TA 202: Manufacturing Processes: Quiz-2; *Max. Marks: 15; Time: 15 min; VKJ/2-2014* **(A)**

Name: **Roll No.**   **Project Group # & Lab. Class Day:**
Note: *Write the answers in the space provided, or as instructed in the question. Number within parentheses indicates full marks.*

1. What is the use of center drilling operation? (a) Drilling a hole, (b) marking a location of a hole, (c) making a hole in the center of the workpiece, (d) none of these.   [1]

2. Write a relationship between spindle speed and cutting speed? Write full form of abbreviations used.   [1]

3. Indicate ($\sqrt{}$) the correct formula for chip thickness ratio (rc) in orthogonal cutting operation:

   (a) rc=tu/tc, (b) tc/tu, (c) Lu/Lc, (d) Lc/Lu.   [1]

4. Write a formula for shear plane area in 2-D orthogonal cutting?   Write the abbreviations. [2]

5. Write a relationship between coefficient of friction and friction angle in metal cutting. [1]

6. To which elements (tool and work) the speeds and feeds are provided on:

 (i) Lathe machine, (ii) Milling machine, (iii) Drilling machine.   [3]

Speed: (i)   (ii)   (iii)

Feed: (i)   (ii)   (iii)

7. What are the functions of flutes on a twist drill?   [2]

   (a)   (b)

8. What is ATC in CNC machine?   [1]

9. Draw a velocity triangle for 2-D orthogonal cutting indicating different velocities and angles

   between them.   Write full form of abbreviations used.   [3]

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Note: *Write the answers in the space provided, or as instructed in the question. Number within parentheses indicates full marks.*

1. Write functions of ATC used in a CNC machine?   [1]

2. To which element (tool and work) the speeds and feeds are provided on:

(ii) Power saw machine, (ii) Milling machine, (iii) Shaper.   [1x3]

Speed:

Feed:

3. What are the functions of flutes on a twist drill?   [2]

    (b)   (b)

4. Which of the following processes give intermittent cutting? Indicate by √ mark. (a) Milling, (b) Drilling, (c) Shaping, (d) Turning.   [1]

5. Write a relationship between coefficient of friction and friction angle in metal cutting. [1]

6. Draw a velocity diagram for 2-D orthogonal cutting indicating different velocities and angles between them.   Write full form of abbreviations used.   [3]

7. Write a relationship between drill RPM in drilling operation and cutting speed? Write full form of abbreviations used.   [1]

8. What is the use of Center drilling? Indicate by √ mark. (a) Drilling a hole, (b) marking a location of a hole, (c) making a hole in the center of the workpiece, (d) none of these. [1]

9. Write a formula for shear plane area in 2-D orthogonal cutting?   [2]