SRM VALLIAMMAI ENGINEERING COLLEGE

SRM Nagar, Kattankulathur – 603 203

DEPARTMENT OF COMPUTER APPLICATIONS

QUESTION BANK

I SEMESTER

BA4171 - RESEARCH METHODS AND INTELLECTUAL PROPERTY RIGHTS

Regulation – 2024

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Prepared by

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SUBJECT : BA4171 - RESEARCH METHODS AND INTELLECTUAL PROPERTY RIGHTS

YEAR / SEM : I / I

UNIT I – INTRODUCTION

Introduction – Sources of Research Problem, Research Process - Criteria of Good Research - Scope and importance, Approaches – Qualitative – Quantitative, Research Design and Types, Types of Variables, Ethics in Research.

PART – A

Q. No	Questions	BT Level	Competence	Course Outcomes
1.	Define Research.	Level 1	Remembering	CO1
2.	List two common sources of a research problem	Level 1	Remembering	CO1
3.	List any two sources of research problems.	Level 1	Remembering	CO1
4.	What are the major steps in the research process?	Level 2	Understanding	CO1
5.	What is the role of literature review in identifying a research problem?	Level 1	Understanding	CO1
6.	Outline the key steps in the research process.	Level 2	Remembering	CO1
7.	List any two criteria of good research.	Level 1	Understanding	CO1
8.	Explain the importance of objectivity in research.	Level 2	Remembering	CO1
9.	Differentiate qualitative and quantitative approaches.	Level 2	Remembering	CO1
10.	List the importance of research.	Level 2	Remembering	CO1
11.	Write the scope of the research.	Level 1	Remembering	CO1
12.	Compare qualitative and quantitative research approaches.	Level 2	Understanding	CO1
13.	Define quantitative research.	Level 1	Remembering	CO1

14.	Enumerate the importance of using mixed methods in research.	Level 2	Understanding	CO1
15.	What is meant by qualitative research?	Level 1	Remembering	CO1
16.	Outline the research design.	Level 2	Understanding	CO1
17.	List any two types of research design.	Level 1	Remembering	CO1
18.	Describe the difference between experimental and non-experimental research designs.	Level 2	Understanding	CO1
19.	Define a dependent variable.	Level 1	Remembering	CO1
20.	Describe the difference between continuous and categorical variables.	Level 2	Understanding	CO1
21.	What is meant by an independent variable?	Level 1	Remembering	CO1
22.	Outline the general ethics need to follow while doing the research.	Level 2	Understanding	CO1
23.	Define Plagiarism.	Level 1	Remembering	CO1
24.	Describe how confidentiality is maintained in research studies.	Level 2	Understanding	CO1

PART –B

Q. No	Questions		BT Level	Competence	Course Outcomes
1.	Explain the Sources of Research Problem	(16)	Level 3	Applying	CO1
2.	Analyze the sources of a research problem and explain how to identify a research gap.	(16)	Level 4	Analyzing	CO1
3.	Evaluate the Research Process Step-by-Step with near diagram.	(16)	Level 5	Evaluating	CO1
4.	Apply the research process to a Work-from-Home (WFH) on Employee Productivity in IT Companies and explain each step in detail with a diagram.	(16)	Level 3	Applying	CO1
5.	Analyze the criteria for good research with suitable examples from the automobile industry.	(16)	Level 4	Analyzing	CO1
6.	Analyze the scope and importance in research methods.	(16)	Level 4	Analyzing	CO1

7.	Design a research proposal on consumer buying behaviour.	(16)	Level 3	Applying	CO1
8.	Evaluate qualitative and quantitative research to identify which is better for behaviour studies.	(16)	Level 5	Evaluating	CO1
9.	Analyze the differences between qualitative and quantitative research with examples.	(16)	Level 4	Analyzing	CO1
10.	Construct a good research design and explain its key components. Also, evaluate the purpose of research design.	(16)	Level 3	Applying	CO1
11.	Evaluate different types of research designs by discussing their strengths and weaknesses.	(16)	Level 5	Evaluating	CO1
12.	Explain about different of variables in used in research.	(16)	Level 3	Applying	CO1
13.	Analyze the role of independent Variable and Dependent variables with example	(16)	Level 4	Analyzing	CO1
14.	Apply the concept of research design and Different Types of Variables	(16)	Level 3	Applying	CO1
15.	Evaluate the research design for launching a new mobile phone using research design framework	(16)	Level 5	Evaluating	CO1
16.	Analyze the role of research ethics in protecting participants and ensuring data accuracy.	(16)	Level 4	Analyzing	CO1
17.	Evaluate a real-world research case where ethical principles were violated.	(16)	Level 5	Evaluating	CO1

