



**UNIVERSITI KUALA LUMPUR
Malaysia France Institute**

**FINAL EXAMINATION
SEPTEMBER 2013 SESSION**

SUBJECT CODE : FFD 32502
SUBJECT TITLE : FABRICATION AND ERECTION SUPERVISORY
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) of three (3) question only.
 6. Answer all questions in answer script
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THERE ARE 5 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

SECTION A (Total: 60 marks)

INSTRUCTION: Answer ALL questions.

Please use the answer booklet provided.

QUESTION 1

Identify the standard trusses design (AWS) in figure.1.0 (A,B,C,D,E,F,G,H,J) choose the right name from the list provided.(figure A)

Figure 1.0

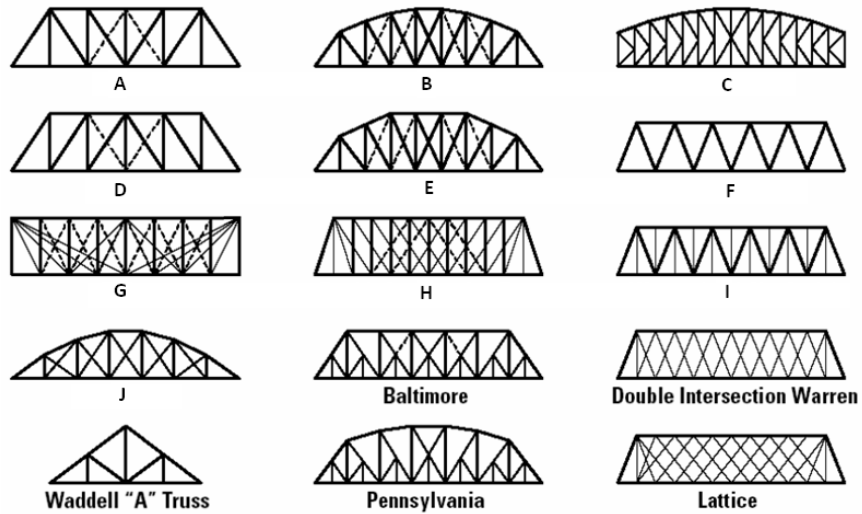


Figure A

K-Truss	Parker	Pratt
Warren	Camelback	Howe
Warren (with Verticals)	Double Intersection Pratt	Fink
		Bowstring

(10 marks)

QUESTION 2.

Pre-planning must consider the structure’s design and constructability as well as the application of various fall protection systems. Project pre-project planning is responsibility of Project owner/manager, Design Engineer, Prime Contractor, Steel Fabricator and Steel Erector.

a. Explain briefly project owner/manager's main responsibility;

- i. _____
- ii. _____

(4 marks)

b. Explain briefly project prime contractor's main responsibility;

- i. _____
- ii. _____

(4 marks)

c. Explain briefly project fabricator's main responsibility;

- i. _____
- ii. _____

(4 marks)

d. Explain briefly steel erector's main responsibility;

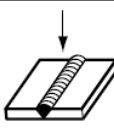
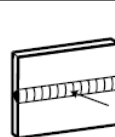
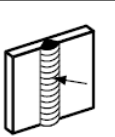
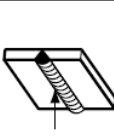
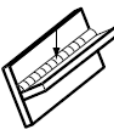
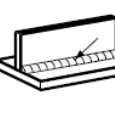
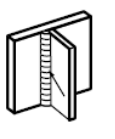

- i. _____
- ii. _____

(4 marks)

QUESTION 3

3.1 Under each of the diagrams below (Figure A), write the ISO designation of the positional welding.

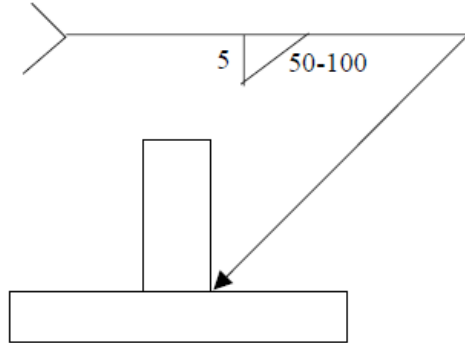
Figure A.

WELD	FLAT	HORIZONTAL	VERTICAL	OVERHEAD
BUTT	 1G /	 2G /	 3G /	 4G /
FILLET	 1F /	 2F /	 3F /	 4F /

(8 marks)

QUESTION 4

Given the welding symbol as shown below, explain in full with the aid of a diagram, the information conveyed through it.



(10 marks)

QUESTION 4

4.1 List **three (3)** detrimental effects of notches in a welded structure.

- i. _____
- ii. _____
- iii. _____

(6 marks)

4.2 List **three (3)** weld defects that create significant notch effects.

- i. _____
- ii. _____
- iii. _____

(6marks)

4.3 What are **four (4)** that should be taken into account when selecting and designing a joint for a welding application?

- i. _____
- ii. _____
- iii. _____
- iv. _____

(8marks)

QUESTION 6.

6.1. List **three (3)** reasons for having an “Inspection and Test Plan (ITP)”.

- i. _____
- ii. _____
- iii. _____

(6marks)

6.2. List **ten (10)** components or elements of a typical Inspection Test Plan (ITP) for steel fabrication project.

- i. _____
- ii. _____
- iii. _____
- iv. _____
- v. _____
- vi. _____
- vii. _____
- viii. _____
- ix. _____
- x. _____

(10marks)

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. Structural steelwork

Erecting structural steelwork for building construction takes place in a dynamic, changing environment where there are many hazards and risks. Proper and timely planning and coordination are the most effective ways to manage those hazards and risks. Projects involving structural steel construction have four main stages, where risks to health and safety need to be considered.

1.a - Identify the four (4) main stage of that kind involvement . (4 marks)

1.b - Explain briefly the parties with roles and responsibilities at the various stages of projects are: (16 marks)

QUESTION 2. Steelwork erection.

The erector, in consultation with the builder, erection engineer and other parties involved in the work, needs to plan the process for lifting and erecting individual members.

Explain briefly the precaution to managing risk at the erection stage;

2.a - Before erection, to avoid collapse, the erector should: (10 marks)

2.b - During erection, to avoid collapse, the erection supervisor must: (10marks)

QUESTION 3. Steel fabrication – flame cutting.

3.a - State the main differences between a set of oxyacetylene flame-cutting equipment and a set of oxy-acetylene welding equipment. (10 marks)

3.b)- Explain the basic principles of flame-cutting and explain why this technique can only be applied to ferrous metals. (10 marks)

End of Question