| Enrollment No. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

# KADI SARVA VISHWAVIDYALAYA

**VIDUSH SOMANY INSTITUTE OF TECHNOLOGY AND RESEARCH, KADI**

**B.E. Semester- 3 (CE/CSE/IT) RE-MID EXAMINATION November-2022**

**Subject**: **Engineering Mathematics-3 (CC301-N)**

**Date:01/11/2022** **Time: 2:00pm to 3:30pm**

**Day: Tuesday** **Marks: 30**

**Instructions:**

1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Indicate clearly, the options you attempt along with its respective question number.

| | | |
|---|---|---|
| **Q-1 (A)** | Prove that {P(A), $\leq$ } is lattice for A = {a, b, c}. | **[5]** |
| **Q-1 (B)** | Define the Following Term for Undirected Graph with Example.<br>1. closed and open walk 2. path 3. Simple graph 4. loop | **[5]** |
| | | |
| **Q-2 (A)** | Let f: R$\rightarrow$ R be define by f(x) = $x^2$. Then check that f is Bijective or not. | **[5]** |
| **Q-2 (B)** | Expressed the Boolean expression $x_1 * x_2$ in an equivalent product of sum canonical form. | **[5]** |
| | OR | |
| **Q-2 (A)** | Show That < N, ≤ > is chain. | **[5]** |
| **Q-2 (B)** | Let p, q and r be the statement then construct the truth table for the statement formula A, A: ($\sim$ p v q) $\rightarrow$ r. | **[5]** |
| | | |
| **Q-3 (A)** | If p and q are any two statement then verify $\sim$ (p $\leftrightarrow$ q) =$\sim$ p $\leftrightarrow$ q = p $\leftrightarrow\sim$ q | **[5]** |
| **Q-3 (B)** | Show that the set of all positive rational number Q+ form a group under the composition operation define by a $*$ b = $\frac{ab}{5}$. | **[5]** |
| | OR | |
| **Q-3 (A)** | Define Right and Left coset. Let G= (z, +) and H= (4z, +) Then find all the possible left and right coset. | **[5]** |
| **Q-3 (B)** | Show that $(s_3, o)$ is not an abelian group. | **[5]** |

********ALL THE BEST*********