2410N752

Candidate's Seat No :_____

B.Sc. Sem.-3 Examination

Ele-202

Electronics

Time : 2-30 Hours] **October 2024** **[Max. Marks : 70**

Instructions : (1) All questions carry equal marks.
(2) Symbols carry their usual meaning.

1 (a) Explain transformation of impedances with tapped resonant circuits. 7
(b) Explain reactance T networks for impedance transformation in detail. 7

OR

1 (a) Explain tapped anti resonance circuit for impedance transformation with equation. 7
(b) Discuss two mesh coupled circuit used for impedance transformation. 7

2 (a) Explain how a high pass RC circuits behave as differentiator. 7
(b) Derive the relation between neper & decibel. 7

OR

2 (a) Derive the equation of characteristic impedance of symmetrical networks. 7
(b) Discuss the current & voltage ratio as exponentials in filters. 7

3 (a) Explain half adder & full adder with the help of truth-table. 7
(b) Discuss in detail about Arithmetic logic unit. 7

OR

3 (a) Explain how 555 timer can be used as Astable Multivibrator. 7
(b) Explain how 555 timer can be used as Monostable Multivibrator. 7

4 (a) Explain Large computers, Medium-size computers & Microcomputers in detail. 7
(b) Explain Machine language, assembly language & high level language. 7

OR

4 (a) Explain 8085 hardware & programming model in detail. 7
(b) Explain data transfer, Arithmetic, logical, branch & machine control instructions. 7

5 Attempt any seven out of twelve : 14
(1) What is impedance? What is resonance?
(2) Write Weber - Fechner Law
(3) Co-efficient of coupling k = ... & Ideal transformer is assume to have ..... losses.
(4) 1 neper = ... dB & 10 neper = ...dB.
(5) Draw integrator & differentiator circuit.
(6) The bel is defined as logarithm of a ..... ratio.
(7) What is ALU?
(8) Define duty cycle.
(9) Define Multivibrator.
(10) List flags of 8085.
(11) Give the full form of ASCII & MSI.
(12) Define operating system.