\* ALGEBRAIC STRUCTURE OF CYCLIC CODES : "A (n, K) linear block code is said to be a cyclic code if every cyclic shift of the code is K. also a code vector." Ext If C, = 0111110 C2 = 0011111 C3 = 1001111 CA = 1100111 If C1, C2, C3... are also code vectors belonging to the same code, then the code is called CYCLIC CODE. In. (1) In general, I meetgoogle.com is sharing your screen. Stop sharing Hide be represented as

If C1, C2, C3... are also code vectors belonging to the same code, then the code is called CYCLIC CODE. In general, let the n-bit vector be represented as  $V = (V_0 \cup V_1 \cup V_2 - \dots \cup V_{n-1})$  $V(1) = (V_{n-1} V_0 V_1 V_2 - - - V_{n-2})$  $V(2) = (V_{n-2}V_{n-1}V_0V_1 - - - - V_{n-3})$  $V(i) = (\bigvee_{0 \le i} \bigvee_{0 \le i+1} \dots \bigvee_{0 \le i \le i} \bigvee_{0 \le i \le i})$ These equation which are although red by shifting You

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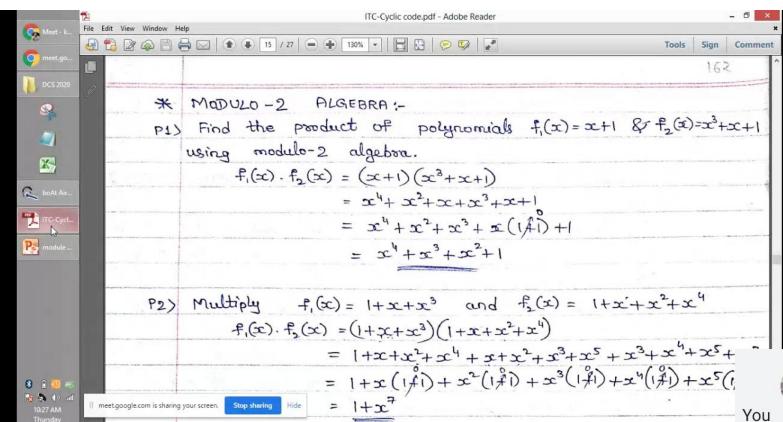
 $V(i) = (V_{0-i}, V_{0-i+1}, \dots, V_{0}, V_{1}, V_{2}, \dots, V_{0-i-1})$ These equations which are obtained by shifting the 'V' vector cyclically successively are also the code vectors 'C'. This property of cyclic codes also allows to topat the elements of each code vector as attaco-efficients of polynomial of degree (25). 1 .. The equation will be  $V(x) = V_0 + V_1 x + V_2 x^2 + V_3 x^3 + \dots + V_{n-1} x^{n-1}$  $V'(x) = V_{n-1} + V_{0}x + V$ 

10:18 The equation will be  $V(x) = V_0 + V_1 x + V_2 x^2 + V_3 x^3 + .$  $V'(x) = V_{0-1} + V_{0}x + V_{1}x^{2} + V_{2}x^{3} + V_{3}x^{3} + V_$  $V^{2}(\alpha) = V_{n-2} + V_{n-1}x + V_{0}x^{2} + V_{1}x^{3} +$  $V'(x) = V_{n-1} + V_{n-1+2}x + V_{n-1+2}x^2 + V_{n-1+3}x^3 + V_{$ Scanned by CamScanner

