



**UNIVERSITI KUALA LUMPUR
Malaysia France Institute**

**FINAL EXAMINATION
SEPTEMBER 2013 SESSION**

SUBJECT CODE : FVB 40202
SUBJECT TITLE : TYRE TECHNOLOGY
LEVEL : BACHELOR
TIME / DURATION : 2 HOURS
DATE :

INSTRUCTIONS TO CANDIDATES

1. Please read the instructions given in the question paper **CAREFULLY**.
 2. This question paper is printed on both sides of the paper.
 3. Please write your answers on the answer booklet provided.
 4. Answer should be written in blue or black ink except for sketching, graphic and illustration.
 5. This question paper consists of **ONE (1)** section. Answer **FOUR (4)** questions only.
 6. Answer all questions in English.
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THERE ARE 3 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

INSTRUCTION: Answer FOUR (4) questions only.
Please use the answer booklet provided.

Question 1

1. What is meant by load index and speed category?
(4 marks)
2. Calculate tire diameter if the standard tyre size is 185/70R14. What happen if we replace standard tyre size with new tire size 195/50R15.
(8 marks)
3. What is the main reason for the information of speed rating is given on the sidewall?
(5 marks)
4. Explain the advantages and disadvantages of radial tires over bias ply tires?
(8 marks)

Question 2

1. Explain the effect that aspect ratio has on ride and handling.
(6 marks)
2. Describe where you can find the tyre thread wear indicator?
(3 marks)
3. What are the **FIVE (5)** things need to be considered in the tyre replacement after changing size of the tyre?
(10 marks)
4. Explain **TWO (2)** main factors that cause tyre rolling resistance.
(6 marks)

Question 3

1. What are **FIVE (5)** causes of serious damages to tyre and road accidents due to the driving style habits?

(5 marks)

2. **Figure 1** shows **TWO (2)** types of the irregular tyre wear. State the type of tyre wear, appearance, possible cause and give a solution.

(8 marks)

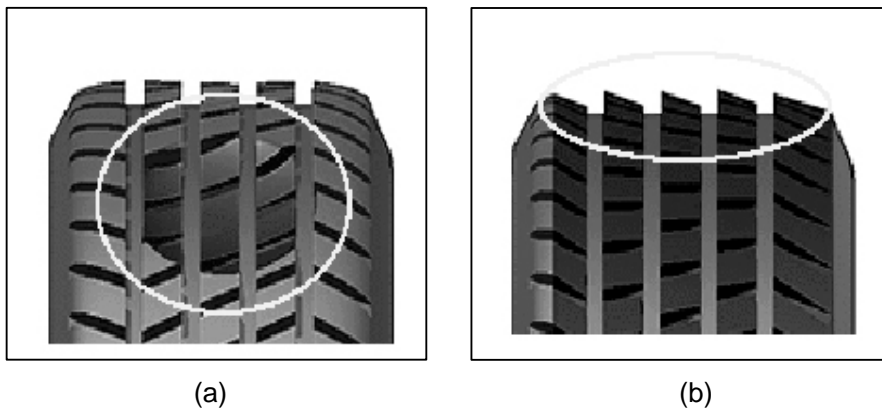


Figure 1

3. Discuss about this statement “**Tyre wear pattern may reveal the cause**”.

(12 marks)

Question 4

1. Explain why radial tire sidewall repair is more difficult than bias ply tires?

(4 marks)

2. What are the main steps when removing a worn tyre from a wheel and fitting a new one?

(6 marks)

3. Describe **FIVE (5)** cases tyre replacements became necessary or compulsory?

(10 marks)

4. One man complaint, that he feels his car is pulling to right side after do tyre rotation. To confirm this complaint, you perform test road and found the car is pulling to right side. As specialist in tire shop, you are required to explain why this problem occurred.

(5 marks)

Question 5

1. Explain what is static and dynamic wheel balancing.

(6 marks)

2. Describe how you can tell if the source of a vibration is at the front or the rear of a vehicle during a test drive.

(4 marks)

3. Explain **TWO (2)** types of wheel balancers used today.

(10 marks)

4. Indicate some of the precautions that are needed when using a wheel balancer.

(5 marks)

END OF QUESTION