



**UNIVERSITI KUALA LUMPUR  
Malaysia France Institute**

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**FINAL EXAMINATION  
SEPTEMBER 2014 SESSION**

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**SUBJECT CODE** : FGD22202  
**SUBJECT TITLE** : CNC TECHNOLOGY  
**LEVEL** : DIPLOMA  
**TIME / DURATION** : 12.45 PM – 2.45PM  
(2 HOURS)  
**DATE** : 31 DECEMBER 2014

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**INSTRUCTIONS TO CANDIDATES**

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1. Please read the instructions given in the question paper **CAREFULLY**.
2. This question paper is printed on both sides of the paper.
3. Please write your answers on the answer booklet provided.
4. Answer should be written in blue or black ink except for sketching, graphic and illustration.
5. This question paper consists of **TWO (2)** sections. Section A and B. Answer all questions in Section A. For Section B, answer two (2) question only.
6. Answer all questions in English.

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**THERE ARE 7 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.**

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**SECTION A (Total: 60 marks)**

**INSTRUCTION: Answer ALL questions.**  
**Please use the answer booklet provided.**

**Question 1**

- a) Explain 5 characteristics of CNC Machine (5 marks)
- b) Give 3 differences between CNC Machine and Manual conventional machine. (3 marks)
- c) Explain what is the Work Coordinate System (WCS) and Machine Coordinate System (MCS). (2 marks)

**Question 2**

Give the correct **M code** for this explanation.

- a) Instruction to change the tool according to the tool number. (2 marks)
- b) Stops the spindle. Turns the coolant off, Terminates and resets the CNC program. (2 marks)
- c) Instruction starts forward spindle motion. It requires a speed. (2 marks)

d) This command turns the cutting oil on to reduce the tools ware while undergo cutting operation in the programmed.

(2 marks)

e) The cutting cycle is stopped. This facility perform like M00 but activate by pressing button no the control panel.

(2 marks)

### Question 3

Give the correct **G code** for this explanation.

a) A rapid traverse instruction traverse tool to the target point at maximum traverse rate.

(2 marks)

b) Traverse the tool along a linear path to the given target point with the feed rate input as supplementary function.

(2 marks)

c) This command coupled with the F word is used to specify feed rate per minute. This can be in either mm/rev or inch/rev.

(2 marks)

d) Traverse the tool along a linear path to the given target point with the feed rate input as supplementary function.

(2 marks)

e) Causes a fast traverse to the specified position and then to the machine datum or machine coordinate.

(2 marks)

**Question 4**

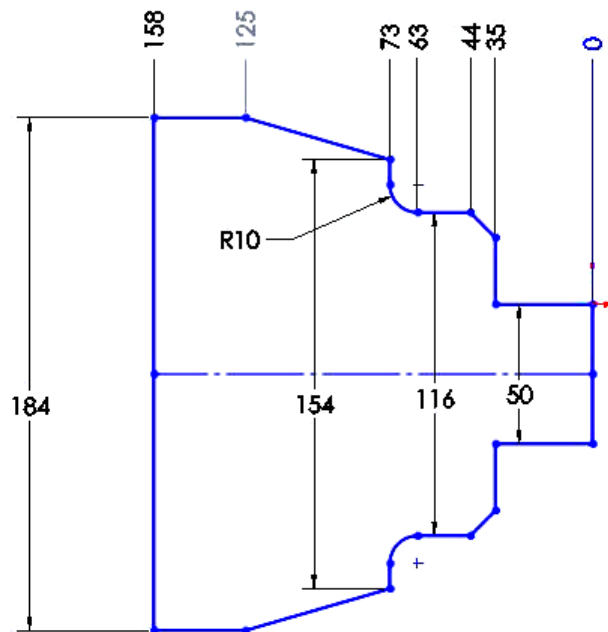
Explain the Absolute System and Incremental system .

(4 marks)

**Question 5**

Make a coordinate using Incremental System from P1 until P31 by using *Figure 1*.

