Document No : UniKL MFI_SD_AC41
Revision No: 02
Effective Date: 01 December 2008

CONFIDENTIAL

SET A

UNIVERSITI KUALA LUMPUR
Malaysia France Institute

FINAL EXAMINATION

SEPTEMBER 2014 SESSION

SUBJECT CODE	:	**FFD23502**
SUBJECT TITLE	:	**FABRICATION PROCEDURE AND SPECIFICATIONS**
LEVEL	:	**DIPLOMA**
TIME / DURATION	:	**9.00 AM – 11.00 AM (2 HOURS)**
DATE	:	**11 JANUARY 2015**

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) question 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

Directions: Fill in the Blanks with the appropriate words from the word bank.

Word Bank

Arc welding	Inch-pound	Weld position
Amperage	Open circuit voltage (OCV)	Protect
Alternating Voltage (AV)	Shielding	Voltage
Current	SI metric	
Electrical characteristics	Welding power supply	

a.) _____ is a group of welding processes that use a welding power supply to create an electric arc.

b.) Gases used in GMAW and GTAW are called _____ gases.

c.) A _____ is a device that provides an electrical current to perform welding.

d.) In welding, the relationship between _____ (the pressure) and _____ (the amount of electricity flowing) is most important between the terminals of the welding machine when there is no welding being performed.

f.) _____ is the voltage between the electrode and the base metal during the actual welding operation (15V to 40V).

(6 marks)

Question 2

(a).Table 1.0 is examples 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)

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)

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

A _____

B _____

C _____

(6 marks)

Question 3

(a). List down 5 major items as "Essential Variables" in welding procedure .

i. _____
ii. _____
iii. _____
iv. _____
v. _____

(10 marks)

(b).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.

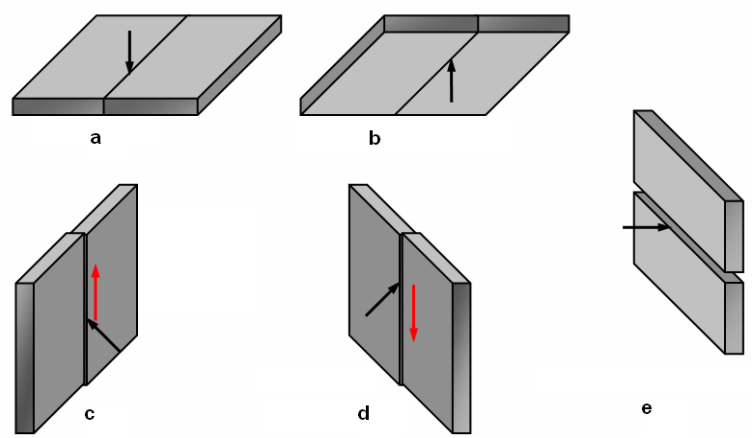


Figure 1.0 .welding position (ISO 6947)

Fill the answer in the table 2.0 given.

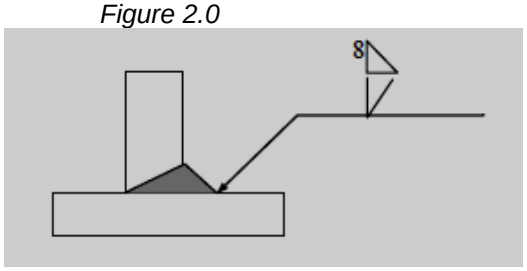
Table 2.0

	Position	ISO
a		
b		
c		
d		
e		

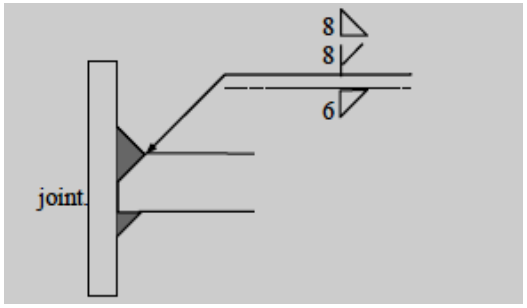
(10 marks)

(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.

