

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 9209

J

Unique Paper Code : 2163010009

Name of the Paper : RESEARCH METHODOLOGY

Name of the Course : **Botany**

Semester : VI

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **four** questions in all.
3. Question No. **1** is compulsory.
4. **All** parts of a question should be answered together.
5. Draw graphics wherever required.

1. (A) Match the following items (**any five**) : (1×5=5)

- | | |
|----------------------------|----------------------------------|
| (a) Karl Pearson | i. Web of Science |
| (b) Citation format | ii. Royalty |
| (c) Zotero | iii. t-Test |
| (d) Bibliographic database | iv. Harvard |
| (e) William Gosset | v. Coefficient of correlation |
| (f) IPR | vi. Citation management software |

- (B) Define the following terms briefly (**any five**) : (1×5=5)

- (a) Patent
- (b) Data
- (c) Regression

P.T.O.

- (d) Bibliography
- (e) Commercialisation
- (f) Quantitative Research

(C) Complete the sentences (**any five**) :

(1×5=5)

- (i) The _____ section in a technical writing is where the author thanks individuals or organizations that helped with the research.
 - (ii) Any attempt/s where exclusive permission from the copyright owner is not sought is referred to as _____ .
 - (iii) _____ provides the context for the overall study and generates the questions which the study aims to answer.
 - (iv) A research methodology that integrates qualitative and quantitative data into a single study is termed as _____ .
 - (v) The most complete level of measurement is done using _____ scale of data.
 - (vi) _____ models show the inter-relationships of the variables in a system.
2. (a) Discuss the copyright laws in India. Why are copyright issues important in research? (9)
- (b) What are search engines? Discuss the key features of Google Scholar and PubMed. (6)
3. Write short notes on **any three** of the following themes : (3×5=15)
- (a) Process of research
 - (b) Ethical issues in research
 - (c) Methods of data analysis
 - (d) Funding for research

4. Differentiate between **(any three)** : (3×5=15)
- (a) Biosafety & Biopiracy
 - (b) Cluster and Purposive sampling
 - (c) Primary and secondary data
 - (d) Analytical and Descriptive Research
 - (e) Dissertation and Report
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- (a) What is a research model? Explain the steps involved in developing a research model. (9)
 - (b) Discuss the purpose and components of citations in technical research writing. (6)
6. Answer the following questions based on the following paragraph :
- (a) Tabulate the data on India's contribution to global pulses production. (4)
 - (b) Represent the production of pulses in different state graphically. (5)
 - (c) Interpret the data highlighting key findings. (6)

“With more people and smaller farms, the world is adopting sustainable production systems. SDG 2 aspires to end hunger by boosting food quantity and quality through efficient and safe production. India's Global Hunger Index position dropped after the COVID-19 incident. Nearly 14% of the population is undernourished, which is attributed to pandemic-induced poverty and food insecurity. According to reports India's population consumes too few proteins, fruits, and vegetables. 73% of urbanites surveyed were protein deficient. Pulses are a good source of plant-based protein. They contain about 20–25% protein by weight, which makes them an excellent source of protein for vegetarians and vegans. Rajasthan, Madhya Pradesh, Maharashtra, Uttar Pradesh, and Karnataka are the top five pulse-producing states. Madhya

Pradesh, Rajasthan, and Maharashtra produce 32.14%, 13.42%, and 13.09% of total pulses. Current output cannot meet demand. India buys pulses because growth is insufficient. Pulses are attracting attention from government plans to double farmers' revenue by diversifying and diverting production from traditional cereal-based crops. India produces 25% of the world's pulses, although its contribution to total food grain fell from 16.6% in 1950 to 7% in 2014–15. Pulses grew 32% less than cereals in the recent decade. Thus, pulses in the country have a huge demand–supply mismatch. The study forecasts 26 million tonnes of pulses by 2026. To meet demand by 2050, it must expand 2.2% annually. Due to unpredictable output, the demand–supply gap for pulses is anticipated to expand. Due to poor pulse production, per capita availability is declining, which is not encouraged by government policy as it competes with wheat and rice.”