

Registration No :

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Total Number of Pages : 02

MBA
18MBA204

2nd Semester Regular Examination 2018-19

BUSINESS RESEARCH

BRANCH : MBA

Max Marks : 100

Time : 3 Hours

Q.CODE : F513

Answer Question No.1 (Part-1) which is compulsory, any EIGHT from Part-II and any TWO from Part-III.

The figures in the right hand margin indicate marks.

Part-I

Q1 Only Short Answer Type Questions (Answer All-10)

(2 x 10)

- Write Central limit theorem.
- Narrate Level of significance.
- Find sample size such that the probability of sample mean differing from population mean by not more than $\frac{1}{10}$ th of S.D is 0.95.
- A random sample of 100 articles taken from a batch of 2696 articles contains 5 defective articles. Find 99% upper confidence limit for the proportion of defective articles in the whole batch.
- If $Z = 2.58$, population S.D = 15 and sample size = 112, then find sample error.
- A simple random sample of size 16 is drawn without replacement from a finite population of 50 units. If the number of defective units in the population be 5, find standard error of p .
- If p_1 & p_2 are the proportions of two random samples of sizes 40 & 50 drawn from two populations with $p_1 = 0.05$ & $p_2 = 0.03$, then find standard error of the difference of two sample proportions.
- Two samples having sizes 8 and 10 with respective means 5 & 3. If their S.D are 3 & 4 respectively, then find standard error of difference of two sample means.
- The population size is 2,3,4,5,6. How many samples of size three can be selected, if samples are drawn without replacement from the population.
- If sample size=10, sample mean=0.24, population mean=0.25 and sample S.D = 0.02, then find test-statistic- t .

Part- II

Q2 Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)

(6 x 8)

- A manufacturer claimed that at least 95% of the equipment which be supplied to a factory confirmed to specifications. An examination of a sample of 200 pieces of equipment revealed that 18 were faulty. Test his claim at $\alpha = 0.05$
- The increase in weights due to two kinds of food are given below. Can it be said that food B is better than food A at $\alpha = 0.05$?

Food A	49	53	51	52	47	50	52	53
Food B	52	55	52	53	50	54	54	53

[Table value of t at $\alpha = 0.05$ for 7 d.f is 2.36]

- The table given below shows the data obtained during an epidemic of Cholera:

	Attacked	Not attacked
Inoculated	42	232
Not inoculated	106	748

Test the effectiveness of inoculation in preventing the attack of cholera.

[Given: Chi-square value of 1 d.f & $\alpha = 0.05$ is 3.84]

- d) Weights in Kg. of 10 students are 38,40,45,53,47,43,55,48,52,49. Can we say that the variance of the distribution of weights of all students from which the above sample of 10 students are drawn is equal to 20 square Kgs?
[Chi-square value at $\alpha=0.05$ & 9d.f is 16.92]
- e) The mean breaking strength of the cables supplied by a manufacturer is 1800 with a S.D 100. By a new technique in the manufacturing process, it is claimed that the breaking strength of the cables have increased. In order to test this claim a sample of 50 cables is tested. It is found that the mean breaking strength is 1850. Can we support the claim at $\alpha=0.01$?
- f) Akash Institute claimed that all its students get 80% marks on an average in competitive test. Hence mark percentage of 10 students are selected at random as given below. Test the claim at $\alpha=0.05$ by using sign-test.

Roll No.	1	5	13	21	26	35	42	50	62	74
Marks	82	75	80	90	92	74	84	85	79	80

- g) Explain the merits and limitations of an observation method in collecting material with examples.
- h) Explain various considerations in developing a sample design.
- i) Justify that under what circumstances exploratory research design is ideal.
- j) Distinguish between qualitative and quantitative research.
- k) Explain the differences between nominal and ordinal scales.
- l) Distinguish between parametric and non-parametric tests.