UNIT – II – DATA COLLECTION AND ANALYSIS				
Sources of Data – Primary – Secondary, Data Collection Methods, Measurement and Scaling, Validity of Findings- Internal and External Validity				
PART – A				
Q. No	**Questions**	**BT Level**	**Competence**	**Course Outcomes**
1.	What is primary data?	Level 1	Remembering	CO2
2.	Explain the difference between primary and secondary data.	Level 2	Understanding	CO2
3.	Define secondary data.	Level 1	Remembering	CO2
4.	Classify the sources of primary data collection.	Level 2	Understanding	CO2
5.	List two sources of secondary data.	Level 1	Remembering	CO2
6.	Explain the importance of surveys in primary data collection.	Level 2	Understanding	CO2
7.	Describe the role of literature reviews in secondary data collection.	Level 1	Remembering	CO2
8.	Describe one advantage of using secondary data over primary data.	Level 2	Understanding	CO2
9.	Define Depth interview.	Level 1	Remembering	CO2
10.	What is meant by Schedules.	Level 2	Understanding	CO2
11.	Write two essentials of a good questionnaire.	Level 1	Remembering	CO2
12.	How to measure the Reliability of an instrument?	Level 2	Understanding	CO2
13.	Write two selections of appropriate methods for data collection.	Level 1	Remembering	CO2
14.	Write two prerequisites and basic tenets of interviewing.	Level 2	Understanding	CO2

15.	What is meant by measurement in research?	Level 1	Remembering	CO2
16.	Define scaling in the context of research.	Level 2	Understanding	CO2
17.	Explain the difference between nominal and ordinal scales.	Level 1	Remembering	CO2
18.	Describe the purpose of a Likert scale in research.	Level 2	Understanding	CO2
19.	What is internal validity?	Level 1	Remembering	CO2
20.	Explain how internal validity affects the results of a study.	Level 2	Understanding	CO2
21.	Describe why external validity is important for generalizing research findings.	Level 1	Remembering	CO2
22.	Write the types of Scaling.	Level 2	Understanding	CO2
23.	Define Nominal Scale	Level 1	Remembering	CO2
24.	What is meant by ordinal scale.	Level 2	Understanding	CO2

PART –B

Q. No	**Questions**		**BT Level**	**Competence**	**Course Outcomes**
1.	Explain about sources of data collections with examples.	(16)	Level 3	Applying	CO2
2.	Explain the advantages and limitations of using secondary data in research.	(16)	Level 3	Applying	CO2
3.	Apply the concept of data collection methods different types.	(16)	Level 3	Applying	CO2
4.	Compare interview, questionnaire, and observation methods for collecting primary data.	(16)	Level 4	Analyzing	CO2
5.	Compare the primary data collection methods and secondary data collection methods.	(16)	Level 4	Analyzing	CO2
6.	Evaluate different data collection methods based on cost, time, and accuracy.	(16)	Level 5	Evaluating	CO2
7.	Design a data collection plan for studying employee satisfaction in IT companies.	(16)	Level 3	Applying	CO2

8.	Illustrate the different levels of measurement with examples.	(16)	Level 3	Applying	CO2
9.	Explain the concept of measurement in research and discuss its importance.	(16)	Level 3	Applying	CO2
10.	Examine the concept of Scaling and Discuss about types of primary scaling techniques with examples	(16)	Level 4	Analyzing	CO2
11.	Explain about Primary Scaling Techniques and Other Scaling Techniques with neat diagram.	(16)	Level 3	Applying	CO2
12.	Compare different types of measurement scales with suitable examples.	(16)	Level 4	Analyzing	CO2
13.	Justify the validity of findings in research and Explain the different types of validity of findings with example	(16)	Level 5	Evaluating	CO2
14.	Compare and contract different types of validity in research	(16)	Level 4	Analyzing	CO2
15.	Explain about of internal validity and its significance in research	(16)	Level 3	Applying	CO2
16.	Analyze the external validity and its importance in research	(16)	Level 4	Analyzing	CO2
17.	Evaluate the threats for internal and external validity. Compare and contrast internal and external validity	(16)	Level 5	Evaluating	CO2

UNIT – III – DATA PREPARATION AND DATA CLEANING

Sampling Techniques, Editing – Coding – Tabulation of Data, Validity of data – Qualitative Vs Quantitative, Data analysis – Univariate - Bivariate and Multivariate statistical techniques – Cluster analysis – Multiple regression.

