incubate new concepts and encourage entrepreneurship.
PEO 6	Students will display lifelong learning process for a highly productive career and will be able to relate the concepts of Physiotherapy towards serving the cause of the society.

3. GRADUATE ATTRIBUTES

S No.	Attribute	Description
1	**Professional Knowledge**	Critically appraise scientific knowledge and integrate evidence based practice as a health care professional
2	**Clinical / practical skills**	Apply Clinical / practical skills to prevent, assess and manage quality health care services
3	**Communication**	Displays empathetic and professional communication skills to patients/clients, care-givers, other health professionals and other members of the community
4	**Cooperation/Team work**	Ability to practice collaboratively and responsibly with multidisciplinary team members to deliver high quality health care
5.	**Professional ethics**	Ability to resolve ethical issues and practice the ethical values in the professional life
6.	**Research / Innovation-related Skills**	Ability to generate and investigate research questions and translate the evidence into clinical practice.
7.	**Critical thinking and problem solving**	Ability to reason and judge critically and provide solutions for real life situations
8	**Reflective thinking**	Employ reflective thinking along with sense of awareness of one self and society
9	**Information/digital literacy**	Excel in use information communication and technology in ongoing learning situations
11.	**Multi-cultural competence**	Ability to effectively lead and respond in a multicultural society
12.	**Lifelong Learning**	Demonstrate the ability to acquire knowledge and skills that are necessary for participating in learning activities throughout life, through self-paced and self-directed learning aimed at personal development, meeting economic, social and cultural objectives, and adapting to demands of work place through knowledge/skill development/reskilling.

4. QUALIFICATION DESCRIPTORS:

a. Apply (i) Advanced and up-to-date knowledge and excel in the academic field of study as a whole and its applications, and links to related disciplinary areas/subjects of study; including a critical understanding of the established theories, principles and concepts, and of a number of advanced and emerging issues in the field of Physiotherapy (ii) Procedural knowledge that creates different types of professionals related to the Physiotherapy, including research and development, teaching and in government and public service; (iii) Professional and communication skills in the domain of Physiotherapy, including a critical understanding of the latest developments, and an ability to use established techniques in the domain of Physiotherapy.

b. Possess comprehensive knowledge about Physiotherapy, including current research, scholarly, and/or professional literature, relating to essential and advanced learning areas pertaining to the field of study, and techniques and skills required for identifying problems and issues.

c. Proficient skills in i) identifying the issues in health care needs; ii) collection of quantitative and/or qualitative data relevant to client's needs and professional practice; iii) analysis and interpretation of data using methodologies as appropriate for formulating evidence based hypotheses and solutions.

d. Apply knowledge, understanding and skills for critical assessment of a wide range of ideas and complex problems and issues relating to Physiotherapy in various specialties.

e. Communicate efficiently with all stakeholders, and provide relevant information to the members of the healthcare team.

f. Optimize one's own learning needs relating to current and emerging areas of study, making use of research, development and professional materials based on new frontiers of knowledge.

g. Execute one's disciplinary knowledge and transferable skills to new/unfamiliar contexts and to identify and analyse problems and issues and seek solutions to real-life problems.

5. PROGRAM OUTCOMES (POs):

After successful completion of Master of Physiotherapy (Obstetrics and Gynecology) program students will be able to:

PO No.	Attribute	Competency
PO 1	**Professional knowledge**	Apply current evidence and **scientific knowledge** to work as an expert member of health care system
PO 2	**Clinical/ Technical skills**	Employ **clinical skills** to provide quality health care services
PO 3	**Team work**	Empower the **team** with shared goals with the interdisciplinary health care team to improve societal health
PO 4	**Ethical value & professionalism**	Impart **ethical values and professionalism** within the legal framework of the society
PO 5	**Communication**	**Communicate** professionally with the multidisciplinary health care team and the society
PO 6	**Evidence based practice**	Appraise and adopt high quality **evidence based practice** that leads to excellence in professional practice
PO 7	**Life-long learning**	Advance knowledge and skills with the use of recent technology for the **continual improvement** of professional practice
PO 8	**Entrepreneurship, leadership and mentorship**	Build **entrepreneurship, leadership and mentorship** skills to practice independently as well as in collaboration with the multidisciplinary health care team

6. COURSE STRUCTURE, COURSE WISE LEARNING OBJECTIVE, AND COURSE OUTCOMES (COs)

SEMESTER - I

Course Code	Course Title	Credit Distribution (hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
ABS6101	Advanced Biostatistics & Research Methodology	3	1	-	-	4	30	70	100
PTH6001	Principles of Physiotherapy Practice	1	2	-	-	3	100	-	100
PTH6003	Clinical Practice in Physiotherapy	-	-	-	36	12	100	-	100
PTH6670	Research Proposal in Obstetrics and Gynecology	-	-	4	-	2	100	-	100
	Total	**4**	**3**	**4**	**36**	**21**	**330**	**70**	**400**
Note: ABS6101 will be conducted for 50 marks and normalized to 70 marks									

SEMESTER - II

Course Code	Course Title	Credit Distribution (hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
EPG6201	Ethics and Pedagogy	1	1	-	-	2	100	-	100
PTH6602	Foundations of Physiotherapy in Obstetrics and Gynecology	1	2	-	-	3	50	50	100
PTH6604	Physiotherapy clinical practice in Obstetrics and Gynecology-I	-	-	-	36	12	100	-	100
PTH6680	Research progress in Obstetrics and Gynecology-I	-	-	4	-	2	100	-	100
	Total	**2**	**3**	**4**	**36**	**19**	**350**	**50**	**400**
Note: **PTH6602** will be conducted for 100 marks and normalized to 50 marks									

SEMESTER - III

Course Code	Course Title	Credit Distribution (hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
PTH7601	Physiotherapy in general Obstetrics & Gynecology	1	2	-	-	3	50	50	100
PTH7603	Physiotherapy clinical practice in Obstetrics & Gynecology-II	-	-	-	36	12	50	50	100
PTH7605	Evidence based physiotherapy practice in Obstetrics & Gynecology	1	1	-	-	2	100	-	100
PTH7670	Research Progress in Obstetrics and Gynecology -II	-	-	6	-	3	100	-	100
Total		**2**	**3**	**6**	**36**	**20**	**300**	**100**	**400**

Note:
PTH7601: will be conducted for 100 marks and normalized to 50 marks
PTH7603: will be conducted for 100 marks and normalized to 50 marks

SEMESTER - IV
Program Elective

The student may choose from any one option from the list of Program Elective combinations provided in the table below

Option-1: Elective in Obstetrics

Course Code	Course Title	Credit Distribution (hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
PTH7612	Physiotherapy in Obstetrics	1	2	-	-	3	50	50	100
PTH7614	Clinical Physiotherapy practice in Obstetrics	-	-	-	36	12	50	50	100
PTH7680	Research project in Obstetrics and Gynecology	-	-	10	-	5	50	50	100
Total		**1**	**2**	**10**	**36**	**20**	**150**	**150**	**300**

Note:
PTH7612 will be conducted for 100 marks and normalized to 50 marks
PTH7614 will be conducted for 100 marks and normalized to 50 marks

Option-2: Elective in Gynecology

Course Code	Course Title	Credit Distribution (hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
PTH7622	Physiotherapy in Gynecology	1	2	-	-	3	50	50	100
PTH7624	Clinical Physiotherapy Practice in Gynecology	-	-	-	36	12	50	50	100
PTH7680	Research project in Obstetrics and Gynecology	-	-	10	-	5	50	50	100
Total		**1**	**2**	**10**	**36**	**20**	**150**	**150**	**300**

Note:
PTH7622 will be conducted for 100 marks and normalized to 50 marks
PTH7624 will be conducted for 100 marks and normalized to 50 marks

OVERALL CREDIT DISTRIBUTION

Semester	Credit distribution					Marks Distribution		
	L	T	P	CL	CR	IAC	ESE	Total
I - SEMESTER	4	3	4	36	21	330	70	**400**
II - SEMESTER	2	3	4	36	19	350	50	**400**
III - SEMESTER	2	3	6	36	20	300	100	**400**
IV - SEMESTER	1	2	10	36	20	150	150	**300**
Grand Total	**9**	**11**	**24**	**144**	**80**	**1130**	**370**	**1500**

INTERNAL ASSESSMENT COMPONENT (IAC) WEIGHTAGE DISTRIBUTION

Theory		Practical		Research	
Components	**%**	**Components**	**%**	**Components**	**%**
Mid semester exam	50	Case presentation	50	Performance evaluation	50
Class seminar	30	Clinical performance	50	Presentation/ Report submission	50
Assignments	20				

SEMESTER - I

COURSE CODE	:	COURSE TITLE
ABS6101	:	Advanced Biostatistics & Research Methodology
PTH6001	:	Principles of Physiotherapy Practice
PTH6003	:	Clinical Practice in Physiotherapy
PTH6670	:	Research Proposal in Obstetrics and Gynaecology

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Obstetrics and Gynecology)
Course Title	**Advanced Biostatistics & Research Methodology**
Course Code	**ABS6101**
Academic Year	First
Semester	I
Number of Credits	04
Course Prerequisite	Students should have basic knowledge of research and statistical tools
Course Synopsis	This course enables the student to understand the basics of research methods and design a research protocol for their research question. Additionally the course also enables the student to estimate sample size for their study, use statistical tests to analyse the results of the study and make meaningful interpretations.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Define the terms related to statistics and research methods (C1)
CO2	List and explain the research designs and sampling techniques (C2)
CO3	Explain, calculate and interpret the measures of central tendency (C4)
CO4	Determine sample size for the studies using means and proportions formula (C5)
CO5	Analyse and interpret the outputs of parametric and non-parametric tests (C4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

Cos	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x					x		
CO3	x							
CO4	x						x	
CO5	x							

Course Content and Outcomes

Content	**Competencies**	**Number of Hours**
Unit 1	• Define statistics (C1) • List the uses of statistics in health science research. (C1) • Explain the role of Statistics in clinical and preventive Medicine. (C2) • Differentiate qualitative and quantitative variables with examples. (C3)	**4**

Content	Competencies	Number of Hours
	• Differentiate discrete and continuous variables with examples. (C4) • List the properties of various scales of measurement with example. (C1) • Define central tendency, measure of central tendency. (C1) • Define arithmetic mean, median and mode. List the properties, situation for use, and examples. (C1) • Determine the three measures from raw data. (C5)	
Unit 2		
	• Define and calculate quartiles and percentiles. (C4) • Define measures of dispersion (C1) • Define, calculate and interpret range, quartile deviation, interquartile range, standard deviation, variance and coefficient of variation.(C4) • Give the situation for the use of these measures (C2).	**4**
	• Describe the properties of Normal and Standard Normal Distribution with sketch (C2) • List the applications.(C1) • Calculate probabilities recollecting the coverage of the intervals mean±SD, , mean±2SD, mean±3SD (C4) • Define skewness and list the characteristics with sketch.(C1) • Define kurtosis and list the characteristics with sketch.(C1) • Define and differentiate parameter and statistic with examples (C4). • Define the basic terms-population, sample, sampling, parameter, statistic, estimate and estimator. (C1) • Define Point estimate (C1) • Define and Differentiate standard deviation and standard error (C4) • Define sampling distribution (C1) • Describe the importance of sampling distributions of different statistics.(C2) • Determine the sampling distribution of sample mean, sample proportion, difference between two means, difference between two proportions (Large sample approximation (CLT).(C5) • Calculate the standard error of mean, proportion, difference between two means, and difference between two proportions. (Large sample approximation (CLT). (C4)	**5**

Content	Competencies	Number of Hours
	• Construct and interpret confidence interval for mean, difference between two means, proportion, difference between two proportions (large sample approximation) (C5)	**3**
Unit 3		
	• Define /explain with example the concept of null hypothesis, alternative hypothesis, type I and type II errors. (C2) • Define level of significance, power of the test and p-value (C1) • Explain the difference between one sided and two-sided test (C2) • Give the situation for non-parametric tests. (C2) • List the differences, merits and demerits of non-parametric over parametric tests. (C1)	**4**
	• Explain the situation, hypothesis tested, assumptions and example for paired and unpaired t-test. (C2) • Interpret the output of paired and unpaired t-test (C4) • Explain the situation, hypothesis tested, assumptions and example for one-way and repeated measures ANOVA (C2)	**3**
	• Explain the situation, hypothesis tested, assumptions and example for : Mann-Whitney U-test, Wilcoxon signed rank test, Kruskal-Wallis ANOVA and Friedman's ANOVA (C2) • Explain the situation, hypothesis tested, assumptions and example for Chi square test association/independence and McNemar's test for association (C2) • Computation and interpretation of chi-square test (2 x2 table) and McNemar's test result (C2)	**4**
	• Give example for positive and negative correlations. (C2) • Explain different types of correlation with the help of scatter diagrams. (C2) • Give the assumptions, properties, and interpretation of correlation coefficient.(C4) • Explain the situation for the computation of Pearson's and Spearman's correlation coefficient. (C2) • Interpret coefficient of determination.(C4) • Explain the situation, example, application and assumptions for linear and multiple	**4**

Content	Competencies	Number of Hours
	regression.(C2) • Interpret regression coefficients in simple and multiple regression.(C4) • Explain the need for sample size computation.(C2) • Given the situation/ingredients, should be able to determine sample size for estimating mean and proportion, testing of difference in means and proportions of two groups.(C5)	
	• Explain the difference between rate, ratio, and proportion with example. (C2) • Calculate rate, ratio, and proportion (C4) • Define and calculate Incidence and prevalence rates.(C4) • Explain the design, merits and demerits of Case report, case series analysis, prevalence studies and ecological studies with example (C2)	**3**
	• Explain the design, analysis (2x2 table and odds ratio), merits and demerits ((unmatched and 1:1 matched design) of case control study with example.(C2) • Explain the design, analysis (2x2 table and relative risk), merits and demerits of cohort study with example.(C2)	**3**
	• Explain confounding with example. (C2) • List the methods to deal with confounding at design and analysis stage.(C1) • Explain the design, analysis, merits and demerits of RCT with example. (C2) • Explain the need of simple, block and stratified randomization with example.(C2) • Explain the need and type of blinding with example (C2)	**4**
	• Explain the situation for the use of logistic regression and survival analysis with example.(C2)	**3**
	• Define Population, sample, sampling, and sampling frame. Give one example each.(C1) • List the characteristics of a good sample.(C1) • Differentiate and list the advantages and disadvantages of random and non- random sampling techniques.(C4) • Explain simple, stratified, systematic, cluster and multistage random sampling techniques with examples. List the merits and demerits of each of	**4**

Content	Competencies	Number of Hours
	them.(C2) • Explain Convenience, quota, judgment and snowball sampling with examples. List the merits and demerits of each of them.(C2) • Explain the difference between sampling and non-sampling errors. Give example for sampling and non-sampling errors. List the methods to minimize these errors.(C2)	
	• Define Sensitivity, specificity, PPV and NPV. (C1) • Explain with example method of computation and interpretation. (C4) • Explain with example, the situation for the application of Bland Altman plot, Kappa statistic. (C2) • Explain the interpretation of Kappa Statistics. (C2) • Explain the format of various research documents. (C2)	**4**
	Total	**52**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	42	84
Tutorial	4	8
Self-directed learning (SDL)	6	12
Total	**52**	**104**

Assessment Methods	
Formative	**Summative**
Assignments/Presentations/Quiz	Mid Semester Exam
	End Semester Exam

Mapping of Assessment with COs					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Mid Semester Examination	x	x	x		
Quiz / Assignment				x	x
End Semester Exam	x	x	x	x	x

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main Reference	1. Research for Physiotherapists: Project Design and Analysis –Caroline Hicks. (1995) 2. Tests, Measurements and Research in

	Behavioural Sciences by A K Singh (1986) 3. Rehabilitation Research - E-Book: Principles and Applications by Russell Carter, Jay Lubinsky, et al. (2015) 4. Foundations of Clinical Research by Leslie Gross Portney (2020) 5. Essentials of Research Methodology for all Physiotherapy and Allied Health Sciences Students by Ramalingam Thangamani A (2018)

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Obstetrics and Gynecology)
Course Title	**Principles of Physiotherapy Practice**
Course Code	**PTH6001**
Academic Year	First
Semester	I
Number of Credits	03
Course Prerequisite	Students should have basic knowledge and skills in physiotherapy practice
Course Synopsis	The course will provide information about principles of evaluation and management of people with musculoskeletal, neurological, cardiorespiratory, paediatric, women health and geriatric disorders to apply basic and applied sciences in the evaluation and management. This course will also help the students to gain insights regarding standards of physiotherapy practice in the institution and community healthcare settings. This course will be delivered in the form of lectures, tutorials, and self-directed learning. Theory examination will be used to assess the students' transferable skills and the learning outcomes.

