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**NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA**

(An Autonomous Institute)

Affiliated to Dr. A.P.J. Abdul Kalam Technical University, Uttar Pradesh, Lucknow

M.Tech

SEM: I - THEORY EXAMINATION (2021 - 2022)

Subject: Research Process and Methodology

Time: 03:00 Hours

Max. Marks: 70

**General Instructions:**

1. All questions are compulsory. It comprises three Sections A, B and C.
- Section A - Question No- 1 is objective type question carrying 1 mark each & Question No- 2 is very short type questions carrying 2 marks each.
- Section B - Question No- 3 is Long answer type - I questions carrying 4 marks each.
- Section C - Question No- 4 to 8 are Long answer type - II questions carrying 7 marks each.
- No sheet should be left blank. Any written material after a Blank sheet will not be evaluated/checked.

**SECTION A**

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## 1. Attempt all parts:-

- |      |  |   |
|------|--|---|
| 1-a. | What is the main role of research in education? ( CO1)   | 1 |
|      | <ol style="list-style-type: none"> <li>1. To upsurge one's social status.</li> <li>2. To increase one's job prospects</li> <li>3. To augment one's personal growth.</li> <li>4. To help an applicant in becoming a renowned educationalist.</li> </ol> |   |
| 1-b. | Literature review is not usually concerned with helping in: (CO2)  | 1 |
|      | <ol style="list-style-type: none"> <li>1. subsequent data collection.</li> <li>2. literary appreciation.</li> <li>3. Regression among variables</li> <li>4. objective setting.</li> </ol>  |   |
| 1-c. | How is random sampling helpful? ( CO3)   | 1 |
|      | <ol style="list-style-type: none"> <li>1. Reasonably accurate</li> <li>2. An economical method of data collection</li> <li>3. Free from personal biases</li> <li>4. All of the above</li> </ol>  |   |
| 1-d. | A Hypothesis contributes to the development of ..... ( CO4)  | 1 |
|      | <ol style="list-style-type: none"> <li>1. Theoretical Concept</li> <li>2. Generalization</li> <li>3. Evolution</li> <li>4. Concept</li> </ol>  |   |
| 1    | In India, Term of Patent is .....years from the date of filing. ( CO5)   | 1 |
|      | <ol style="list-style-type: none"> <li>1. 20</li> <li>2. 10</li> <li>3. 5</li> <li>4. None of these</li> </ol>   |   |

## 2. Attempt all parts:-

- |      |  |   |
|------|--|---|
| 2-a. | What is the significance of research for professionals in research methodology? ( CO1) | 2 |
|------|--|---|

2-b.	Define the literature survey process. How it is important in research? (CO2)	2
2-c.	What are the limitations of secondary data collection methods? (CO3)	2
2-d.	Define statistical inference in research. (CO4)	2
2-e.	Enlist various steps involved in writing of research report. (CO5)	2

SECTION B

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3. Answer any five of the following:-

3-a.	What do you mean by research? Discuss the significance of research. (CO1)	4
3-b.	Qualitative, quantitative or mixed method: which methodology do you prefer? Give reasons in support of your answer. (CO2)	4
3-c.	What are the key differences of basic research from applied and action research? (CO3)	4
3-d.	What are the three main sources of information, and what part does each play in creating a literature review? (CO4)	4
3-e.	Discuss the stratified random sampling with a suitable example. How would you select a sample by this technique? (CO5)	4
3-f.	Describe the role of statistics and parameters in analysing the data. Illustrate your answer with suitable example. (CO4)	4
3-g.	Mention the different types of report, particularly pointing out the difference between a technical report and a popular report. (CO5)	4

SECTION C

35

4. Answer any one of the following:-

4-a.	Empirical research in India in particular creates so many problems for the researchers". State the problems that are usually faced by such researchers. (CO1)	7
4-b.	Describe the different types of research, clearly pointing out the difference between an experiment and a survey. (CO1)	7

5. Answer any one of the following:-

5-a.	The factor in an experiment that researchers manipulate so that they can determine its effect is... (CO2)	7
5-b.	How does a review of the literature have an impact on research question and the hypothesis proposed? (CO2)	7

6. Answer any one of the following:-

6-a.	Why probability sampling is generally preferred in comparison to non-probability sampling? Explain the procedure of selecting a simple random sample. (CO3)	7
6-b.	Determine the sample size necessary to estimate a population proportion to be within 0.03 with 99% confidence, assuming you have no knowledge of the approximate value of the sample proportion. (CO3)	7

7. Answer any one of the following:-

7-a.	What is the importance and objectives of chi-square test? (CO4)	7
7-b.	Write short on data processing software. (CO4)	7

8. Answer any one of the following:-

8-a.	Define research report and differentiate between research paper and review article? (CO5)	7
8-b.	Differentiate between copyright and patent. (CO5)	7