

2004 Paper 10 Question 1

Digital Electronics

- (a) What is DeMorgan's theorem? [4 marks]
- (b) What are *minterms*, *essential terms* and *prime implicants*? [6 marks]
- (c) What are the prime implicants, essential terms and minimum sum of products for $f = (a.b) \oplus (c + d)$? [6 marks]
- (d) Whenever $g = a.b$ is true, if we do not care what the output of f is, determine the new minimum sum of products form for f . [4 marks]