VIGNAN's INSTITUTE OF INFORMATION TECHNOLOGY
(AUTONOMOUS)
(Approved by AICTE-New Delhi & Affiliated to JNTUGV, Vizianagaram)
Beside VSEZ, Duvvada, Vadlapudi Post, Gajuwaka, Visakhapatnam - 530 049.

RESEARCH METHODOLOGY

3.4.1 The Institution ensures implementation of its stated Code of Ethics for research

Research ethics in the research methodology course work

JYOTHULA SUDHAKAR

Digitally signed by JYOTHULA SUDHAKAR
Date: 2023.08.31 00:33:11 +05'30'

VIGNAN'S INSTITUTE OF INFORMATION TECHNOLOGY (A)

Beside VSEZ, Duvvada, VISAKHAPATNAM, Andhra Pradesh, India -530049.
Phone: 0891- 2755222 / 333 / 444 :: Fax : 0891 - 2752333 :: email : vignaniit@yahoo.com

DEPARTMENT OF MANAGEMENT STUDIES

I MBA I SEM	BUSINESS RESEARCH METHODOLOGY	L	T	P	C
Course Code 3099211105		4	0	0	4

Course Overview:

Business Research Methods provides the theoretical and practical base for a straightforward research project such as Honors. It consists of 5 modules which cover the fundamentals of the research proposal, literature review, and qualitative and quantitative methods. The course first emphasizes the research process and the importance of the literature review. It then focuses upon the appropriateness of specific research methods. Students are encouraged to critically evaluate different strategies and methods by identifying both the strengths and weaknesses of qualitative and quantitative methods. Overall, this course equips students with the skills and expertise to develop and implement a research dissertation.

COURSE OBJECTIVES:

1. Identify, specify and scope an organizational problem or issue requiring a research-based approach
2. Define an appropriate research question prior to undertaking research
3. Assess and select from a range of research methods
4. Identify major stakeholders in the research context and identify the potential impact of their objectives and expectations on the design of the research project
5. Conceptualize a framework for the design and implementation of a research or professional project
6. Understand basic ideas of sampling theory and test hypotheses concerning means and proportions, involving one or two samples.

COURSE OUTCOMES:

This course will acquaint the students with:

CO's	At the end of the course, the student will have the ability to:	PO's mapped	Strength of Mapping
CO 1	Discuss the major types of Research and Designs, Formulate Research problems	PO1,PO8	2
CO 2	Data Base and measurements.	PO2	2
CO 3	Interpret Research reports.	PO2,PO6	2
CO 4	Calculate Business Problems using appropriate methods.	PO6	2

JYOTHULA SUDHAKAR
Digitally signed by JYOTHULA SUDHAKAR
Date: 2023.08.31 00:33:35 +05'30'

BUSINESS RESEARCH METHODOLOGY

UNIT I

Introduction

Nature and Importance of research, the role of business research, aims of social research, research process, pure research vs. applied research, qualitative research vs quantitative research, exploratory research, descriptive research and experimental research, ethical issues in business research. Research Process – Types of Research –Defining Research Problem – Formulation of Hypothesis – Testing of Hypothesis.

UNIT II

Data Base and measurements

Discussion on primary data and secondary data, tools and techniques of collecting data. Methods of collecting data. Sampling design and sampling procedures. Random Vs. Non- random sampling techniques, determination of sample size and an appropriate sampling design. Designing of Questionnaire –Measurement of Scaling – Nominal Scale – Ordinal Scale – Interval Scale – Ratio Scale, Guttman Scale – Likert Scale – Schematic Differential Scale.

UNIT III

Survey Research and data Preparation

Media used to communicate with respondents, personal interviews, telephone interviews, selection of an appropriate survey research design, the nature of field work, principles of good interviews and field work Management. Editing – Coding – Classification of Data – Tables and Graphic Presentation – Preparation and Presentation of Research Report.

