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**MBA**  
**MGT 206**

**2<sup>ND</sup> SEMESTER REGULAR/BACK EXAMINATION, 2015-16**

**BUSINESS RESEARCH METHODS**

**QUESTION CODE :W498**

**Max 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]*

**Q.1** Answer the following : **2x10**

- (a) A random sample of size 5 is drawn without replacement from a finite population consisting of 41 units. If the standard deviation of the population is 6.25, then find standard error of sample mean.
- (b) A random sample of 100 articles taken from a batch of 2696 articles contains 5 defectives. Find 95% lower confidence interval for the proportion of defective articles in the whole batch, if sample is drawn without replacement.
- (c) If sample proportion ( $\hat{p}$ ) = 0.54, population proportion ( $P$ ) = 0.5 and sample size ( $n$ ) = 900, then find test statistic –  $Z$ .
- (d) If  $Z = 1.96$ , population S.D. = 10 and sample size ( $n$ ) = 96, then find sample error ( $E$ ).
- (e) A population consists of six values 2,3,4,5,6,7. Find number of samples of size four which can be drawn without replacement from the population.
- (f) Two samples of sizes 300 and 400 drawn from two populations having standard deviations 9 and 10 respectively. Find standard error of difference of two sample means.
- (g) Find test – statistic – Chi-square, from the following :

O <sub>i</sub>	20	300	80	600
E <sub>i</sub>	32	288	68	612

- (h) Two samples having sizes 10 and 12 with respective means 7 and 4. If their standard deviations are 2 and 3 respectively, then find standard error of difference of two sample means.
- (i) If  $SSB = 148.93$  and  $SSW = 120$  and sample size = 3 and population size = 14, then find test – statistic –  $F$ .
- (j) Find expected frequencies from the following (2 x 2) contingency table.

	Attacked	Not attacked
Inoculated	42	232
Not inoculated	106	748

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

- Attitude measurement.
- Cluster sampling.

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