Part-III

Only Long Answer Type Questions (Answer Any Two out of Four)

- Q3** A company appoints 4 salesmen and observes their sales in 3 seasons. The figures (in lacs) are given in the following table. (16)

Season	Salesmen			
	A	B	C	D
Summer	36	36	21	35
Winter	28	29	31	32
Rainy	26	28	29	29

Carry out an analysis of variance at $\alpha=.05$.

[Table value of F at $\alpha=.05$ for d.f (6,3) is 8.94 and for d.f (6,2) is 19.33]

- Q4** The following is an arrangement of the BPL and APL card holders, who are standing in queue before a control shop for their rations: (16)

BBBBBBBBBAAAAABBBBBAAABBBBBBAABBBAA

Where B=BPL Cards & A=APL Cards.

Use one sample run test at $\alpha=.05$ and test whether cards are arranged at random by the control dealer.

[Table value of Z at $\alpha=.05$ at two tailed test=1.96]

- Q5** What is brilliant working hypothesis? Describe role, characteristics, types and sources of hypothesis. (16)

- Q6** Critically appreciate on different types of report and comment on essentials of a good report. (16)

Registration No :

1	7	0	6	2	5	8	1	1	2
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MBA
15MNG201

2nd Semester Regular / Back Examination 2017-18

BUSINESS RESEARCH METHODS

BRANCH : MBA

Time : 3 Hours

Max Marks : 100

Q.CODE : C1128

Answer Question No.1 & 2 which are compulsory and any four from the rest.

The figures in the right hand margin indicate marks.

Answer all parts of a question at a place.

Q1 Fill up the blanks in the following questions out of the choices given: (2 x 10)

- a) ____ is a preferred sampling method for the population with finite size.
(area / cluster / purposive / systematic)
- b) Type one error occurs when a null hypothesis is ____ .
(rejected even if true / accepted even if falls)
- c) The Longitudinal approach of research deals with ____ researches.
(horizontal / long-term / short-term)
- d) If correlation coefficient between two variables is uncertain the r value is ____ .
(+1 , -1 , 0 , 0.5)
- e) Most of the non-parametric methods utilize measurements on ____ scale .
(interval / nominal / ordinal / ordinal and nominal)
- f) A sampling distribution is the distribution of a ____ .
(parameter / mean / statistics / proportion)
- g) Survey questions can be classified into ____ forms .
(closed / open-ended / both / all)
- h) The process of summarizing the raw data and showing it in a compact form is ____ .
(tabulation / coding / editing)
- i) The basic principle of coding is ____ .
(completeness / legibility / exhaustiveness)
- j) The first step of business research is ____ analysis .
(product / market / finance / competitor)

Q2 Discuss the following concepts / terminologies with examples (2 x 10)

- a) Research ethics.
- b) Problem definition stage
- c) Projective techniques
- d) Secondary data.
- e) Cross-sectional surveys.
- f) Observation studies
- g) Validity and reliability.
- h) Sampling frame
- i) 't – distribution' vs 'Z – distribution'
- j) Type I and II error

Q3 How would you define a research design ? What are the significant elements of a research design ? Illustrate with examples. (15)

Q4 What is the difference between a questionnaire and a schedule? Write the principles to be followed for an ideal questionnaire design ? (15)

Q5 A sample of 16 MBA students of a college was taken and information was obtained on their starting salary after their appointment in a company. The mean monthly starting salary was found to be Rs.30,200 with a standard deviation of Rs.960. The post data on the starting salary has given a mean value of Rs.30,000. Using a 5% level of significance, can we conclude that the average starting salary is different from Rs.30,000. (15)

(Table value at 5% = 2.131)

Q6 The following table gives the number of good and defective parts produced by each of the three shifts in a factory. (15)

Shift	Good	Defective	Total
Day	900	130	1030
Evening	700	170	870
Night	400	200	600
	2000	500	2500

Is there any association between the shift and the equality of the products produced ? Use a 0.05 level of significance

(Table Value 0.05 = 5.991)

Q7 An officer of the health department claims that 60% of the male population of a village comprises smokers. A random sample of 50 males showed 35 of them were smokers. Are these sample results consistent with the claim of the health officer. Use a level of significance of 0.05. (15)

(Table value = 1.645)

Q8 What should be the ideal structure of a research report ? What are the elements of structure defined by you ? (15)

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Total Number of Pages: 03

MBA
15 MNG 201

2nd Semester Regular / Back Examination – 2016-17
Business Research Methods

BRANCH: MBA

Time: 3 Hours

Max marks: 100

Q Code : Z986

Answer Question No.1 and 2 which is compulsory and any four from the rest.
The figures in the right hand margin indicate marks.

