

Registration no:

--	--	--	--	--	--	--	--	--	--

Total Number of Pages: 03

MBA  
15 MNG 201

**2<sup>nd</sup> 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** (a) Find  $b_{13.2}$  if  $b_1=2$ ,  $b_2=3$ ,  $b_3=5$  and  $r_{12}=r_{13}=r_{23}=0.3$  **(2x10)**

- (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  $\bar{x}$ , 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)

$$b_1 = 2, b_2 = 3, \text{ and } b_3 = 4$$

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

(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.

oOo