Total No. of Questions : 10]

SEAT No. :

P5077

[Total No. of Pages : 2

[4959]-1095
B.E. (E&TC)
RF: CIRCUIT DESIGN
(2012 Pattern) (Elective - III) (Semester - II)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 Q.7 or Q.8, Q.9 or Q.10.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data, if necessary.***

Q1) a) Draw and explain Chip resistor & Chip Capacitor. **[5]**

b) Explain Accuracy of OCτs and accuracy of SCτs. **[5]**

OR

Q2) a) Describe with suitable example, relation between Rise time and Bandwidth. **[5]**

b) Describe Neutralization and unilateralization. **[5]**

Q3) a) What is the standard recipe for computing bandwidth? **[5]**

b) Discuss the method of open circuit time constants to estimate the bandwidth. **[5]**

OR

Q4) a) Explain Bandwidth enhancement techniques. **[5]**

b) Describe in brief stabilization methods. **[5]**

Q5) a) Discuss two port noise parameters. **[8]**

b) With suitable diagram explain Single ended LNA and its design parameters. **[8]**

P.T.O.

OR

Q6) a) Explain LNA Topologies with suitable diagrams. **[8]**

b) With suitable diagram describe Differential ended LNA and its design parameters. **[8]**

Q7) a) What are the challenges with purely linear oscillator? **[6]**

b) How we can use describing functions to analyze oscillators? **[6]**

c) Differentiate between describing function model and start up model. **[6]**

OR

Q8) a) What is describing function? Explain with suitable examples. **[6]**

b) Discuss on Resonator technologies. **[6]**

c) Explain with appropriate diagram basic LC Feedback Oscillator. **[6]**

Q9) a) Explain with respect to Mixer following characteristics. **[8]**

i) Conversion Gain

ii) Linearity and Isolation

b) Describe with neat diagram single balanced Mixer. **[8]**

OR

Q10)a) Discuss how Nonlinearity systems behaves as Linear Mixer. **[8]**

b) Explain Single diode mixer and double diode mixer. **[8]**