

# **BabaFaridUniversityofHealthSciences**



## **Ph.D. (Physiotherapy)**

### **[Course Work]**

**(DoctorofPhilosophyDegreeProgram)  
Choice Based Credit System (CBCS)  
(NEP-2020)**

**(TobeimplementedfromAcademicYear2026)**

**Baba Farid University of Health Sciences  
Faridkot-151203,Punjab(India)**

**PROGRAMME STRUCTURE AND SCHEME OF EXAMINATION  
(Ph.D. COURSEWORK) (CBCS-2026) (ASPERNEP-2020)**

SEMESTER-I (YEAR-1)												
Semester	Course Code	Title of the Paper(s)	Course Type	Credits					Marks			
				L	T	P	D	C	EA	IA	TM	
<b>SEMESTER-I</b>	PHDPT-101 (Course – I)	RESEARCH METHODOLOGY	CC	4	0	0	0	4	80	20	100	
	PHDPT-102 (Course – II)	RESEARCH AND PUBLICATION ETHICS	CC	2	0	0	0	2	80	20	100	
	*PHDPT-103 (Course – III)	OPTION-I	MC-I	3	0	0	0	3	80	20	100	
	**PHDPT -104 (Course – IV)	OPTION-II	MC-II	2	0	0	0	2	80	20	100	
	PHDPT -121 (Course – V)	CREDIT SEMINAR	CC	0	1	0	0	1	80	20	100	
	SUB-TOTAL				11	1	0	0	12	400	100	500
	Optional Elective(OE)/Major Course(MC-I)/ Optional Elective(OE)/Minor Course(MC-II) (Compulsory)(Any two courses-taking one from each option)											
*OPTION-I (Major Course)												
PHD-103-RESEARCH TOOLS IN PHYSIOTHERAPY PHD- 104- OUTCOME MEASUREMENT AND ANALYSIS PHD-105-RESEARCH SKILL ACQUISITION IN PHYSIOTHERAPY												
**OPTION-II (Minor Course)												
PHD -106- LITERATURE REVIEW PHD- 107- BIOSTATISTICS PHD-108-COMPUTER APPLICATION IN RESEARCH												
CC: Compulsory Course / OE: Optional Elective/ MC: Major Course/ OE: Optional Elective/ MC: Minor Course /L: Lecture/ T: Tutorial/P:Practical/ D: Dissertation/ C: Credit/ EA: External Assessment/ IA: Internal Assessment/ TM: Total Marks												

# BABA FARID UNIVERSITY OF HEALTH SCIENCES

<b>PHDPT -101::RESEARCH METHODOLOGY</b> <b>(Semester-I)</b>
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L+T+P+D	:	<b>4+0+0+0</b>	<b>Relative weightage</b>		
Credits:	:	<b>4</b>	Internal Assessment/Exam	:	<b>20</b>
Contact hours	:	<b>56</b>	End-semester Examination	:	<b>80</b>

Unit	Content	Lectures
I	History, myths and ethnic practices; need, importance and impact of research; types of research; research process.	5
II	Synopsis writing: Selecting research problem, formulation of research projects; survey of literature; research infrastructure; experimental designs; sampling designs; recording of observations; measurement and scaling techniques; GLPs.	8
III	Formulation and types of hypothesis; collection, maintenance, storage and analysis of data; measures of central tendencies and relationships and error analysis; tests of significance.	7
IV	Compilation and presentation of results, Writing of manuscripts; research reports and thesis; organization of reference material using endnote; bibliography; plagiarism; IPR and patent application, entrepreneurship.	8
V	Financial support and various funding agencies; Multidisciplinary and multi-institutional research; writing research proposal for external funding.	6
VI	Computer and informatics; introduction; word processing, excel, power point presentation; graph and figure plotting; web browsing; information resources and various databases.	8
VII	Demonstration of departmental research activities and instrumentation.	14

