TELANGANA UNIVERSITY
S.S.R. DEGREE COLLEGE, NIZAMABAD (C.C:5029)
IV SEMESTER INTERNAL ASSESSMENT I EXAMINATIONS
STATISTICS QUESTION BANK

I. Multiple choice questions.

1. The region of the sample points for which the HO is rejected. [c]
a) Critical region b) Acceptance c) Possible d) None

2. How many error's possible in testing the hypothesis. [b]
a) 4 b) 2 c) 3 d) None

3. "α" is known as _____ [c]
a) Type-I error b) Type-II error c) LOS d) None

4. Power of the test is denoted by [b]
a) α b) 1-β c) y-α d) y-β

5. The standard normal variate lies between [a]
a) ± 3 b) ± 2 c) ± 1 d) 0

6. The sample size is "≥ 30" then the sample is as [b]
a) Small sample test b) Large sample test c) Both a & b d) None

7. From the standard normal tables $P(|Z| \leq b)$ = _____ [c]
a) 0.9970 b) 0.9971 c) 0.9973 d) 1

8. _____ value depends on the las and H_1 [d]
a) Normal value b) Calculated c) Table value d) Critical

9. _____ decides whether the test in one (or) two tailed [b]
a) HO b) H1 c) α d) β

10. If $|Z| \leq z\alpha$ we may _____ Ho [a]
a) Accept b) Reject c) codiadist d) None

11. Hypothesis is denoted by _____ [a]
a) H b) H_0 c) H_1 d) None

12. Null Hypothesis is denoted by _____ [b]
a) H b) H_0 c) H_1 d) None

13. Alternative hypothesis is denoted by [c]
a) H b) H_0 c) H_1 d) None

14. There are _____ types of errors [a]
a) 2 b) 3 c) 4 d) 5

15. Probability of type-I error is denoted by _____ [a]
a) α b) β c) γ d) None

16. Probability of type-II error is denoted by _____ [b]
a) α b) β c) γ d) None

17. Level of significance is denoted by _____ [a]

a) α b) β c) γ d) None

18. Sample proportion, P = _____ [a]

a) $\frac{x}{n}$ b) $\frac{X}{N}$ c) X d) None

19. If $|Z| > Z_\alpha$, then we may _____ H_0 [b]

a) Accept b) Reject c) Both d) None

20. P(-3 < Z < 3) = _____ [a]

a) 0.9973 b) 0.999 c) 0.027 d) 0.0027

II. Fill in the blanks

1. Test for a single proportion = $\frac{P-P}{\sqrt{PQ/n}}$

2. Test for a two proportion = $\frac{P_1-P_2}{\sqrt{PQ\left(\frac{1}{n_1}+\frac{1}{n_2}\right)}}$

3. Test for a single mean = $\frac{(\bar{x}-\mu)}{\frac{\sigma}{\sqrt{n}}}$

4. Test for a two mean = $\frac{(\bar{x}-\bar{y})}{\sqrt{\frac{\sigma_1^2}{n_1}+\frac{\sigma_2^2}{n_2}}}$

5. Test for a single variance = $\frac{\left(\frac{ns^2}{\sigma^2}-n\right)}{\sqrt{2n}}$

6. Test for a single standard deviation = $\frac{(s-\sigma)}{\sigma/\sqrt{2n}}$

7. Test for a two S.D = $\frac{(S_1-S_2)}{\sqrt{\frac{\sigma_1^2}{2n_1}+\frac{\sigma_2^2}{2n_2}}}$

8. Test for a single correlation coefficient = $\frac{(r-f)/(1-f^2)/\sqrt{n}}{}$

9. Test for a two correlation coefficient = $\frac{\left(\frac{1}{2}\log\frac{1+r_1}{1-r_1}-\frac{1}{2}\log\frac{1+r_2}{1-r_2}\right)}{\sqrt{\frac{1}{n_1-3}+\frac{1}{n_2-3}}}$

10. Null hypothesis denoted by = H_0

11. The critical value of two tailed test at 5% L.O.S $\pm$ 1.96

12. The critical value of two tailed test at 1% L.O.S $\pm$ 2.58

13. The critical value of one tailed test at 5% L.O.S $\pm$ 1.645

14. The critical value of one tailed test at 1% L.O.S 2.33

15. The sample mean ($\bar{x}$) follows normal distribution with the variances σ^2/n

16. Population mean is denoted by μ

17. Sample mean is denoted by $\bar{x}$

18. Population standard deviation denoted by σ

19. Sample standard deviation denoted by S

20. Sample variance denoted by S^2

III. Short Answers.

1. Define Hypothesis?

A: It is a process of decision making by using various statistical methods and theory of modern probability.

2. Define type-II error?

A: Accepting H_0 when it is false

3. Define null hypothesis according to fisher?

A: It is tested for possible rejection under the assumption that it is true.

4. Define composite hypothesis?

A: The hypothesis do not specify the population completely.

5. State Neyman-Pearson lemma?

A: $W = \{x \in S; \frac{L_1}{L_0} > K\}$

6. Define alternative hypothesis?

A: It is complementary to the null hypothesis.

7. Define Type-I error?

A: Rejecting H_0 when it is true

8. Define power of the test?

A: Probability of rejecting H_0 when H_0 is false

9. Define large sample tests?

A: If the sample size is greater than or equal to 30, then the sample is known as large sample.

10. Test statistics formula?

A: $Z = \frac{t - E(t)}{S.E(t)} \sim N(0,1)$