Course Outcomes (COs)
At the end of the course student shall be able to**:**

CO1	Outline the guidelines for standards of physiotherapy practice (C4)
CO2	Explain disability, models of disability and disability evaluation (C4)
CO3	Explain the biomechanics, physiology and control of human movement (C4)
CO4	Outline the principles of physiotherapy evaluation and treatment in various diseases and disorders relevant to physiotherapy practice (C4)
CO5	Explain the process of clinical reasoning and decision making in physiotherapy practice (C4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

Cos	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							x
CO2	x							
CO3	x							
CO4	x					x		
CO5	x					x		

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1		
Standards of physiotherapy practice	1. Outline the national and international guidelines for standards of physiotherapy practice (C4) 2. Explain the role of entrepreneurship, leadership and innovation in physiotherapy practice (C4)	01
Unit 2		
Disability and evaluation	1. Explain disability (C4) 2. Distinguish between different models of disability (C4) 3. Explain disability evaluation (C4)	02
Unit 3		
Development of Posture and Movement across life span	1. Explain the development of postural control across life span (C4) 2. Explain the development of movement across life span (C4) 3. Explain the development and maturation of reflexes (C4)	02
Unit 4		
Biomechanics	1. Outline the biomechanics of TMJ, Joints of Thorax, Spine and Pelvis, Joints of Upper and Lower Extremity (C4)	01
Unit 5		
Exercise Physiology	1. Explain the acute responses and chronic adaptations to exercise (C4) 2. Explain the principles of exercise testing and prescription (C2)	03
Unit 6		
Pain	1. Explain the physiology of pain (C4) 2. Distinguish between different mechanisms of pain control (C4) 3. Categorize the strategies of pain management (C4)	01
Unit 7		
Neurophysiology of balance, coordination and locomotion	1. Explain the neurophysiology of balance and coordination (C4) 2. Explain the neurophysiology of locomotion (C4)	02

Content	Competencies	Number of Hours
Unit 8		
Theories of Motor control and Motor Learning	1. Explain motor control (C4) 2. Compare and contrast between different theories of Motor control (C4) 3. Explain motor learning and theories of Motor Learning (C4)	02
Unit 9		
Principles of physiotherapy evaluation	1. Outline the principles of musculoskeletal, neurological, and cardiopulmonary evaluation (C4) 2. Outline the special considerations for physiotherapy evaluation in children, women and older adults (C4) 3. Outline the evaluation protocols for physical fitness (C4) 4. Explain the principles of diabetic foot examination (C4)	08
Unit 10		
Gait	1. Distinguish between normal and pathological gait (C4) 2. Explain the methods of gait analysis (C4)	01
Unit 11		
Principles and applications of Electrodiagnosis	1. List the electrodiagnostic methods (C4) 2. Explain the principles of electrodiagnostic testing methods (C4) 3. Outline the clinical applications of electrodiagnostic methods (C4)	01
Unit 12		
Outcome Measures in Physiotherapy	1. Categorize the outcome measures based on Impairment, activity and participation domains of ICF (C4) 2. Explain the psychometric properties of commonly used outcome measures (C4) 3. Explain the method of administration and interpretation of commonly used outcome measures (C4)	03
Unit 13		
Clinical investigations relevant to Physiotherapy practice	1. Choose the clinical investigations relevant to Physiotherapy practice (C3): Imaging; Biochemical; Electrophysiological; and systemic functional tests 2. Interpret the findings in clinical investigations relevant to Physiotherapy practice (C2)	02

Content	Competencies	Number of Hours
Unit 14		
Physiotherapy treatment approaches	1. Outline the principles of physiotherapy treatment approaches including manual therapy, neurological, paediatric and cardiopulmonary rehabilitation (C4)	02
Unit 15		
Therapeutic electrophysical agents	1. Categorize therapeutic electrophysical agents (C4) 2. Explain the physiological and therapeutic uses, applications and rationale of electrophysical agents (C4)	01
Unit 16		
Community Based Rehabilitation	1. Explain the principles of Community Based Rehabilitation (C4)	01
Unit 17		
Clinical Reasoning / clinical decision making in physiotherapy practice	1. Outline the models of clinical reasoning (C2) 2. Explain the processes involved in clinical decision making (C2) 3. Explain the principles of evidence based practice in physiotherapy (C2)	02
Unit 18		
Universal Precautions	1. Apply the universal precautions for infection control in physiotherapy practice (C3)	01
Unit 19		
Wound care	1. Explain the principles of tissue healing & physiotherapy assessment and management for wound care (C4)	01
Unit 20		
Prosthetics and Orthotics	1. Explain the principles of prosthetic and orthotic prescription (C4) 2. List the types, uses, advantages and disadvantages of upper limb, lower limb and spinal orthosis and prosthesis (C4)	02
	Total	**39**

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	13	26
Seminar	26	52
Total	**39**	**78**

Assessment Methods	
Formative	**Summative**
Presentations	Sessional Exam (theory)

Mapping of Assessment with COs					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Sessional Examination	x	x	x	x	x
Assignments/Presentations	x	x	x	x	x

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main Reference	1. Albrecht GL, Seelman KD, Bury M, editors. Handbook of disability studies. Sage Publications; 2001 May 24. 2. Bélanger AY. Therapeutic electrophysical agents: evidence behind practice. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins; 2010. 3. Boissonnault WG, editor. Examination in physical therapy practice: screening for medical disease. New York, NY: Churchill Livingstone; 1995 Jun. 4. Braddom's Physical Medicine and Rehabilitation by Cifu David X et al; 5th Ed, Elsevier (2016) 5. Brandt Jr EN, Pope AM. Models of disability and rehabilitation. 6. Cech DJ, Martin ST. Functional movement development across the life span. Elsevier Health Sciences; 2002 Mar 29. 7. Dittmar SS, Gresham GE, editors. Functional assessment and outcome measures for the rehabilitation health professional. Aspen Pub; 1997. 8. Enderby P, John A, Petheram B. Therapy outcome measures for rehabilitation professionals: speech and language therapy, physiotherapy, occupational therapy. John Wiley & Sons; 2013 May 31. 9. Essentials of Exercise Physiology by William McArdle et al; Wolters Kluwer Health Inc (2016) 10. Exercise Physiology: Energy, Nutrition and Human Performance by William McArdle, Frank I. Katch, Victor K. Katch; 7th edition (2010) 11. Hausdorff JM, Alexander NB, editors. Gait disorders: evaluation and management. Taylor & Francis US; 2005 Jul 15.

	12. Haywood K, Getchell N. Life Span Motor Development 6th Edition. Human Kinetics; 2014 Jul 21. 13. Levangie PK, Norkin CC. Joint structure and function: a comprehensive analysis. FA Davis; 2011. 14. Magee DJ. Orthopedic physical assessment. Elsevier Health Sciences; 2014. 15. McMahon SB, Koltzenburg M, Tracey I, Turk D. Wall & Melzack's Textbook of Pain E-Book. Elsevier Health Sciences; 2013. 16. MCSP PM. Standards of Physiotherapy Practice. 17. Misra UK; et al. Principles of Neurophysiology. Elsevier Health Sciences; 2010 18. Neumann DA. Kinesiology of the Musculoskeletal System-E-Book: Foundations for Rehabilitation. Elsevier Health Sciences; 2013. 19. Nordin M, Frankel VH, editors. Basic biomechanics of the musculoskeletal system. Lippincott Williams & Wilkins; 2001. 20. O'Sullivan SB, Schmitz TJ, Fulk G. Physical rehabilitation. FA Davis; 2013 Jul 23. 21. Perry J. Gait analysis. Normal and pathological function. 2010:19-47. 22. Shumway-Cook A, Woollacott MH. Motor control: translating research into clinical practice. Lippincott Williams & Wilkins; 2007. 23. Shurr DG, Michael JW, Cook TM. Prosthetics and orthotics. Upper Saddle River: Prentice Hall; 2002. 24. Siegelbaum SA, Hudspeth AJ. Principles of neural science. Kandel ER, Schwartz JH, Jessell TM, editors. New York: McGraw-hill; 2000 Jan. 25. Uustal H. Prosthetics and orthotics. InEssential Physical Medicine and Rehabilitation 2006 (pp. 101-118). Humana Press. 26. Wadsworth H, Chanmugam AP. Electrophysical agents in physiotherapy: therapeutic & diagnostic use. Science Press; 1983. 27. Woollacott MH, Shumway-Cook A. Changes in posture control across the life span—a systems approach. Physical therapy. 1990 Dec 1;70(12):799-807. 28. World Confederation for Physical Therapy. WCPT guideline for standards of physical therapy practice. 29. Related scientific publications NOTE: this is not an exhaustive list of references and there will be other textbooks and articles which should be referenced as well

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Obstetrics and Gynecology)
Course Title	**Clinical Practice in Physiotherapy**
Course Code	**PTH6003**
Academic Year	First
Semester	I
Number of Credits	12
Course Prerequisite	Students should have basic knowledge and skills in physiotherapy practice
Course Synopsis	The course will provide information about principles of evaluation and management of people with musculoskeletal, neurological, cardiorespiratory, paediatric, women health and geriatric disorders to apply basic and applied sciences in the evaluation and management. This course will also help the students to gain insights regarding standards of physiotherapy practice in the institution and community healthcare settings. This course will be delivered in the form of practical demonstrations, tutorials, self-directed learning, problem based learning and case based learning. Practical examination will be used to assess the students' transferable skills and the learning outcomes.

Course Outcomes (COs)
At the end of the course student shall be able to**:**

CO1	Perform physiotherapy assessment and evaluation in people with diseases and disorders (C4, P4, A2)
CO2	Perform physiotherapy techniques in people with diseases and disorders to improve health and wellbeing (C4, P4, A2)
CO3	Recognize and relate the processes involved in clinical decision making in physiotherapy evaluation and treatment (C4, P1, A1)
CO4	Follow ethical and professional behavior (Autonomy, beneficence, justice) during clinical practice and demonstrates the ability to work as a team (A3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

Cos	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2	x	x						
CO3		x				x		
CO4		x		x				

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1		
Physiotherapy evaluation in clinical practice	1. Perform musculoskeletal, neurological, and cardiopulmonary physiotherapy evaluation (C4, P4, A2) 2. Explain the special considerations for physiotherapy evaluation in children, women and older adults and display the assessment techniques (C4, P3, A1) 3. Explain the evaluation protocols for physical fitness and measure physical fitness (C4, P3, A1) 4. Explain and demonstrate the components of diabetic foot examination (C4, P2, A1) 5. Explain the methods of analysis and perform posture, balance and gait evaluation (C4, P4, A1) 6. Examine pain and perform pain assessment (C4, P4, A2) 7. Explain and demonstrate the components of physiotherapy assessment in wound care (C4, P2, A1) 8. Choose the outcome measures based on Impairment, activity and participation domains of ICF in the clinical practice (C4, P1, A1) 9. Discuss and display the method of administration of the commonly used outcome measures and interpret it (C4, P3, A1) 10. Choose the clinical investigations relevant to Physiotherapy practice (C3, P1, A1): Imaging; Biochemical; Electrophysiological; and systemic functional tests 11. Identify and interpret the findings in clinical investigations relevant to Physiotherapy practice (C2, P1, A1) 12. Recognize and relate the processes involved in clinical decision making in physiotherapy evaluation (C4, P1, A1) 13. Explain health related information with clients, caregivers, peers and health care professionals and demonstrates the ability to work as a team during evaluation (C4, P5, A3) 14. Demonstrate ethical and professional behavior (Autonomy, beneficence, justice) during physiotherapy evaluation (A3)	234

Content	Competencies	Number of Hours
Unit 2		
Physiotherapy management in clinical practice	1. Perform physiotherapy techniques in clinical practice including musculoskeletal, neurological, and cardiopulmonary rehabilitation (C4, P4, A2) 2. Explain the special considerations for physiotherapy management in children, women and older adults and display the treatment techniques (C4, P3, A1) 3. Explain the protocols for maintaining and improving physical fitness (C4, P2, A1) 4. Explain the principles of diabetic foot management (C4, P2, A1) 5. Explain the principles of posture, balance and gait rehabilitation and perform treatment techniques to train posture, balance and gait (C4, P4, A1) 6. Categorize and perform the strategies of pain management (C4, P4, A2) 7. Display the method of application of therapeutic electrophysical agents in the clinical practice (C4, P4, A1) 8. Explain the principles of physiotherapy management in wound care (C4, P2, A1) 9. Follow the universal precautions for infection control in physiotherapy practice (C3, P3, A1) 10. Recognize and relate the processes involved in clinical decision making in physiotherapy management (C4, P1, A1) 11. Explain health related information with clients, caregivers, peers and health care professionals and demonstrates the ability to work as a team during treatment (C4, P5, A3) 12. Demonstrate ethical and professional behavior (Autonomy, beneficence, justice) during treatment (A3)	234
	Total	**468**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Self-directed learning (SDL)	36	72
Case Based Learning (CBL)	28	56
Clinic	360	-
Practical	28	56
Assessment	16	32
Total	**468**	**216**

Assessment Methods				
Formative	**Summative**			
Clinical Performance				
Case Presentations				
Mapping of Assessment with COs				
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**
Presentations	x	x	x	
Clinical competency	x	x	x	x

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main Reference	1. Albrecht GL, Seelman KD, Bury M, editors. Handbook of disability studies. Sage Publications; 2001 May 24. 2. Bélanger AY. Therapeutic electrophysical agents: evidence behind practice. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins; 2010. 3. Boissonnault WG, editor. Examination in physical therapy practice: screening for medical disease. New York, NY: Churchill Livingstone; 1995 Jun. 4. Braddom's Physical Medicine and Rehabilitation by Cifu David X et al; 5th Ed, Elsevier (2016) 5. Brandt Jr EN, Pope AM. Models of disability and rehabilitation. 6. Cech DJ, Martin ST. Functional movement development across the life span. Elsevier Health Sciences; 2002 Mar 29. 7. Dittmar SS, Gresham GE, editors. Functional assessment and outcome measures for the rehabilitation health professional. Aspen Pub; 1997. 8. Enderby P, John A, Petheram B. Therapy outcome measures for rehabilitation professionals: speech and language therapy, physiotherapy, occupational therapy. John Wiley & Sons; 2013 May 31. 9. Essentials of Exercise Physiology by William McArdle et al; Wolters Kluwer Health Inc (2016) 10. Exercise Physiology: Energy, Nutrition and Human Performance by William McArdle, Frank I. Katch, Victor K. Katch; 7th edition (2010) 11. Hausdorff JM, Alexander NB, editors. Gait disorders: evaluation and management. Taylor & Francis US; 2005 Jul 15. 12. Haywood K, Getchell N. Life Span Motor Development 6th Edition. Human Kinetics; 2014 Jul 21. 13. Levangie PK, Norkin CC. Joint structure and function: a comprehensive analysis. FA Davis; 2011. 14. Magee DJ. Orthopedic physical assessment. Elsevier Health Sciences; 2014. 15. McMahon SB, Koltzenburg M, Tracey I, Turk D. Wall &

	Melzack's Textbook of Pain E-Book. Elsevier Health Sciences; 2013. 16. MCSP PM. Standards of Physiotherapy Practice. 17. Misra UK; et al. Principles of Neurophysiology. Elsevier Health Sciences; 2010 18. Neumann DA. Kinesiology of the Musculoskeletal System-E-Book: Foundations for Rehabilitation. Elsevier Health Sciences; 2013. 19. Nordin M, Frankel VH, editors. Basic biomechanics of the musculoskeletal system. Lippincott Williams & Wilkins; 2001. 20. O'Sullivan SB, Schmitz TJ, Fulk G. Physical rehabilitation. FA Davis; 2013 Jul 23. 21. Perry J. Gait analysis. Normal and pathological function. 2010:19-47. 22. Shumway-Cook A, Woollacott MH. Motor control: translating research into clinical practice. Lippincott Williams & Wilkins; 2007. 23. Shurr DG, Michael JW, Cook TM. Prosthetics and orthotics. Upper Saddle River: Prentice Hall; 2002. 24. Siegelbaum SA, Hudspeth AJ. Principles of neural science. Kandel ER, Schwartz JH, Jessell TM, editors. New York: McGraw-hill; 2000 Jan. 25. Uustal H. Prosthetics and orthotics. InEssential Physical Medicine and Rehabilitation 2006 (pp. 101-118). Humana Press. 26. Wadsworth H, Chanmugam AP. Electrophysical agents in physiotherapy: therapeutic & diagnostic use. Science Press; 1983. 27. Woollacott MH, Shumway-Cook A. Changes in posture control across the life span—a systems approach. Physical therapy. 1990 Dec 1;70(12):799-807. 28. World Confederation for Physical Therapy. WCPT guideline for standards of physical therapy practice. 29. Related scientific publications NOTE: this is not an exhaustive list of references and there will be other textbooks and articles which should be referenced as well

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy(Obstetrics and Gynecology)
Course Title	**Research Proposal in Obstetrics and Gynecology**
Course Code	**PTH6670**
Academic Year	First
Semester	I
Number of Credits	02
Course Prerequisite	Students should have basic knowledge in research methodology
Course Synopsis	The course is designed to have the student understand the nuances in developing and presenting a research protocol. It will facilitate the student to inculcate skills essential to the identification of a research gap of clinical relevance through a systematic literature search. This course will facilitate the application of research methodology towards the development of a research plan and the use of appropriate outcomes to prove the hypothesis. The course will also equip the student with the knowledge on scientific approvals required prior to initiation of the study in accordance to current regulations for the conduct of the research project.

