

Roll No.

Total No. of Pages : 04

Total No. of Questions : 15

MBA / MBA(IB) (2012 & onward) (Sem.-2)

RESEARCH METHODOLOGY

Subject Code : MBA-206

Paper ID : [C0251]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

- 1. SECTION-A contains SIX questions carrying FIVE marks each and students has to attempt any FOUR questions.**
- 2. SECTIONS-B consists of FOUR Subsections : Units-I, II, III & IV. Each Subsection contains TWO questions each carrying EIGHT marks each and student has to attempt any ONE question from each Subsection.**
- 3. SECTION-C is COMPULSORY and consists of ONE Case Study carrying EIGHT marks.**

SECTION A

1. "Research is much concerned with proper fact finding, analysis and evaluation." Do you agree with this statement? Give reasons in support of your answer.
2. Give your understanding of a good research design. Is single research design suitable in all research studies? If not, why?
3. a) Under what circumstances would you recommend?
 - i) A probability sample
 - ii) A non-probability sampleb) 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?
4. Explain the meaning of the following :
 - a) Student's t distribution
 - b) One-tailed test and two-tailed test.
5. On the basis of information given below about the treatment of 200 patients suffering from a disease, state whether the new treatment is comparatively superior to the conventional treatment.

Treatment	No. of patients	
	Favourable Response	No Response
New	60	20
Conventional	70	50

For drawing your inference, use the value of χ^2 for one degree of freedom at the 5 percent level of significance, viz., 3.84.

6. What is the significance of using multiple discriminant analysis? Explain in brief the technical details involved in such a technique.

SECTION-B

UNIT-I

7. a) Explain and illustrate the following :
 - i) Two group simple randomized design;
 - ii) Latin square design
 - iii) Research hypothesis
 - iv) Experimental and Control groups
8. a) What is research design? Discuss the basis of stratification to be employed in sampling public opinion on inflation.
- b) *"Research design in exploratory studies must be flexible but in descriptive studies, it must minimize bias and maximize reliability."* Discuss.

UNIT-II

9. Distinguish between :
 - a) Field editing and central editing
 - b) Statistics of attributes and statistics of variables
 - c) Exclusive type and inclusive type class intervals
 - d) Simple and complex tabulation
10. A certain population is divided into five strata so that $N_1 = 2000$, $N_2 = 2000$, $N_3 = 1800$, $N_4 = 1700$, and $N_5 = 2500$. Respective standard deviations are : $\sigma_1 = 1.6$, $\sigma_2 = 2.0$, $\sigma_3 = 4.4$, $\sigma_4 = 4.8$, $\sigma_5 = 6.0$ and further the expected sampling cost in the first two strata is Rs 4 per interview and in the remaining three strata the sampling cost is Rs 6 per interview. How should a sample of size $n = 226$ be allocated to five strata if we adopt proportionate sampling design; if we adopt disproportionate sampling design considering
 - a) Only the differences in stratum variability
 - b) Differences in stratum variability as well as the differences in stratum sampling costs.

UNIT-III

11. a) 1000 babies were born during a certain week in a city of which. 600 were boys and 400 girls. Use χ^2 test to examine the correctness of the hypothesis that the sex-ratios is 1:1 in newly born babies.
- b) The percentage of smokers in a certain city was 90. A random sample of 100 persons was selected in which 85 persons were found to be smokers. Is the sample proportion significantly different from the proportion of smokers in the city? Answer on the basis of Chi-square test.

12. The following are the numbers of tickets issued by two policemen on 20 days :

By first policeman : 7, 10, 14, 12, 6, 9, 11, 13, 7, 6, 10, 8, 14, 8, 12, 11, 9, 8, 10 and 15.

By second policeman : 10, 13, 14, 11, 10, 7, 15, 11, 10, 9, 8, 12, 16, 10, 10, 14, 10, 12, 8 and 14.

Use the sign test at 1% level of significance to test the null hypothesis that on the average the two policemen issue equal number of tickets against the alternative hypothesis that on the average the second policeman issues more tickets than the first one.

UNIT-IV

13. a) What points will you keep in mind while preparing a research report? Explain.
- b) What are the different forms in which a research work may be reported? Describe.
14. a) What is the significance of using multiple discriminant analysis? Explain in brief the technical details involved in such a technique.
- b) Write a short note on 'rotation' in context of factor analysis.

SECTION-C

15. CASE STUDY

CASE 1: The University of Mississippi observed that the graduation rate of students with poor grades during their freshman year was much lower than those with better grades. Wanting to improve the chances of these low performing students they tested the effects of a new rule for freshmen. The rule stated the following : "At the end of their first semester all students with a GPA between 2.00 and 2.25 must register for EDUC 1003 during their second semester." Students with a GPA lower than 2.00 were put on academic probation. EDUC 1003 consisted of a course whose objective was to help students develop good study skills. The theory was that poor study skills were a significant cause of poor academic performance, and that study skills could be learned.

They wanted to evaluate the effectiveness of this intervention so they collected data on the GPA's of students beginning with their first semester and continuing through to their third semester. At that point they wanted to analyze the data to determine whether the new rule was making a significant difference in the students' academic performance.

What is the best way to analyze these data to reach an interpretable conclusion? Describe your approach and then discuss the major threats to validity that it has. Their sample size of students was as follows :

Total N = 3,454 (these are students who completed all 3 semesters)

Number of students with first semester grades between 2.00 and 2.25 (and thus took EDUC 1003) was 956

OR

CASE 2: Assume you are a consultant hired to evaluate the effectiveness of an industrial safety program undertaken by a large manufacturing organization. The safety program is a behavioral one that provides rewards-such as monetary bonuses, or extra paid vacation days, for safety behaviors in terms of accident-free days, weeks, etc. Your task is to devise an approach (a research strategy, a design, a set of measures, and a general analysis strategy) that will allow you to evaluate the safety program. Because of the potential for the influence of many extraneous variables on any safety program, it is difficult to design research a single, cross-sectional study than can evaluate the impact of a single safety program. How would you design a study to evaluate the impact of the safety program? When developing your plan, be sure to address at least the following issues :

Questions :

- a) The type of research strategy you would select. Compare and contrast with another possible strategies.
- b) The type of design you would select. Compare and contrast the selected design with another possible design.
- c) Discuss how your design and approach deals with the major forms of validity. Be sure to examine at least internal, external, and construct validity.