# BABA FARID UNIVERSITY OF HEALTH SCIENCES

<b>PHDPT -102::RESEARCH AND PUBLICATION ETHICS</b> <b>(Semester-I)</b>
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L+T+P+D	:	<b>2+0+0+0</b>	<b>Relative weightage</b>	
Credits:	:	<b>2</b>	Internal Assessment/Exam	: <b>20</b>
Contact hours	:	<b>28</b>	End-semester Examination	: <b>80</b>

Unit	Contents	Lectures
<b>I</b>	Philosophy and Ethics: Introduction to philosophy: definition, nature and scope, concept, branches. Ethics: definition, moral philosophy, nature of moral judgments and reactions.	4
<b>II</b>	Scientific Conduct: Ethics with respect to science and research. Intellectual honesty and research integrity. Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP). Redundant publications: duplicate and overlapping publications, salami slicing. Selective reporting and misrepresentation of data.	5
<b>III</b>	Publication Ethics: Publication ethics: definition, introduction and importance. Best practices / standards setting initiative and guidelines: COPE, WAME, etc. Conflicts of interest. Publication misconduct: definition, concept, problems that lead to unethical behaviour and vice versa, types. Violation of publication ethics, authorship and contributorship. Identification of publication misconduct, complaints and appeals. Predatory publishers and journals.	7
<b>IV</b>	Open Access Publishing: Open access publications and initiatives. SHERPA/RoMEO online resource to check publisher copyright & self-archiving policies. Software tools to identify predatory publications developed by SPPU. Journal finder / journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggested, etc. Publication Misconduct: Group Discussions: Subject specific ethical issues, FFP, authorship. Conflicts of interest. Complaints and appeals: examples and fraud from India and abroad. Software tools: Use of plagiarism software like Turnitin, Urkund and other open source software tools.	7
<b>V</b>	Databases and Research Metrics: Databases: Indexing databases. Citation databases: Web of Science, Scopus, etc. Research Metrics: Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, CiteScore. Metrics: h-index, g-index, i10 index, altmetrics.	5

# BABA FARID UNIVERSITY OF HEALTH SCIENCES

<b>PHDPT-103: RESEARCH TOOLS IN PHYSIOTHERAPY</b> <b>(Semester-I)</b>
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L+T+P+D	:	<b>3+0+0+0</b>	<b>Relative weightage</b>	
Credits:	:	<b>3</b>	Internal Assessment/Exam	: <b>20</b>
Contact hours	:	<b>42</b>	End-semester Examination	: <b>80</b>

Unit	Content	Lectures
I	Research Terminologies with special reference to Physiotherapy: Epidemiology, Absolute rate of incidence, Relative rate of incidence, Prevalence, Inclusion criteria, Exclusion criteria, Study variables, Questionnaire, Self-report, Interview	10
II	Equipment Used for Data Collection in Physiotherapy: Spirometer, Dynamometer, Nerve conduction Velocity, Electromyography, Complete electrotherapy unit, Sensory evaluation kit	10
III	Equipment Used for Data Collection in Physiotherapy (continued): Audio-visual reaction time, Biofeedback, Bone densitometer, Podiascan	8
IV	Equipment Used for Data Collection in Physiotherapy (continued): jumping power board, Skinfold caliper, Sliding caliper	7
V	Practical orientation / demonstration and viva based on listed terminologies & equipment (as per departmental facility)	7

# BABA FARID UNIVERSITY OF HEALTH SCIENCES

<b>PHDPT-104: OUTCOME MEASUREMENT AND ANALYSIS</b> <b>(Semester-I)</b>
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L+T+P+D	:	<b>3+0+0+0</b>	<b>Relative weightage</b>		
Credits:	:	<b>3</b>	Internal Assessment/Exam	:	<b>20</b>
Contact hours	:	<b>42</b>	End-semester Examination	:	<b>80</b>