Course Outcomes (COs)
At the end of the course student shall be able to**:**

CO1	Demonstrate literature search and develop need for the study (C5,P5)
CO2	Prepare a research proposal and justifies its rationale (C5, P4, A3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

Cos	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2		x			x			

Course Content and Outcomes

Content	**Competencies**	**Number of Hours**
Unit 1		
Formulation of research question	1. Prepare search strategy and demonstrate Literature Search (C5,P5) 2. Critically appraise the literature ,Identify research gap and need for the study (C3, P4)	10

Content	Competencies	Number of Hours
Unit 2		
Method selection	1. Choose appropriate study design for the research question (C5,P1) 2. Organize procedural steps for implementing the study (C3, P4)	08
Unit 3		
Outcome measures	1. Choose appropriate outcome measure based on research question and psychometric properties (C5, P1) 2. Comply with the process of obtaining permission to use outcome measures from sources/ developers (A2)	08
Unit 4		
Research proposal document	1. Prepare a research proposal document (P4) 2. Choose appropriate statistical tools and tests (C5)	13
Unit 5		
Scientific Approvals	1. Proposes research protocol to relevant scientific committee(s) (P5, A3) 2. Justifies the need and rationale for the study to the committee (C5,P4, A3)	13
	Total	**52**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Small Group Discussion (SGD)	06	12
Self-directed learning (SDL)	42	-
Assessment	04	08
Total	**52**	**20**

Assessment Methods	
Formative	**Summative**
Presentation	
Research progress and conduct	

Mapping of Assessment with COs		
Nature of Assessment	**CO1**	**CO2**
Viva	x	x
Presentations	x	x
Clinical/Practical Log Book/ Record Book	x	x

Feedback Process	Presentation
Main References	1. Research for Physiotherapists: Project Design and Analysis - Caroline Hicks. 2. Foundations of Clinical Research by Leslie Gross Portney 3. Tests, Measurements and Research in Behavioural Sciences by A K Singh 4. Physical Therapy Research: Principles and Applications by Elizabeth Domholdt 5. Rehabilitation Research - E-Book: Principles and Applications by Russell Carter, Jay Lubinsky, et al. 6. Essentials of Research Methodology for all Physiotherapy and Allied Health Sciences Students by Ramalingam Thangamani A NOTE: this is not an exhaustive list of references and there will be other textbooks and articles which should be referenced as well

SEMESTER - II

COURSE CODE	:	COURSE TITLE
EPG6201	:	Ethics and Pedagogy
PTH6602	:	Foundations of Physiotherapy in Obstetrics and Gynecology
PTH6604	:	Physiotherapy clinical practice in Obstetrics and Gynecology - I
PTH6680	:	Research progress in Obstetrics and Gynecology - I

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy(Obstetrics and Gynecology)
Course Title	**Ethics and Pedagogy**
Course Code	**EPG 6201**
Academic Year	First
Semester	II
Number of Credits	02
Course Prerequisite	NIL
Course Synopsis	The ethics module will help the post graduate students in understanding the ethical principles, identifying the ethical issues and resolving ethical dilemmas in their professional practice with specific focus on clinical and research ethics. The pedagogy of the module will help the post graduate students in understanding the educational philosophy, teaching learning methods and learners' assessment. This module will be delivered in the form of didactic lectures in workshop format and small group learning tutorials, seminars, demonstrations during practical sessions, problem based learning & self-directed learning. Theory examination, assignments and demonstrations will be used to assess the student's transferable skills and learning outcomes.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Apply ethical principles in clinical and research practice (C3)
CO2	Analyse ethical issues and resolve ethical dilemmas (C4)
CO3	Integrate principles of adult learning and various roles of teacher in their academic practice (C2)
CO4	Apply various teaching learning methods (C3, P4)
CO5	Assess students' achievements based on learning outcomes (C3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x			x				
CO2	x			x				
CO3	x			x				
CO4	x	x						
CO5	x			x				

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1: Ethics		
Principles of ethics History and evolution of ethics - Helsinki declaration; Nuremberg Code; Principles of ethics and its importance - Autonomy, Beneficence, Non-maleficence, Justice	1. Outline the history and evolution of bioethics (C2) 2. Explain the cardinal principles of bioethics (C2) 3. Apply national and international bioethical principles (C3)	2
Ethics in professional practice Principles of practice in respective profession. Privacy, confidentiality, shared decision making, informed consent, equality and equity, justice	1. Outline the principles of ethics in professional practice - clinical, research, academics, administrative domains (C2) 2. Apply the principles of ethics in professional practice (C3)	
ICMR Guidelines General principles, Responsible conduct of research, Risk benefit assessment	1. Outline the general principles of ethics for conduct of research based on ICMR guidelines (C2) 2. Summarize the characteristics for responsible conduct of research (C2) 3. Identify potential ethical issues based on risk benefit analysis (C3)	3
Informed Consent Process Components of informed consent document, Procedure in obtaining informed consent, Special situations, waivers, and proxy consent	1. Explain the components and procedures of informed consent process (C2) 2. Apply suitable methods in obtaining informed consent (C3) 3. Distinguish special considerations of informed consent process for waivers and proxy consent (C4)	
Roles and Responsibilities of IEC Ethical Review process, Classification of projects for review, Roles and responsibilities of members, Communications with investigators and authorities	1. Outline the process of ethical review of research proposals (C2) 2. Relate the types of review based on the research project proposals (C2) 3. Summarize the roles and responsibilities of IEC and its members (C2) 4. Organize the mock ethical review meeting (C3) and examine the research proposal for ethical issues (C4)	2

Content	Competencies	Number of Hours
Ethics in Special and Vulnerable Populations Types of Vulnerability and vulnerable population, Challenges for research in vulnerable population, Guidelines for research in special and vulnerable population	1. Define and explain the types of Vulnerability (C2) 2. Outline the characteristics of special and vulnerable population (C2) 3. Summarize the challenges for research in vulnerable population (C2) 4. Apply the ICMR guidelines for research in special and vulnerable population (C3)	2
Conflict of Interest Definition and Types of Conflict of Interest, Identifying, mitigating and managing Conflict of Interest, Conflicts of interest in international collaborations	1. Define and explain the types of Conflict of Interest (C2) 2. Identify and solve potential Conflict of Interest (C3)	3
Publication Ethics Importance of publishing, Authorship guidelines according to ICMJE, Plagiarism	1. List the importance of publishing scholarly works (C4) 2. Examine the criteria of authorship based on ICMJE guidelines (C4) 3. Test the publication for plagiarism (C4)	
Unit 2: Pedagogy		
Principles of adult learning Systems approach in education; Curriculum - Definition, Components, Types of Curriculum (Outcomes-based, Competency-based, Performance-based, Objectives-based), Curricular alignment, Integrated Curriculum, Frameworks, Models (Harden's SPICES model) and approaches (problems-based learning, case-based learning).	1. Relate 'Systems Approach' in education (C2) 2. Define and explain the components of curriculum (C2) 3. Outline the types of curricular frameworks (C2) 4. Identify the characteristics of curricular frameworks (C3)	2
Taxonomy of learning Blooms Taxonomy: Knowledge, Psychomotor and Affective domains, Specific Learning Objectives - Elements, construction,	1. Classify domains of learning (C2) 2. Distinguish the levels of mastery for each learning domains (C4) 3. Outline the elements of specific learning objectives (C3) 4. Organize specific learning	2

Content	Competencies	Number of Hours
mapping of SLOs to course outcomes.	objectives based on domains of learning (C3)	
Teaching Methods Small Group Teaching: Group dynamics, Categories of SGT, Facilitating techniques, Generic & Specific SGT methods Large Group Teaching: Lectures	1. Outline small group teaching methods (C3) 2. Explain the generic and specific methods of small group teaching (C3) 3. Outline large group teaching methods (C3) 4. Explain the facilitation methods in large group lectures (C3) 5. Perform microteaching (P4)	5
Learner Assessment Principles, Characteristics and Types of assessment - Formative/Summative, Tools, Blueprinting	1. Outline the principles, characteristics and types of assessment (C3) 2. Identify appropriate tools for assessment. (C3) 3. Construct a blueprint of assessment for theory and practical exam (C3)	5
	Total	**26**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	13	26
Small group discussion (SGD)	09	18
Assignment / Microteaching	04	08
Total	**26**	**52**

Assessment Methods	
Formative	**Summative**
Unit A	Unit A
Assignments – Clinical Ethics (10); Research Ethics (10);	Sessional Exam: 30 MCQs = 30 marks
Unit B	Unit B
Assignments – Blueprinting (10)	Sessional Exam: 20 MCQs = 20 marks
Presentations – Microteaching sessions (20)	

Mapping of Assessment with COs:					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Mid Semester Examination	x	x	x	x	x
Assignments/Presentations	x	x	x	x	x

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main References	**UNIT 1: Ethics** 1. Beauchamp and Childress, Principles of Biomedical Ethics, Fourth Edition. Oxford. 1994. 2. Patricia A Marshall. Ethical challenges in study design and informed consent for health research in resource poor settings. World Health Organization. 2007. 3. National Ethical guidelines for Biomedical and Health Research involving human participants. Indian Council of Medical Research. 2017. **UNIT 2: Pedagogy** 1. ABC of Learning and Teaching in Medicine. Editor(s): Peter Cantillon, Diana Wood, Sarah Yardley. Ed: 3 2. Understanding Medical Education: Evidence, Theory, and Practice, Editor(s): Tim Swanwick Kirsty Forrest Bridget C. O'Brien. Ed 3 3. Principles of Medical Education. Editor(s): Tejinder Singh, Piyush Gupta, Daljit Singh. Jaypee Brothers. 2012. NewDelhi.

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy(Obstetrics and Gynecology)
Course Title	**Foundations of Physiotherapy in Obstetrics and Gynecology**
Course Code	**PTH6602**
Academic Year	First
Semester	II
Number of Credits	03
Course Prerequisite	Students should have basic knowledge in applied anatomy, physiology and physiotherapeutic skills.
Course Synopsis	The module is designed to provide information about applied anatomy and applied physiology of body systems related to obstetrics and gynaecological conditions. It will also provide information about antenatal, postnatal, post –surgical and genitourinary physiotherapy assessment procedures, evaluation and management of pain.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Explain the applied anatomy and applied physiology of body systems related to the evaluation of obstetrics and gynaecological conditions (C3)
CO2	Explain the anatomy and physiology of nociception, pain evaluation tools and physiotherapy management (C5)
CO3	Analyse the anatomical, physiological and biomechanical changes in a female body across the life span (C2)
CO4	Outline antenatal, postnatal, post –surgical and genitourinary physiotherapy assessment procedures (C4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

Cos	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x							
CO3	x							
CO4	x							

Course Content and Outcomes

Content	**Competencies**	**Number of Hours**
Unit 1		
Anatomy of Female reproductive system	1. Classify the types of pelvis(C1) 2. Explain the anatomy of external and internal genitalia(C2) 3. Explain the structure and function of the	2

Content	Competencies	Number of Hours
	female reproductive system including ligaments and supportive fascia(C2) • ovaries • fallopian tubes • Uterus • Vagina • vulva • perineum	
Unit 2		
Anatomy and functions of female genitourinary system	1. Explain the anatomy of pelvic floor muscles (C2) 2. Explain the location, function and relationship of anatomical structures of female genitourinary system (C2) 3. Explain the applied anatomy aspects of female genitourinary system (C2)	2
Unit 3		
Anatomy of Abdominal wall	1. Explain the anatomy of abdominal muscles (C2) 2. Explain the applied anatomy aspects of musculature of abdominal wall (C2)	2
Unit 4		
Anatomy and Physiology of female breast	1. Explain the anatomy, physiology and development of the female breast(C2) 2. Explain its applied anatomy (C2)	2
Unit 5		
Anatomy and Physiology of neuro-musculoskeletal system	1. Explain anatomy and physiology of neuro-musculoskeletal system (C2) 2. Explain mechanical properties of connective tissues (C2) 3. Explain the gender differences in skeletal alignment (C2)	2
Unit 6		
Anatomy and Function of lumbo-pelvic hip complex	1. Explain the anatomy of lumbo-pelvic hip complex (C2) 2. Explain the biomechanics and patho-mechanics of lumbo-pelvic hip complex in women (C2)	3
Unit 7		
Anatomy and Physiology of lymphatic and integumentary system	1. Classify lymph nodes (C2) 2. Explain the anatomy and physiology of lymphatic system (C2) 3. Explain the anatomy and physiology of integumentary system (C2)	2

Content	Competencies	Number of Hours
Unit 8		
Anatomy and Physiology of Endocrine system	1. Explain the anatomy and functions of endocrine system(C2) 2. Explain the influence of the endocrine system on woman's health (C2)	2
Unit 9		
Anatomy and Physiology of Gastro-intestinal (GI)and Colorectal system	1. Explain the anatomy of gastro intestinal and colorectal system (C2) 2. Explain the functional relationship of abdominal muscle wall and pelvic floor muscles to GI and colorectal system (C2) 3. Explain normal bowel function, peristalsis, continence and elimination (C2) 4. Apply the effects of aging, disease and injury on GI and colorectal system (C3)	3
Unit 10		
Anatomy and physiology of pain and nociception	1. Explain the anatomy and physiology of nociception (C2) 2. Explain the patho-biological mechanisms of acute and chronic pain (C5) 3. Explain the interaction between pain systems with affective systems (C2) 4. Explain the risk factors for chronic pain (C2) 5. Select outcome measures for acute and chronic pain (C5) 6. Explain the approaches to manage chronic pain(C2) 7. Develop the physiotherapy management for acute and chronic pain (C3)	2
Unit 11		
Physiology of micturition	1. Explain the normal physiology of micturition including bladder capacity, urine volumes and neural control (C2) 2. Explain the relationship between detrusor muscle activity and pelvic floor muscle function (C2) 3. Explain the role of peripheral and central nervous system involvement in continence and micturition (C2) 4. Identify the role of extraneous factors (diet, environment, climate and psychology) on bladder function(C3)	3
Unit 12		
Physiology of Puberty	1. Explain the physiological changes during	2

