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**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
SEMESTER I  
SESSION 2018/2019**

**COURSE NAME : CONSTRUCTION MATERIAL  
AND TESTING**

**COURSE CODE : BPD 30903**

**PROGRAMME CODE : BPC**

**EXAMINATION DATE : DECEMBER 2018 / JANUARY 2019**

**DURATION : 3 HOURS**

**INSTRUCTION : ANSWER ALL QUESTIONS**

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

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**Q3** Metal is one of the construction materials widely used in construction industry. Its availability, high workability and durability is among the chosen factors of this material in reinforced concrete structure.

- (a) Define ferrous metal. (3 marks)
- (b) Illustrate **THREE (3)** types of semi-finished product of steel. (6 marks)
- (c) Compare the properties of cast iron and wrought iron. (8 marks)
- (d) Analyze the stress-strain relationship of steel. (8 marks)

**Q4** Instead of concrete and mortar, green building material such as glass is playing a vital role in construction industry to improve the sustainability of a building.

- (a) List **TWO (2)** properties of glass. (2 marks)
- (b) Describe **THREE (3)** ingredients in glass manufacturing. (6 marks)
- (c) Categorize **THREE (3)** types of glass used in construction industry. (6 marks)
- (d) Categorize **THREE (3)** types of organic plastic. (6 marks)
- (e) Discuss **FIVE (5)** advantages of Fibre Reinforced Polymer (FRP) used in construction industry. (5 marks)

- END OF QUESTIONS -

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