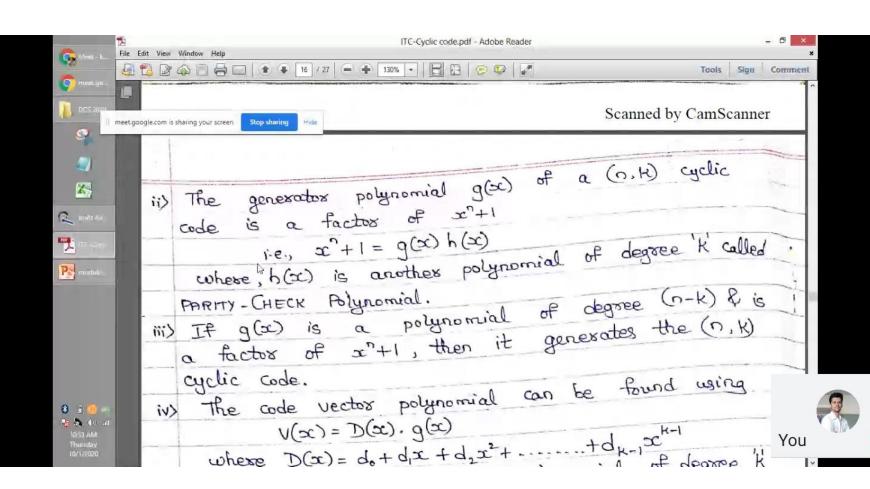
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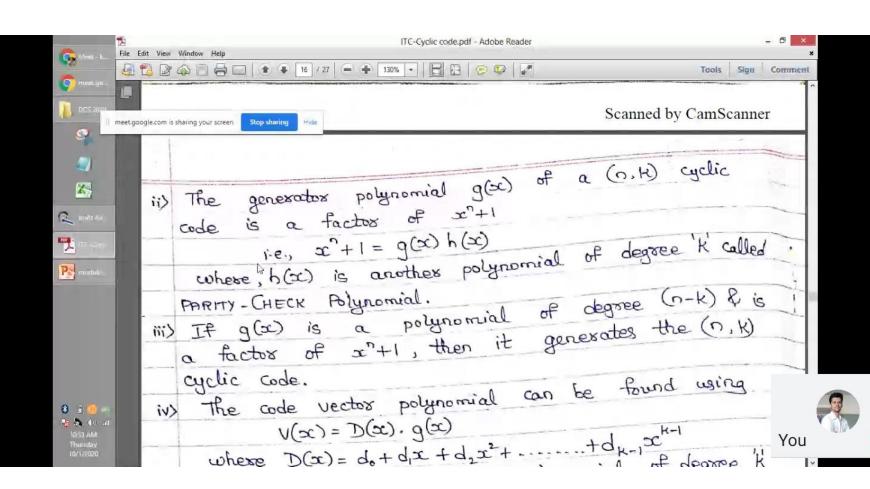
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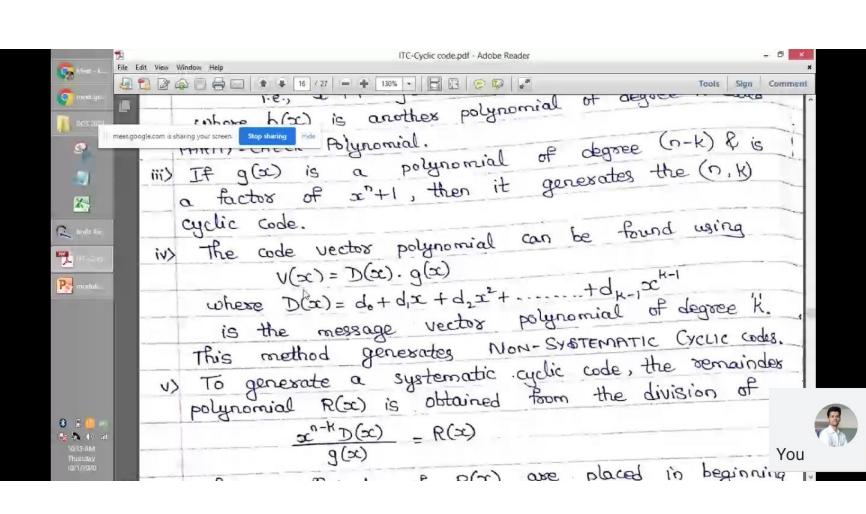
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