



**UNIVERSITI KUALA LUMPUR**  
**Malaysia France Institute**

---

**FINAL EXAMINATION**

**JANUARY 2011 SESSION**

---

**SUBJECT CODE** : FGB 21102/FGB 21103  
**SUBJECT TITLE** : MANUFACTURING PROCESS  
**LEVEL** : BACHELOR  
**TIME / DURATION** : 3.30pm – 6.00pm  
( 2.5 HOURS )  
**DATE** : 10 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. This question paper consists of TWO (2) sections. Section A and B. Answer ALL questions in Section A. For Section B, answer three (3) questions only. Show the works.
  5. Answer all questions in English.
- 

THERE ARE 4 PAGES OF QUESTIONS AND 1 PAGE OF APPENDIX, EXCLUDING THIS PAGE.

---

**SECTION A (Total: 40 marks)****INSTRUCTION: Answer ALL questions.****Please use the answer booklet provided.****Question 1**

- (a) Define springback in sheet metal bending. State the two mechanical properties materials that are most important in influencing springback. (7 marks)
- (b) Explain two ways to mitigate or prevent shrinkage in a casting process. Name two metals that may not shrink. (7 marks)
- (c) Define L/D ratio in injection molding. Why it is very important parameter in injection molding machine selection? (6 marks)

**Question 2**

- (a) Briefly describe two different characteristics for product produced from powder metallurgy and machining process. (5 marks)
- (b) Explain a difference between roughing and finishing operations in a machining process. (4 marks)
- (c) Give three advantages of brazing compared to welding process. (6 marks)
- (d) Give two recommendations on how to increase corrosion resistance of a component which is going to be designed. (5 marks)

