Week 2 - Assignment 1

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1) Time taken by a n-bit carry look-ahead adder is proportional to ***1 point***

- (a) O(n)
- (b) O(log n)
- (c) O(n*log n)
- (d) O(n2)

Accepted Answers:
(b) O(log n)

2) Space taken by a n-bit carry look-ahead adder is proportional to ***1 point***

- (a) O(n)
- (b) O(log n)
- (c) O(n*log n)
- (d) O(n2)

Accepted Answers:
*(c) O(n*log n)*

3) Number of full adders that will be used in multiplication of two 4-bit binary numbers using the carry save based multiplication technique are ***1 point***

- (a) 10
- (b) 9
- (c) 3
- (d) 12

Accepted Answers:
(b) 9

4) The depth of the Wallace Tree that computes the product of two n-bit numbers is proportional to ***1 point***

- O(n)
- O(log n)

- O(n^2)
- O(n^3)

Accepted Answers:
O(log n)

5) x(j+1) (*) x(j), when x(j+1)= k and x(j)=g, where g refers to the generate operation, k refers to the kill operation and (*) refers to the look ahead operation is ***1 point***

- (a) k
- (b) g
- (c) p
- (d) t

Accepted Answers:
(a) k

6) Partial products are generated by performing a _____ operation between a bit and the other operand. ***1 point***

- AND
- OR
- XOR
- NAND

Accepted Answers:
AND