

## Ph. D Course Work (MANAGEMENT)

### SCHEME OF EXAMINATIONS FOR THE ACADEMIC SESSION Jan,17 to Dec, 17

| Course code | Name of paper                                     | Written Examination | Internal Assessment | Total | Credits (L+T+P) |
|-------------|---|---------------------|---------------------|-------|-----------------|
| 17IMSPC1    | Research Methodology                              | 80                  | 20                  | 100   | 4+0+0           |
| 17IMSPC2    | Quantitative Techniques and Computer Applications | 80                  | 20                  | 100   | 4+0+0           |
| 17IMSPC3    | Data sources for Literature Review                | -                   | 25x4=100            | 100   | 0+2+2           |

1. Written examinations in the papers Research Methodology (17IMSPC1) & Quantitative Techniques & Computer Applications (17IMSPC2) of 80 marks each shall be held at the term end of the course. The question paper in each subject shall be set by an examiner to be appointed by the Chairman, P.G.B.O.S. in Management based on the syllabus prescribed.
2. Internal assessment in each of the papers Research Methodology (17IMSPC1) & Quantitative Techniques & Computer Applications (17IMSPC2) shall be awarded by the teacher concerned out of 20 marks as prescribed under ordinance by the Maharshi Dayanand University Rohtak for various P.G Programmes.
3. In paper Data sources for Literature Review (17IMSPC3), each scholar will be required to submit 'Unit Report' citing details of work done concerned with each unit (25 marks for each unit). The scholar will be required to study the resources, methodology, features and literature mentioned in syllabus on the allotted topic/area and prepare a comprehensive unit report which will be submitted to the Supervisor on the scheduled date to be decided by the Supervisor.
4. Each student in the Pre Ph.D. course work shall be assigned to a teacher on the basis of specialization/interest area with teacher's consent.
5. The qualifying marks in the each paper of the course shall be 50%.

## **DETAILED SYLLABUS**

### **RESEARCH METHODOLOGY**

Paper Code: 17IMSPC1

Max. Marks: 80

Internal Assessment: 20

Time: 3Hours

#### **Unit - I**

Meaning, types and significance of research in business; characteristics of good research; identification and formulation of research problems; setting research objectives; hypothesis: meaning, types, need and formulation; importance and format of review of literature.

#### **Unit - II**

Business research design: exploratory, descriptive & causal studies; population & sample; sample size; meaning and types of sampling; sampling error; the research proposal.

#### **Unit - III**

Measurement & scaling techniques: nominal scale, ordinal scale, interval scale, rating scale; criteria for good measurement; attitude measurement—Likert's scale, Semantic Differential scale, Thurston-equal appearing interval scale, Multi Dimensional scaling; meaning and types of data; data collection methods - observation, survey and interview; questionnaire design; reliability and validity of questionnaire.

#### **Unit - IV**

Editing, coding, classification and tabulation of data. Methods of data presentation; interpretation of results; report writing—purpose, steps and format of research report; final presentation of the research report; idea of referencing, bibliography, footnotes and end notes.

#### **Note:**

##### **Instructions for External Examiner:**

- 1. The question paper shall be divided in two sections. Section 'A' shall comprise of eight short answer type questions from whole of the syllabus carrying two marks each, which shall be compulsory. Answer to each question should not exceed 50 words normally.**
- 2. Section 'B' shall comprise 8 questions (2 questions from each unit). The students will be required to attempt four questions selecting one question from each unit.**
- 3. All questions will carry equal marks.**

#### **Suggested Readings:**

1. Donald Cooper and Pamela Schindler, Business Research Methods, Tata McGraw Hill.
2. Gilbert A. Churchill and Dawn Lacobucci, Marketing Research: Methodological Foundations, South Western Educational Publishing.
3. McBurney and Donald H, Research Methods, Wadsworth Publishing.
4. Wilkinson & Bhandarkar: Methodology and Techniques of Social Research.
5. Pauline Vyoung: Scientific Social Surveys and Research.
6. Panneerselvam, R., Research Methodology, Prentice Hall Of India, New Delhi, 2004.

