

Enrollment No.....



Faculty of Engineering  
End Sem Examination May-2024  
CS3ES15 Research Methodology

Programme: B.Tech.

Branch/Specialisation: CSE All

**Duration: 3 Hrs.****Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

- Q.1 i. Research is: 1
- (a) Searching again and again
  - (b) Finding a solution to any problem
  - (c) Working in a scientific way to search for the truth of any problem
  - (d) None of these
- ii. Which of the following features are considered as critical in qualitative research? 1
- (a) Collecting data with the help of standardized research tools
  - (b) Design sampling with probability sample techniques
  - (c) Collecting data with bottom-up empirical evidence
  - (d) Gathering data with top-down schematic evidence
- iii. What is the significance of defining the research problem? 1
- (a) It helps in selecting the research approach
  - (b) It determines the research objectives.
  - (c) It involves data collection methods.
  - (d) It is not necessary in the research process.
- iv. Areas that have significant scope for more research, but they have not been tapped by other researchers is called: 1
- (a) Problem statement
  - (b) Literature review
  - (c) Research gaps
  - (d) None of these
- v. The philosophical study of being in general or of what applies neutrally to everything that is real is known as : 1
- (a) Ontology
  - (b) Cosmology
  - (c) Aesthetics
  - (d) None of these

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- vi. Plagiarism in research is: **1**  
 (a) Creative use of previous data  
 (b) Copying unscrupulously and making use of it  
 (c) Quoting someone and citing him/her  
 (d) Referring to previous data and working over it with new objectives
- vii. When the values in a series do not have equal importance, we calculate the- **1**  
 (a) Mode (b) Weighted mean  
 (c) Arithmetic mean (d) None of these
- viii. The sum of deviations from the \_\_\_\_\_ is always zero. **1**  
 (a) Median (b) Mode (c) Mean (d) None of these
- ix. "Web of Science" is- **1**  
 (a) A citation index (b) A bibliography  
 (c) An abstracting service (d) All of these
- x. A report or account is an- **1**  
 (a) Informational work (b) Technical work  
 (c) Professional work (d) None of these
- Q.2 i. Research is much concerned with proper fact finding, analysis and evaluation. Do you agree with this statement? Give reason in support of your answer. **2**  
 ii. Differentiate research method and research methodology. **3**  
 iii. Explain research process in detail with diagram. **5**
- OR iv. Enlist objectives of research. Also explain descriptive research with example. **5**
- Q.3 i. Explain primary and secondary sources of data collection. **2**  
 ii. What are the criteria for identifying the research problem and selecting the research problem? **8**
- OR iii. Write importance of literature review in defining a problem. How literature review is helpful for identifying gap areas? **8**
- Q.4 i. Write short note on nature of moral judgments and reactions. **3**  
 ii. Elaborate scientific misconducts in terms of FFP (Falsification, Fabrication and Plagiarism). **7**
- OR iii. Elaborate duplicate and overlapping publications. What is research integrity? **7**

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- Q.5 i. Describe various methods of data collection with example. **4**  
 ii. Explain hypothesis testing with the help of flow diagram. **6**  
 OR iii. Write down steps for data processing in conducting research. **6**
- Q.6 Attempt any two:  
 i. Explain formulation rules for writing the report. **5**  
 ii. Write short notes on : **5**  
 (a) Referencing (b) Footnotes  
 iii. What are the key sections that typically comprise a research report? **5**  
 What purpose does each section serve?

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## Marking Scheme

### Research Methodology-CS3ES15(T)

Q.1	i)	Research is: C .Working in a scientific way to search for the truth of any problem	1
	ii)	Which of the following features are considered as critical in qualitative research? C. Collecting data with bottom-up empirical evidence.	1
	iii)	What is the significance of defining the research problem B. It determines the research objectives	1
	iv)	Areas that have significant scope for more research but they have not been tapped by other researchers is called: C Research Gaps	1
	v)	The philosophical study of being in general or of what applies neutrally to everything that is real is known as : A Ontology	1
	vi)	Plagiarism in research is: B Copying Unscrupulously and making use of it	1
	vii)	When the values in a series do not have equal importance, we calculate the B. Weighted mean	1
	viii)	The sum of deviations from the _____ is always zero C. Mean	1
	ix)	“Web of Science” is A. Citation Index	1
	x)	A report or account is an A. Informational work	1
Q.2	i.	Reason in support of answer: 2 Marks	2
	ii.	Differentiate research method and research methodology? Each difference : 1 Mark	3
	iii.	Explain research process in detail with diagram? Diagram : 2 Marks Explanation : 3 Marks	5
OR	iv.	Enlist objectives of research. Also explain Descriptive Research with example. 3 objectives : 3 Marks Descriptive Research Explanation : 2 Marks Example :	5
	Q.3	i. Explain Primary and secondary sources of data collection. Primary sources explanation : 1 Mark Secondary sources explanation : 1 Mark ii. What are the criteria for identifying the research problem and selecting the research problem? Identifying the research problem Explanation : 4 Marks selecting the research problem : 4 Marks	2 8
OR	iii.	Write Importance of literature review in defining a problem? How literature review is helpful for identifying Gap areas? Importance of literature review Explanation: 4 Marks Literature Review for identifying Gap areas : 4 Marks	8
	Q.4	i. Write short note on Nature of moral judgments and reactions. Explanation : Moral judgments : 2 Marks Reactions : 1 Marks ii. Elaborate Scientific misconducts in terms of FFP (Falsification, Fabrication and Plagiarism)? Falsification Explanation : 2 Marks Fabrication Explanation : 2 Marks Plagiarism Explanation : 3 Marks	3 7
OR	iii.	Elaborate duplicate and overlapping publications. What is research integrity? Duplicate publications Explanation : 2 Marks Overlapping publications : 2 Marks Research integrity : 3 Marks	7
	Q.5	i. Describe various methods of data collection with example. Each method : 1 Mark ii. Explain hypothesis testing with the help of flow diagram. Flow Diagram : 2 Marks Explanation : 4 Marks	4 6
OR	iii.	Write down steps for Data Processing in conducting Research? For mentioning 4 Steps (Editing ,Coding ,Classification and Tabulation) :	6 2 Marks

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Steps explanation : 4 Marks

Q.6

Attempt any two:

- |      |  |           |          |
|------|--|-----------|----------|
| i.   | Explain Formulation rules for writing the report.  |           | <b>5</b> |
|      | Explanation (five point) :   | 5 Marks   |          |
| ii.  | Write short notes on :   |           | <b>5</b> |
|      | A. Referencing :   | 2.5 Marks |          |
|      | B. Footnotes :   | 2.5 Marks |          |
| iii. | What are the key sections that typically comprise a research report, and what purpose does each section serve? |           | <b>5</b> |
|      | Each section :   | 1 Marks   |          |

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