



UNIVERSITI KUALA LUMPUR  
MALAYSIAN INSTITUTE OF MARINE ENGINEERING TECHNOLOGY

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FINAL EXAMINATION  
JANUARY 2016 SESSION

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SUBJECT CODE : LCD30402  
SUBJECT TITLE : MATERIALS AND PLANT MANAGEMENT  
LEVEL : DIPLOMA  
TIME / DURATION : 9.00AM – 11.00AM / 2 HOURS  
DATE : 26 May 2016

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INSTRUCTIONS TO CANDIDATES

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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 TWO (2) sections; Section 'A' and Section 'B'. Answer all questions in Section 'A' and TWO (2) questions only from Section 'B'.
6. Answer all questions in English.

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THERE ARE 4 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

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**SECTION A (Total: 60 marks)****INSTRUCTION: Answer ALL questions.****Please use the answer booklet provided.****Question 1**

- (a) Material Management is the administration of raw materials, sub-assemblies, manufacturing parts, inventories, etc. What are the consequences of poor Material Management to a shipyard's operation?

**(4 marks)**

- (b) Operating environment is defined as 'circumstances surrounding which are potentially affecting'. Briefly describe the factors which act as 'operating environment' to a shipyard's operation.

**(4 marks)**

- (c) Four (4) basic manufacturing strategies are:

- i. Engineer to Order
- ii. Assemble to Order
- iii. Make to Stock
- iv. Make to Order

Draw the basic manufacturing strategies and identify the differences between these four (4) strategies and give comparison in aspects of design, inventory and lead-time.

**(12 marks)**

**Question 2**

- (a) Based on geographical behavior of shipping at Lumut, Perak. Draw the modern shipyard and explain briefly the difference of facilities in a traditional shipyard and a modern shipyard.

**(20 marks)**

**Question 3**

- (b) Material Control System (MRS) consist of a program for ordering, purchasing, receipt, inspection & material tracking process to ensure that every department or discipline is aware.

- I. Describe briefly four (4) functions of MRS in shipyard.

**(8 marks)**

- II. Sketch and explain the movement of material diagram within a shipyard.

**(12 marks)**

**SECTION B (Total: 40 marks)****INSTRUCTION: Answer only TWO (2) questions.****Please use the answer booklet provided.****Question 4**

Ensuring on time delivery of parts and materials for the manufacture of complex products such as shipyards is a serious undertaking. Failure to deliver on time has serious repercussions on the company awaiting the delivery. Many suppliers of engineering components have poor records in delivery. Discuss on the issue and propose methods on how to achieve on time delivery for all materials ordered and purchased.

**(20 marks)****Question 5**

You are working as a Procurement Executive for Sealink Shipyard Sdn. Bhd (SSSB). Your company has been awarded a contract to design and build a product carrier (50, 000 deadweight-tonne LNG tanker) for Seabulk Tanker Inc. You are responsible for the purchasing and expediting of steel plate materials for this project. With an aid of a diagram, elaborate in detail the processes involved in pre-order procurement expediting and post-order procurement expediting for steel plate materials.

**(20 marks)**

**Question 6**

- (a) Preventive Maintenance is the schedule for preserving and for maintaining an item, equipment or components in a serviceable condition and to detect and correct any unsatisfactory conditions. Discuss in detail the periods when maintenance must be performed.

**(8 Marks)**

- (b) The preventive maintenance cycle refers to the sequence of events that make up a maintenance task, starting from its definition to its completion. Using a diagram, design a Preventive Maintenance Process flow chart for your shipyard.

**(12 marks)**

**END OF QUESTION**