



# ANURAG GROUP OF INSTITUTIONS

Autonomous

School of Engineering

II-B.Tech I- Semester II-Assignment Examination

**Subject:** Probability and Statistics

(Common to MECH AND CIVIL)

1. The nicotine contents in milligrams in two samples of tobacco were found to be as follows

Sample A	24	27	26	21	25	
Sample B	27	30	28	31	22	36

Can it be said that two samples have come from same normal population.

2. From the following data find whether there is any significant linking in the habit of taking softdrink among the categories of employees

Soft drinks	Employees			Total
	Clerks	Teachers	Officers	
Pepsi	10	25	65	100
Thumsup	15	30	65	110
Fanta	50	60	30	140

3. Explain Randomised block design.  
4. Set up the analysis of variance for the following results of a Latine square design

A	C	B	D
12	19	10	8
C	B	D	A
18	12	6	7
B	D	A	C
22	10	5	21
D	A	C	B
12	7	27	17

5. Which of the following matrices are regular

a) 
$$\begin{bmatrix} \frac{1}{2} & \frac{1}{4} & \frac{1}{4} \\ 0 & 1 & 0 \\ \frac{1}{2} & \frac{1}{2} & 0 \end{bmatrix}$$

b) 
$$\begin{bmatrix} 0 & 0 & 1 \\ \frac{1}{2} & \frac{1}{4} & \frac{1}{4} \\ 0 & 1 & 0 \end{bmatrix}$$

6. If  $q = \frac{1}{2}$ ,  $z = 500$  and  $a = 1500$  then find  $P_Z$ ,  $q_Z$  AND the expected duration of the game