PART – A

Q. No	Questions	BT Level	Competence	Course Outcomes
1.	Define Sampling.	Level 1	Remembering	CO3
2.	Write the types of sampling techniques.	Level 2	Understanding	CO3
3.	Define probability sampling.	Level 1	Remembering	CO3
4.	What is meant by non-probability sampling?	Level 2	Understanding	CO3
5.	Define random Sampling.	Level 2	Understanding	CO3
6.	What is stratified sampling?	Level 1	Remembering	CO3
7.	Define Snowball Sampling.	Level 2	Understanding	CO3
8.	What is purposive sampling?	Level 1	Remembering	CO3
9.	Define Quota Sampling.	Level 2	Understanding	CO3
10.	What is cluster sampling?	Level 1	Remembering	CO3
11.	Define convenience sampling.	Level 1	Remembering	CO3
12.	Write about Simple random sampling.	Level 2	Understanding	CO3
13.	Describe the purpose of using cluster sampling in research.	Level 1	Remembering	CO3
14.	Write two characteristics of a good sample design.	Level 2	Understanding	CO3
15.	What is data editing in research.	Level 1	Remembering	CO3
16.	Define coding in the context of data analysis.	Level 2	Understanding	CO3
17.	Define data validity in quantitative research.	Level 1	Remembering	CO3
18.	What is univariate analysis?	Level 2	Understanding	CO3
19.	Define bivariate analysis.	Level 1	Remembering	CO3

20.	Explain the difference between univariate and bivariate analysis.	Level 2	Understanding	CO3
21.	Define multivariate analysis.	Level 1	Remembering	CO3
22.	Describe the purpose of using cluster analysis in data analysis.	Level 2	Understanding	CO3
23.	Define multiple regression.	Level 1	Remembering	CO3
24.	What is meant by cluster analysis?	Level 2	Understanding	CO3

PART –B

Q. No	Questions		BT Level	Competence	Course Outcomes
1	Explain the concept of sampling in research methodology. Discuss in detail the various types of sampling techniques with suitable examples.	(16)	Level 3	Applying	CO3
2	Compare and contrast the probability and non-probability sampling methods	(16)	Level 4	Analyzing	CO3
3.	Analyze the advantages and disadvantages of probability and non-probability sampling methods.	(16)	Level 4	Analyzing	CO3
4.	Explain about editing of data in research. Explain the purpose, types, and key checks involved during the editing process	(16)	Level 3	Applying	CO3
5	Analyze coding in research. Explain the purpose and types of coding with suitable examples	(16)	Level 4	Analyzing	CO3
6	Justify the importance of editing, coding, and tabulation in data collection	(16)	Level 5	Evaluating	CO3
7.	Explain the concept of Validity of Data in research. Describe its types, importance with example	(16)	Level 3	Applying	CO3
8.	Evaluate data collection methods in Qualitative and Quantitative research	(16)	Level 5	Evaluating	CO3
9.	Explain the Qualitative and Quantitative data collection methods and its advantages and disadvantages	(16)	Level 3	Applying	CO3

10.	Examine the Definitions, Nature, Data Collection methods of Qualitative and Quantitative data collection methods	(16)	Level 4	Analyzing	CO3
11	Analyze the difference between qualitative and quantitative data with suitable research examples.	(16)	Level 4	Analyzing	CO3
12	Evaluate Univariate Analysis. Explain the objectives, types, and advantages of Univariate Data Analysis in detail	(16)	Level 5	Evaluating	CO3
13.	Evaluate the major components of Univariate Analysis including descriptive statistics, variability, frequency distribution, and distribution shape.	(16)	Level 5	Evaluating	CO3
14.	Assess bivariate analysis. Explain the objectives and commonly used bivariate statistical techniques such as correlation analysis,	(16)	Level 5	Evaluating	CO3
15	Assess bivariate analysis. Explain chi-square test, and ANOVA	(16)	Level 5	Evaluating	CO3
16.	Analyse the concept of Cluster Analysis as a multivariate statistical technique. Explain the different types of clustering methods	(16)	Level 4	Analyzing	CO3
17.	Analyse the concept of Multiple Regression Analysis as a multivariate statistical technique. Describe its objectives, types, and Explain the steps involved in conducting multiple regression with suitable example.	(16)	Level 4	Analyzing	CO3

UNIT – IV – INTELLECTUAL PROPERTY RIGHTS AND PATENTS

Introduction to Intellectual Property (IP) - Role of IP in the Economic and Cultural Development of the Society – IP Governance - IP as a Global Indicator of Innovation – Major Amendments in IP Laws and Acts in India, Trademark and Secrets - Types and features of IPR, Patents - Conditions for Obtaining a Patent Protection - National Bodies Dealing with Patent Affairs - Registration procedure.

