

8/12/15

Sub: MEMS (CBUS)

EXTC

ME-I

Q.P. Code : 30076

(3 Hours)

Total Marks : 80

- N.B:** (1) Answer any four questions out of six questions.  
 (2) Assume suitable data wherever required.  
 (3) Figures to the right indicate full marks.

1. (a) With the help of neat schematic diagram explain important design considerations of planar inductors. 10  
 (b) With comb structure explain working of MEMS area-tuning capacitor. 10
2. (a) Discuss design aspects of co-planar transmission lines. 10  
 (b) Explain different micromachining techniques to improve antenna performance. 10
3. (a) What are the types of phase shifters? Discuss their Limitations. 10  
 (b) Explain functioning of Gap-tuning capacitor in case of electrostatic tuning. 10
4. (a) How beam steering is achieved using micromachined reconfigurable patch radiator? 10  
 (b) Give modeling aspects of mechanical filters. 10
5. (a) What are the key parameters in the design of Microstrip patch antenna? 10  
 (b) Describe dynamics of switching operation. 10
6. Write short notes on the following :-  
 (a) Micromachined directional coupler 05  
 (b) Dielectric tunable capacitors 05  
 (c) Design issues of planar inductors 05  
 (d) Electromechanical & Electrostatic relays 05

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