

Registration no:

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MAM

MBA-205

Second Semester Regular / Back Examination – 2015-16

RESEARCH METHODOLOGY & SPSS

BRANCH(S): MBA

Time: 3 Hours

Max marks: 70

Q.CODE:W 464

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) If \bar{x}_1 and \bar{x}_2 are the means of two random samples of sizes 100 and 200 drawn from two populations with standard deviations 2 and 3 respectively, then find standard error of the difference of two sample means.
- (b) If p_1 and p_2 are the proportions of two random samples of sizes 120 and 180 drawn from two populations with $p_1 = 0.05$ and $p_2 = 0.03$, then find standard error of the difference of two sample proportions.
- (c) A population consists of five values 2,3,4,5,6. Find number of samples of size three, which can be drawn with replacement from the population.
- (d) In a large consignment of oranges a random sample of 500 oranges revealed that 65 oranges were bad. Find 99.73% upper confidence limit of bad oranges in the consignment.
- (e) If sample error $E = 3$, $Z = 2.33$ and $SD = 9$, then find sample size (n).
- (f) If sample size (n) = 300, sample – mean = 12, population mean = 12.8 and population $SD = 5.2$, then find test-statistic – Z .
- (g) If sample size (n) = 10, sample mean (\bar{X}) = 0.024, population mean = 0.025 and sample standard deviation = 0.002, then find test-statistic – t .
- (h) If $n_1 = 10$, $n_2 = 12$, first sample variance (s^2_1) = 225 and second sample variance (s^2_2) = 200, then find test-statistic – F .
- (i) If $n_1 = 12$ and $n_2 = 12$ and the sum of the rank assigned to sample one items = $R_1 = 160$, then find test-statistic – u .
- (j) If $SSB = 10$, $SSW = 24$, sample size = 3, population size (N) = 12, find test – statistic F .
- Q.2** What is research ? Critically appreciate about research process. **10**
- Q.3** What is questionnaire ? Explain the characteristics of a good questionnaire with pros and cons. **10**
- Q.4** What is the significance of reporting ? Explain the structure of research report. **10**
- Q.5** Apply chi-square test to find out if the following figures provide evidence of the effectiveness on inoculation.
- | | | |
|--|----------|--------------|
| | Attacked | Not attacked |
|--|----------|--------------|

Inoculated	20	300
Not inoculated	80	600

[Given : The value of Chi-square at 5% level with 1 d.f = 3.84]

Q.6

Three different machines are used for a production. On the basis of the outputs, test whether the machines are equally effective.

Machine – I	Machine – 2	Machine – 3
10	9	20
5	7	16
11	5	10
10	6	14

[Given : Value of F at 5% level with (2,9) d.f = 4.26]
(Use Direct – Method)

Q.7

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

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BBBBBBBBBAAAAABBBBAAABBBBBBAABBBAA.

Where 'B' represents the BPL cards and 'A' represents the APL cards. Use one sample run test at 5% level and test whether cards are arranged at random by the control dealer.

[Given : Tabulated value of Z at 5% level at two tailed test = 1.96]

Q.8

Write short note of the following :

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- Stratified sampling.
- Factor analysis.

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