



(Extra-Ordinary)

Wednesday, the 18th January, 2012

Notification

No. : 5/2012

Date 18/1/2012

Subject : Revised Syllabi for the paper 4XT03/4XN03/4IE03 Network Analysis .

It is notified for general information of all concerned that the Academic Council in its meeting held on dated 13/01/2012 vide item No. 39 has accepted revised syllabus for the paper 4XT03/4XN03/4IE03 Network Analysis of B.E. IV semester of Electronics & Telecommunications Engineering, Electronics Engineering and Instrumentation Engineering to be implemented for Summer 2012 examination and onwards as given below :

4XT03/4XN03/4IE03 **NETWORK ANALYSIS**

SECTION-'A'

- Unit-I : Basic Circuit elements: Circuit components-assumptions for Circuit analysis, sources of electrical energy-standard input signals- Kirchoff's laws-source transformation- mesh and node analysis- network equation for RLC network-magnetic coupling. (10)
- Unit-II : Graph theory and network equation:- Graph of a network-Tress and loops, cut set of a network, Tie-set matrix and loop currents- analysis of network, Network equilibrium equation, dualit-network transformation. (10)
- Unit-III : Transformation of a Circuit into s-domain: Transformed equivalent of inductance' capacitance and mutual inductance -Impedance and admittance in the transform domain- Node Analysis and Mesh Analysis of the transformed circuit- Nodal Admittance Matrix and Mesh Impedance Matrix in the s-domain-Solution of transformed circuits including mutually coupled circuits-Input and transfer immittance functions- Transfer functions- Impulse response and Transfer Function - Poles and Zeros- Pole Zero plots, (10)

SECTION- 'B'

- Unit-IV: Network theorems:- Superpositon theorem-Reciprocity theorem, Thevenin's theorem- Norton's theorem- Milliaman's theorem- Max.power transfer theorem- Substitution theorem- Compensation theorem, Tellegen's theorems. (10)
- Unit- V: Two port network:- Open circuit impedance parameters-short circuit admittance parameters- Transmission parameters-Inverse transmission parameters-Hybrid and inverse hybrid parameters. interrelationship between the parameters- two port symmetry interconnection of two port networks, input impedance in terms of two-port parameters output impedance- image impedance. (10)
- Unit- VI: Network functions:- Ports and terminal pairs- network functions- poles and Zeros- necessary conditions for driving point function- necessary conditions for transfer function- Applications of network analysis in driving network functions- positive real functions-driving point and transfer impedance function- LC net work (10)

TEXT BOOK :

- Network and systems-D, Roy Choudhary (Wiley Eastern Ltd.1988)
- Circuit Theory- ISKV Iyer (Tata Mcgraw Hill)
- Network Analysis, M.E.Van Valkenburg (Pentice Hall India) 3rd Ed.

PRACTICALS-

About 10 experiments based on above syllabus.

Sd/-

(Dineshkumar Joshi)

Registrar

Sant Gadge Baba Amravati University