PART – A

Q. No	Questions	BT Level	Competence	Course Outcomes
1.	Define Intellectual Property.	Level 1	Remembering	CO4
2.	What do you understand by IPR?	Level 2	Remembering	CO4
3.	List different types of Intellectual Property Rights (IPR).	Level 1	Remembering	CO4
4.	Brief about any two major amendments in IP laws in India.	Level 2	Understanding	CO4
5.	What is a patent?	Level 1	Remembering	CO4
6.	Identify the role of the national body dealing with patent affairs in India.	Level 2	Understanding	CO4
7.	Explain the role of IP in the cultural development of society.	Level 2	Understanding	CO4
8.	Compare patents and trademarks.	Level 2	Understanding	CO4
9.	What is a trademark?	Level 1	Remembering	CO4
10.	Describe how IP acts as a global indicator of innovation.	Level 2	Understanding	CO4
11.	Define trade secret.	Level 1	Remembering	CO4
12.	Illustrate a few conditions for obtaining patent protection.	Level 2	Understanding	CO4
13.	What is the role of Patents in economic development?	Level 1	Remembering	CO4
14.	Mention features and the importance of patents.	Level 2	Understanding	CO4
15.	Explain the significance of IP governance.	Level 2	Understanding	CO4
16.	Summarize the registration procedure for obtaining a patent.	Level 2	Understanding	CO4
17.	Discuss the types of IPR.	Level 2	Understanding	CO4
18.	What is the IP registration procedure?	Level 1	Remembering	CO4
19.	Name the act related to IP laws in India.	Level 1	Remembering	CO4
20.	Elaborate on the role of IPR in economic development.	Level 1	Remembering	CO4

21.	Explain the term 'trade secret'.	Level 2	Understanding	CO4
22.	Illustrate the importance of major amendments in IP laws in India.	Level 2	Understanding	CO4
23.	Describe the conditions required for obtaining patent protection.	Level 1	Remembering	CO4
24.	Explain the function of national bodies dealing with patent affairs.	Level 2	Understanding	CO4

PART –B

Q. No	Questions		BT Level	Competence	Course Outcomes
1.	Explain the concept of Intellectual Property. Explain the various types of Intellectual Property Rights and discuss their significance	(16)	Level 3	Applying	CO4
2.	Analyze the role of Intellectual Property Rights (IPRs) in the economic and cultural development of a nation. Support your answer with examples.	(16)	Level 4	Analyzing	CO4
3.	Explain the different types of Intellectual Property Rights (IPRs) and analyse their significance	(16)	Level 3	Applying	CO4
4.	Analyze the concept of Intellectual Property (IP) Governance, Objectives and Key Components of IP Governance	(16)	Level 4	Analyzing	CO4
5.	Apply the concept of International IP Governance and its Challenges in IP Governance	(16)	Level 3	Applying	CO4
6.	Explain the definition of intellectual property is an indicator of innovation and IP metrics used in global innovation measurement	(16)	Level 3	Applying	CO4
7.	Evaluate the role of WIPO (world intellectual property organization) and IP & national innovation systems. Discuss the advantages and disadvantages of using IP as an innovation Indicator	(16)	Level 5	Evaluating	CO4
8.	Analyze major amendments in IP Laws and Acts in India.	(16)	Level 4	Analyzing	CO4
9.	Explain about Copyright Act, Trade Marks Act, Designs Act, Gi Act And National Ipr Policy	(16)	Level 3	Applying	CO4
10.	Asses the concept of Trademarks and Different Types Trademarks. Discuss about Benefits of Trademark Protection.	(16)	Level 5	Evaluating	CO4

11.	(a) Apply the types and features of trademarks with relevant examples.	(8)	Level 3	Applying	CO4
	(b). Analyze the differences between trademarks and trade secrets.	(8)	Level 4	Analyzing	CO4
12.	Explain about Intellectual Property Rights and its types also discuss the Features of IPR	(16)	Level 3	Applying	CO4
13.	Analyze the features **o**f intellectual property rights also discuss about impotence and its challenges	(16)	Level 4	Analyzing	CO4
14.	Explain the Conditions for Obtaining Patent Protection	(16)	Level 3	Applying	CO4
15.	Analyze the concept of Novelty, Inventive Step, Industrial Applicability, Patentable Subject Matter, Disclosure of the Invention, Timeline of Patent	(16)	Level 4	Analyzing	CO4
16.	Justify role of national bodies dealing with patent affairs in India	(16)	Level 5	Evaluating	CO4
17.	Assess the patent registration procedure in India	(16)	Level 5	Evaluating	CO4