UNIT IV

Statistical techniques for Data Analysis

Descriptive statistics: Measures of central tendency and Measures of dispersion

Inferential Statistics: Chi Square test for association and Independent, t-test (single mean for small samples, differences of means and paired) , Correlation and regression, ANOVA, Z-test (single mean, differences of means, proportions-single-difference)

UNIT V

Multivariate Analysis

Nature of multivariate analysis, Multivariate techniques (Factor, Conjoint, analysis of dependence, analysis of Interdependence) Multiple correlation, multiple regression and Two Way ANOVA

Text Books

1. Navdeep and Guptha : "Statistical Techniques & Research Methodology", Kalyani Publishers
2. WillamG.Zikmund, Adhkari: "Business Research Methods", Cengage Learning, NewDelhi, 2013.
3. S.Shajahan: "Research Methods for management", JAICO Publishing House, NewDelhi, 2009.
4. C R Kothari: "Research Methodology", New Delhi : New Age International (P) Ltd., ©2004

Reference Books

1. C.R. Kothari: Research Methodology, methods and Techniques New Age International Publisher.
2. Navdeep and Guptha : ―Statistical Techniques & Research Methodology‖, Kalyani Publishers
3. WillamG.Zikmund, Adhkari: ―Business Research Methods Learning, New Delhi, 2013.
4. A.N. Sadhu, Amarjitsingh, Research methodology in social sciences, 7 th Edition Himalaya Publications.
5. A Bhujangarao , Research methodology, Excel Books, 2008.Panneer selvam, R.,
6. RESEARCH METHODOLOGY, Prentice Hall of India, New Delhi, 2004

E-Books and Online Resources

1. https://www.geektonight.com/business-research-methods-pdf/
2. https://gfgc.kar.nic.in/magadi/GenericDocHandler/32-b29ae961-fb2a-413c-91a7-fc8599f21be0.pdf

NPTEL/SWAYAMMOOCS:

1. https://onlinecourses.swayam2.ac.in/nou21_cm03/preview

M Tech VR-19 - 2019

Subject Code	RESEARCH METHODOLOGY AND IPR	L	T	P	C
2000191100		2	0	0	2

Course Objective:

The main objectives of this course are:

Identify an appropriate research problem in their interesting domain. Understand ethical issues Understand the Preparation of a research project thesis report.

CourseOutcomes:

Attheend ofthiscoursestudentswillbe ableto

1. Understand research problem formulation and analyze research related information Follow research ethics
2. Understand that today's world is controlled by Computer, Information Technology, but tomorrow world will beruled by ideas, concept, and creativity.
3. Understanding that when IPR would take such important place in growth of individuals & nation, it is needless to emphasis the need of information about IntellectualPropertyRighttobepromotedamongstudentsingeneral&engineeringin particular.
4. Understand that IPR protection provides an incentive to inventors for further researchworkandinvestmentinR&D,whichleadstocreationofnewandbetterproduc ts, andinturn brings about, economicgrowth andsocialbenefits.

UNIT 1:

Meaning of research problem, Sources of research problem, Criteria Characteristics of a good research problem, Errors in selecting a research problem, Scope and objectives of research problem. Approaches of investigation of solutions for research problem, data collection, analysis, interpretation, Necessary instrumentations.

UNIT 2:

Effective literature studies approaches, analysis Plagiarism, Research ethics, Effective technical writing, how to write report, Paper Developing a Research Proposal, Format of research proposal, a presentation and assessment by a review committee.

UNIT 3:

Nature of Intellectual Property: Patents, Designs, Trade and Copyright. Process of Patenting and Development: technological research, innovation, patenting, development. International Scenario: International cooperation on Intellectual

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Property. Procedure for grants of patents, Patenting under PCT.

UNIT 4:

Patent Rights: Scope of Patent Rights. Licensing and transfer of technology. Patent information and databases. Geographical Indications.

UNIT 5:

New Developments in IPR: Administration of Patent System. New developments in IPR; IPR of Biological Systems, Computer Software etc. Traditional knowledge Case Studies, IPR and IITs.

References:

(1) Stuart Melville and Wayne Goddard, "Research methodology: an introduction for science &engineeringstudents'"

(2) Wayne Goddard and Stuart Melville, "Research Methodology: AnIntroduction"

(3) Ranjit Kumar, 2nd Edition. "Research Methodology: A Step-by-Step Guide forbeginners"

(4) Halbert, "Resisting Intellectual Property", Taylor & Francis Ltd.2007.

(5) Mayall, "Industrial Design", McGraw Hill,1992.

(6) Niebel, "Product Design", McGraw Hill.1974.

(7) Asimov, "Introduction to Design", Prentice Hall.1962.

(8) (8) Robert P. Merges, Peter S. Menell, Mark A. Lemley, " Intellectual Property in New Technological Age".2016.