Content	Competencies	Number of Hours
	puberty and menarche(C2) 2. Explain the stages of puberty(C2)	
Unit 13		
Anatomical, Physiological and Biomechanical changes during pregnancy and postpartum	1. Explain the anatomical and physiological changes during pregnancy and postpartum and its clinical implications (C2) 2. Explain the effect of pregnancy on the biomechanics of thorax(C2) 3. Explain the influence of reproductive hormones during pregnancy on body systems (C2)	5
Unit 14		
Anatomical, Physiological and Biomechanical changes during pre-peri and post menopause period	1. Explain in detail the anatomical, physiological and biomechanical changes during pre, peri and post-menopausal period (C2)	2
Unit 15		
Antenatal, Postnatal and post –surgical Physiotherapy Assessment	1. Outline comprehensive obstetric and gynaecological physiotherapy assessment (C4)	2
Unit 16		
Genitourinary Physiotherapy Assessment	1. Outline physiotherapy assessment for pelvic floor dysfunctions (C4)	3
	Total	**39**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	13	26
Seminar	8	16
Small group discussion (SGD)	12	24
Problem Based Learning (PBL)	2	4
Case Based Learning (CBL)	4	8
Total	**39**	**78**
Assessment Methods		
Formative	**Summative**	
Presentations	Mid Semester/Sessional Exam (Theory)	
	End Semester Exam (Theory)	

Mapping of Assessment with COs				
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**
Mid Semester / Sessional Examination 1	x	x	x	x
Presentations	x	x	x	x
End Semester Exam	x	x	x	x

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main Reference	1. Women's Health: A Textbook for Physiotherapists by Sue Markwell, Ruth Sapsford,2nd Edition, Elsevier Health Sciences 2. Holland and Brews Manual of Obstetrics by Daftary 4th edition, Elsevier Health 3. Williams Obstetrics 25th Edition, Kenneth Leveno, Steven Bloom, Brian Casey , Jodi Dashe, McGraw-Hill Education 4. Evidence-Based Physical Therapy for the Pelvic Floor by Kari Bo, Bary Berghmans, Siv Morkved and Marijke Van Kampen,2nd Edition, Elsevier Health Sciences 5. Shaw's Textbook of Gynecology by V. G. Padubidri Shirish Daftary,16th Edition,Elsevier Health 6. Williams Gynecology by Barbara L. Hoffman ,John O Schorge,Karen D Bradshaw,Lisa M. Halvorson ,Joseph I. Schaffer,Marlene M. Corton,3rd Edition,McGraw Hill Professional
Additional References	1. Aronoff GM, editor. Evaluation and treatment of chronic pain. Lippincott Williams & Wilkins; 1999 2. Hislop H, Avers D, Brown M. Daniels and Worthingham's Muscle Testing-E-Book: Techniques of Manual Examination and Performance Testing. Elsevier Health Sciences; 2013 3. Kendall FP, McCreary EK, Provance PG, Rodgers MM, Romani WA. Muscles: Testing and Function, with Posture and Pain (Kendall, Muscles). Philadelphia: Lippincott Williams & Wilkins; 2005 4. Norkin CC, White DJ. Measurement of joint motion: a guide to goniometry. FA Davis; 2016 Nov 18 5. Kisner C, Colby LA, Borstad J. Therapeutic exercise: foundations and techniques. Fa Davis; 2017 Oct 18 6. Levangie PK, Norkin CC. Joint structure and function: a comprehensive analysis. FA Davis; 2011. 7. Nordin M, Frankel VH, editors. Basic biomechanics of the musculoskeletal system. Lippincott Williams & Wilkins; 2001.

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy(Obstetrics and Gynecology)
Course Title	**Physiotherapy clinical practice in Obstetrics and Gynecology - I**
Course Code	**PTH6604**
Academic Year	First
Semester	II
Number of Credits	12
Course Prerequisite	Students should have basic knowledge in clinical conditions related to obstetrics and gynecology and relevant physiotherapeutic skills.
Course Synopsis	This module is designed to: 1. Apply fundamental and advanced knowledge in therapeutic sciences 2. Demonstrate comprehensive assessment techniques and interpret findings 3. Formulate and prescribe specific treatment plan 4. Monitor and re-evaluate treatment plans 5. Communicate effectively in verbal and written forms with patients, their family/caregiver, peers, healthcare professionals and the stakeholders at large

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Analyse and apply the principles of physiotherapy evaluation and management in obstetrics and gynaecological conditions (C4, P5, A3)
CO2	Plan a skilled and effective subjective and physical examination, select outcome measures, demonstrate clinical decision making and perform physiotherapy management of a patient with acute and chronic pain(C3,P5,A3)
CO3	Apply outcome measures in the evaluation and management of women with obstetric and gynaecologic disorders (C3,P5,A2)
CO4	Discuss health related information and display verbal and written communication with patients/ clients, caregivers, peers and health care professionals and ability to work as a team (C3, P5, A3)
CO5	Practices ethical principles during assessment and treatment (A4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

Cos	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2	x	x						
CO3	x	x						
CO4			x		x			
CO5				x	x			

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1		
Antenatal, Postnatal and post –surgical Physiotherapy Assessment:	1. Demonstrate physical examination procedures in women (C2, P5, A3) 2. Justify and perform the assessment methods of the following systems: (C4, P5, A3) • Respiratory • Cardiovascular • Integumentary • Neuro musculoskeletal (including Diastasis Recti Abdominis, transverse abdominis activation) 2. Plan a comprehensive physical examination, demonstrate clinical decision making and perform physiotherapy management of a patient with acute and chronic pain (C3, P5, A3) 3. Choose outcome measures relevant to antenatal, postnatal and post –surgical conditions (C3, P5, A2) 4. Discuss health related information with clients, caregivers, peers and health care professionals and displays ability to work as a team (C3, P5, A3) 5. Demonstrate the clinical reasoning and decision making process for the management of the patient based on the evaluation (C3, P5, A3) 6. Display ethical and professional behaviour (Autonomy, Beneficence and Justice) during evaluation (A4)	150
Unit 2		
Genitourinary Physiotherapy Assessment:	1. Explain and perform physiotherapy assessment of pelvic floor (C2, P4, A3) (pelvic floor muscle function-visual observation, palpation, vaginal squeeze pressure and electromyography) 2. Choose outcome measures relevant to pelvic floor dysfunctions (C3, P5, A2) 3. Discuss health related information with clients, caregivers, peers and health care professionals and displays ability to work as a team (C3, P5, A3) 4. Demonstrate the clinical reasoning and decision making process for the	168

Content	Competencies	Number of Hours
	management of the patient based on the evaluation (C3, P5, A3) 5. Display ethical and professional behaviour (Autonomy, Beneficence and Justice) during evaluation (A4)	
Unit 3		
Physiotherapy management for antenatal, postnatal, post – surgical and genitourinary conditions	1. Organizes problem list and plan short term and long-term goals based on the evaluation findings (C3, P5, A3) 2. Plan and perform Physiotherapy treatment techniques (C3, P5, A3) 3. Discuss health related information with clients, caregivers, peers and health care professionals and displays ability to work as a team (C3, P5, A3) 4. Displays ethical and professional behavior (Autonomy, Beneficence and Justice) during treatment (A4)	150
	Total	**468**

Learning Strategies, Contact Hours and Student Learning Time (SLT)					
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**			
Self-directed learning (SDL)	36	72			
Case Based Learning (CBL)	28	56			
Clinic	360	-			
Practical	28	56			
Assessment	16	32			
Total	**468**	**216**			
Assessment Methods					
Formative	**Summative**				
Case presentations					
Clinical performance					
Mapping of Assessment with COs					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Case Presentations	x	x	x	x	x
Clinical performance	x	x	x	x	x
Feedback Process	Mid-Semester Feedback				
	End-Semester Feedback				
Main Reference	1. Women's Health: A Textbook for Physiotherapists By Sue Markwell , Ruth Sapsford,2nd Edition, Elsevier Health Sciences 2. Holland and Brews Manual of Obstetrics by				

	Daftary 4th edition, Elsevier Health 3. Williams Obstetrics 25th Edition, Kenneth Leveno, Steven Bloom ,Brian Casey , Jodi Dashe, McGraw-Hill Education 4. Evidence-Based Physical Therapy for the Pelvic Floor by Kari Bo, Bary Berghmans, Siv Morkved and Marijke Van Kampen,2nd Edition, Elsevier Health Sciences 5. Shaw's Textbook of Gynecology by V. G. Padubidri Shirish Daftary,16th Edition,Elsevier Health 6. Williams Gynecology by Barbara L. Hoffman ,John O Schorge,Karen D Bradshaw,Lisa M. Halvorson, Joseph I. Schaffer,Marlene M. Corton,3rd Edition,McGraw Hill Professional

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy(Obstetrics and Gynecology)
Course Title	**Research Progress in Obstetrics and Gynecology - I**
Course Code	**PTH6680**
Academic Year	First
Semester	II
Number of Credits	02
Course Prerequisite	Students should have basic knowledge in research methodology
Course Synopsis	The course is designed to ensure the student is aware of the proper methods of data collection, monitoring and obtaining necessary documentation related to the study (i.e., informed consent). The course will facilitate certification in Good Clinical Practice to ensure research is conducted in accordance to the current regulations and requirements. The course will also motivate the student stay up-to-date with the research in the area of study through regular updates of the literature review.

Course Outcomes (COs)
At the end of the course student shall be able to**:**

CO1	Explain and demonstrate good clinical practice during research (P5, A3)
CO2	Demonstrate data collection procedures and document maintenance (P4, A4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

Cos	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1				x		x		
CO2		x	x					

Course Content and Outcomes

Content	**Competencies**	**Number of Hours**
Unit 1		
Good Clinical Practice	1. Explain components of Good Clinical Practice for conducting health related research based on ICMR guidelines (C2, P2, A1)	08
Unit 2		
Data collection	1. Perform data collection according to the procedure approved by the approval committees (P5, A3)	26

Content	Competencies	Number of Hours
Unit 3		
Document maintenance	1. Obtain, organize and store the documents relevant to the study e.g. Informed Consent document, Ethical approvals, data collection forms (P4, A4)	06
Unit 4		
Literature Review update	1. Perform literature search and update the review (P4)	12
	Total	**52**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Small Group Discussion (SGD)	10	20
Self-directed learning (SDL)	32	-
Practical	10	-
Total	**52**	**20**

Assessment Methods	
Formative	**Summative**
Research progress and conduct	

Mapping of Assessment with COs		
Nature of Assessment	**CO1**	**CO2**
Assignments/Presentations		x
Clinical/Practical Log Book/ Record Book	x	

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main Reference	1. Research for Physiotherapists: Project Design and Analysis –Caroline Hicks. 2. Foundations of Clinical Research by Leslie Gross Portney 3. Tests, Measurements and Research in Behavioural Sciences by A K Singh 4. Physical Therapy Research: Principles and Applications by Elizabeth Domholdt 5. Rehabilitation Research - E-Book: Principles and Applications by Russell Carter, Jay Lubinsky, et al. 6. Essentials of Research Methodology for all Physiotherapy and Allied Health Sciences Students by Ramalingam Thangamani A NOTE: this is not an exhaustive list of references and there will be other textbooks and articles which should be referenced as well

SEMESTER - III

COURSE CODE	:	COURSE TITLE
PTH7601	:	Physiotherapy in General Obstetrics & Gynecology
PTH7603	:	Physiotherapy Clinical Practice in Obstetrics & Gynecology - II
PTH7605	:	Evidence Based Physiotherapy Practice in Obstetrics & Gynecology
PTH7670	:	Research Progress in Obstetrics and Gynecology - II

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Obstetrics and Gynecology)
Course Title	**Physiotherapy in General Obstetrics & Gynecology**
Course Code	**PTH7601**
Academic Year	Second
Semester	III
Number of Credits	03
Course Prerequisite	Students should have basic knowledge in applied anatomy, physiology, clinical aspects of obstetrics and gynecology and physiotherapeutic skills
Course Synopsis	This module is designed to teach the students about the physiological responses and adaptations to exercise across the lifespan of a woman. The student will also learn the theoretical basis of fitness testing protocols and exercise prescription for women across life span. Students will have an understanding about the menstrual disorders, lifestyle diseases in women, types of contraception and its effect on lifestyle diseases, haematological investigations and imaging techniques in women. Students will have an understanding to analyse and plan evidence based practice for assessment and management of lifestyle diseases in women, patients with breast cancers and in women with acute and chronic lymphedema and use of physical agents in obstetrics and gynecology conditions

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Explain the acute physiological responses and chronic systemic adaptations to exercise, maternal, fetal and placental responses to exercise during pregnancy and physiological responses to exercise in postpartum (C2)
CO2	Explain the rationale, analysis and performance of various fitness testing protocols and exercise prescription for women across the life span (C2)
CO3	Examine the assessment procedures and evidence based physiotherapy interventions and rehabilitation of lifestyle diseases in women including using physical agents in obstetrics and gynecology conditions (C4)
CO4	Analyze and interpret the hematological investigations and imaging techniques in women (C4)
CO5	Explain the cancer screening guidelines, policies and national programs across the lifespan of a woman and analyze and plan the preoperative and postoperative evidence based Physiotherapy assessment and management of patients with breast cancers and in women with acute and chronic lymphedema (C4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)								
Cos	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x							
CO3	x					x		
CO4	x							
CO5	x					x		

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1		
Exercise Physiology	1. Explain the acute physiological responses and chronic systemic adaptations to exercise in the following systems in women: (C2) • Cardiovascular • Neuromuscular • Respiratory • Metabolic • Thermoregulatory • Renal • Endocrine • Immune 2. Explain the physiological response to exercise across life span (C2)	4
Unit 2		
Physiological responses to exercise during pregnancy and postpartum	1. Explain the maternal, fetal and placental physiological responses to exercise (C2) 2. Outline the effect of exercise on maternal and fetal health in low risk and high risk pregnancy (C2) 3. Explain the effect of exercise on glucose metabolism during pregnancy (C2) 4. Explain the effect of exercise on lactation (C2) 5. Summarize the evidence related effect of exercise during pregnancy and postpartum on maternal and offspring's health(C2)	3
Unit 3		
Exercise prescription and fitness testing in adolescent girls	1. Explain the effects of exercise on menstrual cycle and their overall performance (C2) 2. Explain the common pelvic floor dysfunctions and exercise prescription in adolescent girls (C2) 3. Explain the guidelines for health related fitness evaluation and exercise prescription in adolescent girls (C2)	3

Content	Competencies	Number of Hours
Unit 4		
Exercise prescription for female athletes	1. Explain female athletic triad with emphasis on long term health consequences (C2) 2. Explain the effects of exercise and nutrition in female athlete (C2)	3
Unit 5		
Menstrual disorders in adolescent girls	1. Outline the features of menstrual disorders- amenorrhea, dysmenorrhea, menorrhagia, polymenorrhea, oligomenorrhea (C2) 2. Explain the effects of hypothalamic pituitary dysfunction in adolescent girls (C2) 3. Explain the hormonal influence on symptoms related to pre-menstrual syndrome and premenstrual dysphoric disorder (C2) 4. Develop a structured exercise program for adolescent girls with menstrual disorders (C3)	3
Unit 6		
Lifestyle diseases in women	1. Classify eating disorders and examine its clinical implications (C2) 2. Explain the pathophysiology, clinical features and outline the medical management of Diabetes Mellitus, Hypertension, Obesity, Thyroid disorders, Cardiovascular and respiratory diseases in women (C2) 3. Explain the causes for infertility in women (C2) 4. Summarise the investigations related to infertility in women(C2) 5. Compare the assisted conception treatments(C2) 6. Explain the health promotion strategies in preconception stage (C2) 7. Examine the evidence based physiotherapy assessment and interventions (type and site of delivery) for lifestyle diseases in women(C4)	3
Unit 7		
Exercise testing and exercise prescription in women with following conditions: • Obesity • Poly Cystic Ovarian Syndrome (PCOS)	1. Explain the rationale, analysis and performance of fitness testing protocols and exercise prescription for women with obesity, infertility, women at risk of or with osteoporosis and in women during pre, peri and post-menopause conditions (C2)	3

