**Məmmədrzayev Vüsal\_ Statistika**

 **Final Exam Questions (Student Version)**

1. Explain the difference between sampling and non-sampling error and provide an example for each of them.
2. Explain categorical, numerical, ordinal and nominal variables and provide an example for each of them
3. List different sampling methods. Discuss and provide an example about each of them
4. **Problem Solving: Construction of graph**
5. **Problem Solving: Construction of graph**
6. In which situation, median is better measure than arithmetic mean in order to show the central tendency? Provide an example
7. **Problem Solving: Calculation of geometric mean and percentiles**
8. **Problem Solving: Calculation of Range and IQR**
9. **Problem Solving: Calculation of Five Number Summary**
10. **Problem Solving: Calculation of variability measures**
11. **Problem Solving: Calculation of variability measures**
12. **Problem Solving: Calculation of covariance and correlation coefficeint**
13. Discuss the differences between covariance and correlation coefficient.
14. Does correlation mean causation? Why and why not? Provide an example.
15. **Problem Solving: Calculation of classical probability**
16. **Problem Solving: Calculation of classical probability**
17. **Problem Solving: Calculation of classical probability**
18. **Problem Solving: Calculation of classical probability**
19. Explain the difference between permutation and combination method by providing examples.
20. **Problem Solving: Calculation of classical probability**
21. **Problem Solving: Calculation on events**
22. **Problem Solving: Calculation on events**
23. **Problem Solving: Uniform Distribution**
24. **Problem Solving: Calculation of classical probability**
25. **Problem Solving: Calculation of variability measure**
26. **Problem Solving: Probability calculation**
27. **Problem Solving: Probability calculation**
28. **Problem Solving: Bayes Theorem**
29. **Problem Solving: Bayes Theorem**
30. **Problem Solving: Conditional Probability**
31. **Problem Solving: Conditional Probability**

**32. Problem Solving: Bayes Theorem**

**33**. **Problem Solving: Bayes Theorem**

**34. Problem Solving: Conditional Probability**

**35.** **Problem Solving: Conditional Probability**

**36.** **Problem Solving: Calculation of expected value and variance**

**37.** **Problem Solving: Calculation of expected value and variance**

**38**. **Problem Solving: Calculation of expected value and variance**

**39**. **Problem Solving: Calculation of expected value and variance. Construction of discrete probability distribution.**

**40**. **Problem Solving: Binomial distribution.**

**41.** **Problem Solving: Binomial distribution.**

**42**. **Problem Solving: Binomial distribution.**

**43**. **Problem Solving: Bayes Theorem.**

**44.** Discuss the main difference between discrete and continuous probability distribution. Provide an example about each of them.

**45**. Discuss the types of discrete probability distribution. Provide an example about each of them.

**46**. **Problem Solving: Conditional Probability.**

**47**. What is main characteristics of bivariate probability distribution?

**48**. **Problem Solving: Binomial distribution.**
**49**. **Problem Solving: Binomial distribution.**

**50.** **Problem Solving: Binomial distribution.**

51. Discuss the reasons that we use Estimator and Estimate. What is biased and unbiased estimators?

**52**. What is Point estimator and Interval Estimator? Explain the main difference between them and provide one example for each of them.

**53. Problem Solving: Point Estimator**

**54. Problem Solving: Construction of confidence interval**

**55**. Explain difference between the Student and Standardized normal distribution for the following sample sizes.

a) n=16

b) n=200

**56**. **Problem Solving: Confidence Interval**

**57**. **Problem Solving: Point Estimator**

**58.** **Problem Solving: Finding expected value and variance of linear combination of random variables.**

**59.** **Problem Solving: Standardized Normal Distribution**

**60.** **Problem Solving: Standardized Normal Distribution**

**61. Problem Solving: Standardized Normal Distribution**

**62**. **Problem Solving: Standardized Normal Distribution**

**63. Problem Solving: Confidence Interval**

**64. Problem Solving: Confidence Interval**

**65. Problem Solving: Standardized Normal Distribution**

**66**. Consider the following:

a) Explain importance of Normal distribution.

 b) **Problem Solving: Point Estimator**

**67. Problem Solving: Confidence Interval**

**68. Problem Solving: Confidence Interval**

**69. Problem Solving: Confidence Interval**

**70.** **Problem Solving: Standardized Normal Distribution**

**71**. **Problem Solving: Sampling Distribution of Sample Proportion**

72. **Problem Solving: Sampling Distribution of Sample Proportion**

**73**. **Problem Solving: Confidence Interval**

**74**. **Problem Solving: Confidence Interval**

**75**. **Problem Solving: Confidence Interval**