

Institute of Management Studies(IMS)

DAVV, Indore

M.B.A.(FA)-IInd Sem.-2022

Research Methodology

Date: 29/06/22

Max. Marks:60

Time:3 hr(11:00 A.M.-2:00 P.M.)

Note: Attempt any five questions. Each question carries equal marks.

Question-1: "Knowing what data are available often serves to narrow down the problem itself as well as the technique that might be used." Explain the underlying idea in this statement in the context of defining a research problem.

Question-2: What is the meaning of measurement in research? What difference does it make whether we measure in terms of a nominal, ordinal, interval or ratio scale? Explain giving examples

Question-3: The illness caused by a virus in a city concerning some restaurant inspectors is not consistent with their evaluations of cleanliness of restaurants. In order to investigate this possibility, the director has five restaurant inspectors to grade the cleanliness of three restaurants. The results are shown below.

Inspectors	Restaurants		
	I	II	III
1	71	55	84
2	65	57	86
3	70	65	77
4	72	69	70
5	76	64	85

Carry out two-way ANOVA at 5% level of significance.

Question-4: In an experiment on the effect of a growth regulator on fruit setting in muskmelon the following results were obtained. Test whether the fruit setting in muskmelon and the application of growth regulator are independent at 1% level (chi square table value at 1% is 6.635)

	Fruit Set	Fruit Not Set	Total
Treated	16	9	25
control	4	21	25
Total	20	30	50

Question-5: A radio shop sells, on an average, 200 radios per day, with a standard deviation of 50 radios. After an extensive advertising campaign, the management will compute the average sales for the next 25 days to see whether an improvement has occurred. Assume that the daily sales of radios are normally distributed. (z table value at 5% is 1.645)

- (a) Write down null and alternative hypothesis
- (b) Test hypothesis at 5% level of significance if $\bar{x} = 126$
- (c) How large must \bar{x} be in order that the null hypothesis is rejected at 5% level of significance.

Question-6 (a) Discuss the following two approaches for determining the sample size

- (i) the ad hoc or practical approach
- (ii) the statistical approach

(b) Chief Executive officer (CEO) of a life insurance company wants to undertake a survey of the huge number of insurance policies that company has underwritten. The company makes an yearly profit on each policy that is distributed with mean Rs. 8000 and standard deviation Rs. 300. It is desired that the survey must be large enough to reduce the standard error to no more than 1.5 % of the population mean. How large should sample be?

Question-7: Differentiate between oral and written reports. Describe the various steps involved in preparation of the report.

Question-8: Write the short note (any two)

- (a) Type I and Type II errors
- (b) Primary sources of data collection
- (c) Multiple Regression and Discriminant Analysis
- (d) Questionnaire