Content	Competencies	Number of Hours
• Infertility • Osteoporosis • Pre, peri and post-menopause		
Unit 8		
Contraception in women	1. Outline the types, side effects and benefits of contraception in women (C2) 2. Explain the effect of hormonal contraception in women with lifestyle diseases(C2)	3
Unit 9		
Hematological investigations and imaging techniques In women	1. Analyse and interpret the blood and urine investigations of endocrinal disorders in women (C4) 2. Analyse and interpret the investigations during pregnancy -Dual Marker, Triple test, Glucose Challenge & Tolerance Test, Biophysical Profile, Amniocentesis, Chronic Villi Sampling, non-stress test and partograph (C4) 3. Explain the imaging techniques used in the diagnosis of conditions related to women's health- USG, MRI, CT, Mammography, Hysterosonography, Cystometry (C2)	3
Unit 10		
Physical Agents Application in women's health	1. Summarise the effects and evidence for using physical agents (C2)	3
Unit 11		
Cancer Screening in Women	1. Explain the cancer screening guidelines ,policies and national programs across the lifespan of a woman (C2)	2
Unit 12		
Breast Cancer Rehabilitation	1. Explain the stages of breast cancers(C2) 2. Explain conservative and surgical interventions following breast cancers (C2) 3. Explain the potential complications following intervention (C2) 4. Analyze and plan the preoperative and postoperative evidence based Physiotherapy assessment and management of patients with breast cancers (C4) 5. Explain the implications on health following chemotherapy and radiotherapy (C2) 6. Analyse the role of physiotherapy in the management of patients following	3

Content	Competencies	Number of Hours
	chemotherapy and radiotherapy (C4)	
Unit 13		
Lymphedema and Physiotherapy Management	1. Explain the causes, risk factors and clinical features of lymphedema in women (C2) 2. Explain the tests and measures to screen for and measure the involvement of integumentary and lymphatic system (C2) 3. Explain the guidelines for the treatment of lymphedema (C2) 4. Discuss the strategies to maintain the integrity of integumentary system (C2) 5. Explain the role of physiotherapy in complete decongestive therapy in the management of lymphedema (C2) 6. Analyze and plan an evidence based physiotherapy assessment management of the acute and chronic lymphedema (C4)	3
	Total	**39**

Learning Strategies, Contact Hours and Student Learning Time (SLT):

Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	13	26
Seminar	8	16
Small group discussion (SGD)	12	24
Problem Based Learning (PBL)	2	4
Case Based Learning (CBL)	4	8
Total	**39**	**78**

Assessment Methods

Formative	**Summative**
Presentations	Mid Semester/Sessional Exam (Theory)
	End Semester Exam (Theory)

Mapping of Assessment with COs:

Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Mid Semester / Sessional Examination 1	x	x	x	x	x
Presentations	x	x	x	x	x
End Semester Exam	x	x	x	x	x

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main Reference	1. Exercise Physiology: Nutrition, Energy, and Human Performance by William D. McArdle, Frank I. Katch ,Victor L. Katch ,8th Edition, by Lippincott Williams &

	Wilkins 2. Women's Health: A Textbook for Physiotherapists By Sue Markwell , Ruth Sapsford,2 nd Edition, Elsevier Health Sciences 3. Holland and Brews Manual of Obstetrics by Daftary 4 th edition, Elsevier Health 4. Williams Obstetrics 25th Edition, Kenneth Leveno,Steven Bloom ,Brian Casey , Jodi Dashe, McGraw-Hill Education 5. Obstetric and Gynecologic Care in Physical Therapy by Rebecca J.Gourlay Stephenson ,Linda J. O'Connor,2nd Edition, SLACK Incorporated 6. Evidence-Based Physical Therapy for the Pelvic Floor by Kari Bo, Bary Berghmans, Siv Morkved and Marijke Van Kampen,2nd Edition, Elsevier Health Sciences 7. Shaw's Textbook of Gynecology by V. G. Padubidri Shirish Daftary,16th Edition, Elsevier Health
Additional References	1. Multidisciplinary Approach to Rehabilitation- Shrawan Kumar 2. Bradom's Physical Medicine and Rehabilitation, 5th edition, Elsevier, 2015. 3. DeLisa's Physical Medicine and Rehabilitation, 5th edition, Lippincott Wiliams and wilkins 4. Physical Medical and Rehabilitation- Susan B.O'Sullivan 5. Wittink H, Michel TH, editors. Chronic pain management for physical therapists. Butterworth-Heinemann Medical; 2002. 6. Tippett SR, Voight ML. Functional progressions for sport rehabilitation. Human Kinetics; 1995. 7. Moir G. Strength and Conditioning. Jones & Bartlett Publishers; 2015 Feb 27. 8. Thomas RB, Roger WE. Essentials of strength training and conditioning. National strength and Conditioning Association. 2000:393-427. 9. McMurray RG. Concepts in fitness programming. CRC Press; 1998 Dec 23

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy(Obstetrics and Gynecology)
Course Title	**Physiotherapy Clinical Practice in Obstetrics & Gynecology - II**
Course Code	**PTH7603**
Academic Year	Second
Semester	III
Number of Credits	03
Course Prerequisite	Students should have knowledge in clinical conditions affecting women's health and relevant physiotherapeutic skills
Course Synopsis	This module is designed to – 1. Apply fundamental and advanced knowledge in therapeutic sciences 2. Demonstrate comprehensive assessment techniques and interpret findings 3. Formulate and prescribe specific treatment plan 4. Conduct a holistic and comprehensive treatment intervention safely and competently 5. Monitor and re-evaluate treatment plans 6. Use problem-solving principles and evidence-based practice in decision making of patient/client management 7.Identify the scope and limitations of professional practices, manage and refer appropriately 8.Communicate effectively in verbal and written forms with patients, their family/caregiver, peers, healthcare professionals and the stakeholders at large

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Analyse and apply the principles of physiotherapy evaluation and management in obstetrics and gynaecological conditions (C4, P5, A3)
CO2	Demonstrate fitness testing protocols and exercise prescription for women across the life span (C2, P5, A3)
CO3	Demonstrate assessment procedures and evidence based physiotherapy interventions and rehabilitation of lifestyle diseases in women, lymphedema and breast cancer rehabilitation including use of physical agents in obstetrics and gynecology (C4,P5,A3)
CO4	Discuss health related information and display verbal and written communication with patients/ clients, caregivers, peers and health care professionals and ability to work as a team (C3, P5, A3)
CO5	Practices ethical principles during assessment and treatment (A4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)								
Cos	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2	x	x						
CO3	x	x				x		
CO4			x		x			
CO5				x	x			

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1		
Fitness testing and exercise prescription in adolescent girls and female athletes	1. Apply the guidelines for fitness testing and exercise prescription in adolescent girls and female athletes (C3, P4, A3) 2. Construct a structured exercise program for adolescent girls with menstrual disorders (C3, P4, A3) 3. Discuss health related information with clients, caregivers, peers and health care professionals and displays ability to work as a team (C3, P5, A3) 4. Display ethical and professional behaviour (Autonomy, Beneficence and Justice) during fitness testing and exercise prescription in adolescent girls and female athlete (A4)	18
Unit 2		
Lifestyle diseases in women	1. Demonstrate health related fitness assessment (endurance, strength, flexibility and body composition) through various methods (C3, P4, A3) 2. Analyze the rationale, analysis and performance of various fitness testing protocols and exercise prescription for women with obesity, infertility, women at risk of or with osteoporosis and in women during pre, peri and post-menopause conditions (C4, P4, A3) 3. Summarize, demonstrate and justify the assessment procedures (including exercise testing and musculoskeletal assessment), evidence based physiotherapy interventions and rehabilitation of lifestyle diseases in women (C2, P4, A3) 4. Explain the methods and implementation strategies on using the workplace as a site for promotion of health (C2, P4, A4)	150

Content	Competencies	Number of Hours
	5. Identify and interpret the blood and urine investigations of endocrinal disorders in women (C3, P5) 6. Discuss health related information with clients, caregivers, peers and health care professionals and displays ability to work as a team (C3, P5, A3) 7. Display ethical and professional behaviour (Autonomy, Beneficence and Justice) during evaluation and exercise prescription (A4)	
Unit 3		
Physiotherapy assessment and management in obstetrics and gynecological conditions	1. Perform physiotherapy assessment in clients with obstetrics and gynecological disorders (C3, P5, A3) 2. Identify and interpret investigations during pregnancy -Dual Marker, Triple test, Glucose Challenge & Tolerance Test, Biophysical Profile, Amniocentesis, Chronic Villi Sampling, non-stress test and partograph (C3, P5) 3. Organizes problem list and plan short term and long-term goals based on the evaluation findings (C3, P5, A3) 4. Plan and perform Physiotherapy treatment techniques (C3, P5, A3) 5. Analyse and apply evidence based practice in using physical agents in woman's health (C4, P5, A3) 6. Discuss health related information with clients, caregivers, peers and health care professionals and displays ability to work as a team (C3, P5, A3) 7. Displays ethical and professional behavior (Autonomy, Beneficence and Justice) during assessment and treatment of clients. (A4)	150
Unit 4		
Breast Cancer Rehabilitation and Lymphedema and Physiotherapy Management	1.Analyze and plan the preoperative and postoperative evidence based Physiotherapy assessment and management (C5, P5, A3) 2. Evaluate and plan an evidence based physiotherapy assessment management of acute and chronic lymphedema (C5, P5, A3) 3. Demonstrate compression bandaging methods (C3, P5, A3) 4. Demonstrate the use of validated outcome tools (C3, P5, A3) 5. Discuss health related information with	150

Content	Competencies	Number of Hours
	clients, caregivers, peers and health care professionals and displays ability to work as a team (C3, P5, A3) 6. Display ethical and professional behaviour (Autonomy, Beneficence and Justice) during assessment and intervention (A4)	
	Total	**468**

Learning Strategies, Contact Hours and Student Learning Time (SLT)					
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**			
Self-directed learning (SDL)	36	72			
Case Based Learning (CBL)	28	56			
Clinic	360	-			
Practical	28	56			
Assessment	16	32			
Total	**468**	**216**			
Assessment Methods					
Formative	**Summative**				
Case presentations	End Semester Exam				
Clinical performance					
Mapping of Assessment with COs					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Case Presentations	x	x	x	x	x
End Semester Exam	x	x	x	x	x
Feedback Process	Mid-Semester Feedback				
	End-Semester Feedback				
Main Reference	1. Exercise Physiology: Nutrition, Energy, and Human Performance by William D. McArdle,Frank I. Katch ,Victor L. Katch ,8th Edition, by Lippincott Williams & Wilkins 2. Women's Health: A Textbook for Physiotherapists By Sue Markwell , Ruth Sapsford,2 nd Edition, Elsevier Health Sciences 3. Holland and Brews Manual of Obstetrics by Daftary 4 th edition, Elsevier Health 4. Williams Obstetrics 25th Edition, Kenneth Leveno,Steven Bloom ,Brian Casey , Jodi Dashe, McGraw-Hill Education 5. Obstetric and Gynecologic Care in Physical Therapy by Rebecca J.Gourlay Stephenson ,Linda J. O'Connor,2nd Edition, SLACK Incorporated 6. Evidence-Based Physical Therapy for the Pelvic Floor by Kari Bo, Bary Berghmans, Siv Morkved and				

	Marijke Van Kampen,2nd Edition, Elsevier Health Sciences 7. Shaw's Textbook of Gynecology by V. G. Padubidri Shirish Daftary,16th Edition, Elsevier Health 8. Williams Gynecology by Barbara L. Hoffman, John O Schorge, Karen D Bradshaw, Lisa M. Halvorson, Joseph I. Schaffer, Marlene M. Corton,3rd Edition, McGraw Hill Professional

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Obstetrics and Gynecology)
Course Title	**Evidence Based Physiotherapy Practice in Obstetrics & Gynecology**
Course Code	**PTH7605**
Academic Year	Second
Semester	III
Number of Credits	02
Course Prerequisite	Students should have basic knowledge of research methods and physiotherapy practice in Obstetrics & Gynecology
Course Synopsis	The course will focus on the development of skill to search for evidence, appraise the available literature and apply the relevant evidence into clinical practice for the physiotherapy assessment and management of Obstetrics and gynecologic disorders. Through this course, students will learn to summarise recent trends and developments in Obstetrics and Gynecology (including assessment and treatment) by reviewing the scientific literature of the last 5-10 years while emphasizing on landmark studies, high levels of evidence, on-going controversies, on-going studies, and the way forward.

Course Outcomes (COs)
At the end of the course student shall be able to**:**

CO1	Appraise the process of evidence based practice and implementation to clinical practice (C5)
CO2	Appraise the process of evidence-based practice in obstetric and gynecological diseases across life span (C5)
CO3	Appraise the process of evidence-based practice lifestyle diseases (C5)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

Cos	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1						x	x	
CO2	x					x		
CO3	x					x		

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1		
Evidence based practice	1. Define evidence-based practice (EBP) (C1) 2. Explain the process of evidence-based practice (C4) 3. Adopt a search strategy and appraise the available literature (C5)	**2**
Unit 2		
Evidence based Physiotherapy practice in obstetric and gynecological disorders across life span	1. Identify, appraise and summarize evidence through systematic searches of databases for the assessment and management of obstetric and gynecological diseases across life span (C5) 2. Recommend strategies for implementation of evidence based practice assessment and management strategies (C5)	**12**
Unit 3		
Evidence based Physiotherapy practice in lifestyle diseases	1. Identify, appraise and summarize evidence through systematic searches of databases for the assessment and management of lifestyle diseases (C5) 2. Recommend strategies for implementation of evidence based practice assessment and management strategies (C5)	**12**
	Total	**26**

Learning Strategies, Contact Hours and Student Learning Time (SLT)			
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**	
Lecture	2	4	
Seminar	24	48	
Total	**26**	**52**	
Assessment Methods			
Formative	**Summative**		
Presentation	Sessional Exam (theory)		
Mapping of Assessment with COs			
Nature of Assessment	**CO1**	**CO2**	**CO3**
Sessional Examination	x	x	x
Assignments/Presentations	x	x	x
Feedback Process	Mid-Semester Feedback		

Main Reference	1. Guide to Evidence Based Physical Therapy Practice by Dianne V Jewell; Jones and Bartlett Publishers (2008) 2. http://www.apta.org/EvidenceResearch/EBPTools/ 3. https://www.nlm.nih.gov/bsd/disted/pubmedtutorial/cover.html 4. https://www.bmj.com/about-bmj/resources readers/publications/how-read-paper 5. Young JM, Solomon MJ. How to critically appraise an article. Nat Clin Pract Gastroenterol Hepatol. 2009;6(2):82-91 6. Related scientific publications including position statements, guidelines, landmark trials, systematic reviews and meta-analysis and recent trials

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Obstetrics and Gynecology)
Course Title	**Research Progress in Obstetrics and Gynecology - II**
Course Code	**PTH7670**
Academic Year	Second
Semester	III
Number of Credits	03
Course Prerequisite	The student should have the basic knowledge in research methodology
Course Synopsis	This course is developed to introduce the student to the art of scientific writing. Students will be facilitated to complete a required certification in scientific writing during this time and will be prepared to implement the knowledge from this course into writing their research project. This course will ensure that students continue to adhere to guidelines and good clinical practice recommendations related to enrolment, data collection and storage. The course will enhance the skill of the student to keep abreast with recent developments in the area of study through periodic literature updates.