(9) T. Ramappa, "Intellectual Property Rights Under WTO", S. Chand.2008

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M Tech VR-19 - TE

Subject code		L	T	P	Credits
2000191130	RESEARCH METHODOLOGY AND IPR	2	0	0	2

Course Objectives: The student will be taught

To impart knowledge to students related to identify and formulation of research problem and impart knowledge on Intellectual Property and Patent Rights.

COURSE CONTENT

Unit-I:

Meaning of research problem, Sources of research problem. Criteria Characteristics of a good research problem, Errors in selecting a research problem, Scope and objectives of research problem. Approaches of investigation of solutions for research problem, data collection, analysis, interpretation, Necessary instrumentations

Unit-II:

Effective literature studies approaches, analysis Plagiarism, Research ethics, Effective technical writing, how to write report, Paper Developing a Research Proposal, Format of research proposal, a presentation and assessment by a reviewcommittee

Unit-III:

Nature of Intellectual Property: Patents, Designs, Trade and Copyright. Process of Patenting and Development: technological research, innovation, patenting, development. International Scenario: International cooperation on Intellectual Property. Procedure for grants of patents, Patenting underPCT

Unit-IV:

Patent Rights: Scope of Patent Rights. Licensing and transfer of technology. Patent information and databases. Geographical Indications

Unit-V:

New Developments in IPR: Administration of Patent System. New developments in IPR; IPR of Biological Systems, Computer Software etc. Traditional knowledge Case Studies, IPR and IITs.

Textbook (s)

1. Stuart Melville and Wayne Goddard, "Research methodology: an introduction for science & engineeringstudents""
2. Wayne Goddard and Stuart Melville, "Research Methodology: AnIntroduction"
3. Ranjit Kumar, 2nd Edition, "Research Methodology: A Step by Step Guide forbeginners"
4. Halbert, "Resisting Intellectual Property", Taylor & FrancisLtd.2007.
5. Mayall, "Industrial Design", McGraw Hill, 1992.

Course Outcomes:

At the end of the course the student will be able to

1. Identify research problem.
2. Able to find solutions for research problem

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M Tech VR-19 - 2T

I Year - I Semester		L	T	P	C
		2	0	0	2
RESEARCH METHODOLOGY AND IPR					

Course Outcomes:

CO1	Understand the research problem, process and ethics.
CO2	Prepare a well-structured research paper and scientific presentations
CO3	Explore on various IPR components and process of filing.
CO4	Understand the adequate knowledge on patent and rights

UNIT 1:

Meaning of research problem, Sources of research problem, Criteria Characteristics of a good research problem, Errors in selecting a research problem, Scope and objectives of research problem. Approaches of investigation of solutions for research problem, data collection, analysis, interpretation, Necessary instrumentations

UNIT 2:

Effective literature studies approaches, analysis Plagiarism, Research ethics, Effective technical writing, how to write report, Paper Developing a Research Proposal, Format of research proposal, a presentation and assessment by a review committee

UNIT3:

Nature of Intellectual Property: Patents, Designs, Trade and Copyright. Process of Patenting and Development: technological research, innovation, patenting, development. International Scenario: International cooperation on Intellectual Property. Procedure for grants of patents, Patenting under PCT.

UNIT 4:

Patent Rights: Scope of Patent Rights. Licensing and transfer of technology. Patent information and databases. Geographical Indications.

UNIT 5:

New Developments in IPR: Administration of Patent System. New developments in IPR; IPR of Biological Systems, Computer Software etc. Traditional knowledge Case Studies, IPR and IITs.

REFERENCES:

(1) Stuart Melville and Wayne Goddard. "Research methodology: an introduction for science & engineeringstudents'"
(2) Wayne Goddard and Stuart Melville, "Research Methodology: AnIntroduction"
(3) Ranjit Kumar. 2nd Edition. "Research Methodology: A Step by Step Guide forbeginners"
(4) Halbert. "Resisting Intellectual Property", Taylor & Francis Ltd,2007.
(5) Mayall. "Industrial Design", McGraw Hill,1992.
(6) Niebel, "Product Design", McGraw Hill,1974.
(7) Asimov, "Introduction to Design", Prentice Hall.1962.
(8) (8) Robert P. Merges, Peter S. Menell, Mark A. Lemley, " Intellectual Property in New Technological Age".2016.
(9) T. Ramappa, "Intellectual Property Rights Under WTO", S. Chand.2008

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M.Tech VR-19 - D&CS

Subject Code	RESEARCH METHODOLOGY AND IPR	L	T	P	C
2000191100		2	0	0	2

Course Objective:

The main objectives of this course are:

Identify an appropriate research problem in their interesting domain. Understand ethical issues Understand the Preparation of a research project thesis report.

