Scheme and Syllabi of Examination

for

Pre-Ph. D. Course Work

in

Food and Nutrition

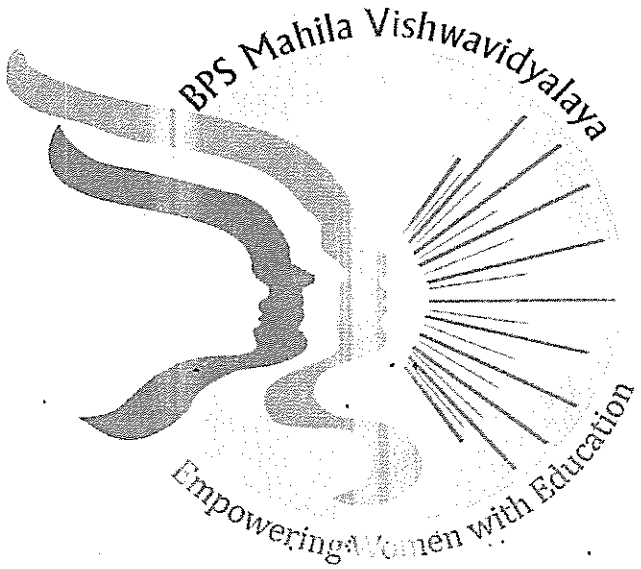
(w. e. f. academic session 2024-2025)

Offered by

Department of Food and Nutrition/BPSIHL

Under

(Faculty of Sciences)



Bhagat Phool Singh Mahila Vishwavidyalaya

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Scheme and Syllabi of Examination

For

Pre-Ph.D. Course Work in Food and Nutrition

With Effect from Academic Session 2024-2025.

Paper No.	Paper title	Teaching Scheme			Examination Scheme			Credits	Duration of Exam
		L	T	P	External Marks	Internal Marks	Total		
PPDL- 701	Research Methodology	4	0	0	80	20	100	4	3 Hours
PPDP- 703	Review of Literature and Seminar	0	0	0	80	20	100	4	
PPDLFN- 705	Advances in Food and Nutrition	4	0	0	80	20	100	4	3 Hours
CPERPE-2203	Research and Publication Ethics	2	0	0	40	10	50	2	3 Hours
Total		**10**	**0**	**0**	**280**	**70**	**350**	**14**	

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PPDL -701: Research Methodology

L	T	P	
4	0	0 (4 Credits)	

Marks for External Exam : 80
Marks for Internal Exam : 20
Total : 100
Time : 3 Hours

Note: The examiner is requested to set **nine** questions in all taking two questions from each unit and one **compulsory** question. The compulsory question will consist of four parts and will be distributed over the whole syllabus. The candidate is required to attempt **five** questions selecting one from each unit and the compulsory question.

UNIT-I

Introduction of Research Methodology: Meaning of research, objectives of research, types of research, significance of research, research and scientific method, research process.

Research Problem: Definition, necessity and techniques of defining research problem. Formulation of research problem. Objectives of research problem.

UNIT-II

Scientific Communications: Publishing Research Papers: Selection of a journal; writing of paper's abstract, formulation of problem, discussion and references, submission and handling of reviewer's comment.

Writing of thesis: Format of a thesis; Review of literature, formulation; Writing methods, results; preparation of Tables, figures; writing discussion; writing conclusion; writing summary and synopsis; Reference citing and listing/Bibliography. Avoiding Plagiarism.

UNIT-III

Computer Applications in Research: Practical aspects of MATLAB, Introduction to LATEX.

MS Office 2007: Word Basics, Mail Merge, Macros, Math Type, Equation Editor

MS Excel 2007: Excel Basics, Data Sort, Functions.

UNIT-IV

Presentation: Poster and Oral. Presentation tools: Introduction to presentation tool, MS Power Point: features and functions, creating presentation, customizing presentation, showing presentation.

Web Search: Internet Basics, Internal Protocols, Pre-requisites, Search Engines, Searching Hints, Using advanced search techniques

Books Recommended:

1. Gurumani, N. (2010), Scientific Thesis Writing and Paper Presentation, MJP Publishers
2. Kothari, C.R. (2010), Research Methodology (Methods and Techniques), New Age International Publishers.
3. Gerald, C.F. and Wheatley, P.O. : Applied numerical analysis, 6th Ed. Addison Wesley (2002)
4. Smith G.D. : Numerical solution of partial differential equations, Oxford University Press (1982)
5. Schwartz H.R., Stiefel: E & Rustishausar : Numerical analysis of symmetric matrices, Prentice Hall (1976)

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PPDP -703: Review of Literature and Seminar

L	T	P	
0	0	0 (4 Credits)	

Marks for External Exam : 80
Marks for Internal Exam : 20
Total : 100

Note: The candidates are required to submit a copy of Review of Literature of 25 research papers on the relevant research topic. The performance will be evaluated on the basis of submitted literature and the presentation given by the candidates before the evaluation committee.

