

ROSH

NPTEL COA ANSWERS OF WEEK-1

1. Instruction fetch → Instruction decode → Operand fetch → Execute → Result store {OPTION - C}
2. The least significant byte is stored at the smallest address. {OPTION – A}
3. It contains the address of the next instruction to be fetched {OPTION -B}
4. Increase in the average number of cycles per instruction {OPTION -D}
5. 15 bits {OPTION -D}
6. 16 {OPTION – B}
7. 2.4
8. 1.714 {ACCURACY HAI BAAKI PIC DEKH LO}

JOIN GROUP FOR NEXT WEEK ASSIGNMENT ANSWERS

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RISC vs CISC

- ❖ RISC: Reduce the cycles per instruction at the cost of the number of instructions per program.
- ❖ CISC: Attempts to minimize the number of instructions per program but at the cost of an increase in the average number of cycles per instruction.



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8 resistor

2³

3 bit

2 total - of code - resistors

remaining 2 24 - 3 - 6

2 15

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Speedup ≈ 6

factor ≈ 0.5

$$\text{Speedup}_{\text{enhance}} \approx \frac{1}{(1-0.5) + \frac{0.5}{6}}$$

$$\approx \frac{1}{0.5 + 0.08333}$$

$$\approx \frac{1}{0.58333}$$

$$\approx \frac{1.71428}{1.71428}$$

$$\approx 1.71428$$

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	No. of instructions	
ARX	40	1
Load	30	4
Branch	10	2
Store	20	3
ALU	40	1

30 0.3X

$$\frac{\sum n_i \times x_i}{\sum n_i} = \frac{30 \times 4 + 20 \times 3 + 10 \times 2 + 40 \times 1}{100}$$

$$= \frac{120 + 60 + 20 + 40}{100}$$

2.4% ~~0.3X~~

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Execution Cycle