CourseOutcomes:

Attheend ofthiscoursestudentswillbe ableto

1. Understand research problem formulation and analyze research related information Follow research ethics
2. Understand that today's world is controlled by Computer, Information Technology, but tomorrow world will beruled by ideas, concept, and creativity.
3. Understanding that when IPR would take such important place in growth of individuals & nation, it is needless to emphasis the need of information about IntellectualPropertyRighttobepromotedamongstudentsingeneral&engineeringin particular.
4. Understand that IPR protection provides an incentive to inventors for further researchworkandinvestmentinR&D,whichleadstocreationofnewandbetterproduc ts, and inturn brings about, economicgrowth andsocialbenefits.

UNIT 1:

Meaning of research problem, Sources of research problem, Criteria Characteristics of a good research problem, Errors in selecting a research problem, Scope and objectives of research problem. Approaches of investigation of solutions for research problem, data collection, analysis, interpretation, Necessary instrumentations.

UNIT 2:

Effective literature studies approaches, analysis Plagiarism, Research ethics, Effective technical writing, how to write report, Paper Developing a Research Proposal, Format of research proposal, a presentation and assessment by a review committee.

UNIT 3:

Nature of Intellectual Property: Patents, Designs, Trade and Copyright. Process of Patenting and Development: technological research, innovation, patenting, development. International Scenario: International cooperation on Intellectual

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Property. Procedure for grants of patents, Patenting under PCT.

UNIT 4:

Patent Rights: Scope of Patent Rights. Licensing and transfer of technology. Patent information and databases. Geographical Indications.

UNIT 5:

New Developments in IPR: Administration of Patent System. New developments in IPR; IPR of Biological Systems, Computer Software etc. Traditional knowledge Case Studies, IPR and IITs.

References:

(1) Stuart Melville and Wayne Goddard, "Research methodology: an introduction for science &engineeringstudents'"

(2) Wayne Goddard and Stuart Melville, "Research Methodology: Anlntroduction"

(3) Ranjit Kumar, 2nd Edition, "Research Methodology: A Step-by-Step Guide forbeginners"

(4) Halbert, "Resisting Intellectual Property", Taylor & Francis Ltd.2007.

(5) Mayall, "Industrial Design", McGraw Hill.1992.

(6) Niebel, "Product Design", McGraw Hill.1974.

(7) Asimov, "Introduction to Design", Prentice Hall.1962.

(8) (8) Robert P. Merges, Peter S. Menell, Mark A. Lemley, " Intellectual Property in New Technological Age",2016.

(9) T. Ramappa, "Intellectual Property Rights Under WTO", S. Chand.2008

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M Tech VR-19-MD

Course Code	RESEARCH METHODOLOGY AND IPR	L	T	P	C
2000191100		2	0	0	2

Course Objectives:

- Construct the concept of modern research
- Develop the research ethics
- Design the steps involved in effective technical writing
- Predict the concept of Patents in biological and computer softwares

Course Outcomes:

After the completion of the course, student will be able to

- Develop research methodology
- List the literature study concepts for a particular project
- Determine the concepts of effective technical writing
- Select the Patent procedure

UNIT-I:

Meaning of research problem, Sources of research problem, Criteria Characteristics of a good research problem, Errors in selecting a research problem, Scope and objectives of research problem. Approaches of investigation of solutions for research problem, data collection, analysis, interpretation, Necessary instrumentations.

UNIT-II:

Effective literature studies approaches, analysis Plagiarism, Research ethics, Effective technical writing, how to write report, Paper Developing a Research Proposal, Format of research proposal, a presentation and assessment by a reviewcommittee.

UNIT-III:

Nature of Intellectual Property: Patents, Designs, Trade and Copyright. Process of Patenting and Development: technological research, innovation, patenting, development. International Scenario: International cooperation on Intellectual Property. Procedure for grants of patents, Patenting underPCT.

UNIT-IV:

Patent Rights: Scope of Patent Rights. Licensing and transfer of technology. Patent information and databases. Geographical Indications.