- Q1** Answer the following questions: (2 x 10)
- (a) Credit outstanding report is _____ data and retailer census is _____ data.
 - (b) Standard deviation is measured under _____ scale and geometric mean can be measured under _____ scale.
 - (c) _____ research aims at finding a solution for an immediate problem and under _____ research the relationship between independent and dependent variable is studied.
 - (d) _____ research design is ideal to generate new product ideas and _____ research design provides association between two variables like age and preferences.
 - (e) _____ research study is conducted under quota sampling and _____ research study is performed under area sampling.
 - (f) _____ guides the researcher to keep him in right track and _____ is a statement about the population, whose credibility or validity the researcher wants to assess based on the sample.
 - (g) _____ report is prepared for policy implication and _____ report is prepared for record keeping.
 - (h) Test for difference of two population means is done under _____ test and test for independence of attributes is done under _____ test.
 - (i) If $|z| \leq 2.58$, the _____ J_0 at _____ level of significance.
 - (j) _____ is the upper part of the table describing the columns and sub-columns and statistical measure like _____ can be obtained by using histogram.
- Q2** (2x10)
- (a) Find $b_{13.2}$ if $6_1=2$, $6_2=3$, $6_3=5$ and $r_{12}=r_{13}=r_{23}=0.3$
 - (b) If $S_1^2=12$ and $S_2^2=18$, the find test-statistic -F.
 - (c) IF $SSB=100$ and $SSW=150$ and $V_1=3$, $V_2=8$, then find test-statistic-F.
 - (d) In a two-way classification of analysis of variance, if number of columns = 4 and number of rows = 3, then find degree of freedom of SSE.

- (e) The population size is 2,3,4,5. How many samples can be formed having sample size two, if samples are drawn with replacement?
- (f) If sample size(n)=10, population standard deviation=4 and z-value at 99% confidence limit is 2.58, then find sample error.
- (g) The average weight of 40 students of 'XIMB' is 60 kg and SD is 10 kg, set up 90% upper confidence limit of total student's population of 'XIMB'.
- (h) A sample of size 40 is drawn from a population having size 2000 and population SD=5, then find standard error of x, if sample is drawn without replacement.
- (i) Find standard error of $(x_1 - x_2)$ where $n_1 = n_2 = 30$ and $\sigma_1=3$ and $\sigma_2=4$.
- (j) Find standard error of $(p_1 - p_2)$ where $p_1 = 0.75$, $p_2=0.5$, $n_1 = 200$ and $n_2 = 300$.

- Q3** (a) A machine produced 20 defective articles in a batch of 400. After overhauling, it produced 10 defective articles in a batch of 300. Has the machine improved? ($\alpha = 0.05$) (z-value at 5% level of significance and right-tailed test is 1.64) (8)
- (b) What is working hypothesis? Explain its characteristics and role. (7)

- Q4** (a) An IQ test was administered to 6 men before and after they were trained. The results are given below: (8)

Men	1	2	3	4	5	6
IQ before training	40	50	60	55	62	70
IQ after training	45	50	68	58	56	73

Test whether there is any change in IQ after training programme $\alpha=1\%$ (t-value at 1% level of significance and two-tailed test with 5 degree of freedom is

- (b) Critically appreciate on exploratory research design. (7)

- Q5** (a) The table given below shows the data obtained during an epidemic of cholera: (7)

	Attacked	Not attacked
Inoculated	20	300
Not inoculated	80	600

Test the effectiveness of inoculation is preventing the attack of cholera. ($\alpha=0.5$) (Chi-square value 5% level of significance and one degree of freedom is 3.84)

- (b) Explain the characteristics of a good questionnaire. (8)

- Q6** (a) Three different machines are used for a production. On the basis of the output, test whether the machines are equally effective: (9)

Outputs		
Machine-1	Machine-2	Machine-3
10	9	20
5	7	16

11	5	10
10	6	14

($\alpha=0.05$) (Use short-cut method) [Value of F at 5% level of significance with (2,9) d.f.=4.26]

(b) Precisely discuss on attitude measurement.