(10 marks)



*Figure 1*

(8 marks)

**Question 6**

Refer to the Control Panel below in figure 2, Explain briefly how to make a setting for tool (eg. Tool no. 4)

(8 marks)

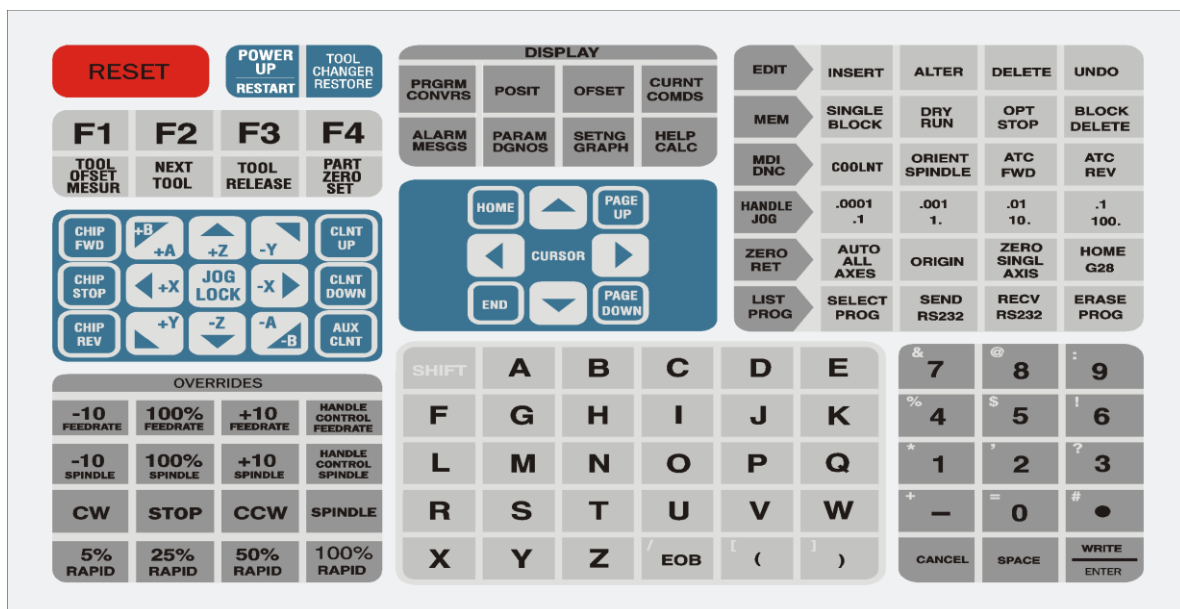
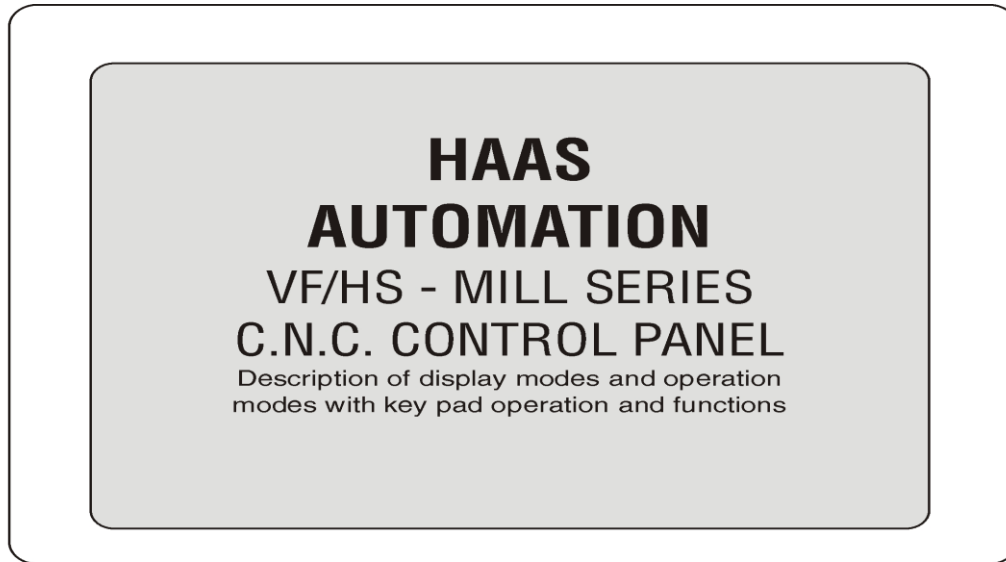