UNIT-V:

New Developments in IPR; Administration of Patent System. New Developments in IPR; IPR of

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Biological Systems, Computer Software etc. Traditional knowledge Case Studies, IPR and IITs.

References:

1. Stuart Melville and Wayne Goddard. "Research methodology: an introduction for science & engineeringstudents""
2. Wayne Goddard and Stuart Melville. "Research Methodology: AnIntroduction"
3. Ranjit Kumar, 2nd Edition. "Research Methodology: A Step by Step Guide forbeginners"
4. Halbert, "Resisting Intellectual Property", Taylor & FrancisLtd.2007.
5. Mayall, "Industrial Design", McGraw Hill, 1992.

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M Tech VR19 - PSE I D

Subject Code	RESEARCH METHODOLOGY AND IPR	L	T	P	C
2000191100		2	0	0	2

UNIT-I:

Meaning of research problem, Sources of research problem, Criteria Characteristics of a good research problem, Errors in selecting a research problem, Scope and objectives of research problem. Approaches of investigation of solutions for research problem, data collection, analysis, interpretation, Necessary instrumentations

UNIT-II:

Effective literature studies approaches, analysis Plagiarism, Research ethics, Effective technical writing, how to write report, Paper Developing a Research Proposal, Format of research proposal, a presentation and assessment by a review committee.

UNIT-III:

Nature of Intellectual Property: Patents, Designs, Trade and Copyright. Process of Patenting and Development: technological research, innovation, patenting, development. International Scenario: International cooperation on Intellectual Property. Procedure for grants of patents, Patenting under PCT.

UNIT-IV:

Patent Rights: Scope of Patent Rights. Licensing and transfer of technology. Patent information and databases. Geographical Indications.

UNIT-V:

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3. Ranjit Kumar, 2nd Edition, "Research Methodology: A Step by Step Guide for beginners"

4. Halbert, "Resisting Intellectual Property", Taylor & Francis Ltd, 2007.

5. Mayall, "Industrial Design", McGraw Hill, 1992.

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MTech VR20 -A2-ML

Subject Code	RESEARCH METHODOLOGY AND IPR	L	T	P	C
2000201100		2	0	0	2

Course Outcomes: The Student should be able to

CO1: Discuss the process used for research Problem selection and Research Paper Writing

CO2: Interpret the Patent writing and Development

CO3: Describe the Procedure for Grant of Patents

CO4: Illustrate new Developments in IPR

UNIT 1:

Meaning of research problem, Sources of research problem, Criteria Characteristics of a good research problem, Errors in selecting a research problem, Scope and objectives of research problem. Approaches of investigation of solutions for research problem, data collection, analysis, interpretation, Necessary instrumentations.

UNIT 2:

Effective literature studies approaches, analysis Plagiarism, Research ethics, Effective technical writing, how to write report, Paper Developing a Research Proposal, Format of research proposal, a presentation and assessment by a review committee.

UNIT 3:

Nature of Intellectual Property: Patents, Designs, Trade and Copyright. Process of Patenting and Development: technological research, innovation, patenting, development. International Scenario: International cooperation on Intellectual Property. Procedure for grants of patents, Patenting under PCT.

UNIT 4:

Patent Rights: Scope of Patent Rights. Licensing and transfer of technology. Patent information and databases. Geographical Indications.

UNIT 5:

New Developments in IPR: Administration of Patent System. New developments in IPR; IPR of Biological Systems, Computer Software etc. Traditional knowledge Case Studies, IPR and IITs.

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M.Tech - VR21 - IT

I Year – I Semester		L	T	P	C
		2	0	0	2

RESEARCH METHODOLOGY AND IPR

Course Outcomes:

CO 1: Understand the research problem and research process.

CO 2: Understand research ethics.

CO 3: Prepare a well-structured research paper and scientific presentations

CO 4: Explore on various IPR components and process of filing.

CO5 : Understand the adequate knowledge on patent and rights

UNIT 1:

Meaning of research problem, Sources of research problem, Criteria Characteristics of a good research problem, Errors in selecting a research problem, Scope and objectives of research problem. Approaches of investigation of solutions for research problem, data collection, analysis, interpretation, Necessary instrumentations

UNIT 2:

Effective literature studies approaches, analysis Plagiarism, Research ethics, Effective technical writing, how to write report, Paper Developing a Research Proposal, Format of research proposal, a presentation and assessment by a review committee

UNIT 3:

Nature of Intellectual Property: Patents, Designs, Trade and Copyright. Process of Patenting and Development: technological research, innovation, patenting, development. International Scenario: International cooperation on Intellectual Property. Procedure for grants of patents, Patenting under PCT.

