

Research Methodology and IPR (GR20D5011)

I-M.Tech (Structural Engineering) – I Semester (2021-22)

Dr. MOHD.HUSSAIN

Professor



Department of Civil Engineering

Gokaraju Rangaraju Institute of Engineering and Technology,

Bachupally, Kukatpally, Hyderabad – 500 090. (040) 6686 4440

Gokaraju Rangaraju Institute of Engineering and Technology

Department of Civil Engineering

RESEARCH METHODOLOGY AND IPR (GR 20D5011)

COURSE FILE CHECK LIS

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GR 20 Regulations

M.Tech I Year I semester

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY(AUTONOMOUS)

RESEARCH METHODOLOGY AND IPR

Course Code:**GR20D5011**

L: 2 T:0 P:0 C: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.

Unit III:

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 IV:

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 V:

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

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.

Reference Books:

- Stuart Melville and Wayne Goddard, "Research methodology: an introduction for science & engineering students"
 - Wayne Goddard and Stuart Melville, "Research Methodology: An Introduction"
 - Ranjit Kumar, 2 nd Edition , "Research Methodology: A Step by Step Guide for beginners"
 - Halbert, "Resisting Intellectual Property", Taylor & Francis Ltd ,2007.
 - 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.
- T. Ramappa, "Intellectual Property Rights Under WTO", S. Chand, 2008

Gokaraju Rangaraju Institute of Engineering & Technology (Autonomous)

Name of the college & Code : Gokaraju Rangaraju Institute of Engineering & Technology, 24

Name of the PG Program : Master of Technology
Room No: 4203
Specialization : Structural Engineering
Academic Year & Semester : 2021-22, I Semester

Time Table

w.e.f:15-11-2021

DAY/TIME	9:00AM-10:00AM	10.00 AM-11.00 AM	11.00 AM-12.00 PM	12.00 PM-1:00 PM	1.00 PM - 2.00 PM	2.00 PM - 3.00 PM	3.00 PM-4.00 PM
MON	RM&IPR	RM&IPR					
TUE							
WED							
THU							
FRI							
SAT							

S.No.	Subject Code	Name of the Subject	Name of the Teacher
1		Research Methodology and IPR(MMSA) (Professional Core I)	Dr. G V V Satyanarayana
2		Advanced Solid Mechanics (Professional Core II)	
3		Advanced Concrete Technology (Professional Elective-I)	Dr. K.Sriknath
4		Analytical and Numerical Methods for Structural Engineering (Program Elective II)	Mr.V.Naresh Kumar Varma
5	GR20D5011	Research Methodology and IPR (Core)	Dr.Mohammed Hussain
6		English for Research Paper Writing (Audit Course 1)	
7		Structural Design Lab	Dr.Atulkumar Manchalwa
8		Concrete Technology Lab	Dr.V.S.reddy?Y.Kamal; Raju



GokarajuRangaraju Institute of Engineering and Technology (Autonomous)

Bachupally, Kukatpally, Hyderabad – 500 090. (040) 6686 4440

Name of the Program: M.Tech (Structural Engineering)

Year: I

Course/Subject: Research Methodology and IPR

Course Code:GR20D5011

Program Educational Objectives

PEO 1:

Graduates of the program will equip with professional expertise on the theories, process, methods and techniques for building high-quality structures in a cost-effective manner.

PEO 2:

Graduates of the program will be able to design structural components using contemporary software and professional tools with quality practices of international standards.

PEO 3:

Graduates of the program will be effective as both an individual contributor and a member of a development team with professional, ethical and social responsibilities.

PEO 4:

Graduates of the program will grow professionally through continuing education, training, research, and adapting to the rapidly changing technological trends globally in structural engineering.



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Name of the Program: M.Tech (Structural Engineering)

Year: I

Course/Subject: Research Methodology and IPR

Course Code:GR20D5011

Program Outcomes(PO's):

PO 1: An ability to independently carry out research /investigation and development to solve practical problems.

PO 2: An ability to write and present a substantial technical report/document.

PO 3: Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelors.

PO 4: Possess critical thinking skills and solve core, complex and multidisciplinary structural engineering problems.

PO 5: Assess the impact of professional engineering solutions in an environmental context along with societal, health, safety, legal, ethical and cultural issues and the need for sustainable development.

PO 6: Recognize the need for life-long learning to improve knowledge and competence.



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COURSE OBJECTIVES

Academic Year : 2021-22

Semester: I

Name of the Program: M.Tech (Structural Engineering) Year: I

Course/Subject: Research Methodology and IPR Code: **GR20D5011**

Name of the Faculty: DR. MOHD.HUSSAIN Dept.:Civil Engineering

Designation: PROFESSOR

On completion of this Subject/Course the student shall be able to:

S.No	Objectives
1	To familiarize students with the different aspects of research.
2.	To provide an idea of good scientific writing and proper presentation skills.
3	To provide an understanding of philosophical questions behind scientific research.
4	To provide a brief background on the historical legacy of science.
5	To provide an insight of nature of Intellectual Property and new developments in IPR.

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Signature of faculty

Date:



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COURSE OUTCOMES

Academic Year : 2021-22

Semester: I

Name of the Program: M.Tech(Structural Engineering) Year: I

Course/Subject: Research Methodology and IPR Code:GR20D5011

Name of the Faculty: DR. MOHD.HUSSAIN Dept.:Civil Engineering

Designation: PROFESSOR.

The expected outcomes of the Course/Subject are:

S.No	Outcomes
1	Understand research problem formulation
2	Analyse Research related information and follow research ethics
3	Understand that today's world is controlled by computer , information technology but Tomorrow's world will be ruled by ideas, concepts and creativity
4	Understand that IPR would take such important place in growth of individuals and nation , it is needless to emphasize the need of information about Intellectual Property Right to be promoted among students in general and Engineering
5	Understand the nature of Intellectual Property and IPR in International Scenario

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M.Tech (Structural Engineering)
Gokaraju Rangaraju Institute of Engineering and Technology
1st Year 1st Semester
(Autonomous)

Bachupally, Kukatpally, Hyderabad – 500 090. (040) 6686 4440

Academic Year 2021-22

S.No	Student Name	Roll No
1	ATKAPURAM PRASHANTH	21241D2001
2	BANDI SRI RAM GOPAL	21241D2002
3	CHALLA MADHAVI	21241D2003
4	PAMMI DIVYA	21241D2004
5	DUMMA UMESH KUMAR	21241D2005
6	K LATHASREE	21241D2006
7	MARIYALA VAISHNAVI	21241D2007
8	MAVOORI PRANAV	21241D2008
9	MITTAPALLI NAGA ASHWINI	21241D2009
10	RAVULA VENKATA SURAJ REDDY	21241D2010
11	REPATI MOHAN BABU	21241D2011
12	CHERUKU SANDHYA	21241D2012
13	SHAIK FEROZ	21241D2013
14	S K SAI CHANDRA	21241D2014
15	THOTA HARSHAVARDHAN	21241D2015
16	VARIKUPPULA LALITHA	21241D2016
17	YAMBA RAMA GNANENDRA SAI	21241D2017
18	YENUMALA DEVESH GOUD	21241D2018
19	S PRASHANTH KUMAR	21241D2019
20	BAVANDLAPELLI THARUNTEJA	21241D2020
21	G NITISH KUMAR	21241D2021



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GUIDELINES TO STUDY THE COURSE/SUBJECT

Academic Year : 2021-22

Semester : I

Name of the Program: M.Tech(Structural Engineering)

Year: I

Course/Subject: Research Methodology and IPR

Course Code: **GR20D5011**

Name of the Faculty: Dr. MOHD.HUSSAIN

Dept.: Civil Engineering

Designation: PROFESSOR

Guidelines to study the Course/ Subject: Research Methodology &IPR

Course Design and Delivery System (CDD):

- The Course syllabus is written into number of learning objectives and outcomes.
- These learning objectives and outcomes will be achieved through lectures, assessments, assignments, , projects, seminars, presentations, etc.
- Every student will be given an assessment plan, criteria for assessment, scheme of evaluation and grading method.
- The Learning Process will be carried out through assessments of Knowledge, Skills and Attitude by various methods and the students will be given guidance to refer to the text books, reference books, journals, etc.

