



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

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

COURSE NAME : VEHICLE BODY TECHNOLOGY
COURSE CODE : BNG 40203
PROGRAMME CODE : BNG
EXAMINATION DATE : JUNE / JULY 2019
DURATION : 2 HOURS AND 30 MINUTES
INSTRUCTION : ANSWER ALL QUESTIONS

THIS QUESTION PAPER CONSISTS OF **FIVE (5)** PAGES

- Q1**
- (a) Vehicle body can be classified base on their type of constructions. Analyze **THREE (3)** design consideration for unibody vehicles. (6 marks)
 - (b) Every car had a structural frame, separate from its body. This construction design is known as body over frame. Over time, all passenger cars have migrated to unibody construction, meaning their chassis and bodywork have been integrated into one another. Differentiate **FIVE (5)** characteristics between unibody and body over frame construction. (10 marks)
 - (c) Crash testing for vehicles is very important in helping minimize losses such as deaths, injuries and property damage from vehicle crashes that happen on the roads. List **TWO (2)** types of crash tests. Categorize the focus area of body vehicle for each crash tests. (4 marks)
- Q2**
- (a) Define the refinishing material and identify types of coats that have been used in automotive finishing process. (2 marks)
 - (b) Fastener is a hardware device to create non-permanent joint without damaging the joining component.
 - (i) Recommend the sequences that should be used to prevent from wear & tear for bolt tightening. (2 marks)
 - (ii) Illustrate your answer by using appropriate diagram that shows the bolt tightening arrangement for:
 - 6 circular bolt pattern
 - 8 circular bolt pattern. (6 marks)
 - (c) There have two spot weld between two plats. Prepare **ONE (1)** method for evaluate the performance of the welding. (6 marks)
 - (d) Based on **Figure Q2(d)**, analyze **FOUR (4)** causes that can contribute this defect in MIG welds. (4 marks)

- Q3** (a) A quarter panel has a bumping dents and bulge after initial straightening. Construct the appropriate methods to repair minor damage at panel. (10 marks)
- (b) Predict the problems that would happen if body filler is not stirred up thoroughly to a smooth and uniform consistency. (6 marks)
- (c) Describe the procedure for rust repairing process. (4 marks)
- Q4** (a) Explain **SEVEN (7)** steps in a basic collision damage diagnosis procedure. (7 marks)
- (b) Analyze **THREE (3)** causes that influence the rate of corrosion. (6 marks)
- (c) Design the procedure to replace a welded-on structural panel. (7 marks)
- Q5** (a) Describe **THREE (3)** variables controlling quality in spray finishing. (3 marks)
- (b) Paint problem can be claim as costly problem due to having to repaint repairs an entire vehicle body. There have some common paint problem such as fisheye, orange peel, blushing and so on.
- (i) Prepare **ONE (1)** possibility causes for each problem during painting process:
- Fisheye problem
 - Orange peel problem
 - Blushing problem
- (3 marks)
- (ii) Prepare **TWO (2)** methods to prevent the fisheye and **ONE (1)** method to prevent the orange peel and blushing problem during painting process. (2 marks)

(c) Spraying a body vehicle is a skilled job. It is required a lot experiences for master it. Based on this statement, justify **THREE (3)** variables of painting environment that contribute to the quality of a spray finish.

(6 marks)

(d) Spray gun triggering is an important technique in order to prevent excess paint application. Analyze **THREE (3)** steps to minimize overspray and saves paint during a spray pattern test.

(6 marks)

-END OF QUESTIONS -

FINAL EXAMINATION

SEMESTER / SESSION : SEM II / 2018/2019
COURSE NAME : VEHICLE BODY TECHNOLOGY

PROGRAMME CODE : BNG
COURSE CODE : BNG 40203

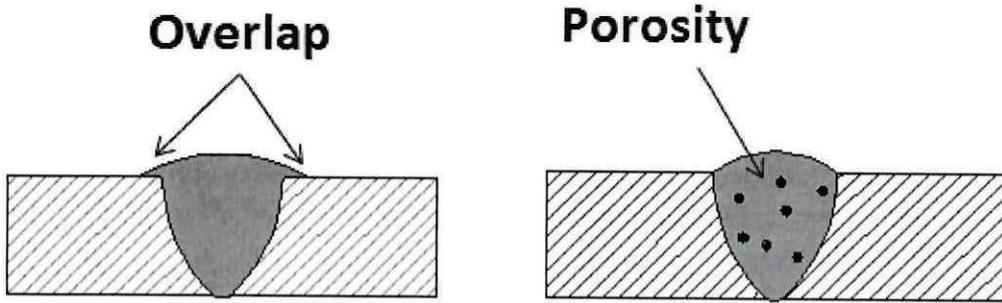


Figure Q2(d)