

School of Engineering**B.TECH Mechanical Engineering
Semester End Examination - Jun 2024****Duration : 180 Minutes
Max Marks : 100****Sem IV - G3UB403B - G3UB401C - BTME2010 - Manufacturing Processes II and Metrology**General Instructions*Answer to the specific question asked**Draw neat, labelled diagrams wherever necessary**Approved data hand books are allowed subject to verification by the Invigilator*

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| 1) | What is the significance of rake angle in cutting tool geometry? | K1(2) |
| 2) | Outline the basic principles of gear generation? | K2(4) |
| 3) | Relate the significance of surface roughness measurement in manufacturing processes and the instruments used for this purpose. | K2(6) |
| 4) | Identify the use of different bonding material while manufacturing of grinding wheel | K3(9) |
| 5) | Organize the basic steps involved in mechanism of a shaper machine, including its major components and their functions during the machining process | K3(9) |
| 6) | Justify the use of different types of tools in electrochemical machining (ECM) with neat sketch. | K5(10) |
| 7) | Analyze cutting velocity, chip velocity and shear velocity in metal cutting and also develop the relations of shear and chip velocities in terms of cutting velocity. | K4(12) |
| 8) | Interpret the use of coordinate measuring machine (CMM) and also discuss the different types of CMM machines with sketch. | K5(15) |
| 9) | Explain the basic principle of electrochemical machining (ECM) with neat sketch. Also discuss the different components used in ECM in detail. | K5(15) |
| 10) | Discuss the following: (a) Jigs and fixtures (b) Different operations performed on lathe. | K6(18) |