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Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2015/2016**

COURSE NAME : MANUFACTURING TECHNOLOGY
COURSE CODE : BPB 23303
PROGRAMME : 2 BPB
EXAMINATION DATE : DECEMBER 2015 / JANUARY 2016
DURATION : 3 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS

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

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- Q1** (a) Discuss **TWO (2)** differences of manufacturing industries classifications. (4 marks)
- (b) Explain manufacturing capability of a factory. (4 marks)
- (c) Discuss with example **TWO (2)** types of materials in engineering. (4 marks)
- (d) Define the following processes:
- (i) Material removal (4 marks)
- (ii) Casting (4 marks)
- Q2** (a) Describe **THREE (3)** basic steps in the conventional powder metallurgy shaping processes. (9 marks)
- (b) List **FIVE (5)** limitations and disadvantages of powder metallurgy process. (5 marks)
- (c) Explain the production of tungsten carbide (for making tools and dies) by powder metallurgy process. (6 marks)
- Q3** (a) Describe the sand casting process in detail. (6 marks)
- (b) Explain the deformation process in metal forming. (5 marks)
- (c) Discuss the function of pattern in casting with appropriate diagrams. (6 marks)
- (d) List **THREE (3)** advantages of shell molding (3 marks)

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- Q4** (a) Discuss the plain carbon steel and properties. (6 marks)
- (b) Describe **FOUR (4)** properties of aluminium. (8 marks)
- (c) Distinguish between oxide ceramics and carbide ceramics. (6 marks)
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- Q5** (a) List **FOUR (4)** types of plastic products and their process. (4 marks)
- (b) Illustrate the plastic injection process with schematic drawing with a sketch of the plastic injection machine. (10 marks)
- (c) Describe the following process:
- (i) Blown Film Process (3 marks)
- (ii) Calendering (3 marks)

-END OF QUESTIONS –