



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN NAUTICAL SCIENCE

ANS2312 : POWER PLANT II

END OF SEMESTER EXAMINATION

SERIES: APRIL 2016

TIME: 2 HOURS

DATE: Pick Date Apr 2016

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of Choose No questions. Attempt Choose instruction.

Do not write on the question paper.

SUPPLIMENTARY

Question ONE

- (a) (i) List the major components of a diesel power plant.
(ii) Explain the function of each component mentioned in (a)(i) above [10Marks]
- (b) Describe TWO methods used in starting a diesel power plant [6Marks]
- (c) Outline the basic maintenance checks of a diesel engine [4Marks]

Question TWO

- (a) Draw a labelled schematic diagram of a steam plant circuit to a steam turbine. [8Marks]
- (b) Explain the function of each major component in (a) above [12Marks]

Question THREE

- (a) (i) List TWO essential components of a steam turbine
(ii) State the function of each of the components mentioned in (a)(i) above [6 Marks]
- (b) Differentiate between the working principles of an impulse turbine to a reaction turbine. [6Marks]
- (c) Explain with the aid of a diagram how a central flow surface condenser works. [8Marks]

Question FOUR

- (a) Explain the FOUR reasons for boiler feed water treatment. [6Marks]
- (b) Explain briefly the function of each of the following boiler auxiliaries:
(i) Super heater
(ii) Economiser
(iii) Air preheater
(iv) Deaerator [8Marks]
- (c) Explain how boiler efficiency can be improved. [6Marks]

Question FIVE

- (a) Draw a gas turbine power plant and label all its major parts
(b) State Four disadvantages for the gas power plant against the