Course Outcomes (COs)
At the end of the course student shall be able to**:**

CO1	Explain and components of scientific writing (C2, P2)
CO2	Demonstrate data collection procedures and document maintenance (P4, A4)
CO3	Perform literature search and update (P4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

Cos	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2			x		x			
CO3		x				x		

Course Content and Outcomes

Content	**Competencies**	**Number of Hours**
Unit 1		
Basics of scientific writing	1. Explain the components of scientific writing in dissertation and manuscript (C2, P2)	08
Unit 2		
Data collection	1. Perform data collection according to the procedure approved by the approval committees (P5, A3)	39

Content	Competencies	Number of Hours
Unit 3		
Document maintenance	1. Obtain, organize and store the documents relevant to the study e.g. Informed Consent document, Ethical approvals, data collection forms (P4, A4)	06
Unit 4		
Literature update	1. Perform literature search and update the review (P4)	25
	Total	**78**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Small Group Discussion (SGD)	10	20
Self-directed learning (SDL)	48	-
Practical	20	-
Total	**78**	**20**
Assessment Methods		
Formative	**Summative**	
Research progress and conduct		

Mapping of Assessment with COs			
Nature of Assessment	**CO1**	**CO2**	**CO3**
Assignments/Presentations		x	
Clinical/Practical Log Book/ Record Book	x		x

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main Reference	1. Research for Physiotherapists: Project Design and Analysis –Caroline Hicks. 2. Foundations of Clinical Research by Leslie Gross Portney 3. Tests, Measurements and Research in Behavioural Sciences by A K Singh 4. Physical Therapy Research: Principles and Applications by Elizabeth Domholdt 5. Rehabilitation Research - E-Book: Principles and Applications by Russell Carter, Jay Lubinsky, et al. 6. Essentials of Research Methodology for all Physiotherapy and Allied Health Sciences Students by Ramalingam Thangamani A NOTE: this is not an exhaustive list of references and there will be other textbooks and articles which should be referenced as well

SEMESTER - IV

Option-1: Elective in Obstetrics

COURSE CODE	:	COURSE TITLE
PTH7612	:	Physiotherapy in Obstetrics
PTH7614	:	Clinical Physiotherapy Practice in Obstetrics
PTH7680	:	Research Project in Obstetrics and Gynecology

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Obstetrics and Gynecology)
Course Title	**Physiotherapy in Obstetrics**
Course Code	**PTH7612**
Academic Year	Second
Semester	IV
Number of Credits	03
Course Prerequisite	Students should have knowledge in changes in structure and function of body systems in obstetric population and relevant physiotherapeutic skills.
Course Synopsis	The module is designed to provide information about evidence based physiotherapy evaluation and management of women with obstetric conditions. It will also help students to perform clinical assessment of newborn.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Explain the surgical procedures, medical, gynaecological and obstetric disorders during pregnancy (C2)
CO2	Develop exercise prescription to women in their antenatal and postnatal period following the current exercise guidelines (C3)
CO3	Analyze and plan an evidence based Physiotherapy assessment and management of women with high risk pregnancy, women with neuro-musculoskeletal dysfunctions during pregnancy and in women with postpartum complications following normal delivery and lower segment caesarian section (C4)
CO4	Explain the role of Physiotherapy and pain coping strategies during normal labor (C5)
CO5	Explain the clinical assessment of the new born(C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x							
CO3	x					x		
CO4	x							
CO5	x							

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1		
Medical & Gynecologic disorders during pregnancy:	1. Explain the clinical aspects including causes, pathophysiology, clinical features, medical management of the following conditions:(C2) • Hypertensive disorders • Epilepsy/seizure disorders • Anaemia • Diabetes • Thyroid disorders • Urinary infections • Hepatic disorders • Malaria/Dengue fever • Rh isoimmunisation • HIV infection complicating • perinatal infectious diseases (TORCH) • Surgical and gynecological disorders in pregnancy	4
Unit 2		
Obstetric disorders during pregnancy:	1. Explain the clinical aspects including causes, pathophysiology, clinical features, medical and of the following conditions: (C2) • Early pregnancy loss • Ectopic pregnancy • Fetal growth restriction • Multifetal pregnancy • Antepartum haemorrhage • Placenta praevia • Placental abruption • Amniotic fluid abnormalities • Post term pregnancy • Intra uterine fetal death • Gestational trophoblastic disease	4
Unit 3		
Surgical procedures during pregnancy	4. Explain the surgical procedures during pregnancy (C2)	2
Unit 4		
Exercise prescription in antenatal and postnatal period	1. Develop an evidence based exercise prescription for women during antenatal and postnatal period (C3)	3

Content	Competencies	Number of Hours
Unit 5		
Physiotherapy for high risk pregnancy	1. Explain the complications associated with prolonged bed rest during pregnancy(C2) 2. Outline the risk factors associated with high risk pregnancy (C2) 3. Outline the medical interventions for the prevention and management of following high risk pregnancy conditions: (C2) • Gestational Hypertension/Pre-eclampsia/Eclampsia • Gestational Diabetes • Preterm labour • Multiple Gestation • Placenta previa • Abruption placenta • Incompetent cervix 4. Explain the impact of psychological well-being during pregnancy(C2) 5. Analyse and plan an evidence based physiotherapy assessment and management for women with high risk pregnancy(C4)	4
Unit 6		
Neuro-musculoskeletal dysfunctions during pregnancy: Physiotherapy Evaluation & Management	1. Explain the various neuromusculoskeletal dysfunctions among pregnant women (C2) 2. Explain the role of posture, hormonal changes and fluid retention in the development of nerve entrapment during pregnancy (C2) 3. Explain the role of orthotics and assistive devices for neuromusculoskeletal dysfunctions during pregnancy (C2) 4. Analyse and plan an evidence based Physiotherapy assessment and management of women with neuromusculoskeletal during pregnancy (C4)	5
Unit 7		
Physiotherapy management during labour	1. Explain the complications during labour(C2) 2. Describe the non-pharmacological techniques for the management of labour (C2) 3. Explain the impact of psychological well-being during child birth (C2) 4. Explain the role of Physiotherapy and pain coping strategies during labour(C5)	5
Unit 8		
Postpartum complications	1. Explain the immediate and late postpartum complications and management following	5

Content	Competencies	Number of Hours
and Physiotherapy management	normal vaginal delivery and caesarian section(C2) 2. Analyse the compensatory postural strategies of women during postpartum period and its implications (C4) 3. Explain the types of postpartum mood disorders (C2) 4. Analyze the role of Physiotherapy in the management of postpartum mood disorders (C4) 5. Explain the role of orthotics and assistive devices for musculoskeletal dysfunctions during postpartum period (C2) 6. Analyze and plan an evidence based Physiotherapy assessment and management for women with postpartum complications (C4)	
Unit 9		
Lactation and Physiotherapy management	1. Explain the common issues associated with breast feeding (C2) 2. Explain the pathophysiology, causes, clinical features of breast engorgement(C2) 3. Analyse and plan an evidence based Physiotherapy intervention program for management of issues related to lactation and breast engorgement(C4)	3
Unit 10		
Newborn examination	1. Explain the clinical assessment of the new born:(C2) • General observation • Respiratory system • Musculoskeletal system • Oro-motor evaluation • Neurodevelopmental maturation 2. Explain the following scales in the evaluation of new born: (C2) New Ballard score • APGAR score • Downes score • Silverman Anderson scale • Hammersmith Infant Neurological Examination Assessment • General movement assessment	4
	Total	**39**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	13	26
Seminar	8	16
Small group discussion (SGD)	12	24
Problem Based Learning (PBL)	2	4
Case Based Learning (CBL)	4	8
Total	**39**	**78**

Assessment Methods	
Formative	**Summative**
Presentations	Mid Semester/Sessional Exam (Theory)
	End Semester Exam (Theory)

Mapping of Assessment with COs					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Mid Semester / Sessional Examination 1	x	x	x	x	x
Presentations	x	x	x	x	x
End Semester Exam	x	x	x	x	x

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main Reference	1. Women's Health: A Textbook for Physiotherapists By Sue Markwell , Ruth Sapsford,2 nd Edition, Elsevier Health Sciences 2. Holland and Brews Manual of Obstetrics by Daftary 4 th edition, Elsevier Health 3. Obstetric and Gynecologic Care in Physical Therapy by Rebecca J.Gourlay Stephenson ,Linda J. O'Connor,2nd Edition, SLACK Incorporated 4. Evidence-Based Physical Therapy for the Pelvic Floor by Kari Bo, Bary Berghmans, Siv Morkved and Marijke Van Kampen,2nd Edition, Elsevier Health Sciences
Additional References	1. Williams Obstetrics 25th Edition, Kenneth Leveno, Steven Bloom , Brian Casey , Jodi Dashe, McGraw-Hill Education 2. Breastfeeding and Human Lactation 6th Edition, Karen Wambach, Becky Spencer, Jones & Bartlett Learning 3. Women's health in Physical therapy: Principles and practices for Rehab Professionals, Jean M. Irion and Glenn L. Irion, Lippincott Williams & Wilkins; 1st edition 4. The Pelvic Girdle: An integration of clinical expertise and research 4th Edition, Diane Lee, Churchill Livingstone; 4th edition 5. Normal Development of Functional Motor skills-Rona Alexander 6. Normal and abnormal development-Mary R Fiorentino, Second printing

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Obstetrics and Gynecology)
Course Title	**Clinical Physiotherapy Practice in Obstetrics**
Course Code	**PTH7614**
Academic Year	Second
Semester	IV
Number of Credits	12
Course Prerequisite	Students should have knowledge about changes in structure and function of body systems in obstetric population, preventive measures and relevant physiotherapeutic skills.
Course Synopsis	This module is designed to: Apply fundamental and advanced knowledge in therapeutic sciences. Demonstrate comprehensive assessment techniques and interpret findings Formulate and prescribe specific treatment plan Conduct a holistic and comprehensive treatment intervention safely and competently. Monitor and re-evaluate treatment plans. Use problem-solving principles and evidence-based practice in decision making of patient/client management. Identify the scope and limitations of professional practices, manage and refer appropriately. Communicate effectively in verbal and written forms with patients, their family/caregiver, peers, healthcare professionals and the stakeholders at large.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Plan and demonstrate a detailed evidence based Physiotherapy assessment and intervention program following surgical procedures, medical, gynaecological and obstetric disorders during pregnancy, high risk pregnancy and women with musculoskeletal and peripheral nerve dysfunctions during pregnancy and postpartum musculoskeletal dysfunctions including breast engorgement (C5, P5, A3)
CO2	Explain the role of Physiotherapy and pain coping techniques during various stages of normal labor (C5,P5,A3)
CO3	Demonstrate the clinical assessment of the new born, baby handling techniques and parent education (C3, P5, A3)
CO4	Discuss health related information and display verbal and written communication with patients/ clients, caregivers, peers and health care professionals and ability to work as a team (C3, P5, A3)
CO5	Practices ethical principles during assessment and treatment (A4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)								
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1		x				x		x
CO2	x	x						
CO3	x	x						
CO4			x		x			
CO5				x	x			

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1		
Evidence based Physiotherapy assessment following surgical procedures, medical, gynaecological and obstetric disorders during pregnancy, high risk pregnancy and women with musculoskeletal and peripheral nerve dysfunctions during pregnancy, postpartum complications and newborn evaluation	1.Plan an evidence based Physiotherapy assessment for medical, gynaecological and obstetric disorders during pregnancy (C4, P5, A3) 2. Analyse the compensatory postural strategies of pregnant women and its implications (C4, P5, A3) 3. Demonstrate detailed Physiotherapy assessment with emphasis on evaluation of spine and pelvic girdle (C3, P5, A3) 4. Demonstrate special tests for peripheral nerve injury or compression (C3, P5, A3) 5. Construct an evidence based Physiotherapy assessment for high risk pregnant women including pregnant women with bad obstetric history, pregnant women on long term bed rest, pregnant women with neurological, orthopedic or cardiorespiratory diseases (C5, P4, A3) 6. Plan an evidence based Physiotherapy evaluation for postpartum musculoskeletal dysfunctions (C5, P5, A3) 7. Evaluate and plan an evidence based Physiotherapy assessment for problems related to lactation and breast engorgement (C5, P5, A3) 8. Demonstrate the clinical assessment of the new born:(C3, P5, A3) • General observation • Respiratory system • Musculoskeletal system • Oro-motor evaluation • Neurodevelopmental maturation 9. Apply the following scales in the evaluation of new born (C3, P5, A3)	234

Content	Competencies	Number of Hours
	New Ballard score • APGAR score • Downes score • Silverman Anderson scale • Hammersmith Infant Neurological Examination Assessment • General movement assessment 10. Demonstrate the use validated outcome tools (C3, P5, A3) 11. Discuss health related information with clients, caregivers, peers and health care professionals and displays ability to work as a team (C3, P5, A3) 12. Display ethical and professional behavior (Autonomy, Beneficence and Justice) during assessment and intervention (A4)	
Unit 2		
Evidence based Physiotherapy management following surgical procedures, medical, gynaecological and obstetric disorders during pregnancy, high risk pregnancy and women with musculoskeletal and peripheral nerve dysfunctions during pregnancy and for women with postpartum complications	1. Plan a detailed evidence based Physiotherapy management for medical, gynaecological and obstetric disorders during pregnancy (C4, P5, A3) 2. Develop an evidence based exercise prescription for women during antenatal and postnatal period (C3, P5, A3) 3. Evaluate and plan an evidence based Physiotherapy intervention program for neuro musculoskeletal dysfunctions during pregnancy (C5, P5, A3) 4. Demonstrate neural tissue mobilization techniques (C3, P5, A3) 5. Construct an evidence based exercise program for pregnant women as a preparation of labor (C3, P5, A3) 6. Construct an evidence based Physiotherapy intervention for high risk pregnant women including pregnant women with bad obstetric history, pregnant women on long term bed rest, pregnant women with neurological, orthopedic or cardiorespiratory diseases (C5, P4, A3) 7. Formulate and apply pain coping strategies (maternal positions, breathing exercises, relaxation techniques, pain management modalities including TENS, thermal agents and use of props such as birthing balls) during labour (C5, P5, A3) 8. Evaluate and plan an evidence based	234

Content	Competencies	Number of Hours
	Physiotherapy intervention program for postpartum musculoskeletal dysfunctions (C5, P5, A3) 9. Evaluate and plan a rehabilitation program for restoration of abdominal wall strength pelvic floor muscle strength and overall fitness following child birth (C5, P5, A3) 10. Choose the ideal positions for breast feeding and its clinical implication (C3, P5, A3) 11. Evaluate and plan an evidence based Physiotherapy assessment and intervention program for problems related to lactation and breast engorgement (C5, P5, A3) 12. Demonstrate baby handling and parent education (C3, P5, A3) 13. Discuss health related information with clients, caregivers, peers and health care professionals and displays ability to work as a team (C3, P5, A3) 14. Display ethical and professional behaviour (Autonomy, Beneficence and Justice) during assessment and intervention (A4)	
	Total	**468**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Self-directed learning (SDL)	36	72
Case Based Learning (CBL)	28	56
Clinic	360	-
Practical	28	56
Assessment	16	32
Total	**468**	**216**
Assessment Methods		
Formative	**Summative**	
Case presentations	End Semester Exam (Theory)	
Clinical performance		

Mapping of Assessment with COs					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Case presentations	x	x	x	x	x

Clinical performance		x	x	x	x	x
End Semester Exam		x	x	x	x	x
Feedback Process	Mid-Semester Feedback					
	End-Semester Feedback					
Main Reference	1. Women's Health: A Textbook for Physiotherapists By Sue Markwell, Ruth Sapsford,2nd Edition, Elsevier Health Sciences 2. Holland and Brews Manual of Obstetrics by Daftary 4 th edition, Elsevier Health 3. Williams Obstetrics 25th Edition, Kenneth Leveno,Steven Bloom ,Brian Casey , Jodi Dashe, McGraw-Hill Education 4. Obstetric and Gynecologic Care in Physical Therapy by Rebecca J.Gourlay Stephenson ,Linda J. O'Connor,2nd Edition, SLACK Incorporated 5. Evidence-Based Physical Therapy for the Pelvic Floor by Kari Bo, Bary Berghmans, Siv Morkved and Marijke Van					
Additional References	1. Williams Obstetrics 25th Edition, Kenneth Leveno, Steven Bloom , Brian Casey , Jodi Dashe, McGraw-Hill Education 2. Breastfeeding and Human Lactation 6th Edition, Karen Wambach, Becky Spencer, Jones & Bartlett Learning 3. Women's health in Physical therapy: Principles and practices for Rehab Professionals, Jean M. Irion and Glenn L. Irion, Lippincott Williams & Wilkins; 1st edition 4. The Pelvic Girdle: An integration of clinical expertise and research 4th Edition, Diane Lee, Churchill Livingstone; 4th edition 5. Motor skills - Acquisition in the First year. An illustrated guide to normal development -Lois Bly 6. Fetal & Neonatal Physiology Richard A. Polin, Vol 1and 2					

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Obstetrics and Gynecology)
Course Title	**Research Project in Obstetrics and Gynecology**
Course Code	**PTH7680**
Academic Year	Second
Semester	IV
Number of Credits	05
Course Prerequisite	Students should have basic knowledge in research methodology
Course Synopsis	This course is designed to facilitate the student to apply knowledge in Biostatistics to the data collected through data entry, data analysis and interpretation. The course will develop skills in the use of essential statistical software for the management and analysis of data. The course will also facilitate the application of knowledge of scientific writing into the final submission of the research project. The course will promote the student's ability to justify the study and its findings through both written and spoken methods. It will also sensitize the student to the process of developing a manuscript to a journal. The course will also expose the student to the guidelines on completion of a research project as per prevailing regulatory and institutional norms.