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PPDLFN- 705: ADVANCES IN FOOD AND NUTRITION

L	T	P	
4	0	0 (4 Credits)	

Marks for External Exam	: 80
Marks for Internal Exam	: 20
Total	: 100
Time	: 3 Hours

Note: The examiner is requested to set **nine** questions in all taking two questions from each unit and one **compulsory** question. The compulsory question will consist of four parts and will be distributed over the whole syllabus. The candidate is required to attempt **five** questions selecting one from each unit and the compulsory question.

COURSE OBJECTIVE: To provide an insight of advanced knowledge of Food and Nutrition to the researcher.

COURSE OUTCOMES:

1. To gain knowledge regarding the advances in food additives and toxicants.
2. Be familiar with concept of prebiotics and probiotics and advancement of essential fatty acids.
3. To understand the chemical and physical changes which occur during the production, processing and storage of food and their application.

UNIT- I

Interrelation between nutrients, Computer application in clinical nutrition., Non-nutritive components of food: Nutraceuticals, Phytochemicals etc., Food Biotechnology: definition and scope.

UNIT II

Assessment of nutritional status of the community ; current methodologies of assessment of nutritional status , their interpretation and comparative application of the Following: Food consumption, Anthropometry, Clinical and laboratory, Novel protein sources, Concept of Probiotics and Prebiotics, Concept of genetically modified foods.

UNIT III

Community media and method in nutrition education, National Nutrition Policy, Food safety and security.

UNIT IV

Food Packaging: Objectives and types of packaging, Basic packaging material and their protective quality, Advance trends in food packaging

REFERENCES:

Goldberg I. 1994. Functional foods: Designer foods, Pharma foods, Nutraceuticals. Springer.
Nestle M. 2003. Safe food: Bacteria, Biotechnology and bioterrorism. University of California press.
Winick. 1973. Nutrition &Development ,univ. of calombia.
Ecames. 1972. Biology of Nutrition ,Palaniuma press
Akoh CC and MinDB. 1998. Food lipids- chemistry, Nutrition and Biotechnology, Marcel Dekker.

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CPERPE-2203: Research and Publication Ethics

L T P		
2 0 0 (2 Credits)	Marks for External Exam	: 40
	Marks for Internal Exam	: 10
	Total	: 50
	Time	: 3 Hours

Course Outcomes:

1. The course aims to sensitize researchers regarding publication ethics and publication misconducts.

Note: The examiner is requested to set **eight** questions in all taking two questions from each unit. The candidate is required to attempt **four** questions selecting one from each unit.

Unit – I

Philosophy and Ethics: Introduction to philosophy: definition, nature and scope, concept, branches; Ethics: definition, moral philosophy, nature of moral judgements and reactions.

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

Unit - II

Publication Ethics: Publication ethics: definition, introduction and importance; Best practices / standards setting initiatives and guidelines: COPE, WAME, etc.; Conflicts of interest;

Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types; Violation of publication ethics, authorship and contributorship; Identification of publication misconduct, complaints and appeals;Predatory publishers and journals Practice

Unit - III

Open Access Publishing : Open access publications and initiatives; SHERPA/RoMEO online resource to check publisher copyright & self-archiving policies; Software tool to identify predatory publications developed by SPPU; Journal finder / journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggester etc.

Publication Misconduct: Subject specific ethical issues, FFP, authorship; Conflicts of interest; Complaints and appeals: examples and fraud from India and abroad; Use of plagiarism software like TurnitIn, Urkund and other open source software tools.

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Unit - IV

Databases And Research Metrics : Databases - Indexing databases; Citation databases – Web of Science, Scopus, SCI, etc.; Research Metrics - Impact Factor of journal as per Journal Citation Report, SNIP, SIR, IPP, Cite Score; Metrics : h-index, g-index, i-index, Altmetrics journal database.

Suggested Readings:

1. Bird, A. (2006). Philosophy of Science, Routledge.
2. MacIntyre, Alasdair (1967) A Short History of Ethics, London.
3. P. Chaddah, (2018) Ethics in Competitive Research: Do not get scooped; do not get plagiarized, ISBN:978-9387480865
4. National Academy of Sciences, National Academy of Engineering and Institute of Medicine. (2009). On Being a Scientist: A Guide to Responsible Conduct in Research: Third Edition, National Academies Press.
5. Resnik, D. B. (2011). What is ethics in research & why is it important. National Institute of Environmental Health Sciences, 1-10. Retrieved from https://wwvv.niehs.nih.gov/research/resouices/bioethics/whatis/index.cfm
6. Bcall, J. (2012). Predatory publishers are corrupting open access. Nature, 489(7415), 179-179. https://doi.org/10.1038/489179a

Indian National Science Academy (INSA), Ethics in Science Education, Research and Governance (2019), · ISBN:978-81-939482-1-7. http://www.insaindia.res.in/pdf/Ethics Book.pdf

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PPDPFN- 703 Advances in Food and Nutrition

L	T	P
0	0	2 (1 Credits)

Marks for External Exam	: 40
Marks for Internal Exam	: 10
Total	: 50
Time	: 3 Hours

1. Development of teaching aids for Nutrition Education.
2. Development of low cost recipes
3. Market and consumer survey to identify new products
4. Product development from different food groups and their sensory evaluation by different methods.
5. Observation of working in any food production unit
6. Computer aided nutrition
7. A Study Basic Analytical tools in Nutrition Research
8. Body composition Analysis

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