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CONFIDENTIAL

SET A

UNIVERSITI KUALA LUMPUR
Malaysia France Institute

FINAL EXAMINATION

SEPTEMBER 2014 SESSION

SUBJECT CODE	:	**FWB42603**
SUBJECT TITLE	:	**WELDING RECLAMATION**
LEVEL	:	**BACHELOR**
TIME / DURATION	:	**9.00 AM – 11.00 AM (2 HOURS)**
DATE	:	**9 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 ONE (1) section. Answer four (4) questions only in the Section.**
6. **Answer all questions in English.**

THERE ARE 3 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

Section A: (100 Marks)

INSTRUCTION: Answer four (4) questions only.

Please use the answer booklet provided.

Question 1

(a.) Maintenance is the actions associated with equipment repair after it is broken. State why we should take action or do the maintenance on the equipment after it is broken.

(6 Marks)

(b.) Identify an investigation that may be necessary to determine weldability of the item to be repaired.

(10 Marks)

(a.) When attempting weld repair, assessing the nature of failure before repair is required. List **THREE (3)** major categories of failure.

(9 Marks)

Question 2

(a.) Abrasive wear occurs whenever a solid object is loaded against particles of a material that have equal or greater hardness. Write **THREE (3)** different mechanisms of wear characteristics acting on material

(15 marks)

(b.) Hardfacing filler metals range from relatively low-hardness pearlitic type to very hard tungsten carbide type. Explain characteristics of Pearlitic and Martensitic type of hardfacing filler metals.

(10 Marks)

Question 3

(a.) Identify how diffusible hydrogen could affect the weldability of the high strength steel and what are the defect could often cause?

(9 marks)

(b.) Explain why preheating is needed in the welding of High Strength Steel.

(6 Marks)

(a.) In welding high-strength steels, most welding joints are assembled with similar and dissimilar types of steel. Choose and select the best type of electrode for the shielded metal arc welding process in welding of high strength steels.

(10 Marks)

Question 4

(a.) Hot crack is generally happen in welding of austenite stainless steel. Describe the phenomenon where it always happen and how to prevent hot cracks.

(9 marks)

(b.) Explain the mechanical properties of stainless when subjected at elevated temperature

(6 Marks)

(a.) Select the proper technique in welding of martensitic stainless steels Types 410 and 403 containing 13%Cr.

(10 Marks)

Question 5

(a.) Most copper and copper alloys are arc weldable but at a lower degree than in steel. Write **THREE (3)** reasons that attributed to the difficulties in arc welding of copper and its alloys

(10 Marks)

(b.) Aluminum and its alloys can readily be arc welded except specific types of aluminum alloys. Identify **THREE (3)** typical characteristics of aluminum and its alloys that can be problems in arc welding.

(15 Marks)

END OF QUESTION