Question 1

Preparing the Welding Procedure Qualification flow chart is part of our duties as welding supervisor. From the blank flow chart given (Fig.2.0), 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)

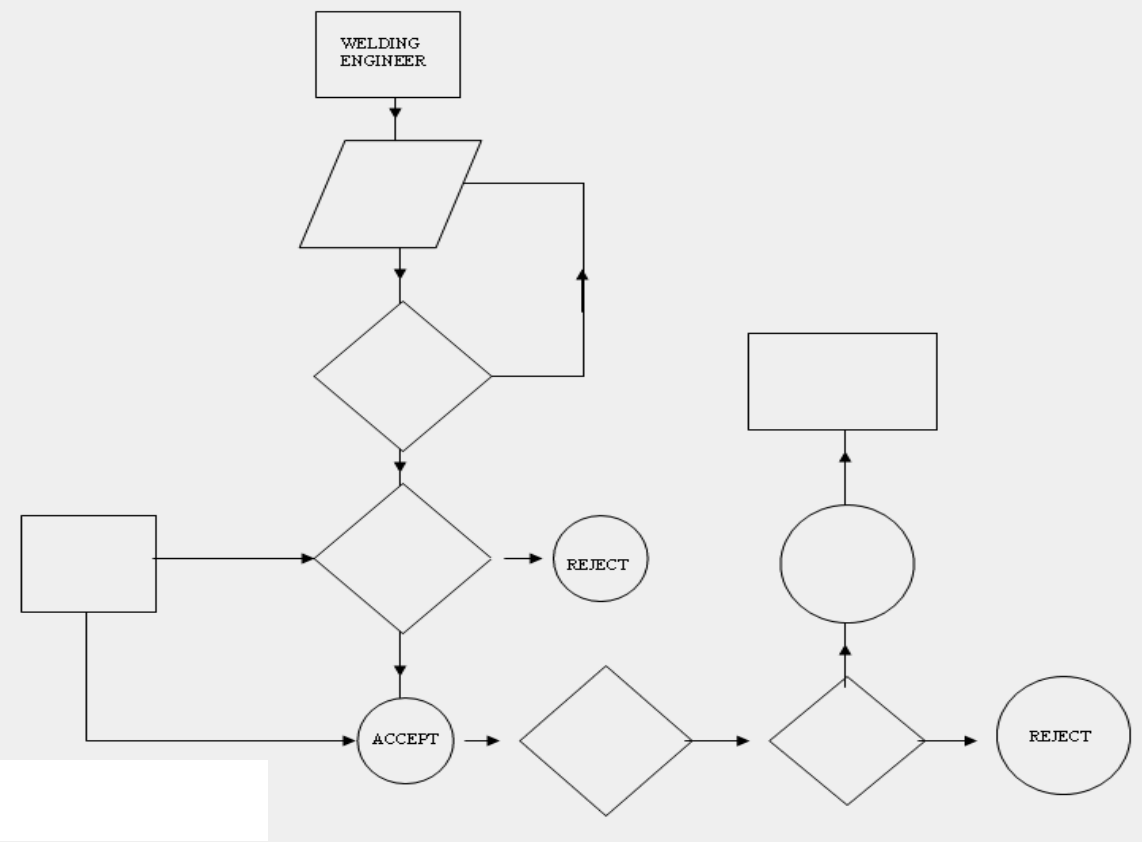


FIG 2.0: WELDING PROCEDURE QUALIFICATION FLOWCHART

Note: please re sketch, write your answers in exam answer booklet

Question 2.

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

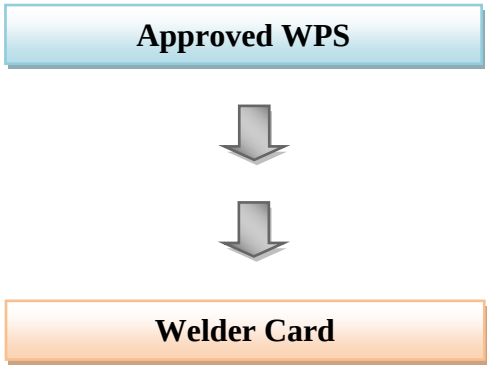


Figure 3.0

(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.