



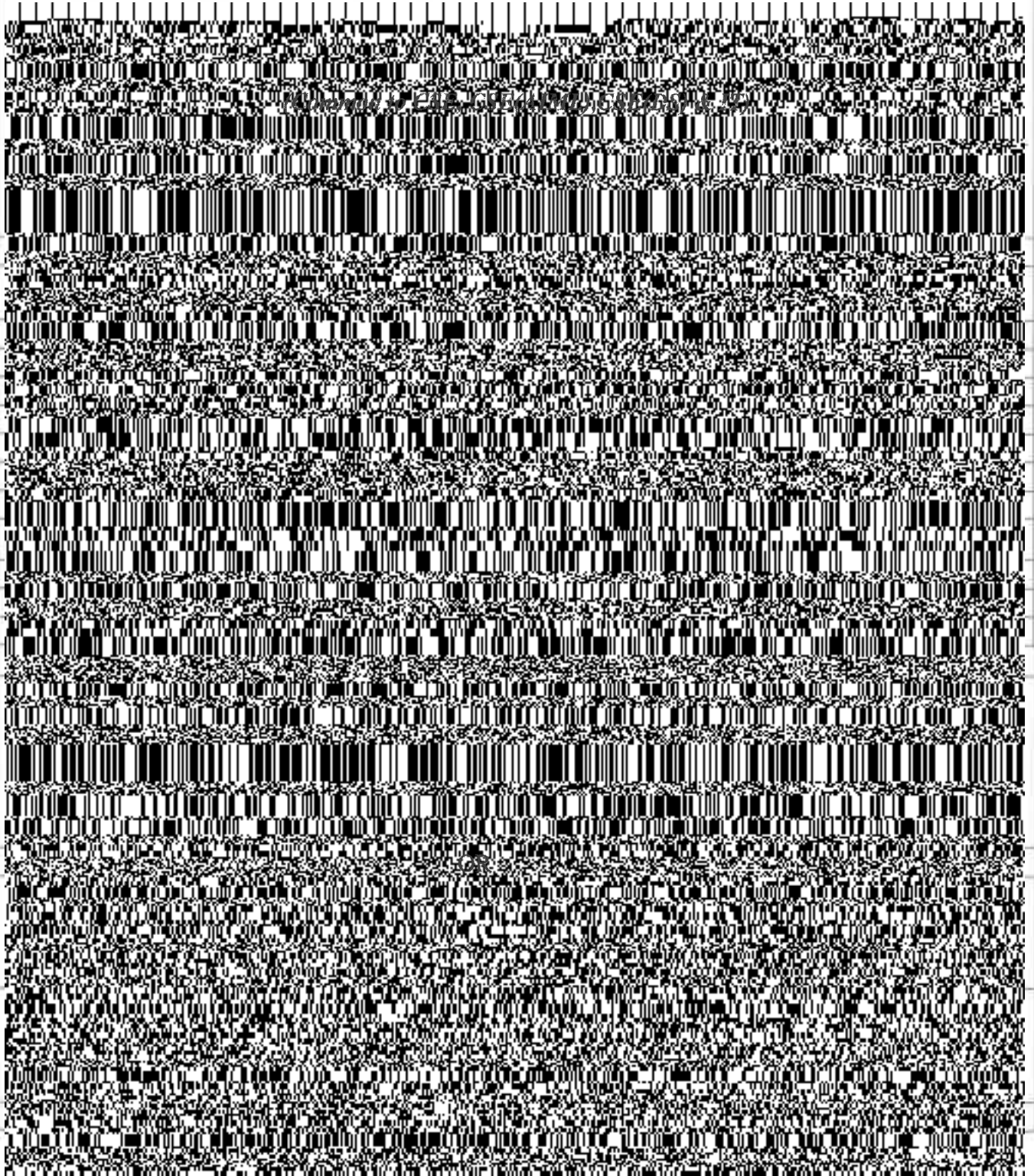
R22 Regulation

Subject code:4B2AM

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

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5	Calculate Mean Deviation from mean and its co-efficient to the following data. [10M]	2	L3													
	<table border="1"> <tr> <td>Classes</td> <td>0-5</td> <td>5-10</td> <td>10-15</td> <td>15-20</td> <td>20-25</td> <td>25-30</td> <td>30-40</td> </tr> <tr> <td>frequency</td> <td>2</td> <td>13</td> <td>35</td> <td>13</td> <td>15</td> <td>12</td> <td>11</td> </tr> </table>			Classes	0-5	5-10	10-15	15-20	20-25	25-30	30-40	frequency	2	13	35	13
Classes	0-5	5-10	10-15	15-20	20-25	25-30	30-40									
frequency	2	13	35	13	15	12	11									
6	<p>The production of cement by the firm in years 1 to 9 is given below: [10M]</p> <p>Year: 1 2 3 4 5 6 7 8 9</p> <p>Production 4 5 5 6 7 8 9 8 10</p> <p>(Millions)</p> <p>Calculate the trend values for the above series by the following two methods.</p> <p>i. 3- yearly moving average and</p> <p>ii. Linear trend</p>	3	L3													
OR																
7	<p>a. Explain about moving average method. [5M]</p> <p>b. Explain the components of time series analysis. [5M]</p>	3	L3 L2													
8	Find the directional derivative of $xyz^2 + zx$ at the point(1,1,1) in a direction of normal to the surface $3xy^2 + y = z$ at the point(0,1,1) . [10M]	4	L2													
OR																
9	Find the angle between the surfaces $x^2 + y^2 - 3 = z$, $x^2 + y^2 + z^2 = 9$ at (2, -1 2). [10M]	4	L3													
10	<p>If $\vec{F} = 4xz\vec{i} - y^2\vec{j} + yz\vec{k}$ evaluate $\int_S \vec{F} \cdot \vec{n} dS$ where S is the surface of the cube bounded by the planes $x = 0, x = a, y = 0, y = a, z = 0, z = a$ [10M]</p>	5	L3													
OR																
11	Verify Stokes theorem for $\vec{F} = (x^2 + y^2)\vec{i} - 2xy\vec{j}$ taken round the rectangle bounded by the lines $x = \pm a, y = 0, y = b$ [10M]	5	L3													