

CENTRAL INSTITUTE OF TECHNOLOGY KOKRAJHAR  
(Deemed to be University)  
KOKRAJHAR :: BTR :: ASSAM :: 783370

**END – SEMESTER EXAMINATION**  
**Post Graduate Masters programme in Water Resources & Hydraulic Engineering**

Session: July-December, 2022                      Semester: I<sup>st</sup>      Time: 3 Hrs.      Full Marks: 100

Course Code: PCE101

Course Title: Research Methodology

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***ANSWER ANY FIVE QUESTIONS***

1. a) Define research. (4)  
b) List the different objectives of research. (6)  
c) What points need to be considered in choosing a research topic? (4)  
d) Describe are characteristics of a good research. (6)
2. a) What would you expect in a good “Research ecosystem”? (4)  
b) What quantitative and qualitative methods would you adopt for collecting primary data for research involving a) a water resources engineering project and b) the socio-economic aspects of a region? (12)  
c) What is stating a hypothesis in research, and why is it useful? (4)
3. a) What is the importance of research? (4)  
b) Describe with short examples the major categories and subcategories of different types of research. (10)  
c) Differentiate between ‘research methods’ and ‘research methodology’ (6)
4. a) How would you formulate a research problem? (6)  
b) What are the major steps in undertaking research? (8)  
c) State the importance of literature-review and the sources of different types of literature for undertaking research? (6)
5. a) What is research design? (6)  
b) What queries should a researcher attempt to answer in designing his/her research? (8)  
c) What do you mean by Good Academic Research Practice (GARP) as emphasized by the UGC in India? (6)
6. a) How would you organize the contents of your PhD thesis? (8)  
b) State the important points to be remembered in citing other’s work from published literature and referencing these in your thesis? (6)  
c) What would you consider most in planning and preparing a PowerPoint presentation of your research in a time slot of 10 minutes? (6)
7. a) Define Intellectual Property (IP). What are different types of IP? Name the governing acts for protecting IP Rights in India. (6)  
b) Why is patenting important? What are the criteria of patentability? (6)  
c) What is plagiarism? Describe the importance of checking plagiarism in research and publication by stating the levels of plagiarism and the penalties associated with each level in submission of thesis and dissertation as recommended by the UGC in India. (8)