

CONFIDENTIAL

SET A



UNIVERSITI KUALA LUMPUR
MALAYSIA FRANCE INSTITUTE

FINAL EXAMINATION
JULY 2010 SEMESTER

SUBJECT CODE : FWB 34303
SUBJECT TITLE : NON DESTRUCTIVE TESTING
LEVEL : BACHELOR
DURATION : 9.00am – 11.00am
(2 HOURS)
DATE / TIME : 20 NOVEMBER 2010

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 four (4) questions only.
6. Answer all questions in English.

THERE ARE 1 PRINTED PAGES OF QUESTIONS

SECTION A

(Questions 1 – 10: 40 marks)

INSTRUCTION: Answer ALL questions.

Please use the answer booklet provided.

1. What are the advantages of Non Destructive Testing(NDT) methods?
2. Define the role of Level 1 and 3 personnel for NDT inspection?
3. What is different between code and procedure?
4. Give the four reasons the important of NDT in industry?
5. What are the principles to control an external radiation or safety for industrial radiography work?
6. What are the causes of surface cracks found during in-service inspection?
7. Sketch the radiographic inspection for Double Wall Single Image (DWSI)?
8. What are the basic steps of magnetic particle inspection?
9. Sketch the B scan presentation for Ultrasonic inspection.
10. Describe the purposes of the V1 Calibration block in ultrasonic inspection

SECTION B (Total: 60 marks)**INSTRUCTIONS: Answer FOUR (4) questions only.****Please use the answer booklet provided.****Question 1**

- (a) Discuss briefly the steps of radiographic film processing in radiographic method. (7 marks)
- (b) Describe the characteristic of an Image Quality Indicator (IQI) (4 marks)
- (c) Define the film density and film speed. (4 marks)

Question 2

- (a) Sketch and label the IIW Calibration Block use in ultrasonic testing. (5 marks)
- (b) Describe the purposes of the IIW Calibration block. (5 marks)
- (c) Explain briefly the Distance Amplitude Correction Curve (DAC). (5 marks)

Question 3

- (a) Discuss briefly the principle of Eddy Current Method? (4 marks)
- (b) Define the Skin Depth in Eddy current Method (3 marks)
- (c) What are the advantages and limitations of Eddy Current Method? (8 marks)

Question 4

- (a) Define the emissivity and block body in infrared thermography.
(5 marks)
- (b) Describe the difference between passive and transient infrared thermography
(10 marks)

Question 5

- (a) There are types of digital industrial radiography systems are being used in industry. Explain briefly each of the system.
(7 marks)
- (b) Describe the difference of radiographic parameters between conventional industrial radiography and digital radiography.
(8 marks)

Question 6

- (a) Define the surface tension and wetting ability in liquid penetrant testing.
(4 marks)
- (b) Describe briefly the basic step of liquid Penetrant testing?
(5 marks)
- (c) What are advantages and limitations of liquid Penetrant testing?
(6 marks)

END OF QUESTION