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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

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

COURSE NAME : VEHICLE ASSEMBLY & TESTING
COURSE CODE : BNG 30803
PROGRAMME CODE : BNG
EXAMINATION DATE : JUNE / JULY 2019
DURATION : 2 HOURS 30 MINUTES
INSTRUCTION : ANSWER **FOUR (4)** QUESTIONS
ONLY

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

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- Q1** (a) Bulk deformation and sheet metal working processes are basic categories of metal forming processes. Differentiate and describe these **TWO (2)** categories. (5 marks)
- (b) Basic sheet metal working processes are: deep drawing, bending, shearing, blanking and stretch forming. Classify all of these processes with the aid of a diagram. (10 marks)
- (c) With the aid of a diagram, outline and explain the sequence in metal stamping line for car door panel manufacturing process. (10 marks)
- Q2** Welding processes are one of the main processes in automotive assembly.
- (a) Distinguish the different between fusion welding and solid state welding. (10 marks)
- (b) Weldability of a material refers to its ability to be welded. Explain the good characteristics and the factors that affect weldability. (10 marks)
- (c) Give **TWO (2)** guidelines the designer should follow if an assembly is to be permanently welded. (5 marks)
- Q3** (a) Explain the function of body painting in an automotive sector. (5 marks)
- (b) There are a few layer colour coats that put together in automotive painting process. List all **THREE (3)** layer colour coats and describe each coat. (12 marks)
- (c) Explain **FOUR (4)** most common automotive paint defects. (8 marks)
- Q4** (a) Point out the good reasons why mechanical assembly is often preferred in an assembly process (7 marks)
- (b) Ergonomics of the assembly processes help the worker to conduct their task with ease and within task time. Describe **FOUR (4)** main ergonomics concerns in the assembly area. (8 marks)
- (c) List **FIVE (5)** major parts and components that are assembled in chassis line (10 marks)

- Q5** (a) Discover **FIVE (5)** functions of vehicle testing and inspection. (5 marks)
- (b) Describe **FIVE (5)** items that will be checked and tested during vehicle testing and inspection. (20 marks)

-END OF QUESTIONS-