The faculty are be able to –

- Understand the principles of Learning
- Understand the psychology of students
- Develop instructional objectives for a given topic
- Prepare course, unit and lesson plans
- Understand different methods of teaching and learning
- Use appropriate teaching and learning aids
- Plan and deliver lectures effectively
- Provide feedback to students using various methods of Assessments and tools of Evaluation
- Act as a guide, advisor, counselor, facilitator, motivator and not just as a teacher alone

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COURSE SCHEDULE

Academic Year : 202122

Semester : I

Name of the Program: M.Tech (Structural Engineering) Year: I

Course/Subject: Research Methodology and IPR Course Code: **GR20D5011**

Name of the Faculty: DR. MOHD.HUSSAIN Dept.: Civil Engineering

Designation: PROFESSOR

The Schedule for the whole Course / Subject is:

S. No.	Description	Duration (Date)		Total No. Of Periods
		From	To	
1.	Unit – I Introduction to Research Methodology	15-11-21	06-12-21	7
2.	Unit- II Literature Survey	06-12-21	29-12-21	6
3.	Unit-III Research Publications	29-12-21	17-01-22	7
4.	Unit-IV IPR	29-01-22	14-02-22	10
5.	Unit-V Patent Rights	21-02-22	12-03-22	09

Total No. of Instructional periods available for the course: 40 Hours



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**SCHEDULE OF INSTRUCTIONS
COURSEPLAN**

Academic Year : 2021-22

Semester : I UNIT NO.: I TO V

Name of the Program : M.Tech Year: I

Course/Subject: **Research Methodology and IPR** Course Code: **GR20D5011**

Name of the Faculty: Dr.Mohd.Hussain Dept.: Civil Engineering

Designation: PROFESSOR

UNIT - I

Unit No.	Lesson No.	Date	No. of Periods	Topics / Sub-Topics	Objectives & Outcomes Nos.	References (Text Book, Journal...) Page Nos.: ____to ____
1.	1.	15/11/21	1	Meaning of Research Problem, Sources of Research Problem	1 & 1	Research Methodology books: 1.Ranjit Kumar (6 Edition) 2.Kothari & Garg 3.Wayne Goddard and Stuart Melville 4. Pradeep Kumar Sahu – Springer 5.Diparkar Deb et.al

						6. NPTEL notes 7. egyankosh notes
	2.	15/11/21	1	Criteria and Characteristics of a good research problem	1 & 1	
	3.	22/11	1	Errors in selecting a research problem, Scope and Objectives of Research Problem	1 & 1	
	4.	22/11	1	Approaches of Investigation of solutions for research problem	1 & 1	
	5.	29/11	1	Data Collections , Analysis	1 & 1	
	6.	29/11	1	Data Interpretation	1 & 1	
	7.	6/12	1	Necessary Instrumentations	1 & 1	

UNIT - II

Unit No.	Lesson No.	Date	No. of Periods	Topics / Sub-Topics	Objectives & Outcomes Nos.	References (Text Book, Journal...)
2.	1.	6/12/2021	1	Effective Literature Studies : Approaches	2 & 2	Research Methodology books: 1.Ranjit Kumar (6 Edition) 2.Kothari & Garg 3.Wayne Goddard and Stuart Melville 4. Pradeep Kumar Sahu – Springer 5.Diparkar Deb et.al 6. NPTEL notes 7. egyankosh notes
	2.	13/12	1	Effective Literature Studies : Approaches	2 & 2	
	3.	13/12	1	Analysis	2 & 2	
	4.	23/12	1	Plagiarism	2 & 2	
		23/12	1	Research Ethics	2 & 2	

	5.					
	6.	29/12	1	Research Ethics	2 & 2	

UNIT - III

Unit No.	Lesson No.	Date	No. of Periods	Topics / Sub-Topics	Objectives & Outcomes Nos.	References (Text Book, Journal...)
3.	1.	29/12	1	Effective Technical Writing	3 & 3	Research Methodology books: 1.Ranjit Kumar (6 Edition) 2.Kothari & Garg 3.Wayne Goddard and Stuart Melville 4. Pradeep Kumar Sahu – Springer 5.Diparkar Deb et.al 6. NPTEL notes 7. egyankosh notes
	2.	31/12	1	How to write report	3 & 3	
	3.	31/12	1	How to write report	3 & 3	
	4.	3/1	1	Developing a Research Proposal	3 & 3	
	5.	3/1	1	Format of Research Proposal	3 & 3	
	6.	17/1	1	Format of Research Proposal	3 & 3	
	7.	17/1	1	Presentation and assessment by a Review Committee	3 & 3	

UNIT - IV

Unit No.	Lesson No.	Date	No. of Periods	Topics / Sub-Topics	Objectives & Outcomes	References (Text Book, Journal...)
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					Nos.	
4.	1.	24/1	1	Nature of Intellectual Property : Patents and Designs	4 & 4	Intellectual Property in New Technological Age 2016 by Lemley, Menell and Merges et al . Intellectual Property by Debrah E. Bouchoux NPTEL Notes e gyankosh Notes
	2.	24/1	1	Nature of Intellectual Property : Patents and Designs	4 & 4	
	3.	3/2	1	Trade and Copyright	4 & 4	
	4.	3/2	1	Process of Patenting and Development	4 & 4	
	5.	4/2	1	Innovation	4 & 4	
	6.	4/2	1	Patenting	4 & 4	
	7.	9/2	1	Development	4 & 4	
	8.	9/2	1	International Scenario	4 & 4	
	9.	14/2	1	International Cooperation on Intellectual Property	4 & 4	
	10.	14/2	1	Procedure for grants of Patents , Patenting under PCT	4 & 4	

UNIT - V

Unit No.	Lesson No.	Date	No. of Periods	Topics / Sub-Topics	Objectives & Outcomes Nos.	References (Text Book, Journal...)
5.	1.	21/2	1	Patent Rights : Scope of Patent Rights	5 & 5	
	2.	21/2	1	Licensing and Transfer of Technology	5 & 5	
	3.	7/3	1	Licensing and Transfer of Technology	5 & 5	

	4.	7/3	1	Patent Information and databases	5 & 5	
	5.	10/3	1	Geographical Indications	5 & 5	
	6	10/3	1	New Developments in IPR	5 & 5	
	7	11/3	1	Administration of Patent Systems	5 & 5	
	8	11/3	1	New Developments in IPR	5 & 5	
	9	12/3	1	IPR of Biological Systems , Computer Software etc.	5 & 5	
	10	12/3	1	Traditional Knowledge : Case Studies . IPR and IITs	5&5	

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LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Course Code: GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain

Dept: Civil Engineering

Designation: Professor

Lesson No: Unit 1 - 1& 2

Duration of Lesson: 2 hr

Lesson Title: Meaning and source of Research Problem

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to explain the Meaning of research problem.

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS

Research Methodology basics and Problem Identification

Assignment / Questions:

Question	Objective/ Outcome
Explain the research process?	Obj:1
How problems are identifies and defined in a research work?	Out:1

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LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Course Code: GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain

Dept: Civil Engineering

Designation: Professor

Lesson No: Unit 1 - 3 & 4

Duration of Lesson: 2 hr

Lesson Title: Errors in selecting a research problem, characteristics of a good research

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to identify Errors in selecting a research problem.

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS :

Research problem characteristics and Errors in the research problem

Assignment / Questions:

Question	Objective/ Outcome
Explain in brief about objectives of research problem?	Obj:1 Out:1

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LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Course Code:

GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain
Engineering

Dept: Civil

Designation: Professor

Lesson No: Unit 1 - 5& 6

Duration of Lesson: 2 hr

Lesson Title: scope and objectives, Approaches of investigation of solutions for research problem

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to identify the various Approaches of investigation of solutions for research problem.

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS :

solutions for research problem, objectives of research

Assignment / Questions:

Question	Objective/ Outcome
State the objectives of research problem.	Obj:1
State the scope of research problem.	Out:1



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LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Course Code:

GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain

Dept: Civil

Engineering

Designation: Professor

Lesson No: Unit 1 - 7 & 8

Duration of Lesson: 2 hr

Lesson Title: Data collection and analysis

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to collect data and do analysis on the collected data.

TEACHING AIDS: class room teaching with power point presentation.

TEACHING POINTS :

Methods of data collection and analysis of data

Assignment / Questions:

Question	Objective/ Outcome
How data's are collected for a research work?	Obj:1 Out:1



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LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Course Code: GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain

Dept: Civil Engineering

Designation: Professor

Lesson No: Unit 1 - 9 & 10

Duration of Lesson: 2 hr

Lesson Title: Data Interpretation and necessary instruments

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to data interpretation.

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS :

Data interpretation and necessary instruments

Assignment / Questions:

Question	Objective/ Outcome
How data's are interpreted?	Obj:2
What are the various instruments used to interpret data?	Out:2



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LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Code: GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain

Dept: Civil Engineering

Designation: Professor

Lesson No: Unit 2 - 1 & 2

Duration of Lesson: 2 hr

Lesson Title: Literature studies approaches

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to literature studies.

