

BHARATI VIDYAPEETH (DEEMED To be UNIVERSITY)

DENTAL COLLEGE AND HOSPITAL, PUNE

\

Syllabus with time-table of Pre - Ph.D Course work

ORTHODONTICS AND DENTOFACIAL ORTHOPEDICS

I. Research Methodology:
(4 credits = 60 clock hours)

1. Types of research
2. Important steps in Research
3. Literature search and Review
4. Formulation of Research Question
5. Identifying Variables
6. Introduction of Hypothesis
7. Research Design
8. Construction of Instrument for Data Collection
9. Sampling
10. Writing a Research proposal
11. Writing a Research Report
12. Ethics issues in Research
13. Data types, its compilation and cleaning
14. Presentation of data
15. Correlation and regression
16. Testing hypothesis
17. Tests of significance: parametric
18. Tests of significance: non parametric
19. Statistical fallacies
20. Introduction of Statistical software

II. Recent advances in the specified subject: (Orthodontics and Dentofacial Orthopedics)
(4 credits – 6 hours/topic)

1. Cell Biology and its relevance to orthodontic
2. Newer molecular biology techniques
3. Newer Orthodontic techniques
4. Skeletal, Craniofacial and Oral biology and its relevance to craniofacial research
5. Genetics and Developmental biology and its relevance to craniofacial anomalies
6. Cell signaling, and pharmacology as related to orthodontics
7. Biomaterials and bioengineering as related to orthodontics and dentofacial orthopedics
8. Genetics
9. Next generation sequencing/ Real time PCR
10. Bioethics

III. Review of literature : (Orthodontics and Dentofacial Orthopedics)

a) Presentation of review of literature (02 credits)

- i. Gathering of data (library) 15 hours
- ii. Attending workshops/ conference 10 hours
- iii. Presentations 5 hours

b) Presentation on area of research (02 credits)

- i. Six monthly presentations (6 presentations) 12 hours
- ii. Presentations at conference/ preparation (1 presentation) 8 hours
- iii. Presentations to guide (10 hours)

IV. Research and publication ethics (RPE): (Orthodontics and Dentofacial Orthopedics)
(2 credits = 30 clock hours)

<u>Sr.no.</u>	<u>Topic</u>	<u>No.of Hours</u>
<u>1</u>	Introduction to Philosophy and Ethics	4
<u>2</u>	Scientific conduct – Intellectual honesty & research integrity Falsification, fabrication & Plagiarism Redundant publications Selective reporting & misunderstanding of data	6
<u>3</u>	Publication ethics – Definition, introduction & importance Best Practices Conflict of Interest (COI) Publication misconduct Violation of Publication ethics, authorship and contributorship Predatory publisher and journals	10
<u>4</u>	Data based & research metrics – Indexing databases Citation databases: Scopus, Pubmed etc Impact factor and citation scores H-index, i-10 index etc	10