

Roll No:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

M. Tech

SEM: I- THEORY EXAMINATION (2022-2023)

Subject: Research Process & Methodology

Time: 3Hours

Max. Marks:70

General Instructions:**IMP:** Verify that you have received question paper with correct course, code, branch etc.

1. This Question paper comprises of three Sections -A, B, & C. It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.
2. Maximum marks for each question are indicated on right hand side of each question.
3. Illustrate your answers with neat sketches wherever necessary.
4. Assume suitable data if necessary.
5. Preferably, write the answers in sequential order.
6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION – A

15

1. Attempt **all** parts:-

- | | | | |
|------|--|-----|---|
| 1-a. | In which research method direct cause and effect relationship study is established | CO1 | 1 |
| | (a). Ex post facto method | | |
| | (b). Survey method | | |
| | (c). Case study method | | |
| | (d). Experimental method | | |
| 1-b. | Which of the following is not the method of Research? | CO2 | 1 |
| | (a). Survey | | |
| | (b). Historical | | |
| | (c). Observation | | |
| | (d). Philosophical | | |
| 1-c. | How is random sampling helpful? | CO3 | 1 |
| | (a). Reasonably accurate | | |
| | (b). An economical method of data collection | | |
| | (c). Free from personal biases | | |
| | (d). All of the above | | |
| 1-d. | What are the conditions in which Type-I error occurs? | CO4 | 1 |
| | (a). The null hypothesis gets accepted even if it is false | | |
| | (b). The null hypothesis gets rejected even if it is true | | |
| | (c). Both the null hypothesis as well as alternative hypothesis are rejected | | |
| | (d). None of the above | | |

1-e.	The format of thesis writing is the same as in	CO5	1
	(a). Writing of seminar representation		
	(b). Preparation of research paper/article		
	(c). A research dissertation		
	(d). Presenting a workshop/conference paper		

2. Attempt **all** parts:-

2.a.	Briefly explain the objective of the research.	CO1	2
2.b.	What is the need of research design?	CO2	2
2.c.	What are the sources of secondary data?	CO3	2
2.d.	What are the objectives of data analysis?	CO4	2
2.e.	What are the different styles of referencing? Write name of any four referencing style.	CO5	2

SECTION – B

20

3. Answer any **five** of the following-

3-a.	Discuss the problems encountered by researchers in India.	CO1	4
3-b.	Explain the steps in the scientific research process.	CO2	4
3-c.	What are the factors influencing the sample size? Explain in brief.	CO3	4
3-d.	What do you mean by data processing? Explain the various data processing operations.	CO4	4
3-e.	What is statistical package for the social science (SPSS)? Explain its significance and limitations.	CO4	4
3-f.	What is the basic concept of writing a research paper?	CO5	4
3-g.	Describe the different types of research report. Explain any two in brief.	CO5	4

SECTION – C

35

4. Answer any **one** of the following-

4-a.	What do you mean by Research methods and Research methodology? Describe the essential criteria of a good research.	CO1	7
4-b.	Describe the different types of research, clearly pointing out the difference between qualitative and quantitative research.	CO1	7

5. Answer any **one** of the following-

5-a.	Explain the importance and objective of literature review in a research report.	CO2	7
5-b.	Describe the experimental research design. Also write the significance and limitations of experimental research design?	CO2	7

6. Answer any **one** of the following-

6-a.	What do you mean by sample design? Discuss different types of sampling techniques with the help of suitable examples.	CO3	7
6-b.	What do you mean by 'Data'? Discuss various methods of collecting primary data with the help of relevant examples.	CO3	7

7. Answer any **one** of the following-

7-a.	Explain the meaning of analysis of variance (ANOVA). Write the steps for the analysis of variance for one-way classifications.	CO4	7
------	--	-----	---

- 7-b. Four machines A, B, C and D are used to produce a certain kind of cotton fabrics. CO4 7
Samples of size 4 with each unit as 100 square meters are selected from the outputs of the machines at random, and the number of flaws in each 100 square meters are counted, with the following results:

A	B	C	D
11	7	12	16
9	9	11	20
14	10	18	23
16	4	9	21

Do you think that there is a significant difference in the performance of the four machines?

8. Answer any **one** of the following-

- 8-a. Discuss the various types of patents in the context of the Indian Scenario. CO5 7
8-b. What do you mean by followings terms related to journal? CO5 7
(i) Indexing
(ii) Impact factor
(iii) Citation