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS :

Effective Literature studies approaches - journals, magazines, old reports

Assignment / Questions:

Question	Objective/ Outcome
How literature studies are done?	Obj:2
State the importance of literature studies.	Out:2



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LESSON PLAN

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Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Course Code:

GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain

Dept: Civil

Engineering

Designation: Professor

Lesson No: Unit 2 - 3 & 4

Duration of Lesson: 2 hr

Lesson Title: plagiarism analysis & Research ethics

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to maintain the similarity index and standard research ethics.

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS :

plagiarism analysis & Research ethics

Assignment / Questions:

Question	Objective/ Outcome
Give the difference between plagiarism and cheating?	Obj:2
How plagiarism can be minimized?	Out:2



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LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Course Code: GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain
Engineering

Dept: Civil

Designation: Professor

Lesson No: Unit 3 - 1 & 2

Duration of Lesson: 2 hr

Lesson Title: Report writing technically

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to write a technical report.

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS :

Ways to write technical report, contents to be included.
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Assignment / Questions:

Question	Objective/ Outcome
How reports can be written technically?	Obj:3
What are the contents to be included in a technical report?	Out:3



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LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Course Code: GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain

Dept: Civil Engineering

Designation: Professor

Lesson No: Unit 3 - 3 & 4

Duration of Lesson: 2 hr

Lesson Title: paper developing a research proposal and method of writing

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to write a technical paper.

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS :

paper developing a research proposal

Assignment / Questions:

Question	Objective/ Outcome
How research paper can be written technically?	Obj:3
What are the contents to be included in a research paper?	Out:3



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LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Course

Code: GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain
Engineering

Dept: Civil

Designation: Professor

Lesson No: Unit 3 - 5 & 6

Duration of Lesson: 2 hr

Lesson Title: format of research proposal and method of writing research proposal

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to write a research proposal for claiming funds from government.

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS :

Writing a research proposal.

Assignment / Questions:

Question	Objective/ Outcome
State the objectives of research proposal.	Obj:3
What are the benefits of research proposal?	Out:3



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LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Course Code: GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain

Dept: Civil

Engineering

Designation: Professor

Lesson No: Unit 3 - 7 & 8

Duration of Lesson: 2 hr

Lesson Title: presentation and assessment by review committee

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to attend the review committee meetings and explain about their research work.

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS :

Assessment method and presentation contents

Assignment / Questions:

Question	Objective/ Outcome
What are the activities carried out by assessment committee in a research work?	Obj:3
What are the contents to be included in a research presentation?	Out:3



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LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Course Code: GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain

Dept: Civil Engineering

Designation: Professor

Lesson No: Unit 4 - 1 & 2

Duration of Lesson: 2 hr

Lesson Title: intellectual property, patents

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to know about IPR

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS :

Intellectual property rights and its importance

Assignment / Questions:

Question	Objective/ Outcome
How to file a patent?	Obj:4
What is IPR? Give examples.	Out:4



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LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Course Code: GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain
Engineering

Dept: Civil

Designation: Professor

Lesson No: Unit 4 - 3 & 4

Duration of Lesson: 2 hr

Lesson Title: designs trade and copyright

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to know about deigns, trade and copyright.

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS :

Design, trade and copyright and its importance

Assignment / Questions:

Question	Objective/ Outcome
Give the difference between patents, designs, trade and copyright?	Obj:4 Out:4



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LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Course Code: GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain

Dept: Civil Engineering

Designation: Professor

Lesson No: Unit 4 - 5 & 6

Duration of Lesson: 2 hr

Lesson Title: patent processing, technical research development

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to develop a research work and file patent.

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS :

Development of research work and patenting it.

Assignment / Questions:

Question	Objective/ Outcome
How to file a patent?	Obj:4 Out:4

Signature of faculty

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4440**

LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Course Code: GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain

Dept: Civil Engineering

Designation: Professor

Lesson No: Unit 4 - 7 & 8

Duration of Lesson: 2 hr

Lesson Title: innovation and patent development/ International cooperation

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to innovate a product.

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS :

Innovation of research work and patenting it. File patent internationally.

Assignment / Questions:

Question	Objective/ Outcome
Elaborate the concepts of creativity and innovation.	Obj:4
How to file an international patent?	Out:4



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LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Course Code: GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain

Dept: Civil Engineering

Designation: Professor

Lesson No: Unit 4 - 9 & 10

Duration of Lesson: 2 hr

Lesson Title: grants of patents, patenting under PCT

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to patent under PCT.

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS :

Patent grants and Patenting under PCT

Assignment / Questions:

Question	Objective/ Outcome
Explain how patents are filed under PCT?	Obj:4
Explain about patent grants in detail wit suitable example.	Out:4



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LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Course Code: GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain
Engineering

Dept: Civil

Designation: Professor

Lesson No: Unit 5 - 1 & 2

Duration of Lesson: 2 hr

Lesson Title: patent rights and its scope

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to explain about patent rights.

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS :

Patent rights.

Assignment / Questions:

Question	Objective/ Outcome
Explain the scope of patent rights.	Obj:5
Explain about one's own patent right in detail.	Out:5

Signature of faculty



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LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Course Code: GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain

Dept: Civil Engineering

Designation: Professor

Lesson No: Unit 5 - 3 & 4

Duration of Lesson: 2 hr

Lesson Title: licensing and transfer of technology

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to explain about patent licensing and technology transfer.

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS :

Patent rights.

Assignment / Questions:

Question	Objective/ Outcome
Explain patent licensing in detail.	Obj:5
Explain patent technology transfer in detail.	Out:5

Signature of faculty



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LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Course Code: GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain

Dept: Civil Engineering

Designation: Professor

Lesson No: Unit 5 - 5 & 6

Duration of Lesson: 2 hr

Lesson Title: patent information and database

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to explain about patent information and database.

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS :

Database and information about patents

Assignment / Questions:

Question	Objective/ Outcome
What are the information that can be gathered from patent database?	Obj:5 Out:5

Signature of faculty



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LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR
GR20D 5011

Course Code:

Name of the Faculty: Dr.Mohd.Hussain
Engineering

Dept: Civil

Designation: Professor

Lesson No: Unit 5 - 7 & 8

Duration of Lesson: 2 hr

Lesson Title: developments in IPR and patent administration system

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to explain about IPR developments.

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS :

Patent administration system.

Assignment / Questions:

Question	Objective/ Outcome
How patent informations are protected?	Obj:5
Explain IPR developments in detail.	Out:5



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LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IP

Course Code: GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain
Engineering

Dept: Civil

Designation: Professor

Lesson No: Unit 5 - 9 & 10

Duration of Lesson: 2 hr

Lesson Title: new developments in IPR and biological systems IPR

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to explain about IPR developments in biological systems.

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS :

Developments of IPR in biological systems

Assignment / Questions:

Question	Objective/ Outcome
How IPR are developed in biological departments? Explain with a case study.	Obj:5 Out:5



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LESSON PLAN

Academic Year : 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Course Code: GR20D 5011

Name of the Faculty: Dr.Mohd.Hussain

Dept: Civil Engineering

Designation: Professor

Lesson No: Unit 5 - 11 & 12

Duration of Lesson: 2 hr

Lesson Title: new developments in IPR and computer software IPR

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to explain about IPR developments in software systems.

Teaching Aids: Class room teaching with power point presentation.

TEACHING POINTS :

Developments of IPR in software systems

Assignment / Questions:

Question	Objective/ Outcome
How IPR are developed in computer softwares? Explain with a case study.	Obj:5 Out:5

EVALUATION STRATEGY

Academic Year : 2021-22

Semester : I

Name of the Program: M.Tech (Structural Engineering) Year: I

Course/Subject: **Research Methodology and IPR** Subject
Code(**GR20D5011**)

Name of the Faculty: GVV Satyanarayana Dept.: Civil Engineering

Designation : PROFESSOR

1. TARGET:

A) Percentage for pass: 98%

b) Percentage of class: 1st class with distinction - 60%
1st class - 40%

2. COURSE PLAN& CONTENT DELIVERY

(Please write how you intend to cover the contents: i.e., coverage of Units/Lessons by lectures, design, exercises, solving numerical problems, demonstration of models, model preparation, experiments in the Lab., or by assignments, etc.)

3. METHOD OF EVALUATION

3.1 Continuous Assessment Examinations (CAE-I, CAE-II)

3.2 Assignments/Seminars

3.3 Project Review/ Comprehensive viva-voce

3.4 Quiz

3.5 Semester/End Examination

3.6 Others

4. List out any new topic(s) or any innovation you would like to introduce in teaching the subjects in this Semester.

.....

