UNIVERSITI KUALA LUMPUR
Malaysia France Institute

FINAL EXAMINATION
JANUARY 2014 SESSION

SUBJECT CODE	:	**FFD 23502**
SUBJECT TITLE	:	**FABRICATION PROCEDURE AND SPECIFICATIONS**
LEVEL	:	**DIPLOMA**
TIME / DURATION	:	**2 HOURS**
DATE	:	

INSTRUCTIONS TO CANDIDATES

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.

7. Answer all questions in English.

THERE ARE 6 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

SECTION A (Total: 60 marks)

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

Question 1

(a).   Table 1.0 is an example of application codes and standards and related welding procedure and welder approval standards used in construction related with oil and gas industry. Please identify the suitable application (heavy fabrication project) for A,B, and C.

Table 1.0

Welding Standard			
Application	**Application code/standard**	**Procedure approval**	**Welder approval**
A	PD 5500 ASME VIII	BS EN 288 ASME IX	BS EN 287 ASME IX
B	BS 2633 BS 4677 ANSI/ASME B31.1	BS EN 288 (Part 3) BS EN 288 (Part 4) ASME IX	BS EN 287 (Part 1) BS EN 287 (Part 2) ASME IX
C	AWS D1.1 AWS D1.2	AWS D1.1 BS EN 288 (Part 3)	AWS D1.1 BS EN 287

A _____
B _____
C _____

(6 marks)

(b).   Different codes and specifications may have different requirements for a welding procedure, but in general, a welding procedure consists of three parts, write down the **three (3)** main parts

i.   _____
ii. _____
iii. _____

(6 marks)

Question 2

(a). A welding procedure is a way of controlling the welding operation. Describe main purpose of Welding Procedure and Specification (WPS).

    i. _____

    ii. _____

    iii. _____

(6 marks)

(b). List down **five (5)** major items as "Essential Variables" in welding procedure .

    i. _____

    ii. _____

    iii. _____

    iv. _____

    v. _____

(10 marks)

(c). The task of collecting the data and drafting the documentation is often referred to as 'writing' a weld procedure. Producing a weld procedure involves several activities .List down the major activities.

    i. _____

    ii. _____

    iii. _____

    iv. _____

    v. _____

    vi. _____

    vii. _____

(14 marks)

Question 4

(a).   From the Figure 1.0 welding position designation for plate and pipe, name a suitable weld position, in the table 2.0.
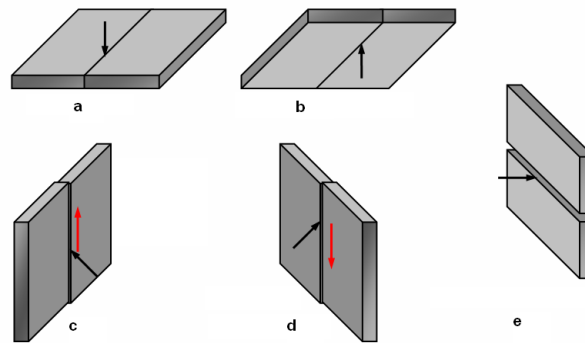

Figure 1.0 .welding position (ISO 6947)
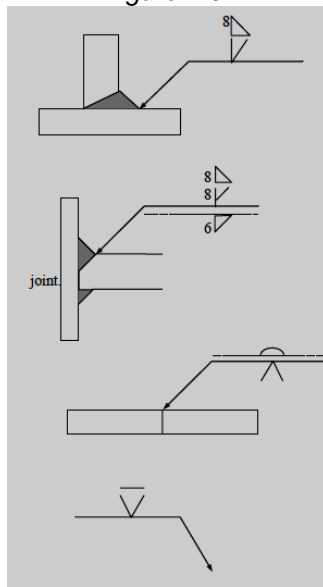
Fill the answer in the table given.

Answer the question in tabular form as in table 2.0

Table 2.0

	Position	ISO
a		
b		
c		
d		
e		

(10 marks)

(b)   A welding symbol given (Figure 2.0) .Identify and write down with suitable information

Figure 2.0

= _____

= _____

= _____

= _____

(8 marks)

SECTION B (Total: 40 marks)

INSTRUCTION: Answer TWO (2) question only, Q 1 and Q2 or Q3

Please use the answer booklet provided.   5

Question 1

Preparing the Welding Procedure Qualification flow chart is part of our duties as welding supervisor. From the blank flow chart given (Fig.2.1), please re sketch the flow process with suitable information (activity).