(6)

Q7 (a) Find out the communality and Eigen values from the following factor loadings:

(6)

Variable	Factor loadings	
	Principal Component-1	Principal Component-2
1	0.69	0.57
2	0.62	0.59
3	0.64	-0.52
4	0.64	-0.59
5	0.63	0.57
6	0.70	-0.61

(b) What is reporting? Discuss about various types of report.

(9)

Q8 (a) Estimate the value of X_1 when $X_2=10$ and $X_3=20$ from the following figures:

(5)

$6_1 = 2$, $6_2 = 3$, and $6_3 = 4$

$r_{12} = 0.2$, $r_{13} = 0.3$ and $r_{23} = 0.4$

(b) Write short note of any two of the following:

(5 x 2)

(i) Secondary data.

(ii) Applied and pure research.

(iii) Cluster sampling.

(iv) Quota sampling.

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Registration no:

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Total Number of Pages: 02

MBA
15 MNG 201

2nd Semester Regular/Back Examination - 2015-16
BUSINESS RESEARCH METHODS

Q CODE : W 497

Time: 3 Hours

Max marks: 100

Answer Question No.1 & 2 which are compulsory and any four from the rest.

The figures in the right hand margin indicate marks.

Q.1 Answer the following questions: (2x10)

- _____ research design is ideal to gain an insight into the problem and Professor R.A. Fisher is associated with _____ research design.
- _____ sampling method is adopted when population nature is heterogeneous and _____ sampling method is used in statistical quality control.
- Financial institutions prepare their annual report in the form of _____ and mathematicians write result of investigation under _____.
- Publications by research institutes are _____ source of data and daily production report is a _____ data.
- Coefficient of variability is measured under _____ scale and university registration numbers assigned to students are examples of _____ scale.
- _____ is a statistical measure computed from sample data and _____ is a statistical measure computed from population data.
- Polling interview is an example of _____ interview and telephonic interview is conducted in industrial survey particularly in _____ region.
- _____ test is used to judge the randomness of a sample and test for goodness of fit is done under _____ test.
- _____ sampling is used in marketing research study and _____ sampling is useful in public opinion survey and to audit accounts.
- Analysis of variance is performed by _____ table and test for equality of three or more population means is done using _____ distribution.

Q.2 Answer the following questions: (2x10)

- If population size (N) = 145 and sample size (n) = 25, then find population correction factor.
- The population size is 2, 3, 4, 5, 6. How many samples can be formed having sample size three, if samples are drawn without replacement?
- A simple random sample of size 25 is drawn from a finite population consisting of 200 units. If the population standard deviation is 10.5, find standard error of sample mean when the sample is drawn with replacement.
- A simple random sample of size 16 is drawn without replacement from a finite population consisting of 50 units. If the number of defective units in the population be 5, find standard error of the sample proportion of defectives.
- The mean weight of a random sample of size 100 from a student's population is 65.8 Kgs. and the standard deviation is 4 Kgs. Set up 95% lower confidence limit of the mean weight of the student's population.

Q.2 What is research design ? Briefly discuss about exploratory and descriptive research designs. 10

Q.3 What is personal interview ? Precisely discuss about focused, repetitive and standardized interviews. 10

Q.4 What is reporting ? Explain the significance of reporting and briefly reflect about technical reporting. 10

Q.5 A man fishing at a particular place caught fishes in the following weight groups : 10

Weight (Kg.)	Less than 1 Kg	1 - 2	2 - 3	3 - 4	4 - 5	More than 5 Kg.
Frequency	6	7	13	17	6	5

In the data compatible with the assumption that anybody fishing at a spot will catch fishes in the various weight groups in the proportion 1 : 1 : 2 : 3 : 1 : 1 ?