## QUANTITATIVE TECHNIQUES AND COMPUTER APPLICATIONS

Paper-17IMSPC2

Max. Marks: 80  
Internal Assessment: 20  
Time: 3Hours

### Unit-I

Hypothesis testing; parametric tests: t-test, z-test and F-test; non-parametric tests: Run test, Median test, Sign-test, Wilcoxon matched pairs-test, Mann-Whitney U-test, Kruskal-Wallis test, Friedman-test and Wald-Wolfowitz number of run test.

### Unit-II

Types of statistical analysis: bi-variate analysis (Chi-square only) and multivariate analysis—factor analysis, Discriminant analysis, Cluster analysis, MANOVA, Structural Equation Modeling, and Conjoint analysis.

### Unit-III

Regression analysis—assumptions of classical normal linear regression model (CNLRM); simple and multiple regression analysis; dummy variable regression models; violations of assumptions of CNLRM—consequences, detection and remedial measures; basic concepts of time series analysis: stationarity, unit roots, co-integration, Granger causality and error correction model.

### Unit-IV

Introduction - Introduction to SPSS - Data analysis with SPSS: general aspects, workflow, critical issues - SPSS: general description, functions, menus, commands - SPSS file management. Input and data cleaning - Defining variables - Manual input of data - Automated input of data and file import. Data manipulation - Data Transformation - Syntax files and scripts - Output management. Descriptive analysis of data - Frequencies - Descriptives - Explore - Crosstabs - Charts. Statistical tests - Means - T-test - One-way ANOVA - Non parametric tests - Normality tests. Correlation and regression - Linear correlation and regression - Multiple regression (linear). Multivariate analysis - Factor analysis - Cluster analysis.

### Note:

#### Instructions for External Examiner:

1. The question paper shall be divided in two sections. Section 'A' shall comprise of eight short answer type questions from whole of the syllabus carrying two marks each, which shall be compulsory. Answer to each question should not exceed 50 words normally.
2. Section 'B' shall comprise 8 questions (2 questions from each unit). The students will be required to attempt four questions selecting one question from each unit.
3. All questions will carry equal marks.

### Suggested Readings:

1. Malhotra Naresh K., Marketing Research: An Applied Orientation, Pearson Education India.
2. Donald Cooper and Pamela Schindler, *Business Research Methods*, Tata McGraw Hill.
3. Gujarati D N and Sangeetha, *Basic Econometrics*, Tata McGraw Hill.
4. Hair, Black, Babin, Anderson and Tatham, *Multivariate Data Analysis*, Pearson.
5. Levin & Rubin, *Statistics for Business*, Prentice Hall of India, N. Delhi.
6. Gupta S.P. & Gupta M.P. *Business Statistics*, Sultan Chand & Sons, Delhi.
7. Anderson, *Quantitative Methods in Business*, Thomson Learning, Bombay.
8. Anderson, *Statistics for Business & Economics*, Thomson Learning, Bombay.
9. Chandan, J.S. *An Introduction to Statistical Methods*, Vikas Publishing House, New Delhi.
10. Bhardwaj, R.S, *Business Statistics*, Excel Books, 2000
11. Kothari C.R., *Quantitative Techniques*, Vikas Publishing House, New Delhi

## **DATA SOURCES FOR LITERATURE REVIEW**

Paper-17IMSPC3

Max. Marks: 100

Internal Assessment: 100

### **Objectives:**

**To develop the orientation towards various literature search sources and familiarise them with the functionality of various web based databases.**

#### **Unit – I**

Application of Internet in research: Directory of Open Access Journals (DOAJ), Use of E Journals, Use of E- library, use of EBSCOhost Online Research Databases, online database of Academic Libraries.

#### **UNIT – II**

Library and Information Networks with special reference to India: DELNET, INFLIBNET, ERNET, NICNET. Internet based resources and services such as mailing list and scholarly discussion lists, bulletin board, computer conference and virtual seminars.

#### **UNIT – III**

Study of the features and functionality of literature sources (e.g. Dictionary.com, Encyclopedia Britannica, Wikipedia, ACM digital Library, IEEE / IEE Electronic Library Online (IEL), Emerald, EBSCO, PsycINFO, Elsevier Science, J-Gate, JSTOR, Web of Science, SCOPUS, DOAJ, RePEc, etc.)

#### **UNIT – IV**

Searching and evaluating of research papers; Book reviews; e books; e-Conferences, Virtual Seminars.

Scholarly Web searching: Google Scholar.