Fill the chart with suitable information to fill in the respective blank area.
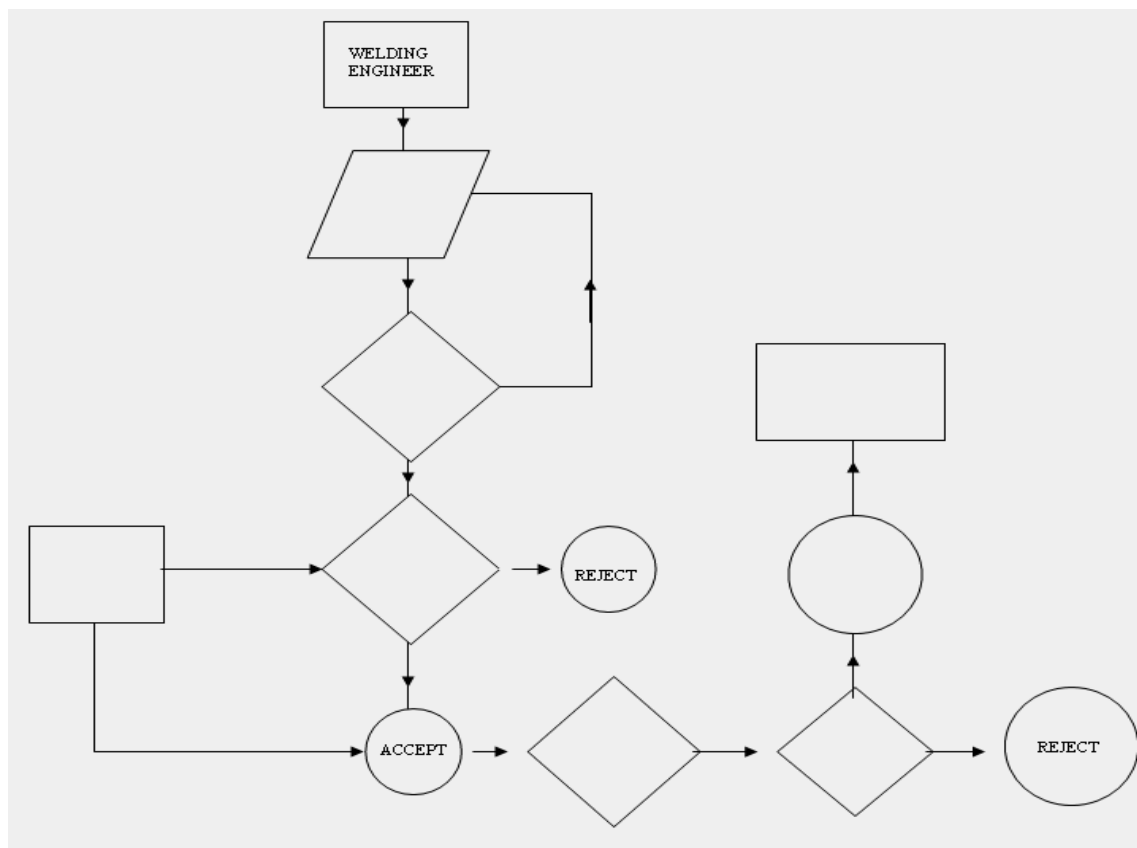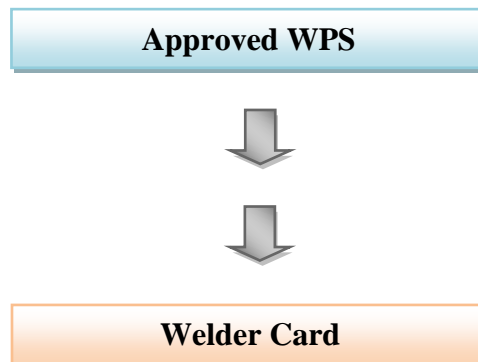
(16 marks)

FIG 2.1: WELDING PROCEDURE QUALIFICATION FLOWCHART

Question 2.

Assuming that you are appoint as welding engineer for new fabrication project, related to welding activity. You are requested to conduct Welder Qualification Test (WQT). With suitable flowchart ,(fig:3.0) explain briefly WQT process.

Figure 3.0

```
┌─────────────────────────┐
│      Approved WPS       │
└─────────────────────────┘
             ⬇
             ⬇
┌─────────────────────────┐
│      Welder Card        │
└─────────────────────────┘
```

(24 marks)

Question 3.

Defects, which can be detected by visual inspection, can be grouped under five headings such as :

1. Cracks.
2. Surface irregularities.
3. Contour defects.
4. Root defects.

Explain briefly with sketch for every surface defect above ;

(24 marks)

End of Question.