Signature of HOD
faculty

Signature of

M.Tech Structural Engg. I yr-I Sem- GR20 2021-22**Research Methodology &IPR GR20D5011 (MID-II)**

S.No	Roll No	Name of Student	Maximum Marks (20 M)
1	21241D2001	ATKAPURAM PRASHANTH	17
2	21241D2002	BANDI SRI RAM GOPAL	17
3	21241D2003	CHALLA MADHAVI	17
4	21241D2004	PAMMI DIVYA	19
5	21241D2005	DUMMA UMESH KUMAR	16
6	21241D2006	K LATHASREE	16
7	21241D2007	MARIYALA VAISHNAVI	18
8	21241D2008	MAVOORI PRANAV	13
9	21241D2009	MITTAPALLI NAGA ASHWINI	16
10	21241D2010	RAVULA VENKATA SURAJ REDD	13
11	21241D2011	REPATI MOHAN BABU	14
12	21241D2012	ANDHYA CHERUKU	17
13	21241D2013	SHAIK FERAZ	13
14	21241D2014	K SAI CHANDRA	17
15	21241D2015	THOTA HARSHAVARDHAN	17
16	21241D2016	ARIKUPPALA LALITHA	14
17	21241D2017	AMBA RAMA GNANENDRA SAI	15
18	21241D2018	SAI YENUMALA DEVESH GOUD	14
19	21241D2019	RASHANTH KUMAR	AB
20	21241D2020	BAVANDLAPPELLI THARUN TEJA	12
21	21241D2021	GNITISH KUMAR	14

Research Methodology & IPR GR20D5011 (MID-I)			
S.No	Roll No	Name of Student	Maximum Marks (20 M)
1	21241D2001	ATKAPURAM PRASHANTH	14
2	21241D2002	BANDI SRI RAM GOPAL	16
3	21241D2003	CHALLA MADHAVI	11
4	21241D2004	PAMMI DIVYA	16
5	21241D2005	DUMMA UMESH KUMAR	16
6	21241D2006	K LATHASREE	15
7	21241D2007	MARIYALA VAISHNAVI	16
8	21241D2008	MAVOORI PRANAV	14
9	21241D2009	MITTAPALLI NAGA ASHWINI	14
10	21241D2010	RAVULA VENKATA SURAJ REDD	12
11	21241D2011	REPATI MOHAN BABU	12
12	21241D2012	ANDHYA CHERUKU	17
13	21241D2013	SHAIK FEROZ	14
14	21241D2014	K SAI CHANDRA	17
15	21241D2015	THOTA HARSHAVARDHAN	17
16	21241D2016	ARIKUPPALA LALITHA	14
17	21241D2017	AMBA RAMA GNANENDRA SAI	13
18	21241D2018	SAI YENUMALA DEVESH GOUD	14
19	21241D2019	RASHANTH KUMAR	11
20	21241D2020	BAVANDLAPELLI THARUN TEJA	11
21	21241D2021	GNITISH KUMAR	13



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ASSIGNMENT SHEETS

Research Methodology and Intellectual Property Rights

Instructor : Dr. Mohd.Hussain, Professor of Civil Engineering

ASSIGNMENT I - Descriptive Questions (

**Answer these questions from the prescribed e-text books available :
Research Methodology : A step by step Guide for Beginners by Ranjit Kumar & Research Methodology : Methods and Techniques by C.R. Kothari and Gaurav Garg & Notes kept in Newton)**

UNIT I & II & III (Half Portion)

1(a) A prospective student is asked to formulate a research problem as a part of project work. Explain the various steps of Research Process the student has to follow ?

(b) Explain the sources of research problem and errors in selecting a research problem ?

(c) Define Research ? Explain the criteria and characteristics of a good research problem ?

(d) Explain the scope and objectives of research problem ?

2(a) How do you conduct Literature Survey ? Explain some sources of journals and digital libraries in structural engineering ?

(b) Describe the approaches of investigation of solutions for research problem ?

(c) Explain the data collection, analysis , interpretation and necessary instrumentation in Research ?

(d) What is plagiarism ? Explain various types of plagiarism and Research Ethics ?

3 (a) Explain the criteria to be considered in writing an effective technical research report ?

(b) Explain the steps of writing a research report ?

ASSIGNMENT I - TWENTY OBJECTIVE QUESTIONS WITH ANSWERS

1. The first step of seven step research process (as given in Kothari and Garg) is (a)

(a) Define research problem (b) Collect data (c) Analyse the data (d) Formulate hypothesis

2. The research approaches are (c)

(a) Quantitative approach (b) Qualitative approach (c) Both (a) and (b) (d) None of the above

3. Research is a way of thinking and research is an integral part of our daily practice for (d)

(a) Engineers (b) Doctors (c) Business People and Social workers (d) all the above

4. Research is away to gather evidence for our Evidence Based

Practice (EBP) (a)

(a) True (b) False (c) Can not say (d) None of the above

5. The types of research are (d)

(a) Application Perspective (b) Objectives Perspective (c) Mode of Enquiry Perspective (d) All the above

6. The perspectives of application of research are as below (d)

(a) the Service Provider (b) the Service Administrator , Manager and/or Planner (c) the service consumer & the professional (d) all the above

7. The research process must have certain Characteristics (d)

(a) Controlled,Rigorous and Systematic (b) Valid and Verifiable (c) Empirical and Critical (d) All the above

8. The research approaches of enquiry perspective is (c)

(a) Structured approach (Quantitative research) (b) Unstructured approach (Qualitative research) (c) both (a) and (b) (d) None of the above

9. The research approaches from application perspective is (c)
(a) pure research (b) applied research (c) both (a) and (b) (d) None
of the above

10. The sources of research problem in humanities are (e)

(a) People (b) Problems (c) Programmes (d) Phenomenon (e) all the above

11. The Research Objectives are classified as (c)

(a) Main Objectives (b) Subobjectives (c) Both (a) and (b) (d) None of the above

12. A hypothesis serves the following functions (e)

(a) Study with focus (b) What data to collect and what not to collect (c) enhances objectivity in a study (d) enables one to conclude what is true or what is false (e) all the above

13. The Categories of Hypothesis are (c)

(a) Research Hypothesis (b) Alternate hypothesis (Null Hypothesis)

(c) both (a) and (b) (d) None of the above

14. In testing Hypothesis , the types of error are (c)

(a) Type I Error (Rejection of Null Hypothesis when it is true) (b) Type II Error (Acceptance of a null Hypothesis when it is false) (c) Both (a) and (b) (d) None of the above

15. SQ4R Method of Study is (a)

(a) Survey, Question , Read , Respond , Record and Review

(b) Survey , Question, Read , Relate, Recite and Record

(c) Both (a) and (b) (d) None of the above

16. Mindmapping Notes (b)

(a) Linear Notes (b) Nonlinear Notes (c) both (a) and (b) (d) None of the above

17. Equivalent Opensource software to MATLAB is (a)

(a) Scilab (b) Python (c) R Studio (d) None of the above

18. What is ANOVA (a)

(a) Analysis of Variance (b) Alternative Variance (c) Both (a) and (b) (d) None of the above

19. In the Equation $Y = mx + C$, Y and X are called respectively (a)
(a) Dependent and Independent Variables (b) Independent and Dependent
(c) Both (a) and (b) (d) None of the above

20. In Regression Analysis, R Square is Coefficient of Determination.

It is used (b)

(a) to evaluate correlation coefficient (b) To evaluate the goodness of the fitted model (c) Both (a) and (b) (d) None of the above

Research Methodology and Intellectual Property Rights

Instructor : Dr. Mohd.Hussain, Professor of Civil Engineering

ASSIGNMENT II - Descriptive Questions (

Answer these questions from the prescribed e-text books available :

Research Methodology : A step by step Guide for Beginners by Ranjit

Kumar & Research Methodology : Methods and Techniques by C.R.

Kothari and Gaurav Garg & UnitWise Notes kept in Newton& eGyankosh

which is the Study material of Indira Gandhi National Open University &

NPTEL Web Notes & Videos)

Unit III (Half portion)

(a) Discuss about the format of Research Proposal

(b) How will Research be assessed by Review Committee?

(c) Explain various sections of a Research Paper in detail ?

(d) What are the necessary guidelines to be followed in writing a Research Proposal ?

Unit IV

- (a) State the importance of intellectual property rights and explain various types of intellectual property rights**
- (b) Explain the process of patenting**
- (c) Describe how can technical designs be protected ?**
- (d) Discuss the issues of copyright ownership ? List the items which can be copyright protected ?**
- (e) Explain the procedure for grant of patents ?**
- (f) Explain the patenting under PCT(Patent Cooperation Treaty) in detail?**
- (g) Describe the role of World Intellectual Property Organization (WIPO) in granting patents at international level & Indian Patent Office of Intellectual Property of India at national level**
- (h) What is the role of Rajiv Gandhi National Institute of Intellectual Property Management at Nagpur ?**

UNIT V

- (a) Explain the scope of patent rights ?**

(b) Explain Licencing and Transfer of Technology in IITs, IISc , MIT, Florida State University and Utah State University

(c) Describe the information and databases in WIPO, USPTO, CIPO, EPO and Indian Patent Advanced Search System

(d) Explain Geographical Indications ?