UNIT – V – DOCUMENTATION AND REPORT WRITING				
Research report – Report format – Title of the report - Contents of report - Different types, Report Presentation – Oral Presentation – Written Presentation, IPR Document – Forms of IPR – IPR Guidelines				
PART – A				
Q. No	**Questions**	**BT Level**	**Competence**	**Course Outcomes**
1.	What is a research report?	Level 1	Remembering	CO5
2.	Explain the importance of a research report..	Level 2	Understanding	CO5
3.	Define report format	Level 1	Remembering	CO5
4.	Describe the function of a report format.	Level 2	Understanding	CO5
5.	What is an oral presentation?	Level 1	Remembering	CO5
6.	List the main importance and contents of a report.	Level 2	Understanding	CO5
7.	Define written presentation.	Level 1	Remembering	CO5
8.	Mention a few key elements of a research report.	Level 2	Understanding	CO5
9.	What do IPR guidelines refer to?	Level 1	Remembering	CO5

10.	Explain the role of an IPR document.	Level 2	Understanding	CO5
11.	Summarize different types of reports.	Level 1	Remembering	CO5
12.	What is the purpose of an executive summary in a report?	Level 2	Understanding	CO5
13.	What is the difference between oral and written presentation?	Level 1	Remembering	CO5
14.	Identify a few benefits of using a structured report format.	Level 2	Understanding	CO5
15.	Illustrate the purpose of IPR guidelines.	Level 1	Remembering	CO5
16.	Elucidate different forms of IPR.	Level 2	Understanding	CO5
17.	Name a few forms of IPR that are commonly documented.	Level 1	Remembering	CO5
18.	Compare the benefits of oral and written presentations.	Level 2	Understanding	CO5
19.	Describe the steps involved in preparing an oral presentation.	Level 2	Understanding	CO5
20.	Define copyright.	Level 1	Remembering	CO5
21.	What is the significance of the title in a research report?	Level 1	Remembering	CO5
22.	Discuss the importance of different types of reports in various contexts.	Level 2	Understanding	CO5
23.	Compare different forms of IPR and their documentation.	Level 1	Remembering	CO5
24.	Describe how to structure the contents of a report for clarity.	Level 2	Understanding	CO5

PART –B

Q. No	Questions		BT Level	Competence	Course Outcomes
1.	Explain the components of a standard report format and describe the purpose of each section.	(16)	Level 3	Applying	CO5
2.	Apply the general structure of a research report to prepare a report on digital learning tools.	(16)	Level 3	Applying	CO5
3.	Explain the components of a content report format and describe the purpose of each section.	(16)	Level 3	Applying	CO5
4.	Analyze the differences between the following types of research reports, (a)technical report, (b). popular report, (c). academic report, (d). survey report.	(16)	Level 4	Analyzing	CO5

5.	Analyze different types of research report and its merits and demerits	(16)	Level 4	Analyzing	CO5
6.	Assess the concept of report presentation and its types of report presentation	(16)	Level 5	Evaluating	CO5
7.	Explain about guidelines for effective report presentation and types of report presentation with tools used in in report presentation	(16)	Level 3	Applying	CO5
8.	Assess the objectives of oral presentation and the components of an effective oral research presentation.	(16)	Level 5	Evaluating	CO5
9.	Explain the components and tools for oral oral research presentation. Discuss Structure of a Standard Written Research Report	(16)	Level 3	Applying	CO5
10.	Analyze the term written report presentation and Guidelines for Effective Written Presentation	(16)	Level 4	Analyzing	CO5
11.	(a). Explain the concept of written report presentation and its objectives of a written report	(8)	Level 3	Applying	CO5
	(b). Analyze the differences between oral and written research presentations.	(8)	Level 4	Analyzing	CO5
12.	Evaluate the concepts of intellectual property rights and types of IPR documents	(16)	Level 5	Evaluating	CO5
13.	Analyze the General Structure of an IPR Document and Types of IPR Documents	(16)	Level 4	Analyzing	CO5
14.	Explain briefly about the Forms of Intellectual Property Rights (IPR)	(16)	Level 3	Applying	CO5
15.	Analyze the components of forms in intellectual property rights. (a). Patent, (b). Copyright, (c). ™ Trademark, (d). Industrial Design, (e). Geographical Indications, (f). Trade Secrets.	(16)	Level 4	Analyzing	CO5
16.	Explain in details about Intellectual Property Rights (IPR) Guidelines	(16)	Level 3	Applying	CO5
17.	Analyze the objectives and components of IPR Guidelines	(16)	Level 4	Analyzing	CO5