



SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

AN AUTONOMOUS INSTITUTION

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai



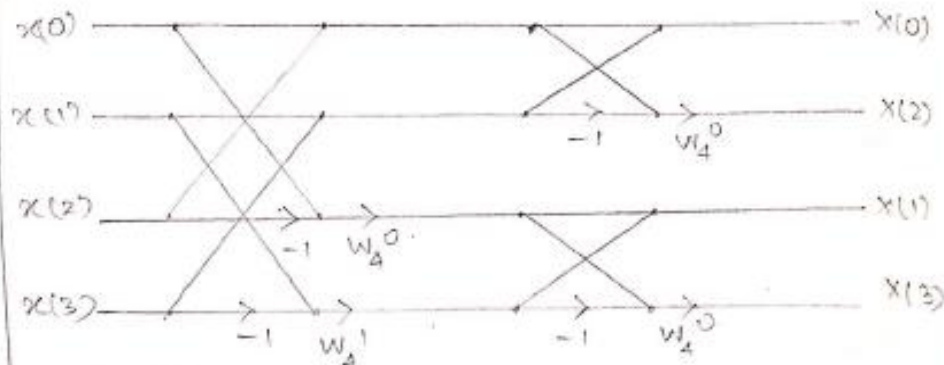
UNIT- I

Discrete Fourier Transform

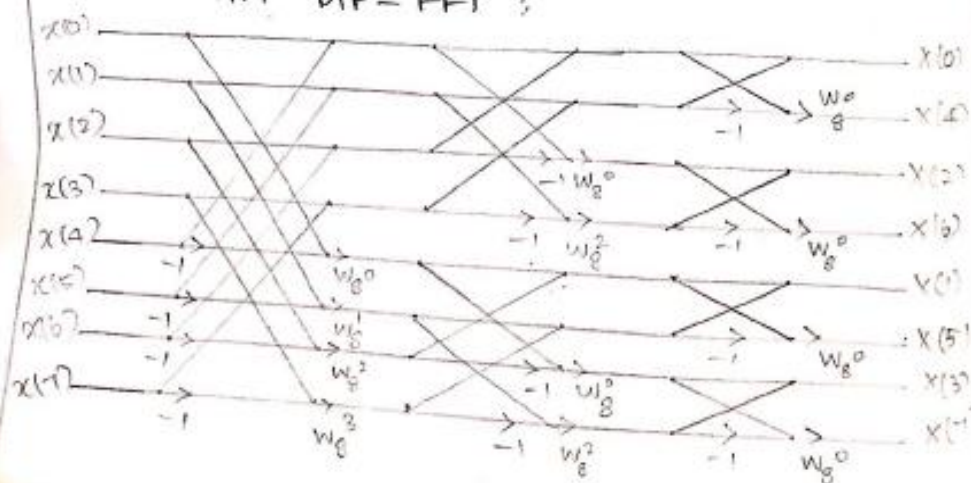
FFT Algorithms- Decimation in Frequency

GENERAL STRUCTURE FOR DIF-FFT :

4-POINT DIF-FFT :



8-POINT DIF-FFT :



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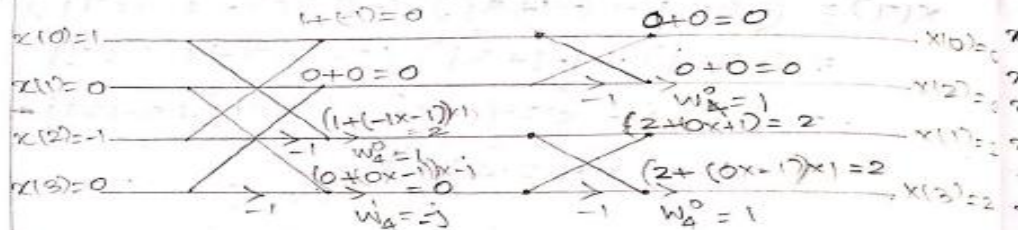
4-POINT DIF - FFT

1) $x(n) = \{1, 0, -1, 0\}$ using DIF-FFT

Algorithm -

Sol:

$N=4$

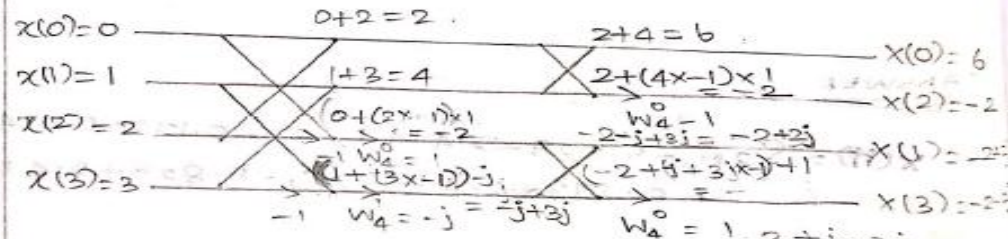


ANSWER:

$$X(k) = \{0, 2, 0, 2\}$$

2) $x(n) = \{0, 1, 2, 3\}$

Sol:



ANSWER:

$$X(k) = \{6, -2, -2+2j, -2-2j\}$$

$$x(k) = \{16, 0, -4, 0, 0, 0, -4, 0\}$$



Thank You!

