

The objective of these questions is to review the subjects relating to the program block (sequence block).

#	Question	Answer
1	<p>Remove all unnecessary words (<i>in the proper place</i>) within the following program segment:</p> <pre>(T01 - 3.0 DIA FACE MILL) (X0Y0 - LOWER LEFT CORNER) (Z0 - TOP FACE OF FINISHED PART) (4 X 3 PLATE HORIZONTALLY) N1 G20 N2 G17 G40 G80 G90 G00 M03 T01 N3 M06 N4 G90 G54 G00 X0.625 Y-1.75 S2000 N5 G90 G00 X0.625 Y-1.75 S2000 M03 N6 G90 G43 Z1.0 H01 M08 N7 G90 G01 Z0 F12.0 M08 N8 G90 G01 Y4.625 F18.0 M08 N9 G90 G00 X3.375 F18.0 M08 N10 G90 G01 Y-1.75 F18.0 M08 N11 G90 G00 Z1.0 M09 N12 G90 G28 Z1.0 M05 N13 G90 G00 X-2.0 Y10.0 M09 N14 M30 %</pre> <p>Write the new program on the right</p>	
2	<p>Write descriptive program comments that include the following information:</p> <p>a/ Tool seven is a four inch face mill</p> <p>b/ Part origin is in the center of the ring</p> <p>c/ Instruct operator that the part has to be reversed</p> <p>d/ Tool two is a half inch end mill that can plunge into solid material</p> <p>Note - these comments are independent of each other</p>	<p>a/ _____</p> <p>b/ _____</p> <p>c/ _____</p> <p>d/ _____</p>
3	<p>What is the difference between the following program segments a and b?</p> <p>a/ O1234 (PART A-6723)</p> <p>b/ O1234 (PART A-6723)</p>	<p>a/</p> <p>b/</p>

4	<p>Explain what is wrong with the following example, and rewrite it correctly:</p> <p>O1234 (WATER JACKET OPERATION 1)</p>	
5	<p>What will happen, when the following blocks are used in a CNC program?</p> <p>a/ G01 X150.0 Y345.0 X175.0 F200.0</p> <p>b/ G02 X-0.25 Y0.125 I0 J0.375 R0.375</p> <p>c/ G02 X-0.25 Y0.125 R0.375 I0 J0.375</p> <p>d/ G01 G00 X8.0 Y6.0 F10.0</p> <p>Note - these blocks are independent of each other</p>	<p>a/ _____</p> <p>b/ _____</p> <p>c/ _____</p> <p>d/ _____</p>
6	<p>When a motion block below is executed, when does the M-function become active?</p> <p>a/ If the coolant is on: G00 Z25.0 M09</p> <p>b/ If the coolant is off: G01 Z-10.0 M08</p> <p>c/ If the spindle is rotating: G01 X134.0 M05</p> <p>d/ If the spindle is not rotating: G00 G43 Z20.0 S1366 M03</p>	<p>a/ _____</p> <p>b/ _____</p> <p>c/ _____</p> <p>d/ _____</p>
7	<p>Name at least three M-functions that should be programmed in a block by themselves</p>	

<p>8</p>	<p>The following two examples are both correct. Identify which one is a better choice and explain why</p> <p><input type="checkbox"/> Program A</p> <pre>N1 G20 N2 G17 G40 G80 (T01 - 5.0 INCH DIA FACE MILL) N3 T01 N4 M06 N5 G90 G54 G00 X7.0 Y1.0 S950 M30 T03 N6 G43 Z0.25 H01 M08 N7 G01 Z0.07 F12.0 N8 ...</pre> <p><input type="checkbox"/> Program B</p> <pre>N1 G20 G17 G40 G80 G90 G54 G00 (T01 - 5.0 INCH DIA FACE MILL) N2 T01 M06 N3 X7.0 Y1.0 S950 M03 T03 N4 G43 Z0.25 H01 M08 N5 G01 Z0.07 F12.0 N6 ...</pre>	<p>Program _____ is a better choice, because:</p>
<p>9</p>	<p>If you choose to program sequence numbers in increments of <i>two</i> - how would you fill the missing block numbers? Start with any number.</p> <pre>N_ T01 N_ M06 N_ G90 G54 G00 X7.0 Y2.5 S650 M03 T02 N_ G43 Z25.0 H01 M08 N_ ...</pre> <p>Fill-in the block numbers on the right</p>	<pre>N_____ T01 N_____ M06 N_____ G90 G54 G00 X7.0 Y2.5 S650 M03 T02 N_____ G43 Z25.0 H01 M08 N_____ ...</pre>
<p>10</p>	<p>Identify and describe at least four preparatory commands that should always be used at the beginning of a program</p>	