



**UNIVERSITI KUALA LUMPUR**  
Malaysia France Institute

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**FINAL EXAMINATION**  
**JANUARY 2011 SESSION**

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**SUBJECT CODE** : FWD 12202  
**SUBJECT TITLE** : WELDING DESIGNS AND SYMBOLS  
**LEVEL** : DIPLOMA  
**DURATION** : 12.30pm – 2.30pm  
(2 HOURS)  
**DATE / TIME** : 05 MAY 2011

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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) questions only.
  6. Answer all questions in English.
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SECTION A (Total: 60 marks)

INSTRUCTION: Answer ALL Questions.  
Please use the answer booklet provided.

Question 1.

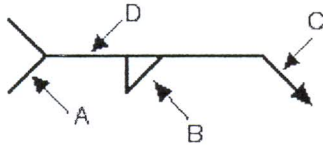


Figure 1

a) Referring to the symbol above, which one of the following letters is the reference line

- A. A
  - B. B
  - C. C
  - D. D
  - E. A and B
- (2marks)

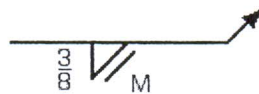


Figure 2

b) Referring to the symbol above, the type of finish contour needed is

- A. convex
  - B. concave
  - C. flat
  - D. fillet
  - E. groove
- (2marks)

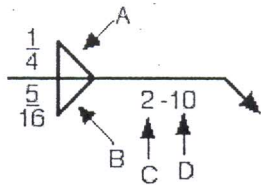


Figure 3

c) The leg size on the other side fillet weld above is

- A. 10"
  - B. 2"
  - C. 5/16"
  - D. 1/4"
  - E. 2-10
- (2marks)

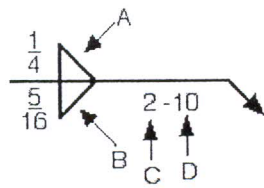


Figure 4

d. A fillet weld on the other side in the figure above is indicated by

- A. A
  - B. B
  - C. C
  - D. D
  - E. 2-10
- (2marks)

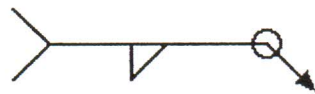


Figure 5

e. Referring to the symbol above, the circle at the break in the arrow signifies

- A. size of leg
  - B. length of leg
  - C. root opening
  - D. weld all round
  - E. pipe
- (2marks)

f. Welds extending completely around a joint shown by a / an

- A. circle
  - B. flag
  - C. inverted triangle
  - D. square above the symbol
  - E. arrow
- (2marks)

g. The standardized AWS welding symbols on a drawing would usually tell a welder which of the following

- A. size of the weld
  - B. kind of metal
  - C. type of electrode
  - D. position of weld
  - E. type of test
- (2marks)



Figure 6

h. Referring to the symbol above, what is the significance of the 3/16" dimension?

- A. depth of weld
  - B. length of leg
  - C. root opening
  - D. extent of weld
  - E. length of weld
- (2marks)

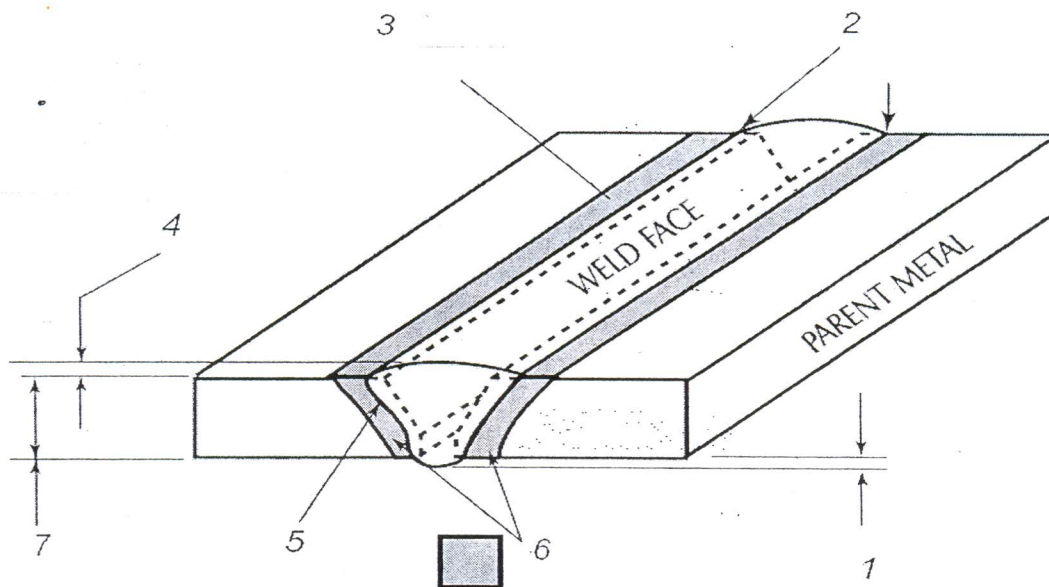
i. The type of joint formed when the two pieces to be joined are aligned in parallel planes and their edges overlap is called:

- A. corner
  - B. T
  - C. edge
  - D. lap
  - E. butt
- (2marks)

j. The type of weld having a generally triangular cross section and which is applied to either a T-, corner, or lap joint is called a:

- A. flange weld
  - B. flare weld
  - C. fillet weld
  - D. slot weld
  - E. spot weld
- (2marks)

**Question 2.**



**Figure 7**

Answer the following questions by referring to Figure 7 above.

