

PARSHVANATH CHARITABLE TRUST'S

A.P. SHAH INSTITUTE OF TECHNOLOGY

Department of Computer Science and Engineering
Data Science

Semester: Subject: DS GT Academic Year: 20 22- 20 23
* Chain and Anti-chain -
Let (A, <) be a partially ordered set. A subsered A is called a chain if every two elements.
elements in a chain is called the length
no two distinct elements in the subset are related.
e.g. () A = { q, b, c, d, e }
chain = {a,b,c,e}, {a,b,c}, {a,b} {a,d,e}, {a,d}, {a}
29,d,e3 { 9,d3, £ 93 anti-chain = { b,d} { c,d3.
2 Let A = {a,b} and consider its poset {P(A), C} find chains & anti-chains
P(A) = { { 9 9 3 , { a 3 , { b 3 , { a 1 , b 3 }
Chains = £ {\$\psi_1, \{a_1b_3\}, \{a_1b_3\}, \{a_1b_3\}, \{a_3\}, \{a_3\},
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