B.P.S. Mahila Vishwavidyalaya, Khanpur Kalan, Sonipat-131305
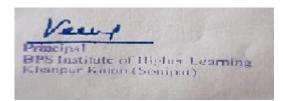
DEPARTMENT OF FOOD AND NUTRITION

COURSE CURRICULUM & SCHEME OF EXAMINATIONS
w.e.f. July, 2022-23

PHD FOOD AND NUTRITION

Programme Code-012
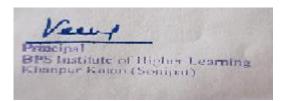
PHD FOOD AND NUTRITION

PROGRAMME CODE-012

Programme Outcomes(POs)

- ❖ **PSO1** to make scholars more specific about value added food products with reference to entrepreneurship

- ❖ **PSO2** Orient the students with the methodology applied in nutrition assessment and surveillance of human groups.
- ❖ **PSO3** To understand data analysis, editing, coding, classification, tabulation, analysis, graphical presentation of data and interpretation of result for the welfare of public.

Programme Specific outcomes (PSOs)

- ❖ **PO- 1**-Be familiar with various Nutritional programmes which can be undertaken to prevent and control nutritional problems at regional and national levels.
- ❖ **PO- 2**-To develop the potential for food entrepreneurship.
- ❖ **PO 3**-To develop presentation and compilation skills in the students for collection and insemination of information and knowledge related to their field of interest in the subject.

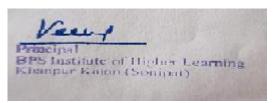- ❖ **PO-4-**To acquire advance computer operation skills with SPSS

B.P.S. Mahila Vishwavidyalaya, Khanpur Kalan

B.P.S.I.H.L.

COURSE CURRICULUM & SCHEME OF EXAMINATIONS w.e.f. July, 2022-23

PHD FOOD AND NUTRITION

PROGRAMME CODE-012

S. No.	Code	Course Title	Hours per Week			Total Credits	Max Marks		
			L	T	P		Internal Marks	External Marks	Total Marks
		Theory Courses :							
1	PHDFN-2101	Advances in Food and Nutrition	3	0		3	20	80	100
2	PHDFN-2102	Quantitative Techniques and Computer Application	3	0		3	20	80	100
3	PHDFN-2103	Research and Publication Ethics	3	0		3	20	80	100
4	PHDFN-2104	Seminar	1	0		1	50	0	50
5	PHDFN-2105	Presentation on current Nutrition Topic	1	0		1	50	0	50
		Practical/Lab Courses:							
6	PHDFN-2101(P)	Advances in Food and Nutrition			3	1.5	10	40	50

Principal
BPS Institute of Higher Learning
Khanpur Kalan (Sonipat)

7	PHDFN-2102(P)	Quantitative Techniques and Computer Application			3	1.5	10	40	50
		TOTAL	**11**	**0**	**6**	**3**	**180**	**320**	**500**

Note:- Passing marks are 50% in internal and external papers separately.

RESEARCH AND PUBLICATION ETHICS

COURSE CODE: **Total Credits:- 3**
L-T-P:3-0-0   **Total Marks:- 100**
Theory Marks:
External:-80
Internal: -20
COURESE OBJECTIVE: To make researcher aware about about the publication ethics and publication misconducts.

UNIT 1
1. Research: meaning, types and significance, Characteristics of good research
2. Identification and formulation of research problem, setting research objective
3. Hypothesis: meaning, type need and formulation

UNIT II
4. Synopsis: meaning need the formulation of synopsis, preparation of a sample synopsis and its presentation
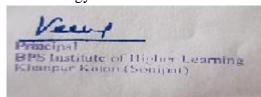5. Review of literature, Sampling

UNIT III
6. Report writing: format of research, final presentation of the research report
7. Publication ethics: definition, introduction and importance
8. Best practices / standards setting initiatives and guidelines: COPE, WAME, etc.
9. Violation of publication ethics, authorship and contributorship

UNIT IV
10. Predatory publishers and journals
11. Databases-
    i. Indexing databases,
    ii. Citation databases: Web of Science, Scopus, etc.
12. Research Metrics-
    i. Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, CiteScore
    ii. Metrics: h-index, g index, ilO index, altmetrics

COURESE OUTCOMES:
❖ To understand the significance of research methodology in home science research

- ❖ To understand the types, tools and method of research
- ❖ To understand and apply the appropriate techniques for the measurement scale and design
- ❖ To understand data analysis, editing, coding, classification, tabulation, analysis, graphical   presentation of data, interpretation of result
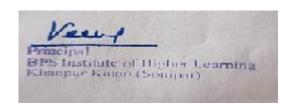
REFERENCES:

1. Scrimshaw, N.S. and Gleason, G.R. (1992) Rapid Assessment Procedures. Qualitative Methodologies for Planning and Evaluation of Health- related Programmes. International Nutrition Foundation for Developing Countries, Boston.
2. Patton , M.Q. (1980): Qualitative Evaluation Method. Sage Publications.
3. Morgan, D. (1993): Sucessful Focus Groups.Sage Publications.
4. Mienert, C.L. (1986) Clinical Trials: Designs, Conduct and Analysis. Oxford, New York.
5. Ranjit Singh (2005) Research Methodology: A Step by Step Guide for Beginners 2nd Edition . Pearson

