



University Theory Examination - February 2026

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COURSE: MSC	Specialization: STATISTICS	Date: 08-03-2026
Year: I MAR 2026	Semester: I	Subject Code HMCC22001
Subject Name: RESEARCH METHODOLOGY		

Please tick the questions you have attended in the box

Part	1	2	3	4	5
A	✓	✓	✓	✓	✓

Part	6	7	8	9	10	11	12	13
B	✓	✓		✓	✓	✓		

PART - A

1)

BASIC RESEARCH

APPLIED RESEARCH

* It refers to expands of existing Scientific knowledge or theories.

* It refers to solve a particular problem or answer certain question.

* It is theoretical in nature.

* It is practical in nature.

* Basic Research is universal.

* Applied research is limited.

* Developing the Scientific or existing knowledge and prediction

* Development of technology and techniques.

* To add more knowledge to the existing one

Eg: Study of human behaviour

* To solve the particular problem at hand

Eg: ~~Kind~~ Improving the employee performance.

2) RESEARCH:

"Research is the Systematized efforts to gain new Knowledge."

- Redman and Moery.

The importance of literature review in research studies.

* Studies like books, journal article, research paper previously existing knowledge or data.

(3)

- * It helps in selecting the research topic because they will ideas of the existing knowledge or information.
- * It provides the issue or problem related to the topic that are fully addressed.
- * It helps to understand the scholarly publication related to their research topic.
- * Review literature will collect the data or information and analyse the results.
- * It is the one of important step in the research process.

3) NULL HYPOTHESES :

It states the population parameter is called as null hypotheses and this denoted by H_0

ALTERNATIVE HYPOTHESES :

Any hypotheses compliments to the null hypotheses are called as alternative hypotheses and it denoted by H_1

$$\text{Hypothesis test formula} = Z_c = \frac{\bar{x} - \mu}{\sigma/\sqrt{n}}$$

ANALYSIS OF VARIANCE :

* For any significance testing, states the testing of mean of the population (sample) for more than two variables are

5

called as Analysis of Variance
[ANOVA]

* Analysis of Variance are
classified into

→ one way classification
(or)

one way [ANOVA]

→ Two way classification
(or)

Two way [ANOVA]

* Formula = $H_0 = \mu_1 = \mu_2 = \mu_3$

4) FORMAT :

Author last name, First initial (year).
 Title of article. Title of journal,
~~for~~ Volume (issue), Page number.
 DOI/URL

EXAMPLE :

William, J. (2023). The impact
 of remote work. Journal of
 Business Studies, 15(2), 100-115.
 doi.org.

5) INTELLECTUAL PROPERTY RIGHTS :

* It refers to the legal
 right given to an individual or
 organisation for the creative minds
 or invention.

RA

* There are five different types of Intellectual property rights are

- Patents
- copy rights
- Trade marks
- Industrial design (ID)
- Geographical indicators (GI)

TRADE MARKS:

* Trade marks is the symbols, word or logo for product and service of the company.

* It tells the consumer about the product and service of the company so that others will not use the similar marks, symbols or logo.

* EXAMPLE 8 :

* NIKE PRODUCTS

It identifies by the name and logo [NIKE products].

* COCA-COLA :

The name and logo identifies coca-cola beverages.

PART - B

11) Correlation co-efficient

x	y	$(x - \bar{x})$	$(x - \bar{x})^2$	$(y - \bar{y})$	$(y - \bar{y})^2$	$(x - \bar{x})(y - \bar{y})$
1	3	-5	25	-4.67	21.80	23.35
3	4	-3	9	-3.67	13.46	11.01
5	6	-1	1	-1.67	2.78	1.67
8	10	2	4	2.33	5.43	4.66
9	12	3	9	4.33	18.74	12.99
10	11	4	16	3.33	11.08	13.32
<u>36</u>	<u>46</u>		<u>64</u>		<u>73.29</u>	<u>67</u>

$$\bar{x} = \frac{\sum x}{n} = \frac{36}{6} = 6 \quad \boxed{\bar{x} = 6}$$

$$\bar{y} = \frac{\sum y}{n} = \frac{46}{6} = 7.67 \quad \boxed{\bar{y} = 7.67}$$

$$\sum (x - \bar{x})^2 = 64 ; \sum (y - \bar{y})^2 = 73.29 ;$$

$$\sum (x - \bar{x})(y - \bar{y}) = 67$$

$$\left. \begin{array}{l} \text{Co-efficient} \\ \text{of} \\ \text{correlation} \end{array} \right\} = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sqrt{\sum (x - \bar{x})^2} \sqrt{\sum (y - \bar{y})^2}}$$

$$\Rightarrow \frac{67}{\sqrt{64} \sqrt{73.29}}$$

$$\Rightarrow \frac{67}{8 \times \sqrt{73.29}}$$

$$\Rightarrow \frac{67}{8 \times 8.560}$$

$$\Rightarrow \frac{67}{68.487}$$

$$\Rightarrow 0.978$$

Correlation of Co-efficient = 0.98

10) ~~class~~

class	x	$d = \frac{x - A}{c}$	f	fd	d^2	fd^2	cf
0-10	5	-3	3	-9	9	27	3
10-20	15	-2	7	-14	4	28	10
20-30	25	-1	13	-13	1	13	23
30-40	35	0	17	0	0	0	40
40-50	45	1	12	12	1	12	52
50-60	55	2	10	20	4	40	62
60-70	65	3	8	24	9	72	70
70-80	75	4	<u>8</u>	32	16	128	78