[Given : Chi-square value at 5% level of significance and 5 d.f = 11.07]

Q.6 A machine produced 20 defective articles in a batch of 400. After overhauling, it produced 10 defective articles in a batch of 300. Has the machine improved ? ($L = 0.05$) (Use Z-test). 10

Q.7 An I.Q. test was administered to 10 men before and after they were trained. The results are given below : 10

Men	1	2	3	4	5	6	7	8	9	10
Before training	167	124	157	155	163	154	156	168	133	143
After training	170	138	158	158	156	167	168	172	142	138

Test whether there is any change in I.Q. after the training programme.
[Given : Tabulated value of t at 1% level for 9 d.f. = 2.82]

Q.8 Write short note of the following : 10
a) Attitude measurement.
b) Cluster sampling.

Registration No. :

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Total number of printed pages – 3

MBA
MGT 206

Second Semester Regular Examination – 2015

BUSINESS RESEARCH METHODS

BRANCH : MBAR

QUESTION CODE : J 475

Full Marks – 70

Time : 3 Hours

*Answer Question No. 1 which is compulsory and any **five** from the rest.*

The figures in the right-hand margin indicate marks.

1. Answer the following questions : 2×10
 - (a) What is the difference between Explanatory research and Exploratory research ?
 - (b) What is the difference between concept and variable ?
 - (c) What is the difference between Primary data and Secondary data ?
 - (d) Define ratio scale.
 - (e) What is the difference between Stratified Sampling and Cluster Sampling ?
 - (f) What is table of content ?
 - (g) What is Standard Error ?
 - (h) Define Type-I and Type-II Error.
 - (i) Define Degrees of Freedom. What is the degrees of freedom of a contingency table of n columns and k rows ?
 - (j) Define one tailed and two tailed test.
2. What do you mean by research ? Explain its characteristics. Describe different types research. 10

3. What is research design ? Explain its meaning and significance. Describe briefly the different types of research designs available. 10
4. (a) What are the guiding considerations in the construction of questionnaire? Explain. 5
- (b) Explain the significance of a research report and narrate the various steps involved in writing such a report. 5
5. (a) An advertising company claims that 40% of the people who saw an advertisement put out on the television by the company remembered the name of the product 24 hours after they had seen the show. In a sample survey conducted 24 hours after the show, 152 out of 400 persons remembered the name of the product advertised. Test if the claim of the company can be accepted at a level of significance of 1%. 5
- (b) A courier service advertises that its average delivery time is less than 6 hours for local deliveries. A random sample of 10 for the amount of time this courier takes to deliver packages to an addressee across the town produced the following times (rounded to the nearest hour) : 5
- 7, 3, 4, 6, 10, 5, 6, 4, 3, 8
- Is this evidence sufficient to support the courier claim at 5% level of significance ? 5
6. A certain oil corporation conducts a seismic test on land to asses the possibility of extraction of oil from the land. From the past 200 records, the following test results and oil yields were obtained : 10

Test results	Oil yield frequencies		
	High	Medium	Low
Good	44	22	13
Fair	15	19	26
Bad	5	8	47

Can we say, at 1% significance level, that oil yields and test results are associated ?

7. The following table gives the number of number of units of production per day turned out by four different types of machines :

Employee	Types of Machine			
	M ₁	M ₂	M ₃	M ₄
E ₁	40	36	45	30
E ₂	38	42	50	41
E ₃	36	30	48	35
E ₄	46	47	52	44

Using Analysis of Variance

- (i) test the hypothesis that the mean production is the same for the four machines and
- (ii) test the hypothesis that the employees do not differ with respect to mean productivity. Use 5% level of significance. 10

8. Write short notes on any **two** :

5 × 2

- (a) Likert-type scale
- (b) Bibliography and its importance in context of research report
- (c) Multidimensional Scaling.