6. Bird, A. (2006). *Philosophy of Science.* Routledge.
7. MacIntyre, Alasdair (1967) *A Short History of Ethics.* London.
8. P. Chaddah, (2018) Ethics in Competitive Research: Do not get scooped; do not get plagiarized, ISBN:978-9387480865
9. 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.
10. Resnik, D. B. (2011). What is ethics in research & why is it important. *National Institute of Environmental Health Sciences,* 1-10. Retrieved from https://www.niehs.nih.gov/research/resources/bioethics/whatis /index.cfrn Beall, J. (2012). Predatory publishers are corrupting open access. Nature, 489(7415), 179-179. https://doi.org/10.1038/489179a
11. Indian National Science Academy (INSA), Ethics in Science Education, Research and Govemance(2019) ,ISBN:978-81-939482-l- 7. httj>://www.insaindia.res.in/pdf/Ethics_Book.pdf

Note : Instructions for examiner.

Total nine questions will be set

- *Question no. 1 will be compulsory consisting of 5 short type questions covering each unit*
- *The remaining eight questions will be set from unit I-IV, two questions from each unit.*
- *The candidate will require to   attempt five questions. Question number I will be compulsory, remaining four questions will be attempted by selecting one question from each unit.*

QUANTITATIVE TECHNIQUES & COMPUTER APPLICATION

COURSE CODE: **Total Credits: -3**
L-T-P: 2-0-1   **Total marks:- 100**

Theory marks:
External:-80
Internal:-20

Practical marks:
External:40
Internal:10

COURSE OBJECTIVE: To make researcher acquitted with computer applications utilized for research programmes.

UNIT 1
1. Introduction to SPSS and Excel: types of variables.
2. Master chart, data entry.
3. Importing files from other software's: insert variable insert cases, values lables, sort, select cases, transpose data.
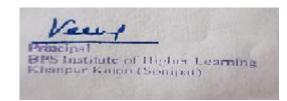
UNIT 1I
4. Data editing, data entry, data screening, transformation.
5. MS Power point.

UNIT III
6. Introduction to nutriguide programme.
7. Formation of nutrition related software.

UNIT IV

8. Statistical calculation using excel programme like determination of measure of central   tendency, dispersion and t-test.

9. Internet –searching for review of literature, Mail, Browsers, Search engines.
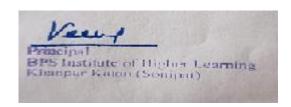
COURSE OUTCOMES:
- ❖ To acquire advance computer operation skills with SPSS
- ❖ To understand the use of MS. Excel MS Word in statistics and preparation of p programs

Practical:

1. Graphical presentation (using data on quantitative variables like height, weight, Haemoglobin level etc.), make at least five types of graphs,
2. Performing statistical calculations using excel programme like determination of measures of centeral tendency, dispersion and t- test.
3. Computer aided nutrition, Computer aided physical fitness, Body Mass analysis with computer.
4. Use of CD and pen drive for data transfer (students will submit a soft copy and a hard copy of power presentation and graphs)
5. Use of internet for data searching
6. Software tool to identify predatory publications developed by SPPU
7. Use of plagiarism software like Turnitin, Urkund and other open source software tools
8. Journal finder/ journal suggestion tools viz. JANE, Elsevier Journal Finder, SpringerJournal Suggester, etc.

REFERENCES:

1. Singh GN. Essentials of computer and network technology ,khanna books publishing co. New Delhi
2. Donald Sanders: computer today, McGraw –hill publishers
3 Davis : Introduction to computer, McGraw –hill publishers
4. P.K Sinha and PritiSinha; computer fundamentals
5 Gupta, S.P. 1972. Statistical Method, Sultan Chand & Sons,.
6, George A. Forguson 1965. Statistical Analysis in psychology and education , Me Graw hill book co.
7. Cook T.D and Relchardt, C.S. 1979. Qualitative and Quantitative Method in evaluation research sage publication .
8. Morgan,, D 1980.successful focus group .sage publication.
9. Mienert, C.L. 1986. Clinical trials: designs, conduct and analysis. Oxford, new York.

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ADVANCES IN FOOD AND NUTRITION

COURSE CODE: FNL- 3101   **Total Credits:- 3**
L-T-P:3-0-0   **Total**
marks:- 100
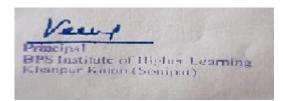**THEORY MARKS:**
External:-80
Internal:-20

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

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

UNIT II
5. Assessment of nutritional status of the community ; current methodologies of assessment of nutritional status , their interpretation and comparative application of the Following ;
      i.   Food consumption
      ii. Anthropometry
      iii. Clinical and laboratory

6. Novel protein sources.
7. Concept of Probiotics and Prebiotics.
8. Concept of genetically modified foods.

UNIT III

9. Community media and method in nutrition education.
10. National Nutrition Policy.
11. Food safety and security.

UNIT IV

12. Food Packaging: 1. Objectives and types of packaging
                        2. Basic packaging material and their protective quality
                        3. Advance trends in food packaging

COURSE OUTCOMES:

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

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.
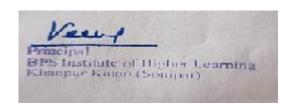Winick. 1973. Nutrition &Development ,univ. of colombia.
Ecames. 1972. Biology of Nutrition ,Palaniuma press
Akoh CC and MinDB. 1998. Food lipids- chemistry, Nutrition and Biotechnology, Marcel Dekker.

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