(11)

	x	d	f	fd	d^2	fd^2	cf
80-90	85	5	6	30	25	150	84
90-100	95	6	6	36	36	216	90
			<u>90</u>	<u>118</u>		<u>661</u>	

$$A = 35 ; \Sigma fd = 118 ; \Sigma f/N = 90 ; c = 10$$

$$\text{mean } \bar{x} = A + \frac{\Sigma fd}{N} \times c$$

$$= 35 + \frac{118}{90} \times 10$$

$$= 35 + 13.1 = 48.1$$

$$\boxed{\text{mean } \bar{x} = 48.11}$$

$$\frac{N}{2} = \frac{90}{2} = 45 ; N/2 = 45,$$

$$l = 40 ; m = 40 ; S = 12 ; c = 10$$

$$\text{median} = l + \frac{N/2 - m}{f} \times c$$

$$= 40 + \frac{45 - 40}{12} \times 10$$

$$= 40 + \frac{5}{12} \times 10$$

$$= 40 + 4.166$$

$$= 44.166$$

$$\boxed{\text{median} = 44.166}$$

$$l = 30 ; f_1 = 17 ; f_0 = 13 ; f_2 = 12 ; c = 10$$

$$\text{mode} = l + \frac{f_1 - f_0}{2f_1 - (f_0 + f_2)} \times c$$

$$= 30 + \frac{17 - 13}{2(17) - (13 + 12)} \times 10$$

$$= 30 + \frac{4}{34 - 25} \times 10$$

$$= 30 + \frac{4}{9} \times 10$$

$$= 30 + 4.44$$

$$= 34.44$$

$$\boxed{\text{mode} = 34.44}$$

9) Information Source :

* Information resource refers materials or resource like books, journal, article or research paper to obtain information for the study of resource or research.

* Information classified into 3 types. They are

→ Primary Source

→ Secondary Source

→ Tertiary Source

Primary Source:

It refers to the originality or first-hand information.

Eg: Thesis, Conference paper.

Secondary Source:

It refers to summarize and analyse the information from primary source.

Eg: Biographies, Text books.

Tertiary Source:

It compiles and organises the information from primary and Secondary Source.

Eg :- Dictionnaire, Encyclopedias

Importance of Information source.

- * Helps in providing reliable data.
- * It saves the time and efforts of researches.
- * It improves the quality of the researches works.
- * It provides the background knowledge of the topic.
- * It supports the academic work of the researchers.

Information retrieval:

* It refers to searching and locating to the relevant information.

* It helps the researchers to collect the information from large amount of document.

Methods:

There are two methods of information retrieval. They are

→ manual method:

Searching the information from books, journal or article manually.

→ computerized method

Collection the information from digital or database.

Tools for retrieval (information)

- Library Catalogue
- digital libraries
- online database
- google search.

Importance of information retrieval:

- * It helps to collect data easy from large amount of documents.
- * It saves time and efforts of the researchers.
- * It supports the academic and research work.
- * It helps to find the accurate and reliable information.

7) RESEARCH DESIGN:

* Research design is the plan or blue print to collect and analyse the results.

* It is the important step in the research process, to solve the problem or question or answer the certain issue.

* The Types of Research design are

- Description design
- Exploratory design
- Experimental design
- Analytical design
- Diagnostic design

→ Correlational design.

* Description design :

It refers to describing or characterized the population or situation / events.

Eg: Survey for consumer buying behaviour.

* Exploratory design :

It is not set a clear defined and researcher want to gain more knowledge.

Eg: Finding the reason for the low sales

* Experimental design:

It helps to find the cause and effect of the relationship between two variables.

Eg: Does the use of technology improves the students learning outcome?

* Analytical ~~Experience~~ design:

It helps to analyze the result to the facts and relationship.

Eg: Analyze the company financial year statement.

* Diagnostic design :

It helps to find the cause and suggest the solution.

Eg: Is the student preparation for exam time improves the academic performance.

* Correlation design :

It is the relationship between two variables.

Eg:

Positive correlation → Both the variables change ~~to the~~ Same direction → If petrol price increases, the auto fare is also increase

Negative correlation → Both the variables change to the opposite direction → Tea consumption increases, tiredness decreases

Zero correlation → No difference (No relationship) → Tea consumption is considered the height

6) RESEARCH PROCESS:

Research process is the systematic and structure process to analyze, summarize and interpreted the data.

Step involved in Research Process

- * Identifying the research problem
- * Review literature
- * Formulates the objectives/
Hypotheses.
- * Choose methodology
- * Research design
- * Data collection

- * Data analysis and interpreted
- * Conclusion and findings
- * Report writing.

→ Identifying the research problem.

It is the first step to set a research process to identifying the research problem.

→ Review literature.

It helps to review the previously existing the data and analyses the results. It also helps the researcher to select the topic for the research.

* Formulates the objectives and hypothesis.

It should be clearly defined the objectives and hypothesis study aims to test.

* Choose methodology:

Use the method and technique according to the research topic using analytical or statistical method.

* ~~Resig~~ Research design:

Research design is the plan or blue print to the research process. It gives overall strategy to the research process.

* Data collection :

Data collection is to collect the relevant information.

Eg: Surveys

Interview

Questionnaire

Observation.

* Data analysis and interpretation

It helps to analyse the data and interpret the results.

* Conclusion and findings :

It gives closure to the ~~the~~ research process

and summarizes the findings.

* Report writing :

It is final step in the research process to write the report that should be understood by reader without reading the entire work.