



**UNIVERSITI KUALA LUMPUR
MALAYSIAN INSTITUTE OF INDUSTRIAL TECHNOLOGY**

**FINAL EXAMINATION
JANUARY 2016 SEMESTER**

COURSE CODE : JFB 30103
COURSE TITLE : MAINTENANCE PLANNING AND CONTROL
PROGRAMME LEVEL : BACHELOR
DATE : 24 MAY 2016
TIME : 2.30 – 5.30 PM
DURATION : 3 HOURS

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. This question paper consists of ONE section.
 4. Answer FOUR (4) questions only.
 5. Please write your answers on the answer booklet provided.
 6. Please answer all questions in English only.
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THERE ARE 2 PAGES OF QUESTIONS EXCLUDING THIS PAGE.

INSTRUCTION : Answer FOUR (4) questions only

Please use the answer booklet provided.

Question 1

In industry, Total Productive Maintenance (TPM) is a system of maintaining and improving the integrity of production and quality systems through the machines, equipment, processes, and employees that add business value to an organization.

- (a) Describe **FIVE (5)** elements that incorporated in definition of TPM. (5 marks)
- (b) Discuss **FIVE (5)** of expected benefits from TPM implementation. (10 marks)
- (c) Discuss **FIVE (5)** of the Critical Success Factors (CSFs) in TPM implementation. (10 marks)

Question 2

TPM focuses on the elimination of the 'SIX big losses' that are formidable obstacles to equipment effectiveness.

- (a) Explain **THREE (3)** of these losses. (10 marks)
- (b) The operational approach of Total Productive Maintenance (TPM) involves of eight pillars. With the aid of diagram, illustrate the fundamental of TPM with its **EIGHT (8)** pillars. (5 marks)
- (c) Discuss the importance of Early Management (EM) pillar. (10 marks)

Question 3

Many industries appreciate the need for efficient maintenance management systems a part of corporate strategies in the quest for world-class manufacturing.

- (a) Summarize **FIVE (5)** benefits gain from the systematic maintenance in either manufacturing or services industries. (10 marks)
- (b) Discuss **SIX (6)** approaches in maintenance management. (15 marks)

Question 4

A Computerized Maintenance Management System (CMMS) software package maintains a computer database of information about an organization's maintenance operations. It assist the maintenance team do their jobs more effectively.

- (a) Describe **FIVE (5)** advantages of using CMMS for maintenance operation. (10 marks)
- (b) Despite having positive features in assisting the maintenance operation, the CMMS has the drawbacks against the conventional techniques in managing the maintenance data. Elaborate **FIVE (5)** drawbacks of using CMMS. (10 marks)
- (c) Summarize **FIVE (5)** reasons of the need for computerization in maintenance management (5 marks)

Question 5

Autonomous maintenance (AM) is one of the core concepts of TPM.

- (a) Outline **FIVE (5)** key concepts of Autonomous Maintenance. (5 marks)
- (b) Discuss **FIVE (5)** senses used in daily AM activity. (10 marks)
- (c) Create the AM checklist as used in daily AM activity. (10 marks)

END OF EXAMINATION PAPER