Figure 2

**SECTION B (Total: 40 marks)**

**INSTRUCTION: Answer only TWO question.**

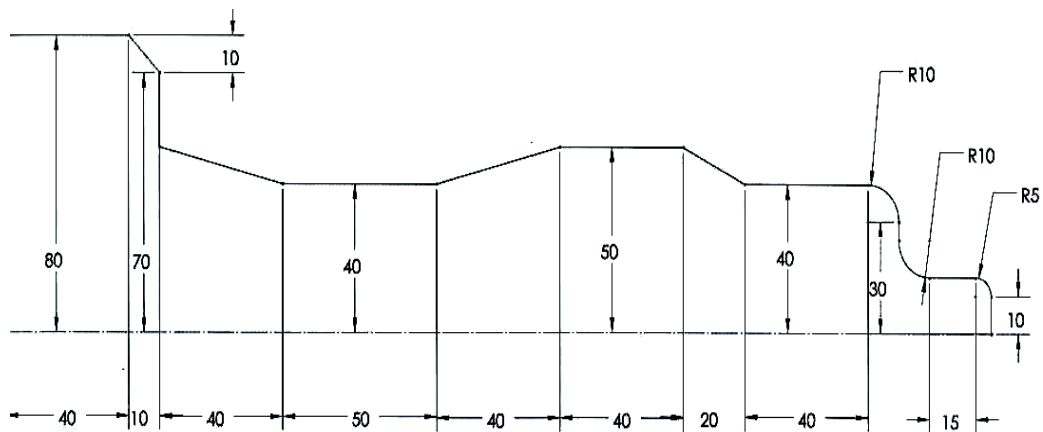
**Please use the answer booklet provided.**

**Question 7**

Create and Write down the full program for CNC Lathe Machining by using the ABSOLUTE SYSTEM of the part in *figure 2*.

CNC LATHE MACHINE

(20 marks)



*Figure 3*

**Question 8**

Write down the coordinate notations for the points on the drawing in ABSOLUTE from the origin P1 until P31 in *figure 3*.

CNC MILLING MACHINE

(20 marks)

