



# TECHNICAL UNIVERSITY OF MOMBASA

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Faculty of Engineering and Technology

DEPARTMENT OF MECHANICAL AND AUTOMOTIVE ENGINEERING  
**UNIVERSITY EXAMINATION FOR:**

DIPLOMA IN MECHANICAL ENGINEERING (DMEN 6)  
EAU 2308 ENGINE TECHNOLOGY AND PRACTICE IV  
**END OF SEMESTER EXAMINATION**

**SERIES: DEC 2016** PAPER-A

**TIME: 2 HOURS**

**DATE: 2016**

**Instructions to Candidates**

You should have the following for this examination

-*Answer Booklet, examination pass and student ID*

This paper consists of FIVE questions. Attempt ANY THREE.

**Do not write on the question paper.**

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### **Question ONE**

- (a) List **FIVE** characteristics by which diesel engines may be classified  
(5marks)
- (b) Briefly describe the working of the basic Wankel engine.  
(15 marks)

### **Question TWO**

- (a) Describe the action that takes place in the fuel pump, piping and injection valves just prior to and during injection of the fuel.  
(10 marks)
- (b) Describe how the combustion commences and proceeds in the cylinder of the diesel engine  
(10marks)

### **Question THREE**

- (a) State **FIVE** applications of gas turbines.  
(5marks)
- (b) Briefly explain the functions of each of the basic components of a gas turbine engine  
(15 marks)

### **Question FOUR**

- (a) Explain **FIVE** causes of black smoke in the exhaust of a diesel engine.  
(10 marks)
- (b) Describe a procedure for carrying out Maximum fuel delivery setting on a Delphi DPA fuel injection pump.  
(10 marks)

### **Question FIVE**

- (a) Explain how you would decide whether to return a fuel nozzle in an engine overhaul.  
(5marks)
- (b) Describe the removal, overhauling procedures, requirements and replacement of fuel injector valves.