- a) Determine the types of welds used in Figure 7? (2marks)
- b) Based on labels (1-7) in Figure 7, which labels represents "weld toe" and "root of weld" respectively? (4marks)
- c) Give the name of labels (3), (5) and (7). (6marks)
- d) Sketch an ISO welding symbol for the above figure. (8marks)

**Question 3.**

Answer the following questions

- a) Name five (5) types of joint. (5marks)
- b) Name four (4) fundamental types of weld. (4marks)
- c) Name four (4) fundamental types of groove welding position. Please sketch (4marks)
- d) Make a simple sketch of a single bevel butt joint and name all the parts. (7marks)



SECTION B (Total: 40 marks)

Answer TWO (2) questions only

Question 1.

Study the welding symbols below and answer the questions carefully.

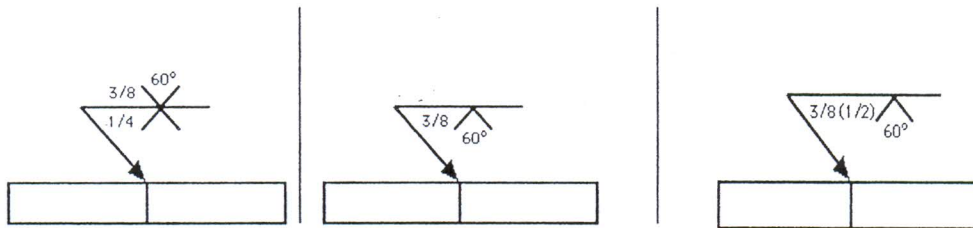


Figure 8

Figure 9

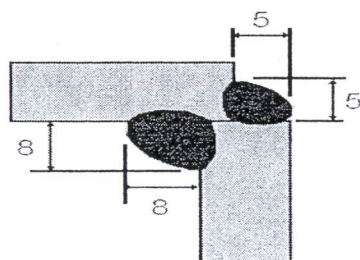
Figure 10

- a) Determine the joint design of **figure 9**. (2Marks)
- b) Determine the type of weld and joint design of **figure 8**. (4Marks)
- c) Interpret the welding symbol of **Figure 8** accordingly. (4Marks)
- d) Interpret the welding symbol of **Figure 10** accordingly. (5Marks)
- e) Interpret the welding symbol of **Figure 9** accordingly. (5Marks)

Question 2.

Answer the following questions

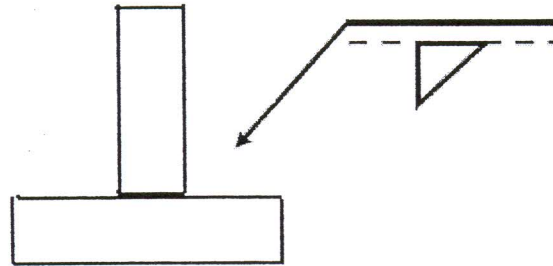
- a) What is the purpose of welding symbols? (4marks)
- b) List eight elements in welding symbol, please sketch (8marks)
- c) Draw the correct **AWS welding symbols** for the following specifications.
  - i) A double bevel butt weld. (4marks)
  - ii) Double fillet weld as figure shown below. (4marks)



**Question 3**

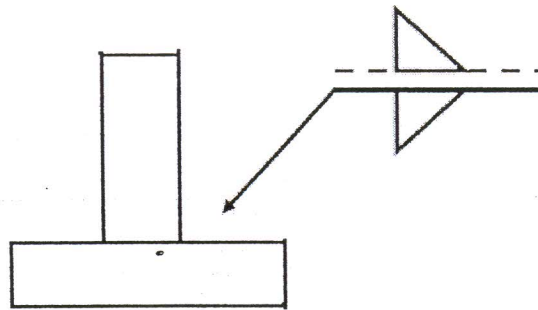
Sketch the desired weld for the following welding symbols

a)



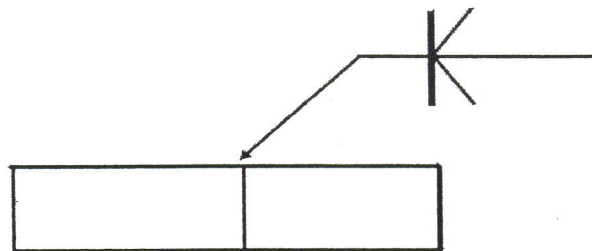
(5 marks)

b)



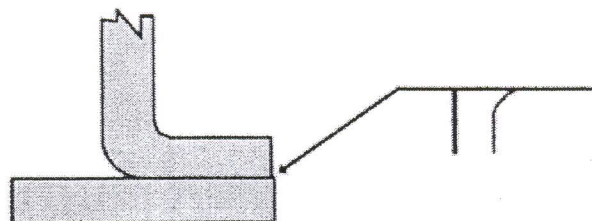
(5 marks)

c)



(5 marks)

d)



(5 marks)

**END OF QUESTIONS**