

Dr. Gagnesh Kaman

28/11/2023 (157)

Roll No.....

End Term Examination

November 2023

Department: E&CED

Course – MEMS Design (EC -370)

Class – B.Tech. 3rd Year

Time: 180 Minutes

Max Marks: 50

Note: Assume suitable data, if necessary.

Questions 1-6 carry 07 marks each & Question no. 7 carries 08 marks.

Q.1 Differentiate between Light detectors & Light modulators. Discuss the working principle of micro actuators.

Q.2 How do we characterize & classify the sensors? Determine the area of the parallel plate capacitor in the air if the capacitance is 25 nF and the separation between the plates is 0.04m.

Q.3 What are inertial sensors? Discuss the piezoresistive effect.

Q.4 Differentiate between thermocouples and thermopiles. Also discuss the concept of a heat pump.

Q.5 List applications of Thermal Flow Sensors. Also explain, how the pyro electricity is generated?

Q.6 What are beam splitters? Discuss Digital micro mirror Devices.

Q.7 Write short notes on any two of the followings:

a) Wafer bonding

b) Grafting light valves

c) Optical switches