TELANGANA UNIVERSITY
S.S.R. DEGREE COLLEGE, NIZAMABAD (C.C:5029)
V SEMESTER INTERNAL ASSESSMENT II EXAMINATIONS
STATISTICS (ANALYTICAL STATISTICS) QUESTION BANK (BSC (MSDS)

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1. Concept of anova introduced by _____ [a]
a. Fisher b. Dantigig c. Wilcoxon d. None
2. ANOVA oneway, MSST = _____ [d]
a. SST/N-1 b. SST/N-K c. SST/n-1 d. None
3. ANOVA oneway, T.S.S = _____ [c]
a. $S_T^2 + S_E^2$ b. S_T^2 c. SST + SSE d. None
4. In two-way ANOVA, D.F for SSE = _____ [d]
a. K-1 b. N-1 c. n-1 d. (K-1)(n-1)
5. Correction factor = _____ [a]
a. G^2/N b. G/N c. G^2/n d. None
6. UCL of R-chart _____ [b]
a. $D_3\bar{R}$ b. $D_4\bar{R}$ c. D_3 d. D_4
7. CL of R-chart _____ [c]
a. $D_3\bar{R}$ b. $D_4\bar{R}$ c. $\bar{R}$ d. D_3
8. UCL of S-chart _____ [c]
a. B_3R b. B_4R c. $B_4\bar{S}$ d. $B_3\bar{S}$
9. LCL of S-chart _____ [d]
a. $B_3\bar{R}$ b. $B_4\bar{R}$ c. $B_4\bar{S}$ d. $B_3\bar{S}$
10. CL of d-chart _____ [b]
a. $\bar{P}$ b. $n\bar{P}$ c. $ni\bar{P}$ d. None
11. CL of C-chart _____ [b]
a. C b. $\bar{C}$ c. $2\bar{C}$ d. None
12. LCL of C-chart _____ [c]
a. $\bar{C}+3\sqrt{\bar{C}}$ b. $\bar{C}\pm3\sqrt{\bar{C}}$ c. $\bar{C}-3\sqrt{\bar{C}}$ d. None
13. UCL of C-chart _____ [a]
a. $\bar{C}+3\sqrt{\bar{C}}$ b. $\bar{C}\pm3\sqrt{\bar{C}}$ c. $\bar{C}-3\sqrt{\bar{C}}$ d. None
14. LCL of R-chart _____ [c]
a. $B_3\bar{R}$ b. $B_4\bar{R}$ c. $D_3\bar{R}$ d. $D_4\bar{R}$
15. How many principles in Design of experiments [a]
a. 3 b. 4 c. 5 d. 2
16. If, E > 1, then efficiency is _____ design [a]
a. More than b. Less than c. Equal d. None
17. Mark off linear model _____ [a]
a. $A\beta+\varepsilon$ b. $A\beta$ c. AB + C d. None
18. There are _____ types of causes of variations [c]
a. 4 b. 3 c. 2 d. 5
19. Controlled variations means _____ [ ]
a. Assignable b. Chance c. Both d. None
20. Uncontrolled variations means _____ causes [ ]
a. Assignable b. Chance c. Both d. None

II. Fill in the blanks.
1. CRD means Complete Randomized Design
2. RBD means Randomised Block Design
3. LSD means Latin Square Design
4. Basis of 3 σ -limits formula E(t) $\pm$ 3 S.E(t)

5. Mathematical model of CRD $y_{ij} = \mu + \alpha_i + \in_{ij}$

6. Mathematical model of RBD $y_{ij} = \mu + \alpha_i + \beta_j + \in_{ij}$

7. Mathematical model of LSD $y_{ijk} = \mu + \alpha_i + \beta_j + \gamma_k + \in_{ijk}$

8. Overall mean, $\bar{y}_{..} = \frac{1}{N}\sum\sum y_{ij}$

9. Raw sum of squares, RSS = $\sum\sum y_{ij}^2$

10. ANOVA one way, F-Test $\frac{S_T^2}{S_\varepsilon^2}$

11. Range, R_i = Max(X_{ij})-Min(X_{ij})

12.CL of $\bar{X}$ - chart $\bar{\bar{X}}$

13. UCL of $\bar{X}$ - chart $\bar{\bar{X}} + A_2\bar{R}$

14. LCL of $\bar{X}$ - chart $\bar{X} - A_2\bar{R}$

15. CL of P-chart $\bar{P}$

16. LCL of P-chart $\bar{P} - A\sqrt{\bar{p}\bar{q}}$

17. UCL of P-chart $\bar{P} + A\sqrt{\bar{p}\bar{q}}$

18. UCL of np-chart $n\bar{P} + 3\sqrt{n\bar{p}\bar{q}}$

19. LCL of d-chart $n\bar{P} - 3\sqrt{n\bar{p}\bar{q}}$

20. Control chart for number of defects per unit is C-Chart

III. Short Answer questions.

1. Define ANOVA?

Ans: Separation of variance ascribable to one group of causes from the variance ascribable to the group.

2. Define Replication?

Ans: Repetition of any treatment more than once.

3. Define Randomization?

Ans: Allocating the treatments to various experimental material randomly and dividing the heterogeneous material into homogeneous blocks.

4. Define local control?

Ans: Dividing the heterogeneous experimental material into homogeneous experimental material into homogeneous subgroups and reducing the experimental error.

5. Define Treatment?

Ans: Treatments are various objects of comparison applied on one or more experimental units in a comparative experiment.

6. Define assignable causes?

Ans: An unacceptable process performance the variations due to detective raw materials, machines are often called assignable causes.

7. Write any two uses of SQC?

Ans: 1) Reducing the cost 2) More efficiency

8. What are the variable control charts?

Ans: $\bar{X}$, R, σ - charts are called variable charts

9. What are the attribute control charts?

Ans: P, np and C charts.

10. Write interpretation for any control chart?

Ans: If all the points fall within the UCL and LCL, then the process is under control otherwise, out of control.