



**K. K. Wagh Institute of Engineering Education and Research,
Nashik**

(An Autonomous Institute from A. Y. 2022-23)

Marking Scheme Set- 1	
End-Sem Examination	Winter 2025
Academic Year: 2025-26	Sem: I
Class: F.Y M.Tech	Program: M.Tech
Branch Code: CIV	Pattern: 2024
Name of Course: Research Methodology and Intellectual Property Rights	Course Code: CIV225105
Max. Marks: 60	Duration: 2:30 Hrs.

Q. No.	Details	Max. Marks	CO No.														
Q.1	What is research methodology? What are the objectives of research in civil engineering (6 marks) <table style="width: 100%; margin-top: 10px;"> <thead> <tr> <th style="width: 50%; text-align: left;">Answer Point</th> <th style="width: 50%; text-align: left;">Marks</th> </tr> </thead> <tbody> <tr> <td>Correct definition of research methodology</td> <td>2</td> </tr> <tr> <td>Objective 1 (any valid point)</td> <td>1</td> </tr> <tr> <td>Objective 2</td> <td>1</td> </tr> <tr> <td>Objective 3</td> <td>1</td> </tr> <tr> <td>Objective 4</td> <td>1</td> </tr> <tr> <td>Total</td> <td>6</td> </tr> </tbody> </table>	Answer Point	Marks	Correct definition of research methodology	2	Objective 1 (any valid point)	1	Objective 2	1	Objective 3	1	Objective 4	1	Total	6	[6]	CO1
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Q.2	What is a hypothesis? Explain the process of hypothesis formulation with a suitable example. (6 marks) <table style="width: 100%; margin-top: 10px;"> <thead> <tr> <th style="width: 50%; text-align: left;">Answer Point</th> <th style="width: 50%; text-align: left;">Marks</th> </tr> </thead> <tbody> <tr> <td>Definition of hypothesis</td> <td>2</td> </tr> <tr> <td>Identification of research problem</td> <td>1</td> </tr> <tr> <td>Review of literature</td> <td>1</td> </tr> <tr> <td>Formulation of hypothesis statement</td> <td>1</td> </tr> <tr> <td>Suitable civil engineering example</td> <td>1</td> </tr> <tr> <td>Total</td> <td>6</td> </tr> </tbody> </table>	Answer Point	Marks	Definition of hypothesis	2	Identification of research problem	1	Review of literature	1	Formulation of hypothesis statement	1	Suitable civil engineering example	1	Total	6	[6]	CO2
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Q.3	a) What are the main qualities of effective technical writing? (8 marks) <table style="width: 100%; margin-top: 10px;"> <thead> <tr> <th style="width: 50%; text-align: left;">Answer Point</th> <th style="width: 50%; text-align: left;">Marks</th> </tr> </thead> <tbody> <tr> <td>Any four relevant qualities (2 marks each)</td> <td>8</td> </tr> <tr> <td>Total</td> <td>8</td> </tr> </tbody> </table> OR b) Write any four differences between a technical report and a research paper. <table style="width: 100%; margin-top: 10px;"> <thead> <tr> <th style="width: 50%; text-align: left;">Answer Point</th> <th style="width: 50%; text-align: left;">Marks</th> </tr> </thead> <tbody> <tr> <td>Any four valid differences (2 marks each)</td> <td>8</td> </tr> </tbody> </table>	Answer Point	Marks	Any four relevant qualities (2 marks each)	8	Total	8	Answer Point	Marks	Any four valid differences (2 marks each)	8	[16]	CO3				
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	<p>Total 8</p>																				
	<p>c) Define a research proposal in detailed. (8 marks)</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Answer Point</th> <th style="text-align: right;">Marks</th> </tr> </thead> <tbody> <tr> <td>Definition</td> <td style="text-align: right;">2</td> </tr> <tr> <td>Objectives / Problem statement</td> <td style="text-align: right;">2</td> </tr> <tr> <td>Methodology</td> <td style="text-align: right;">2</td> </tr> <tr> <td>Expected outcome / significance</td> <td style="text-align: right;">2</td> </tr> <tr> <td>Total</td> <td style="text-align: right;">8</td> </tr> </tbody> </table> <p>OR</p> <p>d) Write any four techniques to maintain originality and avoid plagiarism in research work. (8 marks)</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Answer Point</th> <th style="text-align: right;">Marks</th> </tr> </thead> <tbody> <tr> <td>Any four valid techniques (2 marks each)</td> <td style="text-align: right;">8</td> </tr> <tr> <td>Total</td> <td style="text-align: right;">8</td> </tr> </tbody> </table>	Answer Point	Marks	Definition	2	Objectives / Problem statement	2	Methodology	2	Expected outcome / significance	2	Total	8	Answer Point	Marks	Any four valid techniques (2 marks each)	8	Total	8		CO3
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	<p>a) What is patent infringement? Give one example. (8 marks)</p> <table><thead><tr><th>Answer Point</th><th>Marks</th></tr></thead><tbody><tr><td>Definition</td><td>4</td></tr><tr><td>Suitable example</td><td>4</td></tr><tr><td>Total</td><td>8</td></tr></tbody></table> <p>OR</p> <p>b) Define licensing of patents and mention its types. (8 marks)</p> <table><thead><tr><th>Answer Point</th><th>Marks</th></tr></thead><tbody><tr><td>Definition</td><td>4</td></tr><tr><td>Types of licensing (any two)</td><td>4</td></tr><tr><td>Total</td><td>8</td></tr></tbody></table>	Answer Point	Marks	Definition	4	Suitable example	4	Total	8	Answer Point	Marks	Definition	4	Types of licensing (any two)	4	Total	8		CO5
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Q.5	<p>c) Explain the administration of the patent system in India. (8 marks)</p> <table><thead><tr><th>Answer Point</th><th>Marks</th></tr></thead><tbody><tr><td>Patent Office / Controller General</td><td>4</td></tr><tr><td>Functions / role</td><td>4</td></tr><tr><td>Total</td><td>8</td></tr></tbody></table> <p>OR</p> <p>d) What is IPR protection for biological systems? Give one example. (8 marks)</p> <table><thead><tr><th>Answer Point</th><th>Marks</th></tr></thead><tbody><tr><td>Explanation of IPR in biological systems</td><td>5</td></tr><tr><td>Suitable example</td><td>3</td></tr><tr><td>Total</td><td>8</td></tr></tbody></table>	Answer Point	Marks	Patent Office / Controller General	4	Functions / role	4	Total	8	Answer Point	Marks	Explanation of IPR in biological systems	5	Suitable example	3	Total	8	[16]	CO5
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