Registration No. :

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Total number of printed pages – 3

MBA
MGT 206

Second Semester Regular Examination – 2014

BUSINESS RESEARCH METHODS

BRANCH : MBA

QUESTION CODE : F 488

Full Marks – 70

Time : 3 Hours

*Answer Question No. 1 which is compulsory and any **five** from the rest.*

The figures in the right-hand margin indicate marks.

1. Answer the following questions :

2×10

- (a) In your own words define Business Research and list its tasks.
- (b) What is the difference between data and information ?
- (c) Do the stages in research process follow the scientific method ?
- (d) What would be the best source for the following data :
 - (i) State population
 - (ii) Major cities
- (e) What are the advantages of observation studies ?
- (f) Discuss the difference between validity and reliability.
- (g) Name some situations in which a semantic differential scale might be useful.

P.T.O.

(h) Define questionnaire.

(i) What is a sampling distribution ?

(j) What is the aim of factor analysis ?

2 Do you agree with the statement "Research is much concerned with fact finding, analysis and evaluation" ? Give reasons in support of your answer. 10

3. How do exploratory, descriptive and experimental studies differ from each other ? 10

4. What is measurement? What are the scales of measurement ? What information do they provide ? 10

5. ABC Co. has purchased three new machines of different makes and wishes to determine whether one of them is faster than the others in producing a certain output. Four hourly production figures are observed at random for each machine and the results are given below :

<u>Observations</u>	<u>Machine -1</u>	<u>Machine -2</u>	<u>Machine -3</u>
1	28	31	30
2	32	37	28
3	30	38	26
4	34	42	28

Use ANOVA and determine whether the machines are significantly differ in their mean speed. $[F_{.05}(2,9) = 4.26]$. 10

6. An organization has 300 employees. They took an IQ test and average marks secured by employees is 110. To prove it the MD took another test over 20

randomly selected employees and found that average IQ is 108 with a standard deviation of 10. Based on the result of this test, should MD accept or reject original hypothesis ?

10

7. What is factor analysis ? Point out its essential features and applications. 10

8. How does the oral presentation of research results differ from the written research report ? 10

QUESTION CODE : P 445

Full Marks - 70

Time : 3 Hours

Answer Question No. 1 which is compulsory and any five from the rest.

The figures of the right-hand margin indicate marks.

Answer the following questions :

2x10

(a) Define your own ideas about Business Research and list its types.

(b) What is the difference between data and information ?

(c) Do you agree when research proceeds with the scientific method ?

(d) What would be the best source for the following data :

(i) Employment in

(ii) Market share

(e) What are the advantages of oral presentation ?

(f) Discuss the difference between validity and reliability.

(g) How would you select a sample from a population ?

Registration No. :

1	1	0	6	2	5	5	0	1	8
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Total number of printed pages – 3

MBA
MBA 205

Second Semester Examination – 2012

RESEARCH METHODOLOGY AND SPSS

Full Marks – 70

Time : 3 Hours

Answer Question No. 1 and 2 which are compulsory and any **four** from the rest.
The figures in the right-hand margin indicate marks.

1. Answer the following questions in brief :

2 × 10

- (a) Define research and research methodology.
- (b) Explain extraneous variables and intervening variables.
- (c) Under what circumstances you would recommend a stratified sample ?
- (d) Reliable measurement is necessarily a valid measurement : if so give reasons.
- (e) State important aspects of a questionnaire.
- (f) What is sampling of attributes ?
- (g) State the meaning of snowball sampling.
- (h) Define null hypothesis.
- (i) What is Yate's correction ?
- (j) State the meaning of popular report.

2. CASE STUDY :

10

A study based on a national sample of 789 respondents who were of age 65 or older, attempted to determine the effect that lack of mobility has on patronage behavior, a major research question related to the differences in the physical

requirements of dependant and self reliant elderly persons. That is ; did the two groups require different things to get to the store or after they arrive to the store ? A more detailed analysis of physical requirements conducted by two independent sample t-tests (shown in the accompanying table) indicated that dependant elderly persons are more likely to look for stores that offer home delivery and phone orders and stores to which they have accessible transportation. They are also more likely to look for a variety of stores located close together. Retailers, now more than ever are realizing the sales potential in the elderly market. The elderly shoppers are more likely to spend more money and become patrons of a store. However to attract them, stores should offer home delivery and phone orders and arrange accessible transportation.

