

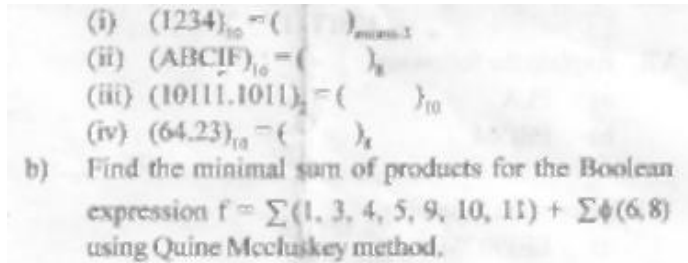
EC - 403 B.E. IV Semester

Examination; December 2012 Digital Electronics

Time: 3 Hours Maximum Marks: 70/100

Note : I. Attempt one question from each unit. 2. All question carry equal marks.

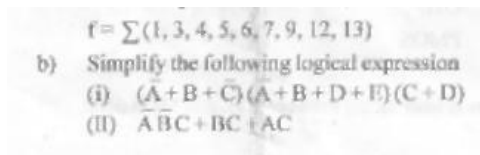
UNIT-1



OR

II. a) Using K-map method simplify the following function, obtain its

(i) minimum sum of product and



(ii) minimum product of sum.

UNIT-II

III a) Realise the following function as (i) multilevel NAND - NAND gate network and (ii) multilevel NOR-NOR network.

$$f = B(A + CD) + AC$$

b) Design and implement full subtractor

OR

IV. Realise the following Boolean function using multiplexer.

$$f = \overline{AB} + B(C + D) + (\overline{AB} + C) + \overline{ABD}$$

UNIT-III

V a) Discuss the working of astable multivibrator using 555 timer.

b) Discuss the working of J-K flip flop. What is race around condition.

..... OR

VI Design a Mod - 8 counter using J-K flip flop

UNIT-IV

VII. Explain the following

a) PLA

b) PROM

OR

VIII. Discuss the following a) EPROM b) SRAM

UNIT-V

a) Explain the following logic family. a) DTL b) CMOS

OR

X. How is interfacing between TTL and CMOS done.