

This question paper contains **3** printed pages]

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S. No. of Question Paper : **5608**

Unique Paper Code : **2493010012**

Name of the Paper : **Research Methodology (DSE)**

Name of the Course : **B.Sc. (Hons.) Biochemistry (NEP)**

Semester : **VI**

Duration : **2 Hours**

Maximum Marks : **60**

(Write your Roll No. on the top immediately on receipt of this question paper.)

There are *six* questions.

Attempt *four* questions in all. *All* questions carry equal marks.

Question No. 1 is compulsory.

The use of a simple calculator is allowed.

1. (A) Explain the following terms :

(i) Null Hypothesis

(ii) Patent

(iii) Mode

(iv) Control

(v) Dependent variable

(vi) Regression.

(B) What are the different steps in Report writing ?

12,3

P.T.O.

2. Differentiate between the following pairs :

- (i) Exploratory and experimental research design
- (ii) Discrete series and continuous series coefficient of variation
- (iii) Primary and secondary data
- (iv) Experiment and survey
- (v) Random and non-random sampling.

3×5=15

3. (A) What do you mean by the term research problem ? Explain the points to be considered while selecting a problem.
- (B) Should scientists have unrestricted freedom in research, or should there be ethical limits on biosafety grounds ?
- (C) What is h-index ? Explain its significance. Calculate *h*-index from the Data shown below :

Research article :	1	2	3	4	5	6	7	8	9
Citations :	55	47	26	12	7	4	2	2	1

5,5,5

4. (A) What are the different methods of collecting data ? Explain the interview method along with its merits and demerits.
- (B) What is intellectual property right ? Briefly mention any *two* laws governing it.
- (C) What do you mean by the term correlation ? What are the different types of correlation ?
- (D) What do you mean by standard deviation ? How is it calculated ?

5,5,2,3

5. (A) Write a short note on literature review.
- (B) What is plagiarism ? List *two* risks caused by plagiarism. How can it be detected ?
- (C) Describe the problems encountered by researchers undertaking empirical research. 5,5,5
6. (A) What do you mean by the terms : Standard deviation and coefficient of variation. Find the coefficient of variation for the following data :
- 24, 26, 33, 37, 29, 31
- (B) Explain the concept of central tendency giving example. What purpose does it serve ?
- (C) Define impact factor and mention its significance.
- (D) Explain the significance of "references" in research articles. 5,4,3,3