BCS-040

BACHELOR OF COMPUTER APPLICATION (BCA-REVISED)

Term-End Examination

December, 2013

BCS-040 : STATISTICAL TECHNIQUES

Time : 2 hours *Maximum Marks : 50*

Note : (i) *Attempt both section A and Section B.*

(ii) *Attempt any four questions from Section A.*

(iii) *Attempt any three questions from Section B.*

(iv) *Use of Non-scientific calculator is allowed.*

SECTION-A

1. "Explain the term probability distribution". How Binomial distribution differs from poisson distribution ? 5

2. Suppose that A and B are two independent events, associated with a random experiment. If the probability that A or B occurs equals 0.6; while probability that A occurs equals 0.4. Determine the probability that B occurs. 5

3. Construct Model ANOVA table for one-way classification. 5

4. From a population of 200 observations, a sample of n = 50 is selected. Calculate the standard error; if the population standard deviation equals 22. 5

5. Compare and Contrast Random Sampling with **5**
    Non Random Sampling. Briefly discuss the
    methods involved in selection of any simple
    random sample.

6. Calculate an estimate of median for the following **5**
    data.

CLASS		FREQUENCY
0 - 24.9	–	6
25 - 49.9	–	11
50 - 74.9	–	14
75 - 99.9	–	16
100 - 124.9	–	13
125 - 149.9	–	10

SECTION - B

7. Explain *any two* of the following.   **5+5=10**
    (a) t - distribution
    (b) F - distribution
    (c) CHI - SQUARE distribution

8. Using the Regression line $y = 90 + 50x$, fill up the **10**
    values in the table below.

SAMPLE No. (i)	12	21	15	1	24
x_i	0.96	1.28	1.65	1.84	2.35
y_i	138	160	178	190	210
$\hat{y}_i$	138	-	-	-	-
$\hat{e}_i$	0	-	-	-	-

    After filling the table, compute the parameters of
    Goodness to fit i.e R and R^2. Based on the result
    of R and R^2, interpret the correlation between
    variable x and y.

9. What is forecasting ? How forecasting is related **10** to future planning, give suitable example in support of your answer ? Briefly discuss any forecasting model.

10. Differentiate between the following (*any two*) :
    5+5=10
    (a) Linear systematic sampling and circular systematic sampling.
    (b) Z - Test and T - Test
    (c) Correlation and Regression

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