UNIT 4:

Patent Rights: Scope of Patent Rights. Licensing and transfer of technology. Patent information and databases. Geographical Indications.

UNIT 5:

New Developments in IPR: Administration of Patent System. New developments in IPR; IPR of Biological Systems, Computer Software etc. Traditional knowledge Case Studies, IPR and IITs.

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(9) T. Ramappa, "Intellectual Property Rights Under WTO", S. Chand, 2008

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UNIT 4:

Patent Rights: Scope of Patent Rights. Licensing and transfer of technology. Patent information and databases. Geographical Indications.

UNIT 5:

New Developments in IPR: Administration of Patent System. New developments in IPR; IPR of Biological Systems, Computer Software etc. Traditional knowledge Case Studies, IPR and IITs.

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Ranjit Kumar, 2nd Edition, "Research Methodology: A Step by Step Guide for beginners"

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Mayall, "Industrial Design", McGraw Hill,1992.

Niebel, "Product Design", McGraw Hill,1974.

Asimov, "Introduction to Design", Prentice Hall.1962.

Robert P. Merges, Peter S. Menell, Mark A. Lemley, " Intellectual Property in New Technological Age",2016.

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Subject Code	RESEARCH METHODOLOGY AND IPR	L	T	P	C
2000211100		2	0	0	2

Course Objective:

The main objectives of this course are:

Identify an appropriate research problem in their interesting domain. Understand ethical issues Understand the Preparation of a research project thesis report.

CourseOutcomes:

At the end of this course students will be able to

1. Understand research problem formulation and analyze research related information Follow research ethics
2. Understand that today"s world is controlled by Computer, Information Technology, but tomorrow world will beruled by ideas, concept, and creativity.
3. Understanding that when IPR would take such important place in growth of individuals & nation, it is needless to emphasis the need of information about Intellectual Property Right to be promoted among students in general & engineering in particular.
4. Understand that IPR protection provides an incentive to inventors for further researchworkandinvestmentinR&D,whichleadstocreationofnewandbetterproducts,andinturn brings about, economicgrowth andsocialbenefits.

UNIT 1:

Meaning of research problem, Sources of research problem, Criteria Characteristics of a good research problem, Errors in selecting a research problem, Scope and objectives of research problem. Approaches of investigation of solutions for research problem, data collection, analysis, interpretation, Necessary instrumentations.

UNIT 2:

Effective literature studies approaches, analysis Plagiarism, Research ethics, Effective technical writing, how to write report, Paper Developing a Research Proposal, Format of research proposal, a presentation and assessment by a review committee.

UNIT 3:

Nature of Intellectual Property: Patents, Designs, Trade and Copyright. Process of Patenting and Development: technological research, innovation, patenting, development. International Scenario: International cooperation on Intellectual Property. Procedure for grants of patents, Patenting under PCT.

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UNIT 4:

Patent Rights: Scope of Patent Rights. Licensing and transfer of technology. Patent information and databases. Geographical Indications.

UNIT 5:

New Developments in IPR: Administration of Patent System. New developments in IPR; IPR of Biological Systems, Computer Software etc. Traditional knowledge Case Studies, IPR and IITs.

References:

Stuart Melville and Wayne Goddard, "Research methodology: an introduction for science & engineering students"

Wayne Goddard and Stuart Melville. "Research Methodology: AnIntroduction"

Ranjit Kumar, 2nd Edition. "Research Methodology: A Step by Step Guide for beginners"

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Niebel. "Product Design", McGraw Hill,1974.

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MTechVR21 - MD

Course Code	RESEARCH METHODOLOGY AND IPR	L	T	P	C
2000211100		2	0	0	2

Course Objectives:

- Construct the concept of modern research
- Develop the research ethics
- Design the steps involved in effective technical writing
- Predict the concept of Patents in biological and computer softwares

Course Outcomes:

After the completion of the course, student will be able to

- Develop research methodology
- List the literature study concepts for a particular project
- Determine the concepts of effective technical writing
- Select the Patent procedure

UNIT-I:

Meaning of research problem, Sources of research problem, Criteria Characteristics of a good research problem, Errors in selecting a research problem, Scope and objectives of research problem. Approaches of investigation of solutions for research problem, data collection, analysis, interpretation, Necessary instrumentations.

