

# Biostatistics Final Exam 023

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**Q1. 42 of 75 children have recovered from flu after two weeks from taking antibiotics .. if we have a sample of 225 children, find 95% CI of prevalence of recovery**

- a. (0.6723, 0.4477 )
- b. ( 0.4477 , 0.6723 )
- c. ( 0. 7700 , 0.3229 )
- d. ( 0.8996 , 0.6455 )

**Answer: b**

**Q2. Which of these following won't change after replacing 25 by 30 given the sample ( 10,12, 16,17,25,25)?**

- a. Mean
- b. Variance
- c. Median
- d. Mode

**Answer: c**

**Q3. Which statement is false?**

- a. We use ANOVA for two or more groups.

- b. Sample correlation coefficient is normally distributed with mean  $\rho$  and variance  $\rho^2$ .**
- c. Variance is a measure of spread.**
- d. Error increases as sample size decreases.**

**Answer: b**

**Q4. 3 groups of smokers**

**n=150**

**SS between = 60.4**

**SS total = 540.6**

**What is the test stat (F distribution)?**

- a. 7.6**
- b. 6.77**
- c. 5.44**
- d. 4.33**

**Answer: a**

**Q5. Type II error is defined as ...?**

- a. Rejecting true null hypothesis**
- b. Accepting false null hypothesis**
- c. Power of the test**
- d. Beta x alpha**

**Answer: b**

**Q6. 15 asthmatic volunteers are divided to three groups, (A, B and C) A and B each has four volunteers and C has 7, to compare between each group mean, what is the critical value?  $\alpha=0.05$**

**a. 1.46**

**b. 1.65**

**c. 2.81**

**d. 1.96**

**Answer: c**

**Q7.  $H_0: p=0$      $H_1: p > 0$**

**if the test statistic is 1.98 what is the p value?**

- a.  $\Pr(t(n-2) > 1.98)$**
- b.  $2\Pr(t(n-2) > 1.98)$**
- c.  $1 - \Pr(t(n-2) > 1.98)$**
- d.  $2 - \Pr(t(n-2) > 1.98)$**

**Answer: a**

**Q8. to test R\*C contingency table with a critical value of  $\alpha$  we use :**

- a. Chi square (R-1) (C-1), (1- $\alpha$ )**
- b. Chi square (R x C) (1- $\alpha$ )**
- c. F test (N- K)**
- d. F test (R-1) (C-1)**

**Answer: a**

**Q9. If normally distributed and the mean equals 180 and population variance equals 41 find  $p(x < 175)$ ?**

- a. 0.5485**
- b. 0.022**
- c. 0.434**

**d. 0.451**

**answer: d**

**Q10. 4 groups of years of experience, (0-3 4-6 6-9 >10) classified into excellent, good, acceptable. What is the critical value?**

**a. 0.5**

**b. 0.05**

**c. 0.1**

**d. 0.01**

**Answer: c**