



SET B

UNIVERSITI KUALA LUMPUR
Malaysia France Institute

FINAL EXAMINATION
JANUARY 2011 SESSION

SUBJECT CODE : FED 10602
SUBJECT TITLE : ELECTRICAL SAFETY
LEVEL : DIPLOMA
TIME / DURATION : 3.30 pm – 5.30 pm
(2 HOURS)
DATE : 04 MAY 2011

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 question in Section A. For Section B answer only Two (2) questions only.
6. Answer all questions in English.

THERE ARE 3 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

SECTION A (Total: 60 marks)**INSTRUCTION: Answer ALL questions.****Please use the answer booklet provided.****Question 1**

(a) Briefly explain the following terms and abbreviations:

- i) hazard
- ii) accident
- iii) risk assessment
- iv) electric shock
- v) earthing

(10 marks)

(b) The international Electromechanical Commission (IEC) has defined three levels of hazardous area. List and explain briefly about these areas.

(10 marks)

(c) Describe the 3 aspects which should be observed regularly to identify hazards.

(10 marks)

Question 2

(a) Explosion caused by electrical equipments and installations could be prevented if engineers know the causes of electric arc. Briefly explain 5 of the causes of electric arc.

(5 marks)

(b) There are 3 degrees of electrical burns. Describe the characteristics for each of them.

(5 marks)

(c) How to prevent electric shock both direct and indirect contact from occurring.

(10 marks)

(d) Complete the Effect of AC Current table below with the appropriate sensation.

Table 1: Effect of AC Current

Current in mA at 50Hz	Sensation
2	
2-5	
8-10	
10-15	
20-40	
50-100	

(10 marks)

PART B (Total: 40 marks)**INSTRUCTION: Answer Two (2) questions only****Please use the answer booklet provided.****Question 4**

Electric shock is one of a deadly outcome of faulty electrical installation.

- (a) Briefly describe what is electric shock.
- (b) Describe the 3 condition which should be fulfilled for an electric shock to occur.
- (c) Explain the difference between direct and indirect contact in electric shock cases.
- (d) How to prevent direct contact from occurring.

(20 marks)

Question 5

Electrical fire may occur due to ignition.

- (a) What are the 3 sources of ignition.
- (b) Draw the fire triangle and give an example of fire accident associated to the fire triangle.
- (c) Briefly describe 3 causes of fire accident.

(20 marks)

Question 6

Accidents can be prevented if the fundamental information are known.

- (a) Theoretically there are 3 general causes of accidents. Describe each with explained example of accidents.
- (b) List 5 types of injuries in electrical accidents.
- (c) Describe the 3 aspects which should be observed regularly to identify hazards

(20 marks)

END OF QUESTION PAPER