INDIAN INSTITUTE OF MATERIALS MANAGEMENT

Post Graduate Diploma in Logistics &SCM
Post Graduate Diploma in Materials Management - 2 years
Paper no.20(enrollment code CPM, CPS)
PAPER No. 17(enrolment code- PMM, PSM, CMM, CSM)
Research Methodology

Dec 2024

Date: 21.12.2024   **Max. Marks: 70**
Time: 2.00 p.m. to 5.00 p.m   **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 total of 50 marks
4. Graph Sheet will be provided if required.
5. Use of standard calculator is permitted.

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

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

  a) IQ   b)ANOVA   c)SPSS   d)SAS   e)CAPI

Q. 2) Select appropriate option

  a) Which of the following does **NOT** correspond to characteristics of research?
  (i) Research is not passive   (ii) Research is systematic
  (iii) Research is not problem-oriented   (iv) Research is not a process

  b) The most important advantage of sampling method of data collection is --------------
  (i) Increased accuracy   (ii) Only method of data collection
  (iii) Saves time   (iv) Easy to handle the data

  c) An interview schedule is a ----------
  (i) Sampling method   (ii) Data collection method
  (iii) Variable   (iv) Research objective

  d) Which of the following is an example of an interval scale?
  (i) Temperature in Fahrenheit   (ii) Rating of TV program good/average/poor
  (iii) Smoker yes/no   (iv) Attitudinal score between 0-100

  e) Which is **NOT** a function of a hypothesis?
  (i) It replaces the research problem
  (ii) It provides focus to the research problem and enhances objectivity
  (iii) It enables to specifically conclude what is true and what is false
  (iv) It ensures only information needed will be collected

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

  a) Applied research is mainly concerned with generalizations and formulation of a theory.
  b) Sample survey incurs less cost.
  c) A nominal scale enables arithmetical calculations
  d) Open-ended questions are more useful in exploratory research.
  e) Bar charts and histograms are identical.

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

	Column A		Column B
1	Literature review	A	Charles Spearman
2	Census	B	Unstructured
3	Rank correlation	C	Research ideas
4	Purposive sampling	D	Working women
5	Open ended questions	E	Complete enumeration

PART B　　　　　　　　　　　　　　　　　　**[50 marks]**

(Attempt any 5. Each question carries 10 marks)

Q. 5)　　　　　　　　　　　　　　　　　　**(2 x 5 = 10 marks)**
- a) "It is important to adhere to ethical norms while conducting research". Justify this statement and explain the ethical values related to research.
- b) Why should a researcher conduct literature review? Explain the different types of sources for literature review.

Q. 6)　　　　　　　　　　　　　　　　　　**(2 x 5 = 10 marks)**
- a) An experimental research should attempt to establish a cause and effect relationship between variables. Explain this statement and discuss the principles which should be used in experimental research.
- b) Distinguish between sampling and non-sampling errors. Illustrate your answer with two examples in each category.

Q. 7)　　　　　　　　　　　　　　　　　　**(2 x 5 = 10 marks)**
- a) What is a measurement scale? Briefly describe the different forms of measurement scales.
- b) How does the secondary data collection help in research? Discuss some common sources for collecting secondary data.

Q. 8)　　　　　　　　　　　　　　　　　　**(2 x 5 = 10 marks)**
- a) A survey questionnaire is a convenient method for collecting standardized information. In this context, explain some common types of questions which can be included in the questionnaire.
- b) What do you understand by Dispersion in a data collection? Discuss some common measures od dispersion.

Q. 9)　　　　　　　　　　　　　　　　　　**(2 x 5 = 10 marks)**
- a) How are charts and graphs useful in data analysis? Discuss some common types of charts used in data analysis.
- b) What is a Hypothesis? Explain the characteristics of a good hypothesis.

Q. 10)　　　　　　　　　　　　　　　　　　**(2 x 5 = 10 marks)**
- a) Parametric tests are statistical measures used in the analysis to solve a research problem. In this context explain about z-test and t-test and their applications.
- 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 non-parametric tests and the areas where these tests can be applied. Name the different types of non-parametric tests,
- b) What do you understand by chi-square test? Explain how they are used in hypothesis testing.

Q. 12)　Write Short Notes on **(Any Two)**　　　　　　**(2 x 5 = 10 marks)**
- a) Research Proposal
- b) Null hypothesis and alternative hypothesis
- c) Skewness
- d) Probability sampling