MECHANICAL ENGINEERING DEPARTMENT, I.I.T. KANPUR
TA 202: Manufacturing Processes: Quiz-1; *Max. Marks: 15; Max. Time: 15 min; VKJ/I-0214*

Name: ; Roll No.   Section:

Note: Write the answers in the space provided, or as instructed in the question. Number within parentheses indicates marks. No partial grading.

Q.1   Write true (T) or false (F)   in the bracket provided.
(i) h_k is a flank wear index which indicates permitted flank wear in mm.   [1]   {   }

(ii) Two single point turning tools (A and B) are specified as follows: [2]
     A: 10 - 10 - 6 - 6 - 10 - 15 - 3
     B: 15 - 12 - 6 - 6 - 10 - 15 - 1
     Which of these tools is stronger?   {   }

(iii) H.S.S. single point tool is recommended for turning WC bar at 50 m/min. Write whether
    this recommendation is correct **(T)** or wrong **(F)**?. [2]   {   }

Q.2. Match the items in A with the items in B. [7]

A:	(a_1) HSS;	(a_2) 2-D cutting;	(a_3) Tolerances;	(a_4) Prismatic parts;
	(a_5) Increasing hole size;		(a_6) Flank wear;	(a_7) Programmable M/C tools

B:	(b_1) CNC Machining center;	(b_2) Oblique cutting;	(b_3) boring operation;	(b_4) Wear on rake face;
	(b_5) Oblique cutting;	(b_6) Milling operation;	(b_7) Orthogonal machining	
	(b_8) Difference between upper limit of size and lower limit of size;		(b_9) Tool material;	(b_10) None of these.

Answer (Match the correct answer for **A** from **B**).

(a_1)   ; (a_2)   ; (a_3)   ; (a_4)   ;(a_5)   ; (a_6)   ;(a_7)

Q.3. Encircle the most appropriate answer: {1+1+1}
(a) Time taken to machine a 2.5 cm long shaft at 300 RPM and feed rate of 0.25 mm/rev. will be: (a_1) 10 s, (a_2) 40 s, (a_3) 20 s, (a_4) 50 s, (a_5) None of these.

(b) During turning of a M.S. shaft, chip thickness ratio will be: (b_1) >1, (b_2) <1, (b_3) =1.

(c) Shear plane angle is the angle between (a_1) shear plane and the machined surface, (a_2) shear plane and rake face of   the tool, (a_3) rake face of the tool and the vertical plane, (a_4) shear plane and horizontal plane, (a_5) none of these.

Good Luck