(e) Explain the Emerging issues in IPR?

(f) Describe the administration of Patent system ?

(g) Explain IPR of Biological systems, Computer software etc.

ASSIGNMENT II - TWENTY FIVE OBJECTIVE QUESTIONS WITH ANSWERS GIVEN IN BOLD LETTERS

Research Methodology and IPR- II Mid Portion Objective Questions(Answers given in Bold letters)

1. What protects the intellectual property created by artists?

- (a) copyright
- (b) geographical indications
- (c) patents
- (d) registered designs

2. What protects the intellectual property created by designers?

- (a) copyright
- (b) geographical indications

(c) patents

(d) registered designs

3. What protects the intellectual property created by inventors?

- (a) copyright
- (b) geographical indications
- (c) patents**
- (d) registered designs

4. Which of these is a geographical indication?

- (a) BMW
- (b) Champagne**
- (c) Hogwarts
- (d) Playstation

. * * Champagne is a place in France .

5. What does a trademark protect?

- (a) an invention
- (b) a work of art
- (c) logos, names and brands**
- (d) the look, shape and feel of a product

6. In most countries, how long does copyright last for?

- (a) 10 years after the creation of the work
- (b) 50 years after the creation of the work
- (c) 10 years after the death of the person who created that work
- (d) 50 years after the death of the person who created that work**

7. How long do patents usually last for?

- (a) 10 years
- (b) 20 years**
- (c) 40 years
- (d) 60 years

8. If you write an original story, what type of intellectual property gives you the right to decide who can make and sell copies of your work?

- (a) copyright**
- (b) geographical indications

- (c)patents
- (d)registered designs

9.Imagine a footballer sets up his own company to sell his own range of clothes. What type of intellectual property can he use to show that the clothes are made by his company?

- (a)copyright
- (b)patents
- (c)registered designs
- (d)trademarks**

10.If a company develops a new technology that improves its main product, what type of intellectual property can they use to stop others from copying their invention?

- (a)copyright
- (b)geographical indications

(c)patents

- (d)registered designs

11. A company XYZ filed a patent application in the year 2000. The patent was granted in 2002. The company can enjoy the patent rights till:

- (a)2020** (b)2021 (c)2022 (d)2023

12. If a company develops a new technology that improves its main product, what type of intellectual property can they use to stop others from copying their invention?

- (a)Copyright
- (b)Geographical indications

(c)Patents

- (d)Trademarks

13. The term WIPO stands for

- (a)World Investment Policy Organization
- (b)World Intellectual Property Organization**
- (c)Wildlife Investigation and Policing Organization
- (d)World Institute for Prevention of Organized Crime

14. PCT stands for:

- (a) **Patent Cooperation Treaty**
- (b) Patent Cooperation Territory
- (c) Patent Completion Term
- (d) Patent Convention Treaty

15. Why an invention should be patented?

- (a)It gives opportunity to license the invention in future

- (b) It gives legal ownership on the invention
- (c) It gives exclusive rights to stop others from practicing the invention

(d) All of the above

16. The rights of a patentee are to stop the third parties from

- (a) Selling or distributing patented product without consent of patentee
- (b) Licensing without consent of patentee
- (c) Assigning the patent to others without consent of patentee

(d) All of the above

17. A person qualified/entitled to receive a patent on a new invention is-

- (a) The one who invents first

(b) The one who applies for patent on the invention first

- (c) The one who commercialized the invention first
- (d) The one who first conceived the invention

18. Patent is granted for

- (a) A Discovery
- (b) Mathematical formulas

(c) New invention

- (d) Both (a) and (b)

19. Confidential information is an important intellectual asset because-

- (a) It has unlimited lifetime of protection unlike patents 20 years protection
- (b) It contains organization's Important critical data
- (c) It is available exclusively to the organization

(d) All of the above

20. Patent right is

- (a) Limited period right
- (b) Territorial right
- (c) Absolute right

(d) Both (a) and (b)

21. Prior art search includes

- (a) Search of Patent literatures
- (b) Search of Non-patent literature

(c) Both (a) and (b)

- (d) None of the above

22. Which is not a best practice to protect intellectual property/ asset of any organization?

- (a) Having Non-Disclosure Agreement in place while discussing business and sharing confidential information with 3rd party
- (b) Safeguarding critical manufacturing and business know-how as trade secret
- (c) Getting due approvals before external publications and presentations

(d) Publishing all the R&D and business-critical information for easy access of the public

23. A patent comes into existence:

- (a) On the evolution of an idea
- (b) On the first publication in an article

(c) On the acceptance of an application by the Patent Office

- (d) After the first successful use of the article

24. Which of these is a geographical indication ?

- (a) BMW
- (b) Hotel Taj
- (c) PlayStation
- (d) **Assam Tea**

25. Which country possesses the maximum number of Patents in the world?

- (a) USA
 - (b) Japan
 - (c) South Korea
 - (d) **China**
- (source : **wipo & iserdindia**)

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY (Autonomous)

M.Tech I Year - First Semester

MID - I Examination (Descriptive)

Research Methodology and Intellectual Property Rights (GR20D5011)

Time: 75 Minutes
5= 15)

Date of Examination : 09-2-2022

Maximum Marks : 15 (3x

Answer all questions and all questions carry equal marks

1(a) A prospective student is asked to formulate a research problem as a part of project work. Explain the various steps of Research Process the student has to follow ?

(CO1) (5 Marks)

(OR)

(b) Define Research ? Explain the scope and objectives of research problem ?

(CO1) (5 Marks)

2(a) How do you conduct Literature Survey ? Explain some sources of journals, patents and digital libraries in structural engineering ? (CO2) (5Marks)

(OR)

(b) Explain the data collection, analysis , interpretation and necessary instrumentation in Research ? (CO2) (5 Marks)

3(a) What is plagiarism ? Explain various types of plagiarism and Research Ethics ?

(CO2) (5 Marks)

(OR)

(b) Explain the steps of writing a technical research report ? (CO3) (5 Marks)

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY (Autonomous)

M.Tech I Year - First Semester

MID - I Examination (Objective)

Research Methodology and Intellectual Property Rights (GR20D5011)

Time: 15 Minutes
1/2= 5)

Date of Examination : 09-2-2022

Maximum Marks : 5 (10x

Answer all questions and all questions carry equal marks

1. The first step of seven step research process (as given in Kothari and Garg) is ()
(a) Define research problem (b) Collect data (c) Analyse the data (d) Formulate hypothesis
2. The research approaches are ()
(a) Quantitative approach (b) Qualitative approach (c) Both (a) and (b) (d) None of the above
3. Research is a way of thinking and research is an integral part of our daily practice for ()
(a) Engineers (b) Doctors (c) Business People and Social workers (d) all the above
4. The types of research are ()
(a) Application Perspective (b) Objectives Perspective (c) Mode of Enquiry Perspective
(d) All the above
5. The Categories of Hypothesis are ()
(a) Research Hypothesis (b) Alternate hypothesis (Null Hypothesis)
(c) both (a) and (b) (d) None of the above
6. In testing Hypothesis , the types of error are ()
(a) Type I Error (Rejection of Null Hypothesis when it is true) (b) Type II Error (Acceptance of a null Hypothesis when it is false) (c) Both (a) and (b) (d) None of the above
7. SQ4R Method of Study is ()
(a) Survey, Question , Read , Respond , Record and Review
(b) Survey , Question, Read , Relate, Recite and Record
(c) Both (a) and (b) (d) None of the above
8. Equivalent Opensource software to MATLAB is ()
(a) Scilab (b) Python (c) R Studio (d) None of the above
9. In the Equation $Y = mx + C$, Y and X are called respectively ()
(a) Dependent and Independent Variables (b) Independent and Dependent (c) Both (a) and (b) (d) None of the above
10. The Research Objectives are classified as ()
(a) Main Objectives (b) Subobjectives (c) Both (a) and (b) (d) None of the above

RESEARCH METHODOLOGY AND IPR

(Common to all M.Tech Programmes)

Time: 3 hours

Max Marks: 70

Instructions:

1. Question paper comprises of **Part-A** and **Part-B**
2. **Part-A** (for 20 marks) must be answered at one place in the answer book.
3. **Part-B** (for 50 marks) consists of **five questions with internal choice**, answer all questions.