Unit	Content	Lectures
<b>I</b>	Assessment Tools used for Research in Physiotherapy: ADL & IADL, Functional outcome scales, Balance scales	9
<b>II</b>	Gait assessment scales, Disability scales, Cognitive assessment scales	9
<b>III</b>	Geriatric assessment tools, Disease specific assessment scales	8
<b>IV</b>	Radiographic classification, Nutritional assessment scales, Spasticity assessment scales	8
<b>V</b>	Assessment Tests Used for Data Collection in Physiotherapy: Manual muscle testing, anaerobic capacity, Sit and reach, Sports specific Skills test; Tests used for cardiopulmonary, musculoskeletal and neurological impairments	8

**Books Recommended:**

1. Research for physiotherapists project, design and analysis – Hicks CM, Churchill Livingstone
2. Research methodology - Kothari CR
3. Essentials of research methodology and dissertation writing –Yelikar, Jaypee.brothers
4. Orthopedic Physical Assessment – David Magee
5. Principles of geriatric physiotherapy –Multani and Verma, Jaypee Brothers publication
6. Cash Textbook of Neurology for Physiotherapists
7. Physical Rehabilitation - Susan
8. Physiotherapy in Pediatrics - Roberta Sheppard
9. Neurological Rehabilitation - Carr and Shepard
10. Neurological Rehabilitation - Darcy Umphred
11. Physiotherapy in Cardio Respiratory Disease - JeniforPryou and Ammani Prasad
12. Physical Rehabilitation – Assessment and Treatment. Susan Sullivan
13. Cardio Pulmonary Rehabilitation – Scott Irwin
14. Essentials of Cardio Pulmonary Physical Therapy - Ellen Hilleglass; Steven Sadowsky : W. B. Saunders company
15. Physical Rehabilitation Assessment and Treatment, Susan Sullivan, Jaypee Brother Publications
21. Cash Textbook of Cardio Respiratory Disease for Physiotherapistis, Elsevier : Jaypee Brothers Publications

# BABA FARID UNIVERSITY OF HEALTH SCIENCES

<b>PHDPT-105: RESEARCH SKILL ACQUISITION IN PHYSIOTHERAPY (Semester-I)</b>
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L+T+P+D	:	2+0+0+0	<b>Relative weightage</b>	
Credits:	:	3	Internal Assessment/Exam	: 20
Contact hours	:	42	End-semester Examination	: 80

Unit	Contents	Lectures
<b>I</b>	Preparing the format for research study in Physiotherapy	8
<b>II</b>	Conducting a pilot study on a topic of research in Physiotherapy	8
<b>III</b>	Practicing operational skills of equipment's used for data collection in Physiotherapy; establishing reliability and validity	9
<b>IV</b>	Performing and practicing the assessment tests used for data collection in Physiotherapy; Performing and practicing the assessment tools used for data collection in Physiotherapy	9
<b>V</b>	Case study and presentations emphasizing on differential diagnosis and clinical reasoning skills; review of papers on selected topics	8

**Books Recommended:**

1. Research for physiotherapists project, design and analysis – Hicks CM, Churchill Livingstone
2. Research methodology - Kothari CR
3. Essentials of research methodology and dissertation writing –Yelikar, Jaypee.brothers
4. Clinical neurophysiology –U K misra and J Kalita, Elsevier
5. Electro therapy Explained: Principles & Practice - Low & Reed, Butterworth Heinemann

# BABAFARIDUNIVERSITYOF HEALTH SCIENCES

## PHDPT -106::LITERATURE REVIEW (Semester-I)

L+T+P+D	:	2+0+0+0	Relative weightage	
Credits:	:	2	Internal Assessment/Exam	: 20
Contact hours	:	28	End-semester Examination	: 80

Unit	Contents	Lectures
I	Literature review: need, importance, steps of performing a good literature review	6
II	Identification of types of literature, search strategy, data base	6
III	Database: PubMed, CINHAL, PEDRO	6
IV	Primary search – types, Secondary search – data search engine	5
V	Seminar/presentation of reviewed papers (departmental evaluation)	5

