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Barasat, Kolkata -700125

Term End Examination 2025-2026
Programme – M.Tech.(CSE)-DS-2025
Course Name – Research Methodology, IPR and Ethics
Course Code - MTD10400
(Semester I)

Full Marks : 60 **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 15=15

1. *Choose the correct alternative from the following :*

(i) Which type of research helps answer the "why" and "how" of a phenomenon?
a) Descriptive b) Analytical
c) Applied d) Fundamental

(ii) Identify the correct step in the research process.
a) Drawing conclusions before data b) Literature review
c) Publishing before analysis d) Finalizing title only

(iii) Assess why objectivity is a critical characteristic of research.
a) It allows personal opinions b) It focuses on cultural bias
c) It avoids bias and relies on verifiable data d) It replaces experimentation

(iv) Evaluate why a strong problem formulation is important in research.
a) It impresses evaluators b) It ensures targeted data collection and clear objectives
c) It shortens the report d) It allows more citations

(v) Choose the option that best reflects a specific research objective.
a) Understand everything about users b) Find bugs in software
c) Measure link between notifications and retention d) Improve branding

(vi) Identify a key difference between exploratory and confirmatory research.
a) Exploratory tests predictions b) Confirmatory explores unknowns
c) Exploratory validates hypotheses d) Confirmatory tests hypotheses

(vii) Select the following that is not a characteristic of research?
a) Systematic b) Biased
c) Objective d) Reproducible

(viii) Select the citation style that is common in engineering?
a) MLA b) Chicago

c) APA d) IEEE

(ix) Select the true statement regarding peer review.

a) Peer review reduces researcher bias. b) Peer review helps in result verification.
c) Peer review is not essential for all research types. d) Peer review ensures objectivity.

(x) What is the main objective of validity?

a) Validity reduces researcher bias. b) Validity ensures objectivity.
c) Validity helps in result verification. d) Validity is not essential for all research types.

(xi) Choose the best option that defines literature review?

a) Literature review reduces researcher bias. b) Literature review helps in result verification.
c) Literature review is not essential for all research types. d) Literature review ensures objectivity.

(xii) What is the main objective of hypothesis testing?

a) Hypothesis testing ensures objectivity. b) Hypothesis testing is not essential for all research types.
c) Hypothesis testing helps in result verification. d) Hypothesis testing reduces researcher bias.

(xiii) What is the main objective of case study method?

a) Case study method helps in result verification. b) Case study method ensures objectivity.
c) Case study method reduces researcher bias. d) Case study method is not essential for all research types.

(xiv) Identify the true statement regarding plagiarism.

a) Plagiarism helps in result verification. b) Plagiarism reduces researcher bias.
c) Plagiarism is not essential for all research types. d) Plagiarism ensures objectivity.

(xv) Identify the true statement regarding data triangulation.

a) Data triangulation reduces researcher bias. b) Data triangulation helps in result verification.
c) Data triangulation is not essential for all research types. d) Data triangulation ensures objectivity.

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Group-B

(Short Answer Type Questions) 3 x 5=15

2. Mention three methods of data collection commonly used in research. (3)
3. Compare the structure of a well-written abstract with a poorly constructed one. (3)
4. Interpret the role of trademarks in brand identity. (3)
5. Evaluate how the Traditional Knowledge Digital Library (TKDL) prevents misuse of indigenous knowledge. (3)

OR

Judge the effectiveness of India's IPR administration in handling modern innovations. (3)

6. Use a citation management tool to insert in-text citations in a research report. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Describe the role of literature review in the research process. (5)
8. Using an example, demonstrate the process of identifying a literature gap. (5)
9. Analyze the structure of the IMRaD format and explain how each component supports effective scientific communication. (5)

10. Judge the adequacy of India's current IPR administrative infrastructure in handling modern IP challenges. (5)
11. Evaluate the ethical concerns of IP protection in biotechnology with respect to genetically modified organisms (GMOs). (5)
12. Demonstrate how to use Scopus or Web of Science to identify high-impact journals on Artificial Intelligence. (5)

OR

Demonstrate how to use Boolean operators to refine a literature search on "data privacy in education." (5)

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