Department of Mechanical Engineering, NIT Srinagar

B.Tech. (4th Semester), Spring 2020 **CAM & Industrial Automation (MEC405)**

Assignment-II

Last Date for submission: **13th May, 2020**

1	How is Abrasive Jet Machining process (AJM) used for removing material? Support your answer with a neat sketch.	
2	Describe the construction and working of Abrasive Water Machining unit.	
3	Describe the mechanism of material removal in Electric Discharge Machining (EDM)? Briefly explain its advantages and applications. What is the role of Dielectric fluid (medium) in EDM?	**CO2**
4	How the ultrasonic machining process parameters affect the material removal rate (MRR)?	
5	How does non-conventional machining differ from conventional machining? List any ten non-conventional machining processes.	
6	How does unilateral tolerance differ from bilateral and compound tolerance? Briefly explain the need to specify tolerance on components.	
7	What do you mean by Fit and Tolerance in metrology? Briefly explain different types of Fits.	
8	The following limits are specified in a limit system, to give a clearance fit between a hole and a shaft: Hole = $22^{+0.04}_{-0.00}$ mm and shaft = $22^{-0.007}_{-0.020}$ mm Determine the following: (a) Basic size, (b)Tolerances on shaft and hole (c)Maximum and minimum clearances	
9	What is Sine bar? Describe the measurement of unknown angles with Sine bar.	**CO3**
10	The tolerances for a hole and shaft assembly having a nominal size of 45 mm are as follows Hole = $45^{+0.022}_{+0.000}$ mm and shaft = $45^{-0.040}_{-0.076}$ mm Determine the following: (a) Maximum and minimum clearances (b) Tolerances on shaft and hole (c) Allowance (c) MML of hole and shaft (d) Type of fit	

- **Submit the scan copy of your assignment by uploading on Google classroom (Code: 2fj2xxf) on or before the last date of submission.**