Seat No. : _____

NN-102

December-2015

B.Sc., Sem.-III

CC-202 : Electronics

Time : 3 Hours] **[Max. Marks : 70**

Instructions : (1) **All** questions carry equal marks.

(2) Symbols have their usual meanings.

(3) Figures to the right indicate marks.

1. (a) Discuss the function of reactance L-section for impedance transformation. Derive the equation for value of L-section reactance for $R > R_g$. **7**

OR

Write a note on : Transformation of impedances with tapped resonant circuits.

(b) Discuss a two-mesh coupled circuit used for impedance transformation. **7**

OR

Explain reactance T-networks for impedance transformation in detail.

2. (a) Discuss the response of a low pass RC circuit to a pulse input. **7**

OR

Obtain the relation between neper and decibel.

(b) Explain how a high pass RC circuit behaves as differentiator. **7**

OR

Discuss the current and voltage ratio as exponentials in filters

3. (a) Explain Half-adder and Full-adder with the help of Truth Table. **7**

OR

Explain how 555 timer can be used as a monostable multivibrator.

(b) Using full-adders show how to add or subtract binary numbers. **7**

OR

Explain how 555 timer can be used as astable multivibrator.

4. (a) Explain Large Computers, Medium-Size Computers & Microcomputers in detail. **7**

OR

Explain Machine language, assembly language & high-level language.

(b) Explain 8085 hardware and programming model in detail. **7**

OR

Explain data transfer, arithmetic, logical, branching & machine control operations.

5. Answer in short : **14**

1. Define coefficient of coupling.
2. Draw the equivalent T-Network for ideal transformer.
3. What is resonance ?
4. Draw low pass RC circuit.
5. Draw differentiating circuit.
6. 1 neper = _____ db
7. Define filters.
8. Draw half adder circuit.
9. What is an ALU ?
10. Define duty cycle.
11. List flags of 8085.
12. What is system bus ?
13. Define opcode and operand.
14. Define operating system.

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