UNIT-II:

Effective literature studies approaches, analysis Plagiarism, Research ethics, Effective technical writing, how to write report, Paper Developing a Research Proposal, Format of research proposal, a presentation and assessment by a review committee.

UNIT-III:

Nature of Intellectual Property: Patents, Designs, Trade and Copyright. Process of Patenting and Development: technological research, innovation, patenting, development. International Scenario: International cooperation on Intellectual Property. Procedure for grants of patents, Patenting under PCT.

UNIT-IV:

Patent Rights: Scope of Patent Rights. Licensing and transfer of technology. Patent information and databases. Geographical Indications.

UNIT-V:

New Developments in IPR: Administration of Patent System. New developments in IPR: IPR of

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Biological Systems, Computer Software etc. Traditional knowledge Case Studies, IPR and IITs.

References:

1. Stuart Melville and Wayne Goddard. "Research methodology: an introduction for science & engineering students""
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4. Halbert, "Resisting Intellectual Property", Taylor & FrancisLtd,2007.
5. Mayall, "Industrial Design", McGraw Hill, 1992.

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M. Tech - VR21 - DECS

Subject Code	RESEARCH METHODOLOGY AND IPR	L	T	P	C
2000211100		2	0	0	2

Course Objective:

The main objectives of this course are:

Identify an appropriate research problem in their interesting domain. Understand ethical issues Understand the Preparation of a research project thesis report.

CourseOutcomes:

At the end of this course students will be able to

1. Understand research problem formulation and analyze research related information Follow research ethics
2. Understand that today"s world is controlled by Computer, Information Technology, but tomorrow world will beruled by ideas, concept, and creativity.
3. Understanding that when IPR would take such important place in growth of individuals & nation, it is needless to emphasis the need of information about Intellectual Property Right to be promoted among students in general & engineering in particular.
4. Understand that IPR protection provides an incentive to inventors for further researchworkandinvestmentinR&D,whichleadstocreationofnewandbetterproducts,andinturn brings about, economicgrowth andsocialbenefits.

UNIT 1:

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Beside: VSEZ, Duvvada, Visakhapatnam

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M.Tech - VR21 - PE I D

Subject Code	RESEARCH METHODOLOGY AND IPR	L	T	P	C
2000211100		2	0	0	2

UNIT-I:

Meaning of research problem. Sources of research problem, Criteria Characteristics of a good research problem, Errors in selecting a research problem, Scope and objectives of research problem. Approaches of investigation of solutions for research problem, data collection, analysis, interpretation, Necessary instrumentations

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4. Halbert, "Resisting Intellectual Property", Taylor & Francis Ltd,2007.

5. Mayall, "Industrial Design", McGraw Hill, 1992.

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M Tech - VR21 - CSE

Subject Code	RESEARCH METHODOLOGY AND IPR	L	T	P	C
2000211100		2	0	0	2

Course Objectives:

- The Students has an idea about Selection of Research Problem, and how to write a Research Paper
- The Students has an idea about Copy write process of Patenting and Development

Course Outcomes:

The Student should be able to

- Discuss the process used for research Problem selection and Research Paper Writing
- Interpret the Patent writing and Development
- Describe the Procedure for Grant of Patents
- Illustrate new Developments in IPR

UNIT 1:

Meaning of research problem, Sources of research problem, Criteria Characteristics of a good research problem, Errors in selecting a research problem, Scope and objectives of research problem. Approaches of investigation of solutions for research problem, data collection, analysis, interpretation, Necessary instrumentations.

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UNIT 5:

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References:

(1) Stuart Melville and Wayne Goddard, "Research methodology: an introduction for science & engineering students'"

(2) Wayne Goddard and Stuart Melville. "Research Methodology: An Introduction"

(3) Ranjit Kumar, 2nd Edition, "Research Methodology: A Step by Step Guide for beginners"

(4) Halbert, "Resisting Intellectual Property", Taylor & Francis Ltd ,2007.

(5) Mayall. "Industrial Design". McGraw Hill, 1992.

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JYOTHULA SUDHAKAR

Digitally signed by JYOTHULA SUDHAKAR
Date: 2023.08.31 00:34:05 +05'30'