PART – A

(Answer ALL questions. All questions carry equal marks)

10 * 2 = 20 Marks

1. a. Mention the Components of Research Problem. [2]
- b. Outline the importance of Research for Government Agencies with Examples. [2]
- c. Differentiate between Quantitative Research and Qualitative Research. [2]
- d. Mention the importance of interpretation in the preparation of Research report. [2]
- e. Outline the importance of Bibliography in Research Report. [2]
- f. What role does a Review Committee play in Research Proposal Assessment? [2]
- g. Mention the various types of Intellectual Property that can be protected. [2]
- h. List what can be protected under Copyrights Act. [2]
- i. Who holds the ownership in case of inventions developed in universities? [2]
- j. What are the instances of Bio-Piracy that impacted India's Traditional Knowledge? [2]

PART – B

(Answer ALL questions. All questions carry equal marks)

5 * 10 = 50 Marks

2. (a) What do you understand by Research Problem? What are the characteristics of Good Research problem? [10]
- (b) "Research is seeing what everybody else has seen and thinking what nobody else has thought." In the light of the statement, Explain the scope of research Problem.

OR

3. (a) Elaborate commonly committed errors in identifying a Research Problem and precautions to be taken to overcome them. [10]
- (b) What are the objectives and constraints faced by a researcher in providing solution to a research problem?



Gokaraju Rangaraju Institute of Engineering
and Technology (Autonomous) Department of
Civil Engineering

I M.Tech. I Semester MID II EXAMINATION March—2022

Research Methodology and Intellectual Property Rights

(Sub Code: GR20D5011)

Time: 75 Minutes

Date of examination 16-03--2022

Max.Marks: 15

Name : _____ Roll No.

					D				
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Answer all questions.

Part-B

Question No.	Unit	Blooms Level	Course Outcome
1. a	Discuss about the format of Research Proposal ? Also discuss the necessary guidelines to be followed in writing a Research Proposal ? (5M)	BL-5	CO-2
(OR)			
b.	Propose how Research be assessed by Review Committee? Formulate various sections of a Research Paper in detail ? (5M)	BL-5	CO-2
2. a	Examine the importance of intellectual property rights and formulate various types of intellectual property rights ?	BL-4	CO-4

	<p>Elaborate the process of patenting?</p> <p>(5M)</p>		
--	---	--	--

(OR)			
b	<p style="text-align: center;">Analyse the role of World Intellectual Property Organization (WIPO) in granting patents at international level & Indian Patent Office of Intellectual Property of India at national level</p> <p style="text-align: right;">(5M)</p>	BL-4	CO-4
3. a	<p style="text-align: center;">Elaborate Licencing and Transfer of Technology in IITs, IISc , MIT and Utah State University .</p> <p>(5M)</p>	BL-5	CO-5
(OR)			
b	<p>Evaluate the information and patent databases in WIPO, USPTO, CIPO, EPO and Indian Patent Advanced Search System .</p>	BL-6	CO-5



Gokaraju Rangaraju Institute of Engineering and Technology (Autonomous)

**Bachupally, Kukatpally, Hyderabad – 500 090, A.P., India. (040)
6686 4440**

RUBRICS

Academic Year: 2021-22

Semester : I Semester

Name of the Program: M.Tech (Structural Engineering)

Year: I Year

Section: A / B

Course/Subject: Research Methodology and IPR

Course

Code: GR20D5011

Name of the Faculty: Dr.Mohd.Hussain

Dept: Civil

Engineering

Designation: Professor

These Rubrics are organized around three domains covering all aspects of GR20D5011 - RM & IPR course.

1. Able to identify a research problem and sort out with optimized solution.
2. Ability to analyze literature surveys and follow research ethics.
3. Create a research document with effective technical writing.
4. Impart knowledge on IPR, patent procedure and availing of research grants.
5. Able to get patent rights and have knowledge on licensing/ transfer of technology.

The rubrics use a four-level rating scale with the following labels:

4 - Excellent

3 - Good

2 – Satisfactory

1 - Unsatisfactory

Objective 1: Able to identify a research problem and sort out with optimized solution.

Student Outcome: Able to formulate research problem and identify relevant solution

Performance Criteria	Student Roll No	Unsatisfactory	Satisfactory	Good	Excellent	Score
		1	2	3	4	
Understanding the basic concepts of Research Methodology	21241D2004	Does not concentrate on basics of research methodology	A little grasping of basics on research concepts	Understands the basics of research process	Has a great deal of information—regarding the basics of research methodology	4
Identify and define a problem		Does not know how to identify a research problem	An average understanding of defining a problem	Has the sufficient knowledge in defining a research problem	An excellent understanding of research work in finding out a feasible solution	3
Data collection and interpretation		Not impressive	Somewhat impressive	impressive	Commendably impressive	3
					Average score	3.33

Performance Criteria	Student Roll No	Unsatisfactory	Satisfactory	Good	Excellent	Score
		1	2	3	4	
Understanding the basic concepts of Research Methodology	21241D2012	Does not concentrate on basics of research methodology	A little grasping of basics on research concepts	Understands the basics of research process	Has a great deal of information—regarding the basics of research methodology	3
Identify and define a problem		Does not know how to identify a research problem	An average understanding of defining a problem	Has the sufficient knowledge in defining a research problem	An excellent understanding of research work in finding out a feasible solution	3
Data collection and interpretation		Not impressive	Somewhat impressive	impressive	Commendably impressive	3
					Average score	3

Performance Criteria	Student Roll No	Unsatisfactory	Satisfactory	Good	Excellent	Score
		1	2	3	4	
Understanding the basic concepts of Research Methodology	21241D2015	Does not concentrate on basics of research methodology	A little grasping of basics on research concepts	Understands the basics of research process	Has a great deal of information—regarding the basics of research methodology	3

Identify and define a problem		Does not know how to identify a research problem	An average understanding of defining a problem	Has the sufficient knowledge in defining a research problem	An excellent understanding of research work in finding out a feasible solution	3
Data collection and interpretation		Not impressive	Somewhat impressive	impressive	Commendably impressive	4
					Average score	3.3

Objective 2: Ability to analyze literature surveys and follow research ethics.

Student Outcome: Able to follow research ethics.

Performance Criteria	Student Roll No	Unsatisfactory	Satisfactory	Good	Excellent	Score
		1	2	3	4	
Understanding the concepts of literature survey	21241D2004	Poor understanding of literature survey concepts	Has a moderate knowledge about gathering literature survey	Understanding the various approaches to literature survey.	An excellent grip on various literature survey methods	4
Establishing relation between plagiarism and cheating		Poor	Average	Best	Extraordinary	4
Understanding the value of research ethics		Not efficient	Average	impressive	Commendably impressive	4
					Average score	4

Performance Criteria	Student Roll No	Unsatisfactory	Satisfactory	Good	Excellent	Score
		1	2	3	4	
Understanding the concepts of literature survey	21241D2012	Poor understanding of literature survey concepts	Has a moderate knowledge about gathering literature survey	Understanding the various approaches to literature survey.	An excellent grip on various literature survey methods	3
Establishing relation between plagiarism		Poor	Average	Best	Extraordinary	3

and cheating						
Understanding the value of research ethics		Not efficient	Average	impressive	Commendably impressive	3
					Average score	3
Performance Criteria	Student Roll No	Unsatisfactory	Satisfactory	Good	Excellent	Score
		1	2	3	4	
Understanding the concepts of literature survey	21241D2015	Poor understanding of literature survey concepts	Has a moderate knowledge about gathering literature survey	Understanding the various approaches to literature survey.	An excellent grip on various literature survey methods	3
Establishing relation between plagiarism and cheating		Poor	Average	Best	Extraordinary	3
Understanding the value of research ethics		Not efficient	Average	impressive	Commendably impressive	3
					Average score	3

Objective 3: Create a research document with effective technical writing.

Student Outcome: Able to analyze research related information.

