



P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Third Semester, M. Tech - Semester End Examination; February - 2022

Research Methodology and IPR

(Common to all Branches)

Time: 3 hrs

Max. Marks: 100

Course Outcomes

The Students will be able to:

CO1: Discuss research methodology and the technique of defining a research problem.

CO2: Explain the functions of the literature review in research, carrying out a literature search, developing theoretical and conceptual frameworks and writing a review.

CO3: Explain various research designs, sampling designs, measurement and scaling techniques and also different methods of data collections.

CO4: Explain several parametric tests of hypotheses, Chi-square test, art of interpretation and writing research reports.

CO5: Discuss various forms of the intellectual property, its relevance and business impact in the changing global business environment and leading International Instruments concerning IPR.

Note: I) Answer any **FIVE** full questions.

II) **UNIT-I, UNIT-IV & UNIT-V** will have internal choice, whereas **UNIT-II & UNIT-III** are compulsory.

Q. No.	Questions	Marks	BLs	COs
UNIT - I				
1 a.	Describe the steps involved in research process.	10	L2	CO1
b.	Distinguish between Research Methods and Research Methodology.	10	L2	CO1
OR				
c.	Describe fully, the techniques of defining a research problem.	10	L2	CO1
d.	Describe the different types of research.	10	L2	CO1
UNIT - II				
2 a.	What are the steps involved to conduct literature review for research and explain each one briefly.	10	L2	CO2
b.	Explain the three principles of experimental design.	10	L2	CO2
UNIT - III				
3 a.	Explain the classification bases of scaling.	10	L2	CO3
b.	Describe the selection of appropriate method for data collection. Briefly explain the collection of secondary data.	10	L2	CO3
UNIT - IV				
4 a.	Describe the process of testing hypothesis.	8	L2	CO4
b.	Explain the following in the context of testing hypothesis:			
	i) The level of significance			
	ii) Decision rule or test of hypothesis	12	L2	CO4
	iii) Type-I and Type-II errors			
	iv) Two-tailed and one-tailed tests			

OR

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| c. List all the characteristics of hypothesis. Explain any five of them. | 12 | L2 | CO4 |
| d. What is Hypothesis testing ? Explain with suitable examples. | 8 | L2 | CO4 |

UNIT - V

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| 5 a. What do you mean by interpretation in research? Explain all the techniques of interpretation. | 10 | L2 | CO5 |
| b. Explain the concept of registration and protection of Geographical indications of Goods. | 10 | L2 | CO5 |

OR

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| c. Highlight all the features of the Protection of Plant Varieties and Farmers Rights Act, 2001. | 12 | L1 | CO5 |
| d. What are the common rules which all the contracting states must follow under Paris Convention for the protection for Patents? | 8 | L1 | CO5 |

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