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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2012/2013**

COURSE NAME : MANUFACTURING TECHNOLOGY
COURSE CODE : BPB 23303
PROGRAMME : 2 BPA
EXAMINATION DATE : JUNE 2013
DURATION : 2 HOURS 30 MINUTES
INSTRUCTION : ANSWER ALL QUESTION

THIS QUESTION PAPER CONSISTS OF THREE (3) PAGES

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Q1 Metal forming operations can be classified into two categories: bulk deformation and sheet metalworking processes.

(a) State **FOUR (4)** basic processes in bulk deformation. (4 marks)

(b) Name **THREE (3)** products produced by forging process. (4 marks)

(c) Differentiate between a bloom, a slab, and a billet in rolling of steel. (9 marks)

(d) Differentiate between bulk deformation processes and sheet metalworking processes. (8 marks)

Q2 (a) Name **THREE (3)** basic categories of material removal processes. (3 marks)

(b) Explain **FOUR (4)** reasons why machining is commercially and technologically important. (10 marks)

(c) State **FOUR (4)** examples of nontraditional machining processes. (4 marks)

(d) Differentiate between conventional machining and nontraditional machining. (8 marks)

- Q3** (a) List **FIVE (5)** factors to be considered when selecting a welding process for a specific application. (5 marks)
- (b) Explain **TWO (2)** major groups of welding processes. (8 marks)
- (c) (i) Discuss **THREE (3)** advantages of welding process.
(ii) Discuss **THREE (3)** disadvantages of welding process. (12 marks)
- Q4** (a) List **FOUR (4)** most common mechanical fastening methods. (4 marks)
- (b) An assembly must be taken apart often for maintenance.
Explain which mechanical fastening system would be the best for this application. (6 marks)
- (c) State **THREE (3)** plastic resins used in adhesive bonding. (3 marks)
- (d) Explain **FIVE (5)** reasons why bonding of aircraft skin panels has numerous advantages over joining them with screws or rivets. (12 marks)

-END OF QUESTION-