Performance Criteria	Student Roll No	Unsatisfactory	Satisfactory	Good	Excellent	Score
		1	2	3	4	
Understanding the concept on technical writing	21241D2004	Poor understanding of concepts on technical writing	Has a moderate knowledge on technical writing	Understands the various method of technical writing	An excellent grip on effective technical writing	3
Knowledge on research proposal and research paper writing		Poor	Average	Best	Extraordinary	3
Presentation of research work to assessment committee		Not efficient	Average	impressive	Commendably impressive	3

					Average score	3
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Performance Criteria	Student Roll No	Unsatisfactory	Satisfactory	Good	Excellent	Score
		1	2	3	4	
Understanding the concept on technical writing	21241D2012	Poor understanding of concepts on technical writing	Has a moderate knowledge on technical writing	Understands the various method of technical writing	An excellent grip on effective technical writing	3
Knowledge on research proposal and research paper writing		Poor	Average	Best	Extraordinary	3
Presentation of research work to assessment committee		Not efficient	Average	impressive	Commendably impressive	3
					Average score	3

Performance Criteria	Student Roll No	Unsatisfactory	Satisfactory	Good	Excellent	Score
		1	2	3	4	
Understanding the concept on technical writing	21241D2015	Poor understanding of concepts on technical writing	Has a moderate knowledge on technical writing	Understands the various method of technical writing	An excellent grip on effective technical writing	3
Knowledge on research proposal and research paper writing		Poor	Average	Best	Extraordinary	3
Presentation of research work to assessment committee		Not efficient	Average	impressive	Commendably impressive	3
					Average score	3

Objective 4: Impart knowledge on IPR, patent procedure and availing of research grants.

Student Outcome: Able to understand the Importance of IPR and produce a product for an individual growth and nation.

Performance Criteria	Student Roll No	Unsatisfactory	Satisfactory	Good	Excellent	Score
		1	2	3	4	

Understanding of IPR Concepts	21241D2004	Poor understanding of concepts in IPR	Has a moderate knowledge on IPR	Understanding IPR in a better way.	An excellent grip on various IPR Concepts	3
Establishing relation between patents, designs, trade and copyright		Poor	Average	Best	Extraordinary	3
Patenting a project		Not efficient	Average	impressive	Commendably impressive	3
					Average score	3

Performance Criteria	Student Roll No	Unsatisfactory	Satisfactory	Good	Excellent	Score
		1	2	3	4	
Understanding of IPR Concepts	21241D2012	Poor understanding of concepts in IPR	Has a moderate knowledge on IPR	Understanding IPR in a better way.	An excellent grip on various IPR Concepts	3
Establishing relation between patents, designs, trade and copyright		Poor	Average	Best	Extraordinary	2
Patenting a project		Not efficient	Average	impressive	Commendably impressive	3
					Average score	2.66

Performance Criteria	Student Roll No	Unsatisfactory	Satisfactory	Good	Excellent	Score
		1	2	3	4	
Understanding of IPR Concepts	21241D2015	Poor understanding of concepts in IPR	Has a moderate knowledge on IPR	Understanding IPR in a better way.	An excellent grip on various IPR Concepts	3
Establishing relation between patents, designs, trade and copyright		Poor	Average	Best	Extraordinary	3
Patenting a project		Not efficient	Average	impressive	Commendably impressive	3
					Average score	3

Objective 5: Able to get patent rights and have knowledge on licensing/ transfer of technology.

Student Outcome: Able to implement innovative research work and patent it.

Performance Criteria	Student Roll No	Unsatisfactory	Satisfactory	Good	Excellent	Score
		1	2	3	4	
Awareness on getting patent rights	21241D2004	Don't know about patent rights	Has a moderate knowledge on patent rights	Efficient knowledge	Excellent understanding of the needed issues	3
Patent Licensing and transfer of technology		Poor	Average	Best	Extraordinary	3
IPR Case studies in biological and software sectors		Not efficient	Average	impressive	Commendably impressive	3
					Average score	3

Performance Criteria	Student Roll No	Unsatisfactory	Satisfactory	Good	Excellent	Score
		1	2	3	4	
Awareness on getting patent rights	21241D2012	Don't know about patent rights	Has a moderate knowledge on patent rights	Efficient knowledge	Excellent understanding of the needed issues	3
Patent Licensing and transfer of technology		Poor	Average	Best	Extraordinary	3
IPR Case studies in biological and software sectors		Not efficient	Average	impressive	Commendably impressive	3
					Average score	3

Performance Criteria	Student Roll No	Unsatisfactory	Satisfactory	Good	Excellent	Score
		1	2	3	4	
Awareness on getting patent rights	21241D2015	Don't know about patent rights	Has a moderate knowledge on patent rights	Efficient knowledge	Excellent understanding of the needed issues	2
Patent Licensing and transfer of technology		Poor	Average	Best	Extraordinary	2
IPR Case		Not efficient	Average	impressive	Commendably	3

studies in biological and software sectors					impressive	
					Average score	2.66

Signature of HOD
Signature of faculty

Date:

Date:

MAPPING

GR20D5011 Research Methodology and IPR	Course Outcomes				
	1	2	3	4	5
Course Objectives					
1	X				
2		X			
3			X		
4				X	
5					X

Assessments

1. Assignment
2. Internal Examination
3. External Examination
4. Practical Projects
5. Viva

GR20D5011 Research Methodology and IPR	Course Objectives				
	1	2	3	4	5
Assessments					
1	X	X	X	X	X
2	X	X	X	X	X
3	X	X	X	X	X

4					
5					

GR20D5011 Research Methodology and IPR	Course Outcomes				
Assessments	1	2	3	4	5
1	X	X	X	X	X
2	X	X	X	X	X
3	X	X	X	X	X
4					
5					

Course	Program Outcomes					
	1	2	3	4	5	6
GR20D5011 Research Methodology and IPR	X	X	X	X	X	X

GR20D5011 Research Methodology and IPR	Program Outcomes					
Course Outcomes	1	2	3	4	5	6
Understand research problem formulation.	M		M	M	H	M
Analyze research related information and follow research ethics	M		M	M	M	M

Understand that today's world is controlled by Computer, Information Technology, but tomorrow world will be ruled by ideas, concept, and creativity.	M		H	M	M	M
Understanding that when IPR would take such important place in growth of individuals & nation, it is needless to emphasise the need of information about Intellectual Property Right to be promoted among students in general & engineering.	M	M	H	M	H	M
Understand the nature of Intellectual Property and IPR in International scenario.	M	M	M	M	M	M



**GokarajuRangaraju Institute of Engineering and
Technology (Autonomous)**

Bachupally, Kukatpally, Hyderabad – 500 090. (040) 6686 4440

COURSE COMPLETION STATUS

-Academic Year : 2021-22

Semester : I

Name of the Program: M.Tech (Structural Engineering) Year: I

Course/Subject: Research Methodology and IPR Course Code:GR20D5011

Name of the Faculty: DR. MOHD.HUSSAIN Dept.:Civil Engineering

Designation: PROFESSOR

Actual Date of Completion & Remarks, if any : 12/3/2022

Units	Remarks	No. of Objectives Achieved	No. of Outcomes Achieved
Unit 1	Introduction to Research Methodology	1	1
Unit 2	Literature Survey	2	2
Unit 3	Research Publication	3	3
Unit 4	IPR	4	4
Unit 5	Patent Rights	5	5



Gokaraju Rangaraju Institute of Engineering & Technology

(Autonomous College Affiliated to JNTU(H))

(12 Pages)

Signature of HOD
faculty

Bachupally, Kukatpally, Hyderabad - 500090

Signature of

Date:

I	II
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MID TERM EXAMINATION

Date:

No. Note: After the completion of each unit mention the number of Objectives & Outcomes Achieved.

U.T. No.	2	1	2	4	1	0	2	0	0	4
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Name of the Examination 1st Mech 1st sem 2nd mid

Course RMIPR

Branch structures

Date 16/03/22

Signature of the Invigilator

Q.NO.	1		2		3		4		5		6		TOTAL
	a	b	a	b	a	b	a	b	a	b	a	b	
MARKS	4/4		4/4		4/4								13/12

14
15

START WRITING FROM HERE

1 a) The Format of Research proposal :-

- (i) Introduction, including the literature review
- (ii) The problem
- (iii) The objectives
- (iv) Hypothesis of the Research
- (v) Study design
- (vi) setting
- (vii) Measurement of Research proposal
- (viii) the sampling
- (ix) Analysis and design
- (x) Appendix
- (xi) Work plan

(i) Introduction, including the literature review :-

* The introduction should contain about the research topic. The literature review about the topic should also be



Gokaraju Rangaraju Institute of Engineering & Technology

(Autonomous College Affiliated to JNTUH)

(12 Pages)

Bachupally, Kukatpally, Hyderabad - 500090

I	II	MID TERM EXAMINATION
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No.

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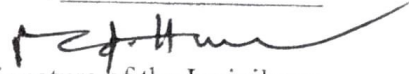
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Name of the Examination IMtech Isem II mid

Course RM and IPR

Branch STE

Date 16/05/22..


Signature of the Invigilator

Q.NO.	1		2		3		4		5		6		TOTAL
	a	b	a	b	a	b	a	b	a	b	a	b	
MARKS	4		4		—	4/4			—				12/12

13
150

START WRITING FROM HERE

1. a. Research proposal.

The format of research proposal is.

1. Invention disclosure.

- Make a soft copy (or) hard copy of your invention, creation procedure.