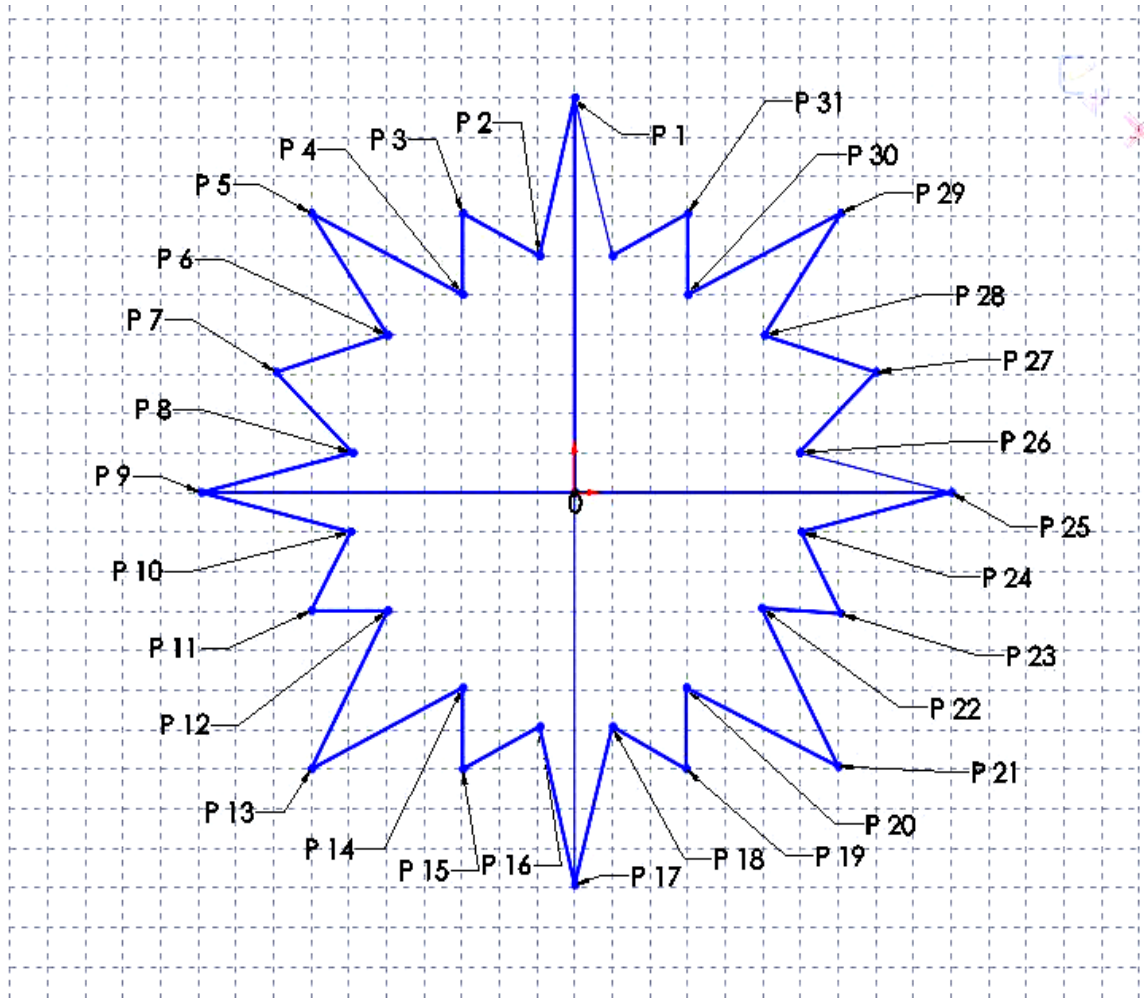


Figure 4

Question 9

**CNC LATHE MACHINE**

Write down the full program in INCREMENTEL of the part in figure 3.

(20 marks)

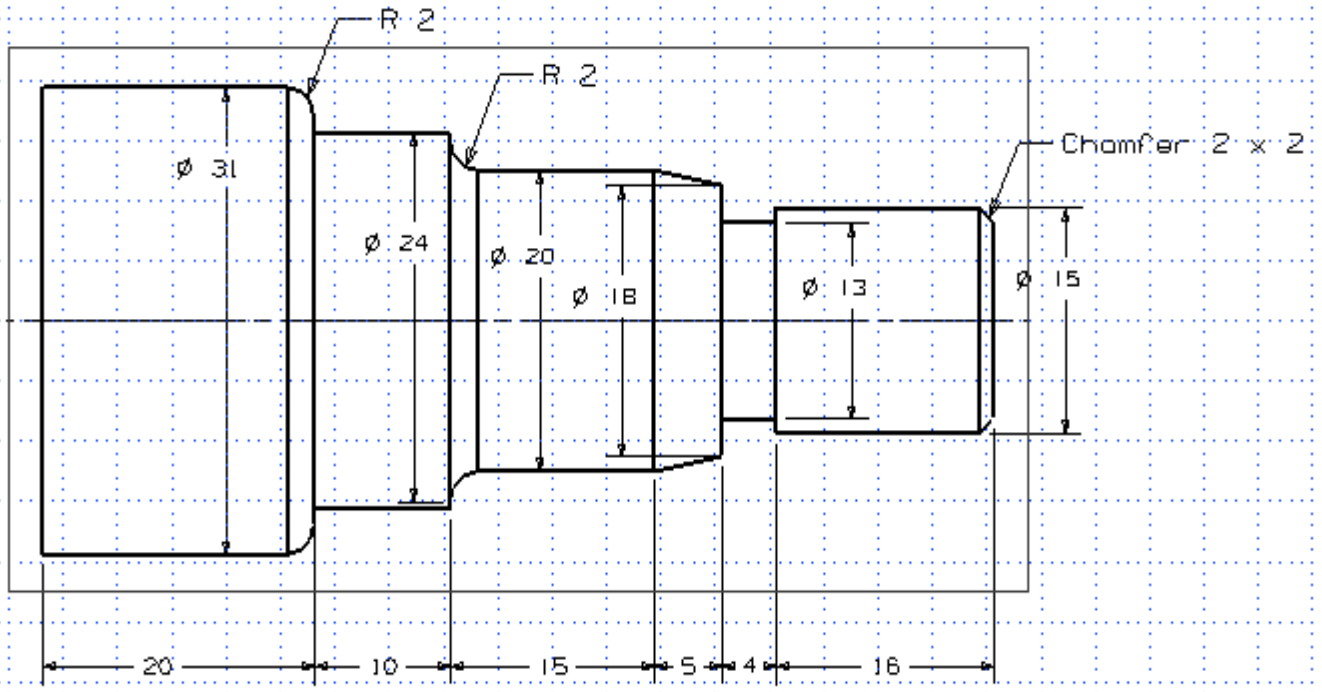


Figure 5

**END OF QUESTION**