

Code No: **R41035**

R10

Set No. 1

IV B.Tech I Semester Supplementary Examinations, Oct/Nov - 2018 MICRO ELECTRO MECHANICAL SYSTEMS

(Mechanical Engineering)

Time: 3 hours Max. Marks: 75

Answer any FIVE Questions All Questions carry equal marks

1	a) b)	What are intelligent Microsystems? Explain their working. Write short notes on impurity doping.	[8] [7]
2	a) b)	What are the advantages of thin film deposition? Discuss the use of thermocouples in actuation .Explain pressure	[8]
	,	measurement by micro phone.	[7]
3	a)	Enumerate the working principle of thermal flow sensors.	[8]
	b)	Write about the Data storage cantilever systems.	[7]
4	a)	What is the need for a beam splitter? Explain.	[8]
	b)	Explain the measurement of shear stress with micro opto electro mechanical systems.	[7]
		Systems:	L, J
5	a)	What is the influence of feedback on magnetic actuator? Explain with any	
		two example.	[8]
	b)	Discuss how magnetic probe can be used for storage of data.	[7]
6	a)	Enumerate the construction and working of MEMS switches.	[8]
	b)	Explain the advantages and disadvantages of radio frequency (RF) MEMS	
		based Communication systems?	[7]
7	a)	What factors are to be considered while dealing with fluid on micro scale?	[8]
	b)	Explain the characteristic features of micro fluidic channels.	[7]
8	a)	Explain the working of mass sensitive chemo-sensors.	[8]
	b)	Explain the sensing mechanism used in biomedical micro systems.	[7]