Suggested reading;

1. Medical ethics - Francis Jaypee brothers
2. Park text book of social and preventive medicine
3. Essentials of research methodology and dissertation writing -VelikarJaypee.brothers

# BABAFARIDUNIVERSITY OF HEALTH SCIENCES

## PHD -107: BIOSTATISTICS (Semester-I)

L+T+P+D	:	2+0+0+0	Relative weightage	
Credits:	:	2	Internal Assessment/Exam	: 20
Contact hours	:	28	End-semester Examination	: 80

Unit	Contents	Lectures
I	Introduction to Biostatistics & its scope; descriptive statistics	6
II	Frequency distributions including normal, binomial and poisson; measures of central tendency and variability	6
III	Organization and presentation of data including classification, tabulation, graphical and diagrammatic presentations	6
IV	Parametric test - Z-test, t-test, F test, ANOVA, ANCOVA	5
V	Non-parametric test - Chi-square, Sign test, Wilcoxon signed rank, Mann-Witney U, Kruskal-Wallis; Correlation and Regression - linear & nonlinear	5

### Suggested Readings:

1. Mahajan BK. Methods in Biostatistics.
2. Fisher RA. Statistical Methods for Research Workers.
3. Colton T. Statistics in Medicine.
4. Bailey NTJ. Statistical Methods in Biology.

# BABAFARIDUNIVERSITYOF HEALTH SCIENCES

## PHDPT -108::COMPUTER APPLICATION IN RESEARCH (Semester-I)

L+T+P+D	:	2+0+0+0	Relative weightage	
Credits:	:	2	Internal Assessment/Exam	: 20
Contact hours	:	28	End-semester Examination	: 80

Unit	Contents	Lectures
I	Brief review of software packages commonly used for data management and analysis	6
II	Descriptive statistics using Excel	6
III	Data analysis with SPSS: various types of data and data input into data editor	6
IV	Analysis of variance, correlation & linear regression, using SPSS	5
V	Practical orientation and interpretation of outputs (departmental evaluation)	5

### Suggested Readings:

1. Carver RH. Doing Data Analysis with SPSS.
2. Mahajan BK. Methods in Biostatistics.
3. Gupta SP. Statistical Methods.
4. UGC. Research and Publication Ethics Manual.

# BABA FARID UNIVERSITY OF HEALTH SCIENCES

<b>PHD -121::CREDIT SEMINAR</b> <b>(Semester-I)</b>
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L+T+P+D	:	<b>0+1+0+0</b>	<b>Relative weightage</b>	
Credits:	:	<b>1</b>	Internal Assessment/Exam	: <b>20</b>
Contact hours	:	<b>14</b>	End-semester Examination	: <b>80</b>

Unit	Contents	Lectures
<b>I</b>	Power point presentation on different research projects and research papers (Analysis skills). Introduction to Journal Club: Overview of the purpose and format of a journal club. Importance of staying current with literature in the field. Selection of Articles: Criteria for selecting research articles (relevance, impact, methodology, etc.). Collaborative decision-making on article selection.	4
<b>II</b>	Group discussions on relevant topics. Article Presentation: Rotating responsibility for presenting selected articles. Guidelines for preparing and delivering effective presentations.	2
<b>III</b>	Discussion and Critique: Structured discussion on the research question, methods, results, and conclusions of each article. Critical evaluation of strengths, weaknesses, and implications of the research. Integration with Current Knowledge: Connecting findings from the articles to existing literature and theoretical frameworks. Identifying gaps in current research and proposing future directions.	3
<b>IV</b>	Written Summaries: Individual or group-written summaries of presented articles, including critiques and reflections. Final Presentation: Synthesizing key insights gained from the journal club discussions. Presenting a summary of learning outcomes and contributions to the field.	3
<b>V</b>	Assessment: Participation in discussions and presentations. Quality of article critiques and written summaries. Final presentation and reflection on learning outcomes.	2