Course Outcomes (COs)
At the end of the course student shall be able to**:**

CO1	Perform data analysis and interpret results (C4, P4)
CO2	Prepare and submit dissertation document and manuscript (P4)
CO3	Present and defend dissertation (P4,A3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2						x	x	
CO3		x	x					

Course Content and Outcomes

Content	**Competencies**	**Number of Hours**
Unit 1		
Data compilation	1. Perform data entry and prepare for analysis in statistical software (P4)	26

Content	Competencies	Number of Hours
Unit 2		
Statistical analysis	1. Perform appropriate statistical tests and interprets the results (C5,P4) is the student expected to do the analysis	13
Unit 3		
Dissertation and Manuscript writing	1. Prepare the dissertation document according to institutional guidelines (P4) 2. Prepares manuscript for submission to an indexed journal (P4)	52
Unit 4		
Dissertation presentation	1. Present and defend the dissertation to the relevant scientific committee(s) (P4, A3)	13
Unit 5		
Closure report	1. Complete requirements regarding closure of research project (P4)	26
	Total	**130**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Small Group Discussion (SGD)	16	32
Self-directed learning (SDL)	80	-
Practical	10	-
Assessment	24	48
Total	**130**	**80**

Assessment Methods	
Formative	**Summative**
Research progress and conduct	Presentation and Viva

Mapping of Assessment with COs			
Nature of Assessment	**CO1**	**CO2**	**CO3**
Quiz / Viva			x
Assignments/Presentations		x	
Clinical/Practical Log Book/ Record Book	x		
End Semester Exam- Viva			x

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main Reference	1. Research for Physiotherapists: Project Design and Analysis Caroline Hicks. 2. Foundations of Clinical Research by Leslie Gross Portney 3. Tests, Measurements and Research in Behavioural

	Sciences by A K Singh 4. Physical Therapy Research: Principles and Applications by Elizabeth Domholdt 5. Rehabilitation Research - E-Book: Principles and Applications by Russell Carter, Jay Lubinsky, et al. 6. Essentials of Research Methodology for all Physiotherapy and Allied Health Sciences Students by Ramalingam Thangamani A NOTE: this is not an exhaustive list of references and there will be other textbooks and articles which should be referenced as well

SEMESTER - IV

Elective: Gynecology

Course Code	:	Course Title
PTH7622	:	Physiotherapy in Gynecology
PTH7624	:	Clinical Physiotherapy Practice in Gynecology
PTH7680	:	Research Project in Obstetrics and Gynecology

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Obstetrics and Gynecology)
Course Title	**Physiotherapy in Gynecology**
Course Code	**PTH7622**
Academic Year	Second
Semester	IV
Number of Credits	03
Course Prerequisite	Students should have knowledge in changes in structure and function of body systems in gynecological population and relevant physiotherapeutic skills
Course Synopsis	The module will provide information about evidence based physiotherapy evaluation and management of women with gynecological disorders. It will also help students to understand about the rehabilitation of elderly women and women following surgeries for gynecological cancers

Course Outcomes (COs):
At the end of the course student shall be able to**:**

CO1	Explain the physiotherapy assessment and management of balance dysfunctions in elderly women (C2)
CO2	Analyse and plan a detailed evidence based Physiotherapy assessment and intervention program for complications associated with low bone mineral density in women(C4)
CO3	Analyse and plan a detailed evidence based Physiotherapy assessment and intervention program for pre, peri and postmenopausal complications (C4)
CO4	Analyze and plan an evidence based physiotherapy assessment and management pelvic floor dysfunctions, female sexual dysfunctions and pelvic pain (C4)
CO5	Analyze and plan preoperative and postoperative evidence based physiotherapy assessment and rehabilitation following surgeries for gynecological cancers (C4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x					x		
CO3	x					x		
CO4	x					x		
CO5	x					x		

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1		
Balance dysfunctions in elderly women- Physiotherapy Assessment and Management	1. Explain the physiology of balance, causes and risk factors for falls in elderly women (C2) 2. Explain the physiotherapy assessment and management of balance dysfunctions in elderly women (C2)	4
Unit 2		
Bone health in women	1. Explain the clinical features, risk factors and imaging modalities for diagnosis of osteopenia and osteoporosis (C2) 2. Explain the pathophysiology of altered bone health and screening for bone mineral density (C2) 3. Explain the functional deficits in musculoskeletal system related to low bone mineral density (C2) 4. Explain the medical management for low bone mineral density (C2) 5. Analyze and plan a detailed evidence based Physiotherapy assessment and intervention program for women with low bone mineral density (C4) 6. Explain the role of assistive devices and orthotics in the management of osteoporosis(C2) 7. Demonstrate the use validated outcome tools (C3, P5, A3) 8. Discuss health related information with clients, caregivers, peers and health care professionals and displays ability to work as a team (C3, P5, A3) 9. Display ethical and professional behavior (Autonomy, Beneficence and Justice) during assessment and intervention (A4)	4
Unit 3		
Physiotherapy for gynaecological diseases in pre and peri-menopausal women	1. Explain the causes, risk factors symptoms and intervention for gynecological diseases in pre and peri- menopausal women (C2) 2. Analyze and plan an evidence based physiotherapy assessment and management for gynecological diseases in peri-menopausal woman with emphasis on health promotion, disease prevention and education (C4)	**4**

Content	Competencies	Number of Hours
Unit 4		
The Climacteric - Postmenopausal Complications	1. Explain the causes, pathophysiology, clinical features, medical management of the following postmenopausal complications: (C2) • Weight gain • Muscular and skeletal changes • Atherosclerosis • Hypertension • Coronary Heart Disease • Psychological symptoms	4
Unit 5		
Physiotherapy for pelvic floor dysfunctions	1. Explain the types, risk factors, causes, signs and symptoms following pelvic floor dysfunctions: (C2) • Urinary incontinence • Overactive bladder • Pelvic organ prolapse • Fecal incontinence • Colorectal dysfunction 2. Explain the medical interventions for pelvic floor dysfunctions including medications and surgeries (C2) 3. Discuss the use of bladder diary in pelvic floor dysfunctions (C2) 4. Analyze and plan an evidence based Physiotherapy assessment and management of women with pelvic floor dysfunctions(C4)	5
Unit 6		
Physiotherapy for Pelvic pain	1. Explain the clinical presentation of pelvic pain syndromes (C2) (Levator spasm, chronic pelvic pain, vulvar pain, interstitial cystitis, coccydynia, descending perineum syndrome, dyssynergic pain, Proctalgia fugax, Endometriosis) 2. Analyse the musculoskeletal, obstetric, gynaecological and psychological factors contributing to pelvic pain (C4) 3. Explain the medical management for pelvic pain(C2) 4. Analyse and plan an evidence based physiotherapy management of acute and chronic pelvic pain (C4)	5
Unit 7		
Physiotherapy following	1. Explain the surgical procedures involved in the management of gynecological disorders (C2)	4

Content	Competencies	Number of Hours
Gynecological Surgery	2. Explain the effect of surgeries on function and recovery (C2) 3. Analyze and plan preoperative and postoperative evidence based physiotherapy assessment and management following gynecological surgeries(C4)	
Unit 8		
Gynecological Cancer Rehabilitation	1.Explain the stages of gynecological cancers(C2) 2.Explain conservative and surgical interventions in gynecological cancers (C2) 3.Explain the potential complications which may interfere the physical recovery (C2) 4.Analyze and plan the preoperative and postoperative evidence based Physiotherapy assessment and management of patients with gynecological cancers (C4) 5.Explain the implications on health following chemotherapy and radiotherapy (C2) 6.Analyse the role of physiotherapy in the management of patients following chemotherapy and radiotherapy (C4)	5
Unit 9		
Physiotherapy for Female sexual dysfunctions	1. Explain the classification and causes of female sexual dysfunctions (C2) 2. Discuss the medical management (C2) 3. Analyse and plan the evidence based physiotherapy assessment and management of female sexual dysfunctions (C4)	4
	Total	**39**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	13	26
Seminar	8	16
Small group discussion (SGD)	12	24
Problem Based Learning (PBL)	2	4
Case Based Learning (CBL)	4	8
Total	**39**	**78**
Assessment Methods		
Formative	**Summative**	
Presentations	Mid Semester/Sessional Exam (Theory)	
	End Semester Exam (Theory)	

Mapping of Assessment with COs					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Mid Semester / Sessional Examination 1	x	x	x	x	x
Presentations	x	x	x	x	x
End Semester Exam	x	x	x	x	x

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main Reference	1. Williams Gynecology by Barbara L. Hoffma , John O Schorge,Karen D Bradshaw,Lisa M. Halvorson ,Joseph I. Schaffer,Marlene M. Corton,3rd Edition, McGraw Hill Professional 2. Shaw's Textbook of Gynecology by V. G. Padubidri Shirish Daftary,16th Edition, Elsevier Health 3. Obstetric and Gynecologic Care in Physical Therapy by Rebecca J.Gourlay Stephenson ,Linda J. O'Connor,2nd Edition, SLACK Incorporated 4. Evidence-Based Physical Therapy for the Pelvic Floor by Kari Bo, Bary Berghmans, Siv Morkved and Marijke Van Kampen,2nd Edition, Elsevier Health Sciences 5. Women's Health: A Textbook for Physiotherapists By Sue Markwell, Ruth Sapsford,2 nd Edition, Elsevier Health Sciences
Additional References	1. Multidisciplinary Approach to Rehabilitation- Shrawan Kumar 2. Bradoom’s Physical Medicine and Rehabilitation, 5th edition, Elsevier, 2015 3. DeLisa’s Physical Medicine and Rehabilitation, 5th edition, Lippincott Wiliams and wilkins 4. Physical Medical and Rehabilitation- Susan B.O’Sullivan 5. Your Pelvic Health book: A Guide to Pelvic Floor Awareness, Bladder Health, Bowel Health, Sexual Health, and Changes throughout Your Lifetime for Uterus (Pelvic Floor Physical Therapy Series) Jen Torborg Independently publisher 6. Freeing Yourself from pelvic pain: A complete self guide to overcome Chronic Pelvic Floor Disorders, Dyspareunia, Vulvodynia and other Symptoms - Claudia Amherd, Create Space Independent Publishing Platform; 1st edition 7. Exercise for Better Bones: The Complete Guide to Safe and Effective Exercises for Osteoporosis -Margaret Martin, Kamajojo Press; 3rd edition

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy(Obstetrics and Gynecology)
Course Title	**Clinical Physiotherapy Practice in Gynecology**
Course Code	**PTH7624**
Academic Year	Second
Semester	IV
Number of Credits	12
Course Prerequisite	Students should have knowledge in changes in structure and function of body systems in gynecological population and relevant physiotherapeutic skills
Course Synopsis	This module is designed to – Apply fundamental and advanced knowledge in therapeutic sciences. Demonstrate comprehensive assessment techniques and interpret findings. Formulate and prescribe specific treatment plan. Conduct a holistic and comprehensive treatment intervention safely and competently. Monitor and re-evaluate treatment plans. Use problem-solving principles and evidence-based practice in decision making of patient/client management. Identify the scope and limitations of professional practices, manage and refer appropriately. Communicate effectively in verbal and written forms with patients, their family/caregiver, peers, healthcare professionals and the stakeholders at large.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Demonstrate evaluation of balance and perform a detailed physiotherapy assessment and management for balance dysfunctions in elderly women and in women with and without fractures following low bone mineral density (C3,P5,A3)
CO2	Evaluate and plan a detailed evidence based Physiotherapy assessment and intervention program for pre-menopausal, peri-menopausal and postmenopausal complications (C5, P5, A3)
CO3	Evaluate and plan an evidence based physiotherapy assessment and management of pelvic floor dysfunctions, female sexual dysfunctions, pelvic pain and preoperative and postoperative assessment and rehabilitation following gynecological cancers (C5, P5, A3)
CO4	Discuss health related information and display verbal and written communication with patients/ clients, caregivers, peers and health care professionals and ability to work as a team (C3, P5, A3)
CO5	Practice ethical principles during assessment and treatment (A4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)								
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1		x				x		
CO2		x				x		x
CO3		x				x		
CO4			x			x		
CO5				x	x			

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1		
Evidence based Physiotherapy assessment for balance dysfunctions in elderly women, bone dysfunctions in women, gynaecological diseases in pre and peri and post-menopausal women, pelvic floor dysfunctions, pelvic pain, following gynecological surgeries due to gynecological cancers and female sexual dysfunctions	1. Demonstrate the evaluation of balance in elderly women (C3, P5, A3) 2. Analyze and plan physiotherapy assessment of balance dysfunctions in elderly women (C3, P5, A3) 3. Evaluate and prescribe orthotics and assistive devices for prevention of falls in elderly women (C3, P5, A3) 4. Evaluate and plan a detailed evidence based Physiotherapy assessment for women with and without fractures following low bone mineral density (C5, P5, A3) 5. Evaluate and plan an evidence based physiotherapy assessment for gynaecological diseases in pre and peri-menopausal woman (C5, P5, A3) 6. Evaluate and plan a detailed evidence based Physiotherapy assessment and intervention program for postmenopausal complications (C5, P5, A3) 7. Demonstrate the musculoskeletal evaluation of pelvic floor muscles, evaluation of posture, abdominal strength, lower extremity function and trunk range of motion (C3, P5, A3) 8. Demonstrate the components of examination of patient with pelvic organ prolapse, urinary incontinence, anorectal dysfunction, pelvic pain and female sexual dysfunction (C3, P5, A3) 9. Demonstrate the assessment of pelvic floor muscles-sEMG, perineometry and internal vaginal examination (C3, P5,	234

Content	Competencies	Number of Hours
	A3) 10. Demonstrate the administration of bladder diary (C3, P5, A3) 11. Analyse and plan an evidence based Preoperative and postoperative physiotherapy assessment for gynecological surgeries (C5, P5, A3) 12. Demonstrate the use of validated outcome tools (C3, P5, A3) 13. Discuss health related information with clients, caregivers, peers and health care professionals and displays ability to work as a team (C3, P5, A3) 14. Display ethical and professional behaviour (Autonomy, Beneficence and Justice) during assessment and intervention (A4)	
Unit 2		
Evidence based Physiotherapy management following gynecological surgeries, for balance dysfunctions in elderly women, **bone dysfunctions in women, gynaecological diseases in pre, peri and post-menopausal women, pelvic floor dysfunctions, pelvic pain and female sexual dysfunctions**	1. Analyze and plan physiotherapy management of balance dysfunctions in elderly women (C3, P5, A3) 2. Evaluate and plan a detailed evidence based Physiotherapy intervention for women with and without fractures following low bone mineral density (C5, P5, A3) 3. Evaluate and plan an evidence based physiotherapy management for gynaecological diseases in pre and peri-menopausal woman with emphasis on health promotion, disease prevention and education (C5, P5, A3) 4. Evaluate and plan a detailed evidence based Physiotherapy assessment and intervention program for postmenopausal complications (C5, P5, A3) 5. Construct an evidence based physiotherapy intervention program for management of pelvic floor dysfunctions (vaginal cones/weights, neuromuscular re-education, sEMG, pressure sensors and electrical stimulation) (C5, P5, A3) 6. Demonstrate patient education strategies including body mechanics, safe movement, environmental	234

