**AKGEC/IAP/FM/02**

**AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD**

**DEPARTMENT OF MECHANICAL ENGINEERING**

**SESSIONAL TEST- 2**

**Course:** B. Tech **Semester:** 5th

**Session:** 2017-18 **Section:** ME-1, 2 & 3

**Subject:** Manufacturing Science-II **Subject Code:** NME-503

**Max. Marks:** 50 **Time:** 2 hrs



***Note* :** Answer **all** the sections

**SECTION - A**

1. **Attempt all the parts. (5x2 = 10)**
2. Distinguish between up-milling and down milling.
3. With the help of a neat sketch, describe the geometry of a twist drill.
4. Differentiate between Capstan and Turret lathe.
5. Differentiate between planing machine and shaping machine
6. List different tool holding mechanisms of a lathe machine. Write short notes on them.

**SECTION – B**

1. **Attempt all the parts. (5x5 = 25)**
2. Sketch and explain the working principle of a shaper. How is the feed obtained on a shaper?
3. Draw schematic sketch of horizontal milling machine. List different types of operations performed on a horizontal milling machine.
4. What do you understand by honing? What is the difference between lapping and honing process.
5. Explain three different ways in which the wear of grinding wheel takes place. What can be done to prevent them?
6. Differentiate between centered grinding and centerless grinding.

**SECTION – C**

1. **Attempt all the parts. (2x7.5 = 15)**
2. How are grinding wheels specified? Clearly differentiate between grade and structure of a grinding wheel?
3. Explain the working principle of dividing head in milling machine. How would you achieve 1/13th of a revolution on the spindle on a diving head.