Differences in Physical Requirements between Dependant and Self Reliant Elderly Persons

Physical Requirement Items	Mean		t-Test(Probability)
	Self-Reliant	Dependant	
Delivery Phone	1.787	2.000	0.023
Phone in Order	2.030	2.335	0.003
Transportation to store	2.188	3.098	0.000
Convenient packing	4.001	4.095	0.305
Location close to home	3.177	3.325	0.137
Variety of stores close to together	3.456	3.681	0.023

Question :

- (a) What type of test you will recommend for the above table ?
- (b) What the study indicates and state the reasons for your answer ?

3.

A survey in which 64 consumers were contacted states that 64 % of all consumers of a certain product were motivated by the products advertising. Find confidence limits for the proposition of consumers motivated by advertising in the population. Given a confidence level equal to 0.95 ($z = 1.96$)

10

4. Define research design and how does formulating a research design differ from developing an approach to a problem. 10

5. What are the primary differences between qualitative and quantitative research techniques? 10

6. Set up an analysis of variance table for the following two-way design and state whether variety differences are significant at 5% level. 10

Per acre production data of rice (in tones)

VARIETIES OF RICE	M	N	P
VARIETIES OF FERTILIZERS			
A	6	5	5
B	7	5	4
C	3	3	3
D	8	7	4

(5% F (2, 6) = 5.14 F (3, 4) = 4.76)

7. What is factor analysis? Point out its essential features and application. 10

8. What is the meaning of report? Describe different types of report. 10

Registration No. :

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Total number of printed pages – 2

MBA

MBA 205/MBC 204

Second Semester Examination – 2011

RESEARCH METHODOLOGY AND SPSS

Full Marks – 70

Time : 3 Hours

Answer Question No. 1 which is compulsory and any **five** from the rest.
The figures in the right-hand margin indicate marks.

1. Answer the following questions :

2 × 10

- State the meaning of Research Methodology ?
- What do you mean by working hypothesis ?
- Explain continuous and categorical variables.
- State three principles of experimental designs.
- Describe two merits of the data collected by depth interview.
- How two-tailed test is different from one-tailed test ?
- What is the significance of sampling error ?
- Write the full form of SPSS.
- Are non-probability samples useless ?
- Explain the term range edits.

- Research is much concerned with proper fact finding, analysis and evaluation. Do you agree with this statement ? Give reasons in support of your answer. 10
- The main importance of the experimental design for the business researcher is that it represents a model of how to infer causal connections between variables. Discuss. 10
- What factors would you take into account in deciding how large your sample should be when devising a probability sample ? 10

P.T.O.

5. X Co. employs a large number of typist in its head office at Bhubaneswar. It has developed a new training program for them and claims that it has increased the typing speed by 15 words per minute. A random sample of 9 typist is taken and their speed observed. The company finds that the average increase has been 17 words per minute. The estimated standard deviation is 8 words per minute. Can be it concluded that the company has made a legitimate claim ? (to 0.05 \neq 1.86) 10
6. A tea Co. appoints four salesmen P, Q, R and S and observes their sales in three reasons Summer, Rainy and Winter. The figures (in lakhs) are given in the following table. 10

Seasons	Salesmen				Seasons Total
	P	Q	R	S	
Summer	36	36	21	35	128
Rainy	28	29	31	32	120
Winter	26	28	29	29	112
Salesmen's Total	90	93	81	96	360

Carry out an Analysis of variance.

(For (3,6) d.f $F_{0.05} = 4.76$)

(For 2,6) d.f. $F_{0.05} = 5.14$)

7. Processing of data implies editing, coding, classification and tabulation. Describe. 10
8. There is a special challenge to presenting statistical data in a report. What are they and how they can be presented ? 10