2. Resources of patents.

- Now find the perfect patent office in your country, state (or) related to your invention, where you wanted to patent the invention.

3. Filling the application.

- Now find the procedure of application like filling application, fee payment, documents to be submitted.

Fill the given form, with your details and the invention you have done in that form.



Gokaraju Rangaraju Institute of Engineering & Technology

(Autonomous College Affiliated to JNTUH)

(12 Pages)

Bachupally, Kukatpally, Hyderabad - 500090

I	II	MID TERM EXAMINATION
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No.

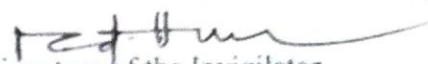
929553

H.T. No.

2 1 2 4 1 0 2 0 1 3

Name of the Examination 1 M. Tech - 1 Sem mid-2

Course R.M & P.P.R Branch Civil (m.Tech) Date 16-03-2022


Signature of the Invigilator

Q.NO.	1		2		3		4		5		6		TOTAL
	a	b	a	b	a	b	a	b	a	b	a	b	
MARKS	4	4											8

START WRITING FROM HERE

1 Ans
(a) The format of Research Proposal:

The following are the format of research proposal.

- 1) The title.
- 2) Abstract
- 3) Aims and objectives.
- 4) Background.
- 5) Methods and methodology.
- 6) Schedule and timelines.
- 7) Ethical approval.
- 8) Resource



Gokaraju Rangaraju Institute of Engineering and Technology

Department of Civil Engineering.

Objective Paper (20201-22) M.Tech.I Year -

First Semester Second Mid Exam March

2022

Handwritten signature and a circled number '5' with a checkmark.

Research Methodology and Intellectual Property Rights

(Sub Code: GR20D5011)

Time: 15 Minutes

Date of Exam: 16-03-2022 (FN)

Max Marks: 5

All Questions Carry Equal Marks

Name: Shaik feroz Hall Ticket No.

2	1	2	4	1	D	2	0	1	3
---	---	---	---	---	---	---	---	---	---

I. Choose the correct alternative:

1. What protects the intellectual property created by artists?

- (a) Copyright
- (b) geographical indications
- (c) patents
- (d) registered designs

(a) ✓

2. What protects the intellectual property created by designers?

- (a) copyright
- (b) geographical indications
- (c) patents
- (d) registered designs

(d) ✓

3. What protects the intellectual property created by inventors? (C)

- (a) copyright
- (b) geographical indications
- (c) patents
- (d) registered designs



Gokaraju Rangaraju Institute of Engineering and Technology

Department of Civil Engineering.

Objective Paper (20201-22) M.Tech.I Year -

First Semester Second Mid Exam March

2022

Handwritten mark: a circle containing 'b' and 'b' with a checkmark.

Research Methodology and Intellectual Property Rights

(Sub Code: GR20D5011)

Time: 15 Minutes

Date of Exam: 16-03-2022 (FN)

Max Marks: 5

All Questions Carry Equal Marks

Name: M. Vaishnavi Hall Ticket No.

2	1	2	4	1	D	2	0	0	7
---	---	---	---	---	---	---	---	---	---

I. Choose the correct alternative:

1. What protects the intellectual property created by artists?

- (a) Copyright
- (b) (b)geographical indications
- (c)patents
- (d)registered designs

(a) ✓

2. What protects the intellectual property created by designers?

- (a)copyright
- (b) geographical indications
- (c)patents
- (d) registered designs

(d) ✓

3. What protects the intellectual property created by inventors? (c) ✓

- (a)copyright
- (b)geographical indications
- (c)patents
- (d)registered designs



Gokaraju Rangaraju Institute of Engineering and Technology

Department of Civil Engineering.

Objective Paper (20201-22) M.Tech.I Year -

First Semester Second Mid Exam March

2022

P. Divya

Research Methodology and Intellectual Property Rights

(Sub Code: GR20D5011)

Time: 15 Minutes

Date of Exam: 16-03-2022 (FN)

Max Marks: 5

All Questions Carry Equal Marks

Name: P. Divya Hall Ticket No.

2	1	2	4	1	D	2	0	0	4
---	---	---	---	---	---	---	---	---	---

I. Choose the correct alternative:

1. What protects the intellectual property created by artists?

(a) ✓

- (a) Copyright
- (b) geographical indications
- (c) patents
- (d) registered designs

2. What protects the intellectual property created by designers?

(d) ✓

- (a) copyright
- (b) geographical indications
- (c) patents
- (d) registered designs

3. What protects the intellectual property created by inventors? (c)

- (a) copyright
- (b) geographical indications
- (c) patents
- (d) registered designs



Gokaraju Rangaraju Institute of Engineering & Technology

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Bachupally, Kukatpally, Hyderabad - 500090

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I	II	MID TERM EXAMINATION
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No.

414016

H.T. No.

21241D2002

Name of the Examination

M.Tech 1st Year 1st Sem 1st Mid Exam

Course

RM&IPR

Branch

Civil

Date

09-02-2022

[Signature]
Signature of the Invigilator

Q.NO.	1		2		3		4		5		6		TOTAL
	a	b	a	b	a	b	a	b	a	b	a	b	
MARKS		3		4		4							11

START WRITING FROM HERE

1.

a) Steps of Research Process :

- The various steps followed for the effectively processing the research are:

1. Formulate the Research Problem
2. Preparing the Research sources
3. Determining the Data sources
4. Collecting Data
5. Evaluation of the Project
6. Analysis of the Data
7. Generalization and Interpretation and
8. Preparation of the Researcher's presentation of results.



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I II MID TERM EXAMINATION

No.

414029

H.T. No.

2 1 2 4 1 D 2 0 0 1

Name of the Examination M.Tech 1st year 1st sem Mid-I

Course M.Tech Branch Structural Engineering Date 09/02/22

Signature of the Invigilator [Signature] 9/2/22

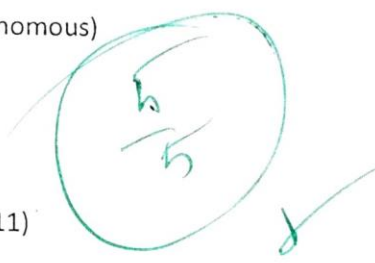
Q.NO.	1		2		3		4		5		6		TOTAL
	a	b	a	b	a	b	a	b	a	b	a	b	
MARKS		3		3		3							9

START WRITING FROM HERE

Various steps of research process:-

- i) Identify and develop your topic
- ii) Do a preliminary search for information
- iii) Locate your materials
- iv) Evaluate your resources
- v) Make notes
- vi) Write papers
- vii) Cite your resources properly
- viii) Proofread

So the above mentioned steps are the



Answer all questions and all questions carry equal marks

1. The first step of seven step research process (as given in Kothari and Garg) is (a)
(a) Define research problem (b) Collect data (c) Analyse the data (d) Formulate hypothesis
2. The research approaches are (c)
(a) Quantitative approach (b) Qualitative approach (c) Both (a) and (b) (d) None of the above
3. Research is a way of thinking and research is an integral part of our daily practice for (d)
(a) Engineers (b) Doctors (c) Business People and Social workers (d). all the above
4. The types of research are (d)
(a) Application Perspective (b) Objectives Perspective (c) Mode of Enquiry Perspective (d) All the above
5. The Categories of Hypothesis are (c)
(a) Research Hypothesis (b) Alternate hypothesis (Null Hypothesis)
(c) both (a) and (b) (d) None of the above
6. In testing Hypothesis , the types of error are (c)
(a) Type I Error (Rejection of Null Hypothesis when it is true) (b) Type-II Error (Acceptance of a null Hypothesis when it is false) (c) Both (a) and (b) (d) None of the above
7. SQ4R Method of Study is (a)
(a) Survey, Question, Read, Respond, Record and Review
(b) Survey, Question, Read, Relate, Recite and Record
(c) Both (a) and (b) (d) None of the above
8. Equivalent Opensource software to MATLAB is (a)
(a) Scilab (b) Python (c) R Studio (d) None of the above
9. In the Equation $Y = mx + C$, Y and X are called respectively (a)
(a) Dependent and Independent Variables (b) Independent and Dependent (c) Both (a) and (b) (d) None of the above
10. The Research Objectives are classified as (c)
(a) Main Objectives (b) Subobjectives (c) Both (a) and (b) (d) None of the above

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GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY (Autonomous)

M.Tech I Year - First Semester

MID - I Examination (Objective)

Research Methodology and Intellectual Property Rights (GR20D5011)

21241D2002

Bandi Sri Ram Gopal

Time: 15 Minutes

Date of Examination: 09-2-2022

Maximum Marks : 5 (10x 1/2= 5)

Answer all questions and all questions carry equal marks

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