

SET A



**UNIVERSITI KUALA LUMPUR
Malaysia France Institute**

**FINAL EXAMINATION
JANUARY 2011 SESSION**

SUBJECT CODE	:	FEB 24083
SUBJECT TITLE	:	ELECTRICAL MACHINES
LEVEL	:	BACHELOR
TIME / DURATION	:	3.30pm – 5.30pm (2 HOURS)
DATE	:	5 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. Answers should be written in blue or black ink except for sketching, graphic and illustration.
5. This question paper consists of FOUR questions. Answer ALL questions.
6. Answer all questions in English.

INSTRUCTION: Answer ALL questions.
Please use the answer booklet provided.

Question 1

(a) Describe the characteristics of the shunt, series and cumulative compound dc motors. List down 3 applications of each type of these motors. Write your answers in the appropriate columns in Table 1 below.

Table 1

Type of dc motor	Characteristics	Applications
Shunt		
Series		
Cumulative compound		

(12 marks)

(b) A single phase series motor is connected to 240 V, 50 Hz supply has an armature resistance of 0.2Ω and a series field resistance of 0.3Ω . Its shaft is connected to a particular load and runs at 24 rev/s when drawing 15 A from the supply.

(i) Determine the generated e.m.f. at this load.

(4 marks)

(ii) Calculate the speed of the motor when the load is changed such that the current is increased to 30 A. Assume that this causes a doubling of the flux.

(8 marks)

