INDIAN INSTITUTE OF MATERIALS MANAGEMENT

Post Graduate Diploma in Logistics &SCM
Post Graduate Diploma in Materials Management - 2 years

PAPER No. 17 (enrolment code- PMM, PSM,CMM, CSM)

June 2025

Research Methodology

Date: 21.06.2025
Time: 2.00 p.m to 5.00 p.m

Max. Marks: 70
Duration: 3 Hrs.

Instructions:

1. From Part A, contains 4 main questions (with 5 sub-questions) each question carries 1 mark Total of 20 marks

2. From part B answer any 5 questions out of 5 questions. Each question carries 10 marks – A total of 50 marks

_____ _____

PART – A(compulsory)   [20 marks]
(Attempt all questions. Each sub-question carries 1 mark.)

Q.1: Expand the following: [5 Marks]

    a. CR Design   b. CATI   c. CAPI   d. CAGR   e .SAS

Q.2:Match the following: [5 Marks]

	Column A		Column B
A	Correlation between ranked data	1	Circular statistical segment
B	No direction of relationship	2	Rank Correlation
C	Pie-Chart	3	Type-I error
D	Destructive hypothesis	4	Two tailed test
E	H_0 true / Reject H_0	5	General statement leading to Logical conclusion

Q.3: State True or False: [5 Marks]

    a. Research is conducted to serve only limited purpose.

    b. Data-driven approach emphasis gathering first-hand data.

    c. A tough choice in complicated situation is dilemma.

    d. A research design is a casual approach to handle the research problem. .

    e. Improved exactness and accuracy of results leads to selection of representative sample.

Q.4: Fill in the blanks: **[5 Marks]**

    a. Research is conducted to achieve new _____ insights.

    b. Which themes connect the sources together is to find a _____ focus.

    c. Organization of sources around a research topic is a _____ way.

    d. Exploratory research is .... research.

    e. A pre-planned design for analysis is the .... design.

(Attempt any 5. Each question carries 10 marks)

Q.5: Write short notes on any two.   **(2X5=10marks)**
   a. Pretest Posttest control group design.
   b. Concept of sampling.
   c. Interval scale
   d. Types of Data

Q.6:a)Explain with examples the following: [5 marks]]
   i) Contrived Method
   ii) Focus group interviews

   b) What are the attributes of a well-designed questionnaire?   [5 marks]

Q.7: a) How would you categorize coded question? Explain Cumulative frequency   [5 marks]
   b) What is univariate analysis?   [5 marks]

Q.8: a) What is median? Explain with one example.   [5 marks]
   b)What do you understand by the term–Measures of Central Tendency?   [5 marks]

Q.9: a) Discuss any two charts used in data analysis.   [5 marks]
   b)Explain different types of hypothesis.   [5 marks]

Q 10: A research organization wants to perform a significance test to determine whether the mean weight of Children aged 5 years is 20Kg or not. Define the hypotheses.   **[10 marks]**

Q11:   **[10marks]**

A movie theater owner likes to keep a very close eye on how much popcorn goes into each bag sold, so he knows that the average bag has 8 cups of popcorn and that this varies a little bit, about half a cup. That is, the known population mean is $\mu = 8.00$ and the known population standard deviation is $\sigma = 0.50$. The owner wants to make sure that the newest employee is filling bags correctly, so over the course of a week he randomly assesses 25 bags filled by the employee to test for a difference (n = 25). He doesn't want bags overfilled or under filled, so he looks for differences in both directions. Is there a difference in the cups of popcorn bags from this employee at 6% level? $\alpha=0.05$ and $-1.96 < z < +1.96$

Q 12:   **[10 marks]**

The scores of 15 students in a class are: 9, 10, 16, 18, 17, 19, 20, 16, 14, 12, 11, 13, 14, 9, 13

Test the hypothesis that the median score is 15 at $\alpha=0.05$ and $-1.96 < z < +1.96$ using Sign Test.

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