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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2016/2017**

TERBUKA

COURSE NAME : MANUFACTURING TECHNOLOGY
COURSE CODE : BPB 23303
PROGRAMME CODE : BPB
EXAMINATION DATE : JUNE 2017
DURATION : 3 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS

THIS QUESTION PAPER CONSISTS OF **THREE (3) PAGES**

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- Q1** (a) Describe **TWO (2)** types of milling operation. (5 marks)
- (b) Explain the following terms with appropriate illustrations.
- (i) Reaming (4 marks)
 - (ii) Tapping (4 marks)
 - (iii) Counterboring (4 marks)
 - (iv) Centering (4 marks)
 - (v) Spot facing (4 marks)

- Q2** (a) Determine **TWO (2)** advantages of arc welding. (4 marks)
- (b) List **SIX (6)** precautions in arc welding work. (6 marks)
- (c) Describe **FIVE (5)** types of joining and fastening of welding technique with appropriate illustration. (15 marks)

Q3 A generated welding power in a particular welding operation is 3.5 kW. The metal work to be welded is copper which melting point is 1350 K. However, the heat transferred factor to the work surface is 0.8. A continuous fillet weld is to be made with the cross-sectional area is 15 mm². Assume that the melting factor is 0.25.

Calculate:

- (a) Energy required to melt the metal (10 marks)
- (b) Net heat available (5 marks)
- (c) Travel velocity (10 marks)



Q4 (a) State **FIVE (5)** types of turning in lathe machining operations. (5 marks)

(b) Production turning operation was conducted using a cemented carbide tool. The diameter of work-part has 120 mm and 200 mm length. A feed is 0.4 mm/rev., the depth of cut is 0.4 cm and the cutting speed is 120 m/min.

Calculate:

(i) Rotational speed (5 marks)

(ii) Final diameter (5 marks)

(iii) Machining time (5 marks)

(iv) Material Removal Rate (5 marks)

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- END OF QUESTIONS -