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	FINALTERM EXAMINATION SPRING 2006 STA301 - STATISTICS AND PROBABILITY (Session - 1)	Marks: 50 Time: 120min

StudentID/LoginID: _____

Student Name: _____

Center Name/Code: _____

Exam Date: Thursday, August 17, 2006

Please read the following instructions carefully before attempting any of the questions:

1. **Attempt all questions. Marks are written adjacent to each**

2. **Do not ask any question about the contents of this examination from anyone.**

   a. **If you think that there is something wrong with any of the questions, attempt it to the best of your**

   b. **If you believe that some essential piece of information is missing, make an appropriate assumption and use it to solve the**

   c. **Write all steps, missing steps may lead to deduction of**

3. **You are allowed to use the calculator & Statistical tables in order to solve the questions.**

4. **For your convenience we are providing you the following symbols,**

Σ , $\sim$, $\bar{X}$ **o**r write Mean, **s,** σ or **sd** for standard deviation, $\mathbf{s^2}$ σ^2 or $\mathbf{sd^2}$ or variance for variance, $\sqrt{\ }$, $\sum \log x$,for square root or whole square root.

****WARNING: Please note that Virtual University takes serious note of unfair means. Anyone found involved in cheating will get an `F` grade in this course.**

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For Teacher's use only											
Question Marks	1	2	3	4	5	6	7	8	9	10	Total
Question Marks	11	12	13	14							

Question No: 1 (Marks: 4)

C.V of scores made by two batsmen A and B in a series of innings are C.VA= 117.67% and C.VB=70.45%. Who is more consistent player?

Question No: 2 (Marks: 4)

What is meant by estimation? What are its types?

Question No: 3 (Marks: 4)

Write down any four properties of normal

Question No: 4 (Marks: 1) - Please choose one

For 9 observations all consisting of 4, the following relation between A.M, G.M and H.M. hold:

- A.M.>G.M.>H.M
- A.M. <G.M. <H.M
- A.M. =G.M. =H.M.
- None of these

Question No: 5 (Marks: 1) - Please choose one

If $P(A \cup B) = P(A) + P(B)$, **then A and B are:**

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- Mutually exclusive
- Dependent
- Independent
- None of these

Question No: 6 (Marks: 1) - Please choose one

In which distribution the successive trials are without

- Hypergeometric distribution
- Binomial distribution
- Continuous distribution
- None of these

Question No: 7 (Marks: 1) - Please choose one

A _____ is a subset of a _____.

- Sample, population
- Population, sample
- Statistic, parameter
- Parameter, statistic

Question No: 8 (Marks: 1) - Please choose one

If false hypothesis is accepted, it is

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- Level of significance
- Type-I error
- Type-II error
- None of these

Question No: 9 (Marks: 1) - Please choose one

The points of inflection in normal distribution are:

- μ-σ, μ+σ
- μ-2σ, μ+2σxz
- μ, σ
- None of these

Question No: 10 (Marks: 1) - Please choose one

For testing of hypothesis about population proportion, we

- Z-test
- t-test

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- Chi-square test
- None of these

Question No: 11 (Marks: 1) - Please choose one

Which of the following cannot be considered as null (H_0) ?

- $\theta = \theta_0$
- $\theta \leq \theta_0$
- $\theta \geq \theta_0$
- $\theta > \theta_0$

Question No: 12 (Marks: 10)

Calculate the Geometric Mean.

Marks	Number Of Students
30-39	8
40-49	87
50-59	190
60-69	304
70-79	211
80-89	85
90-99	20

Question No: 13 (Marks: 10)

A research worker wishes to estimate the mean of a Population using a sample sufficiently large

that the probability will be 0.95 that the sample mean will not differ from the true mean by than 25 pr cent of the standard deviation. How large a sample should be

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Question No: 14 (Marks: 10)

Random samples of 200 bolts manufactured by machine A showed 19 and 100 bolts by machine B showed 5 defective bolts. Test the hypothesis at 5% level of significance that the machines are showing different qualities of