# INDIAN INSTITUTE OF MATERIALS MANAGEMENT
## Post Graduate Diploma in Logistics &SCM
## Post Graduate Diploma in Materials Management - 2 years

**June 2024**

**PAPER No.20 (enrolment code –CPM, CPS)**

**PAPER No. 17(enrolment code- PMM,PSM,CMM,CSM )[OFFLINE EXAM]**

## Research Methodology

**Date : 15.06.2024** **Max. Marks: 70**
**Time : 2.00 pm to 5.00 pm** **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 any5 questions out of 5 questions. Each question carries 10 marks – A totalof50 marks
4. Graph Sheet will be provided if required.
5. Use of standard calculator is permitted.

---

## PART – A (compulsory) (20 marks)

**Attempt all questions. Each sub-question carries 1 mark.)**

**Q. 1) Expand the following terms**: **[5 marks]**

a)FDA b)CSO c) BMDP d)ANOVA e) CATI

**Q. 2) Select appropriate option** **[5 marks]**

a) What is the name of the conceptual framework in which research is carried out?
(i) Research Hypothesis (ii) Synopsis of Research
(iii) Research Paradigm (iv) Research Design

b) A researcher is interested in studying the prospects of a political party in an urban area. What tool should he prefer for the study?
(i) Rating scale (ii) Interview (iii) Questionnaire (iv) Schedule

c) Which one is called non-probability sampling?
(i) Quota Sampling (ii) Cluster Sampling
(iii) Systematic Sampling (iv) Stratified Random Sampling

d) The F-test is ----------
(i) Essentially a two-tailed test
(ii) Essentially a one-tailed test
(iii) Can be one-tailed as well as two-tailed depending upon the hypothesis
(iv) Can never be one-tailed

e) Which of the following statements is NOT true about random sampling?
(i) Random Sampling is reasonably accurate
(ii) Can be applied for all types of data collections
(iii) Random Sampling is free from personal biases
(iv) An economical method of sampling

**Q. 3) State 'True' or 'False'** **[5 marks]**

a) The outcome of basic research has no immediate commercial value.
b) Nominal scales have arithmetical significance.
c) Census Reports are examples of Primary Data
d) Non-parametric tests are distribution-free tests of hypotheses
e) The first step in formulating a research problem is identifying the variables.

**Q. 4) Match the following** **[5 marks]**

| | **Column A** | | **Column B** |
|---|---|---|---|
| 1 | Ethics in research | A | Second statement in hypothesis |
| 2 | Experimental Research | B | Parametric Tests |
| 3 | Alternative Hypothesis | C | Integrity |
| 4 | Empirical research | D | Knowledge through observation |
| 5 | Inferential Analysis | E | Laboratory Test |

## PART B [50 marks]

**(Attempt any 5. Each question carries 10 marks)**

**Q. 5)** **(2 x 5 = 10 marks)**

a) "It would be advantageous for managers to be equipped with basic knowledge of research". Discuss what advantages would accrue to managers having basic knowledge of research.

b) Why should a researcher carry out literature review? In what way does it help the researcher?

**Q. 6)** **(2 x 5 = 10 marks)**

a) The Research Design for Descriptive Studies should be rigid and free from bias. Explain this statement and bring out the points on which the researcher should focus in descriptive study. .

b) What are sampling errors? Why do they occur? How can you reduce these errors?

**Q. 7)** **(2 x 5 = 10 marks)**

a) Discuss the fundamental criteria for a good measurement tool.

b) How will you select a data collection method for your research? Explain the factors you would take into account for this.

**Q. 8)** **(2 x 5 = 10 marks)**

a) What do you understand by "Correlation Analysis"? Discuss the tools used to study the correlation pattern between variables.

b) Discuss the different types of charts used in data analysis using neat diagrams.

**Q. 9)** **(2 x 5 = 10 marks)**

a) What do you understand by "Hypothesis"? Explain the different types of Hypotheses. .

b) Is it likely that a sample of size 300 whose mean is 12, is a random sample from a large population with mean 12.8 and S.D. 5.2? Use 1% level of significance, Z = 2.58.

**Q. 10)** **(2 x 5 = 10 marks)**

a) Explain the different types of parametric tests used in hypothesis testing.

b) It is a guess that 20% of passengers in unreserved coaches travel without tickets. In a week, checking the tickets of 256 passengers selected at random from different coaches of different passenger trains, 36 passengers were found without tickets. Would you regard the guess of 20% as true? (Use 5% level of significance, Z = 1.96)

**Q. 11)** **(2 x 5 = 10 marks)**

a) Explain the concept of ANOVA in details, with suitable examples.

b) What is Rank Correlation? Illustrate your answer with suitable examples.

**Q. 12)** Write Short Notes on **(Any Two)** **(2 x 5 = 10 marks)**

a) Types of Research Reports

b) Measures of Dispersion

c) Hypothesis Testing

d) Sign Test