



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

**FINAL EXAMINATION
JANUARY 2016 SEMESTER**

COURSE CODE : JFB 40803
COURSE TITLE : STEAM AND GAS TURBINE MAINTENANCE
PROGRAMME LEVEL : BACHELOR
DATE : 30 MAY 2016
TIME : 2.30 PM – 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. Answer FOUR (4) questions only.**
- 4. Please write your answers on the answer booklet provided.**
- 5. Please answer all questions in the English language only.**

THERE ARE 2 PAGES OF QUESTIONS EXCLUDING THIS PAGE.

Total: 100 marks

INSTRUCTION: Choose FOUR (4) questions only

Please use the answer booklet provided

Question 1

- (a) Explain two main types of steam turbine for industrial applications.
(5 marks)
- (b) Construct basic diagram to explain the operation of each type of steam turbine.
(15 marks)
- (c) Indicate the process flow and label all important parameter on the diagram
(5 marks)

Question 2

- (a) Explain the function of gear box for a steam turbine.
(5 marks)
- (b) List all main components and their basic function in a gear box for a steam turbine.
(10 marks)
- (c) Discuss the preventive maintenance work for a steam turbine gear box.
(10 marks)

Question 3

- (a) Illustrate the arrangement of a Combined Heat Cycle of a gas turbine and steam turbine in a power generating plant. Label all main components.
(10 marks)

- (b) Explain the operation of this combined or integrated plant.
(7 marks)
- (c) Describe the advantage and potential challenge in operating and maintaining of a Combined Heat Cycle power generating plant.
(8 marks)

Question 4

- (a) Explain the type and function of gear box for a gas turbine.
(5 marks)
- (b) Describe the properties of lubrication fluids for a gear box for a gas turbine.
(10 marks)
- (c) Explain the operation and preventive maintenance for duplex filtration for lubrication system of a gas turbine.
(10 marks)

Question 5

- (a) Describe the type of lubrication for a gear box for gas turbine.
(5 marks)
- (b) Explain proper steps and procedures to inspect the quantity of lubrication fluid in a gear box for a gas turbine for a preventive maintenance program.
(10 marks)
- (c) Explain the type and selection of lubrication fluid for gas turbine.
(10 marks)

END OF EXAMINATION PAPER

