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2504N069

Candidate's Seat No :_____

P. G. D. M. A. C. Examination
Paper-1
Research Methodology (SPSS)
April 2019

Time : 2-30 Hours] **[Max. Marks : 70**

Instructions :
(1) This paper contains **FIVE** questions, all questions are compulsory.
(2) Question No.**2, 3, 4** have internal options.
(3) Figures in the right side in parenthesis indicate marks.

Q:1	**(a)**	Explain in brief different types of sampling methods.	**14**
Q:2	**(a)**	Discuss three criteria for good measurement.	**07**
Q:2	**(b)**	Define nominal, ordinal, ratio and interval scale with examples.	**07**
		OR	
Q:2	**(a)**	Write a detailed note on survey methods of research.	**14**
Q:3	**(a)**	Explain types of research designs.	**14**
		OR	
Q:3	**(a)**	Distinguish between the following. 1. Parametric test v/s non parametric test. 2. Univariate v/s bivariate data.	**07**
Q:3	**(b)**	Write a detailed note on writing and formatting of the reports.	**07**
Q:4	**(a)**	Distinguish between the following. 1. Type I and Type II errors 2. Correlation v/s regression	**07**
Q:4	**(b)**	Discuss steps of hypothesis testing.	**07**
		OR	
Q:4	**(a)**	Explain comparative and non-comparative scaling techniques in detail with examples.	**14**
Q:5	**(a)**	Briefly describe the steps involved in a research process.	**14**

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Candidate's Seat No : _____

P. G. D. M. A. C. Examination
Paper-2
Research Methodology (SPSS)
April 2019

Time : 2-30 Hours] **[Max. Marks : 70**

Instructions :(1) This paper contains **FIVE** questions, all questions are compulsory.

Q:1 (a) Lakme India Pvt.Ltd. is planning for new market development in Ahmedabad.Their target segment is females belonging to the age group of 18-45 years and the income class ranges between Rs. 10000-Rs. 20000. So before launching their products in Ahmedabad region they are planning for a research to identify segment that whether the target is aesthetic conscious or price conscious. Assuming this task is given to you to conduct this research study. **14**

1. Write the main objectives of this research study.
2. Form the hypothesis of this research study.
3. Make a list of the data to be collected from the various sources to test the hypotheses.

Q:2 (a) Construct a **Histogram** chart. **07**
(Graph Paper not required)

0-20	20-30	30-40	40-50	50-100
13	27	43	31	9

Q:2 (b) Use the following data to determine the equation of the least square regression line, also calculate r-square. **07**

X	1	2	3	4	5	6	7	8
5	10	15	20	25	30	35	40	45

OR

Q:2 (a) Suppose you are using completely randomized design to study some phenomenon. There are 4 treatment level and a total of 16 people in the study. Each treatment level has same sample size. Complete the following ANOVA when F tab is 3.49. **07**

Sources of variance	SS	df	MS	F
Treatment	129.3			
Error	19.60			
Total	149.33			

Q:2 (b) Mr. Desai, a business research professor has a keen interest in factors affecting student's performance on exams. He allowed his students to study from as many different books as they liked, their IQs vary, they are of different ages, **07**

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and they study varying amount of time for exam. At the end of the semester he has collected necessary information and compiled the data for the class and ran a multiple regression. The output from his computer is as follows.

Predictor	Coef	Stdev	t-ratio	p
Constant	-49.948	41.55	-1.20	0.268
HOURS	1.06931	0.98163	1.09	0.312
IQ	1.36460	0.37627	3.63	0.008
BOOKS	2.03982	1.50799	1.35	0.218
AGE	-1.79890	0.67332	-2.67	0.319

SE = 11.657 R-sq = 76.7% Adj. R-sq- 80%

a. What is the best fitting regression equation for these data?
b. What is the percentage of the variation in grades is explained by this equation.
c. What grade would you like to expect for a 21-year-old student with an IQ of 113, who studied 5 hours and used 3 different books?
d. What is the value of coefficient of determinationi.e.R?
e. Is this a case of Multiple Regressions? Justify?
f. How many independent variables in above model?
g. Report the value of Standard error of estimate SE?
h. Report R, R-Sq and Adj. R-sq.

Q:3 Suppose a marketing research study intends to examine whether consumption of the product is influenced by the family income and occupation of the consumer. Suppose the data obtained from a sample of 103 consumers show the following Pattern. Test the hypothesis of **chi square** at 5% level of significance. (At LOS 5% and degree Of freedom 2, tab value is 5.99. **14**

	Family income (per month)			
Occupation	Less than Rs.2500	Rs.2500-3500	Above Rs.3500	Total
Blue colour	12	16	11	39
Professional	28	21	15	64
Total	40	37	26	103

Q:4 The following data shows the number of claims processed per day for a group of three insurance company employees observed for a number of days. Test the hypothesis that the employees' mean claims per day are all same. Compare the observed F value with the critical table F value and decide whether to reject the null hypothesis. Hint: F tab value is 3.89 **14**

Employee 1	2	1	3	3	2
Employee 2	5	3	6	4	5
Employee 3	3	4	5	5	3

Q:5 Do as directed. **14**

1 The most common method of generating secondary data is through surveys. (True/False)

2 Which of the following is not a stage in the research process?

A. Collecting the data
B. Solving the managerial problem
C. Defining the research problem
D. Writing conclusions

3 A survey question about gender, to be answered with either "M" or "F," represents
A. categorical variable.
B. unknown variable.
C. dependent variable.
D. continuous variable.

4 When a research holds a 90-minute discussion with a manager in order to determine
this manager's ideas about the feasibility of a new product launch, this is an example of:
A. a case study.
B. a depth interview.
C. secondary data analysis.
D. word association

5 All of the following could be examples of continuous variables EXCEPT:
A. Profit
B. sales volume
C. market share
D. gender

6 When the means of more than two groups or populations are to be compared on one independent variable, _____is the appropriate statistical tool. e.g. Employee category like 1.professor, 2.AP and 3. Assistant professor, and question salary satisfaction with Are you satisfied 1. Yes 2. No
A. one-way analysis of variance
B. the t-test
C. chi-square test
D. a pooled estimate of the standard error

7 Which of the following is a common problem with secondary research data?
A. Outdated information
B. Different definition of terms
C. Different units of measurement
D. All of the above

8 All of the following are examples of external sources of secondary data EXCEPT:
A. libraries.
B. governmental sources.
C. company records.
D. commercial sources.

9 Project report pages like preface, acknowledgement, executive summary must be numbered with _____ number.

10 If 400 people are mailed a questionnaire and 120 of them return it to the researcher,
this survey is said to have a response rate of:
A. 120.
B. 3.33.
C. 30 percent.

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D. 400.

11 Full form of SPSS: _____

12 Analysis of variance tests use the _____.

A. t distribution
B. Z distribution
C. F distribution
D. Exponential distribution

13 The statistical measures like mean, median, mode and standard deviation which are used to describe the characteristics of a sample known as

A. Parameters
B. Constants
C. Statistics
D. Measures

14 A measure of the degree of relatedness of two variables is __

A. regression
B. least squares analysis
C. Residual
D. Correlation