

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION SEMESTER II **SESSION 2017/2018**

COURSE NAME

WOOD AND NON-WOOD

MATERIAL

COURSE CODE

: BPP 20603

PROGRAMME CODE : BPP

EXAMINATION DATE : JUNE / JULY 2018

DURATION

: 2 HOURS 30 MINUTES

INSTRUCTION

: ANSWER ALL QUESTIONS



THIS QUESTION PAPER CONSISTS OF THREE (3) PAGES

CONFIDENTIAL

- Wood based composites are used for a number of nonstructural and structural applications in product lines ranging from panels for interior covering purposes to panels for exterior uses and in furniture and support structures in buildings.
 - (a) List FIVE (5) wood elements used in wood based composites.

(5 marks)

(b) Explain the processes involved in material preparation of wood veneer and wood chip.

(6 marks)

- (c) Differentiate the properties between particleboard and medium density fibreboard. (8 marks)
- (d) Illustrate the processes involved in plywood manufacturing.

(12 marks)

- Non wood fibres are derived mostly from fast growing plants. Recently, non wood plant fibres have received much attention, especially for composite material applications, because of their low cost, low density, high specific strength, good mechanical properties, non abrasiveness, eco-friendliness, and biodegradability.
 - (a) Illustrate a cross section of a bamboo with the labels.

(5 marks)

(b) Differentiate **THREE** (3) characteristics between rattan and bamboo materials.

(9 marks)

(c) Interpret **THREE** (3) parts of oil palm tree that can be used as raw materials for composite.

(15 marks)

- Q3 Coatings and adhesives are two important components in wood furniture industry. The purpose of coating is to protect the wood against biodegrable agents, while adhesive is to bind the wood elements.
 - (a) Describe **FIVE** (5) basic ingredients in paints.

(5 marks)

(b) Differentiate the properties between lacquer and paint.

(10 marks)

(c) Explain the properties of **TWO** (2) common resins used in plywood manufacturing. (8 marks)

TERBUKA

CONFIDENTIAL

2

- Q4 Furniture fittings are categorized as furniture accessories. Furniture fittings are products that link parts of furniture together, thus can help the connections to be fixed or movable.
 - (a) State **THREE** (3) materials used for fixture and fastening of doors and windows. (3 marks)
 - (b) The fittings and fastenings can be broadly grouped under four. Identify the FOUR (4) groups with example for each group.

 (8 marks)

(c) Describe the properties of hinges.

(6 marks)

- END OF QUESTIONS -

