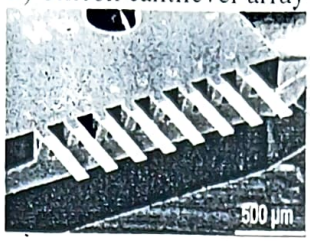
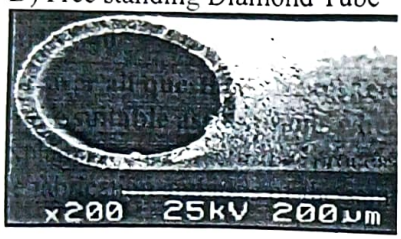
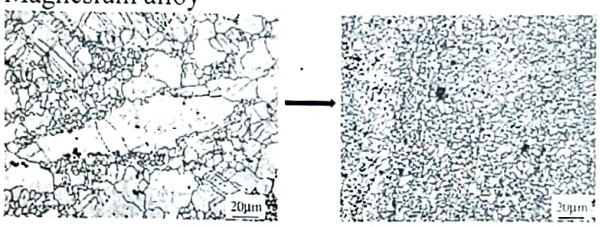
Micro and Nano Manufacturing (MCL331)	B.Tech., MAJOR
Max.Marks : 40	Date: 5th April 2022 LH 308 Time: 8.15 am – 10.15 am

Answer all questions, Neat sketches and drawings carry weightage
Make suitable assumptions wherever required, and state your assumption.

1	Explain the manufacturing process of the following, with necessary process parameters for the fabrication and uses of the same (with neat sketches) A) Nickel Micro mould  B) Silicon cantilever array  C) WC armor plate  D) Free standing Diamond Tube  Magnesium alloy  AZ 31 starting material Processed material	5x5 =25
2	Comment and state the reason for the difference in the nose radius of a PCD tool and a single crystal diamond tool.	3
3	Comment on the growth of diamond film on magnesium.	3
4	Specify the process involved in the following cases. a. FeB at HSS surface b. Removal of deposited aluminum layer from the silicon substrate c. Maskless etching	3
5	Write the difference between dose and fluence in a beam processing	3
6	Write on intelligent cutting tool	3