



பாரதியார் பல்கலைக்கழகம் BHARATHIAR UNIVERSITY

COIMBATORE - 641 046

Accredited with 'A' Grade by NAAC

Silver Jubilee Year 1982 - 2007

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BU/R/A1-B/2014/22871

25-05-2015

From
The Registrar

To
The Principal
Defence Food Research
Laboratory
DRDO
Siddhartha Nagar
Mysore - 570011

உறுதி செய்து

05/15/15

16/15

Sir/Madam,

Sub: Bharathiar University - Defence Food Research Laboratory, Mysore -
Recognition to certain Research Programme(s) from the year 2015-16
- Reg.

Ref: 1. Your letter No.DFRL/HRD/2014/BU/38 dated 27-10-2014

With reference to the above, I am, by direction, to inform you that the report of the inspection commission for the grant of Recognition to the following research programme(s) from the academic year 2015-2016 has been considered. Based on the report of inspection commission, the Recognition to the following programme(s) is hereby granted subject to the rules and regulations of Bharathiar University and subject to ratification by the Syndicate.

RECOGNITION:

S.NO.	NAME OF THE PROGRAMME(S)	F/P/FP	SANCTIONED STRENGTH
1.	Ph.D. Polimer Science & Technology	F.T./P.T.	18 (Full-time) & 6(Part-time) seats at any one point of time



Yours faithfully,

REGISTRAR

Copy to:

1. The Controller of Examinations, B.U., Coimbatore - 641 046.
2. Office of the Registrar - Section B, B.U.
3. Office of the Registrar - Section S, B.U.

RESEARCH METHODOLOGY

UNIT - I

Dissertation: Nature and purpose, components and preparation- Writing techniques: Introduction, word processing and page layout, writing and formatting with a computer- Figures: general considerations, line art, drawing with a computer and halftones- Tables: logic behind a table, significance of a table, form of a table, components of a table - Worksheets, lists and databases. Plagiarism.

UNIT - II

Collection and Citation of Literature: Acquisition of information, building up of own literature collection, citation techniques, forms of citation, web of science, SCI, Scopus, H index and I10 index.

Publication of Journal Articles: Concept, electronic publication, types of journals, impact factor, decision prior to publication, components of a journal article, preparation of the manuscript, from manuscript to publication and online submission.

Submission of Research Proposals: Leading funding agencies in India, Submission of research project proposals with prescribed formats.

Unit III

Data Analysis: Errors – classification of errors - precision - accuracy – improving accuracy of analysis – significant figures – mean, standard deviation – comparison of results: “t” test, “F” test and “chi” square test – rejection of results – presentation of data. Sampling – introduction – definitions – theory of sampling – techniques of sampling – statistical criteria of good sampling and required size – stratified sampling vs random sampling – minimization of variance in stratified sampling – transmission and storage of samples.

Unit IV

Introduction to food packaging- functions of packaging-protection, containment, convenience, communication, package environments. Plastics: Polyethylene, polypropylene, polyester, polyamides, polycarbonates and vinyl polymers used in packaging, their chemical structure and properties, Plastic processing; extrusion,

blown film extrusion, film casting, lamination, co-extrusion, Types of films; Mono and Multilayer films, Metalized films, Biobased and biodegradable plastics.

Unit V:

Testing of packaging materials; Mechanical properties such as tensile strength, bursting strength, tearing resistance, puncture resistance, impact strength, tear strength, their methods of testing and evaluation; Barrier properties of packaging materials: Theory of permeability, factors affecting permeability, permeability coefficient, gas transmission rate (GTR) and its measurement, water vapour transmission rate (WVTR) and its measurement, prediction of shelf life of foods using different packaging materials. Migration from packaging materials

REFERENCE

1. Kothari, C.R., 1990, Research Methodology: Methods and Techniques, New Age International.
2. H.F. Ebel, C. Bliefert and W.E. Russey, 2004, The Art of Scientific Writing – 2nd ed Weinheim; Wiley-VCH.
3. Robertson, G.L. 2006 Food Packaging: Principles and Practice (2nd ed.), Taylor & Francis.
4. Yam, K. L, Lee, D. S. (Ed.), 2012, Emerging Food Packaging Technologies: Principles and Practice, Woodhead Publishing Ltd.
5. Coles, R., McDowell, D. and Kirwan, M.J. (Eds.) 2003 Food Packaging Technology, CRC Press.
6. Mahadeviah M & Gowramma RV. 1996. Food Packaging Materials, Tata McGraw Hill.