Content	Competencies	Number of Hours
	modifications, rest postures and behavioral risks correction of posture, positioning while doing ADL, energy conservation hygiene and self –care (C3, P5, A3) 7. Plan an evidence based physiotherapy management of pelvic pain (C5, P5, A3) 8. Analyze and plan the preoperative and postoperative evidence based Physiotherapy management of patients following gynecological cancers (C5, P5, A3) 9. Analyse and plan evidence based physiotherapy assessment and management of female sexual dysfunctions (C5, P5, A3) 10. Discuss health related information with clients, caregivers, peers and health care professionals and displays ability to work as a team (C3, P5, A3) 11. Display ethical and professional behaviour (Autonomy, Beneficence and Justice) during assessment and intervention (A4)	
	Total	**468**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Self-directed learning (SDL)	36	72
Case Based Learning (CBL)	28	56
Clinic	360	-
Practical	28	56
Assessment	16	32
Total	**468**	**216**
Assessment Methods		
Formative	**Summative**	
Case presentations	End Semester Exam (Practical)	
Clinical performance		

Mapping of Assessment with COs					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Case Presentations	x	x	x	x	x
Clinical performance	x	x	x	x	x
End Semester Exam	x	x	x	x	x

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main Reference	1.Williams Gynecology by Barbara L. Hoffma , John O Schorge,Karen D Bradshaw,Lisa M. Halvorson ,Joseph I. Schaffer,Marlene M. Corton,3rd Edition, McGraw Hill Professional 2. Shaw's Textbook of Gynecology by V. G. Padubidri Shirish Daftary,16th Edition, Elsevier Health 3. Obstetric and Gynecologic Care in Physical Therapy by Rebecca J.Gourlay Stephenson ,Linda J. O'Connor,2nd Edition, SLACK Incorporated 4. Evidence-Based Physical Therapy for the Pelvic Floor by Kari Bo, Bary Berghmans, Siv Morkved and Marijke Van Kampen,2nd Edition, Elsevier Health Sciences 5. Women's Health: A Textbook for Physiotherapists By Sue Markwell, Ruth Sapsford,2 nd Edition, Elsevier Health Sciences
Additional References	1. Multidisciplinary Approach to Rehabilitation- Shrawan Kumar 2. Bradom's Physical Medicine and Rehabilitation, 5th edition, Elsevier, 2015 3. DeLisa's Physical Medicine and Rehabilitation, 5th edition, Lippincott Wiliams and wilkins 4. Physical Medical and Rehabilitation- Susan B.O'Sullivan 5. Your Pelvic Health book: A Guide to Pelvic Floor Awareness, Bladder Health, Bowel Health, Sexual Health, and Changes throughout Your Lifetime for Uterus (Pelvic Floor Physical Therapy Series) Jen Torborg Independently publisher 6. Freeing Yourself from pelvic pain: A complete self guide to overcome Chronic Pelvic Floor Disorders, Dyspareunia, Vulvodynia and other Symptoms - Claudia Amherd, CreateSpace Independent Publishing Platform; 1st edition 7. Exercise for Better Bones: The Complete Guide to Safe and Effective Exercises for Osteoporosis - Margaret Martin , Kamajojo Press; 3rd edition

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Obstetrics and Gynecology)
Course Title	**Research Project in Obstetrics and Gynecology**
Course Code	**PTH7680**
Academic Year	Second
Semester	IV
Number of Credits	05
Course Prerequisite	Students should have basic knowledge in research methodology
Course Synopsis	This course is designed to facilitate the student to apply knowledge in Biostatistics to the data collected through data entry, data analysis and interpretation. The course will develop skills in the use of essential statistical software for the management and analysis of data. The course will also facilitate the application of knowledge of scientific writing into the final submission of the research project. The course will promote the student's ability to justify the study and its findings through both written and spoken methods. It will also sensitize the student to the process of developing a manuscript to a journal. The course will also expose the student to the guidelines on completion of a research project as per prevailing regulatory and institutional norms.

Course Outcomes (COs)
At the end of the course student shall be able to**:**

CO1	Perform data analysis and interpret results (C4, P4)
CO2	Prepare and submit dissertation document and manuscript (P4)
CO3	Present and defend dissertation (P4,A3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2						x	x	
CO3		x	x					

Course Content and Outcomes

Content	**Competencies**	**Number of Hours**
Unit 1		
Data compilation	1. Perform data entry and prepare for analysis in statistical software (P4)	26
Unit 2		
Statistical analysis	1. Perform appropriate statistical tests and	13

Content	Competencies	Number of Hours
	interprets the results (C5,P4) is the student expected to do the analysis	
Unit 3		
Dissertation and Manuscript writing	1. Prepare the dissertation document according to institutional guidelines (P4) 2. Prepares manuscript for submission to an indexed journal (P4)	52
Unit 4		
Dissertation presentation	1. Present and defend the dissertation to the relevant scientific committee(s) (P4, A3)	13
Unit 5		
Closure report	2. Complete requirements regarding closure of research project (P4)	26
	Total	**130**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Small Group Discussion (SGD)	16	32
Self-directed learning (SDL)	80	-
Practical	10	-
Assessment	24	48
Total	**130**	**80**

Assessment Methods	
Formative	**Summative**
Research progress and conduct	Presentation and Viva

Mapping of Assessment with COs			
Nature of Assessment	**CO1**	**CO2**	**CO3**
Quiz / Viva			x
Assignments/Presentations		x	
Clinical/Practical Log Book/ Record Book	x		
End Semester Exam- Viva			x

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main Reference	1. Research for Physiotherapists: Project Design and Analysis –Caroline Hicks. 2. Foundations of Clinical Research by Leslie Gross Portney 3. Tests, Measurements and Research in Behavioural Sciences by A K Singh 4. Physical Therapy Research: Principles and Applications by Elizabeth Domholdt 5. Rehabilitation Research - E-Book: Principles and

	Applications by Russell Carter, Jay Lubinsky, et al. 6. Essentials of Research Methodology for all Physiotherapy and Allied Health Sciences Students by Ramalingam Thangamani A NOTE: this is not an exhaustive list of references and there will be other textbooks and articles which should be referenced as well

7. Program Outcomes (POs) and Course Outcomes (COs) Mapping

Sem.	Course Code	Course Title	Credits	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
I	**ABS6101**	Advanced Biostatistics & Research Methodology	4	CO1 CO2 CO3 CO4 CO5					CO2	CO4	
I	**PTH6001**	Principles of Physiotherapy Practice	3	CO1 CO2 CO3 CO4 CO5					CO4 CO5		CO1
I	**PTH6003**	Clinical Practice in Physiotherapy	12	CO1 CO2	CO1 CO2 CO3 CO4		CO4		CO3		
I	**PTH6670**	Research Proposal in Obstetrics and Gynecology	2	CO1	CO1 CO2			CO2			
II	**EPG6201**	Ethics and Pedagogy	2	CO1 CO2 CO3 CO4 CO5	CO4		CO1 CO2 CO3 CO5				
II	**PTH6602**	Foundations of Physiotherapy in Obstetrics and Gynecology	3	CO1 CO2 CO3 CO4							
II	**PTH6604**	Physiotherapy clinical practice in Obstetrics and Gynecology-I	12	CO1 CO2 CO3	CO1 CO2 CO3	CO4	CO5	CO4 CO5			
II	**PTH6680**	Research progress in Obstetrics and Gynecology-I	2		CO2	CO2	CO1		CO1		
III	**PTH7601**	Physiotherapy in general Obstetrics & Gynecology	3	CO1 CO2 CO3 CO4 CO5					CO3 CO5		
III	**PTH7603**	Physiotherapy clinical	12	CO1 CO2	CO1 CO2	CO4	CO5	CO4 CO5	CO3		

Sem.	Course Code	Course Title	Credits	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
		practice in Obstetrics & Gynecology-II		CO3	CO3						
III	**PTH7605**	Evidence based physiotherapy practice in Obstetrics & Gynecology	2	CO2 CO3					CO1 CO2 CO3	CO1	
III	**PTH7670**	Research Progress in Obstetrics and Gynecology - II	3	CO1	CO1 CO3	CO2		CO2	CO3		
IV	**PTH7612**	Physiotherapy in Obstetrics	3	CO1 CO2 CO3 CO4 CO5					CO3		
IV	**PTH7614**	Clinical Physiotherapy practice in Obstetrics	12	CO1 CO2	CO1 CO2 CO3	CO4	CO5	CO4 CO5	CO1		CO1
IV	**PTH7680**	Research project in Obstetrics and Gynecology	5	CO1	CO1 CO3	CO3			CO2	CO2	
IV	**PTH7622**	Physiotherapy in Gynecology	3	CO1 CO2 CO3 CO4 CO5					CO2 CO3 CO4 CO5		
IV	**PTH7624**	Clinical Physiotherapy Practice in Gynecology	12		CO1 CO2 CO3	CO4	CO5	CO5	CO1 CO2 CO3 CO4		CO2
IV	**PTH7680**	Research project in Obstetrics and Gynecology	5	CO1	CO1 CO3	CO3			CO2	CO2	

8. MCHP PG PROGRAM REGULATION

1. Program Structure

1.1. The program offers a semester based credit system (with few programs offering specialization too).

1.2. An academic year consists of two semesters – Odd semester (July - December) and Even semester (January - June)

1.3 Each semester shall extend over a minimum period of 13 weeks of academic delivery excluding examination days, semester breaks, declared holidays and non-academic events.

1.4 Medium of instruction shall be in English

2 Credit Distribution

2.1 Each semester has minimum 13 weeks of contact sessions. One credit = 13 hours. The credit distribution hours for Lecture, Tutorial, Practical, Clinics and Project are as follows:

Lecture (L)	:	1 Hour /week = 1 credit
Tutorial (T)	:	1 Hour /week = 1 credit
Practical/Project (P/PR)	:	2 Hours/week = 1 credit
Clinics (CL)	:	3 Hours/week = 1 credit

2.2 A semester has courses structured as theory, practical, and clinics. Each course is of minimum 2 credits. The maximum credits for theory course is 4; theory and practical combined is 5.

3 Attendance

3.1 Minimum attendance requirements for each course is:

i. Theory : 85 %

ii. Clinics / Practical : 90 %

3.1 As per the directives of MAHE, there will be no consideration for leave on medical grounds. The student will have to adjust the same in the minimum prescribed attendance.

3.2 Students requiring **leave** during the academic session should apply for the same through a formal application to the Head of Department through their respective Class In-charge/ Coordinator. The leave will be considered as absent and reflected in their attendance requirements.

3.3 No leverage will be given by the department for any attendance shortage.

3.4 Students, Parents/ guardians can access the attendance status online periodically. Separate intimation regarding attendance status would not be sent to parents/students.

3.5 Students having attendance shortage in any course (theory & practical) will not be permitted to appear for the End-semester exam (ESE) of the respective course.

4 Examination

4.1 Exams are in two forms – Sessional examination (conducted as a part of internal assessment) and End semester examination.

4.2 The final evaluation for each course shall be based on Internal Assessment Components (**IAC**) and the End-semester examinations **(ESE)** based on the weightage (as indicated in clause 5.1) given for respective courses.

4.3 IAC shall be done on the basis of a continuous evaluation after assessing the performance of the student in mid semester exam, class participation, assignments, seminars or any other component as applicable to a course.

4.4 All the ESE for the odd semesters **(regular ESE)** will be conducted in November-December. All the ESE for the even semesters **(regular ESE)** will be conducted in May-June.

4.5 For those whose failed to clear any course during regular ESE, a **supplementary/make up exam** is conducted 2 weeks immediately after the ESE result declaration to enable him / her to earn those lost credits. A nominal fee as per MAHE rules will be applicable during this examination.

4.6 For core courses, the duration of ESE for a 2 credit course would be 2 hours (50 marks) and for a course with 3 or more credits, 3 hours (100 marks). For program elective course, the exam duration is 3 hours (100 marks).

5. Weightage for Internal Assessment Component (IAC) and End Semester Exam (ESE)

5.1 Any one or a combination of marks distribution criteria applicable to a course.

IAC Weightage (%)	ESE Weightage (%)
30	70
50	50
100	Nil
Nil	100

6. Minimum Requirements for Pass

6.1. Pass in a course will be reflected as grades. No candidate shall be declared to have passed in any course unless he/she obtains not less than **"E" grade**

6.2. For all courses (core / non-core), candidate should obtain a minimum of 50% (ESE) to be declared as pass.

6.3 When a student appears for **supplementary examination**, the maximum grade awarded is "C" grade or below irrespective of their performance.

6.4. For students who fail to secure a minimum of 'E' grade for a course, an **improvement examination** is conducted to improve their IAC marks. The student can appear for these examination along with the subsequent batches' mid semester / sessional exams. The marks obtained in other components of IAC can be carried forward without reassessment. A nominal fee is charged as per MAHE for per course of improvement in IAC.

7. Calculation of GPA and CGPA

7.1. Evaluation and Grading (**Relative Grading**) of students shall be based on GPA (Grade Point Average) & CGPA (Cumulative Grade Point Average).

7.2. The overall performance of a student in each semester is indicated by the Grade Point Average (GPA). The overall performance of the student for the entire program is indicated by the Cumulative Grade Point Average (CGPA).

7.3. A ten (10) point grading system **(credit value)** is used for awarding a letter grade in each course.

Letter Grade	A+	A	B	C	D	E	F/I/DT
Grade points	10	9	8	7	6	5	0

DT – Detained/Attendance shortage, I – Incomplete

7.4 Calculation of GPA & CGPA: An example is provided

Course code	Course	Credits (a)	Grade obtained by the student	Credit value (b)	Grade Points (a x b)
AHS 101	Course - 1	4	B	8	32
AHS 103	Course - 2	4	B	8	32
AHS 105	Course - 3	3	A+	10	30
AHS 107	Course - 4	4	C	7	28
AHS 109	Course - 5	5	A	9	45
	Total	**20**	**-**	**-**	**167**

1st Semester GPA = Total grade points / total credits

167/20 = **8.35**

Suppose in **2nd semester GPA** = **7** with respective course credit 25

$$\text{Then, 1st Year CGPA} = \frac{(8.35 \times 20) + (7 \times 25)}{20 + 25} = 7.6$$

8. Progression Criteria to higher semesters

8.1 There is no separate criteria / credits required in order to be promoted to the next academic year.

8.2 However, in order to be eligible to appear for fourth semester (Theory / practical / project submission), the student should have cleared all his previous semesters (i.e. first, second and third).

8.3 The student must complete all the course work requirements by a **maximum of double the program duration**. For e.g. 2 years' program, all the academic course work needs to be completed within 4 years. Failure to do so will result in exit from the program.

9. Semester Break

9.1 Students will have a short semester break following their odd and even end-semester examinations.

10. Project / Dissertation

10.1 Project / Dissertation will carry credits and marks (as applicable to each program)

10.2 Final copy of dissertation **(e-copy)** to be submitted by end of March for plagiarism check and submission to University. A **single hardcopy (student copy)** of the dissertation to be prepared and presented before the external examiner during the viva-voce.

10.3 **Manuscript** format of the thesis also to be submitted to the respective guides / dept.

11. Award of Degree

11.1 Degree is awarded only on **successful completion of entire coursework**.

Head of the Department **Dean**

Deputy Registrar - Academics **Registrar**