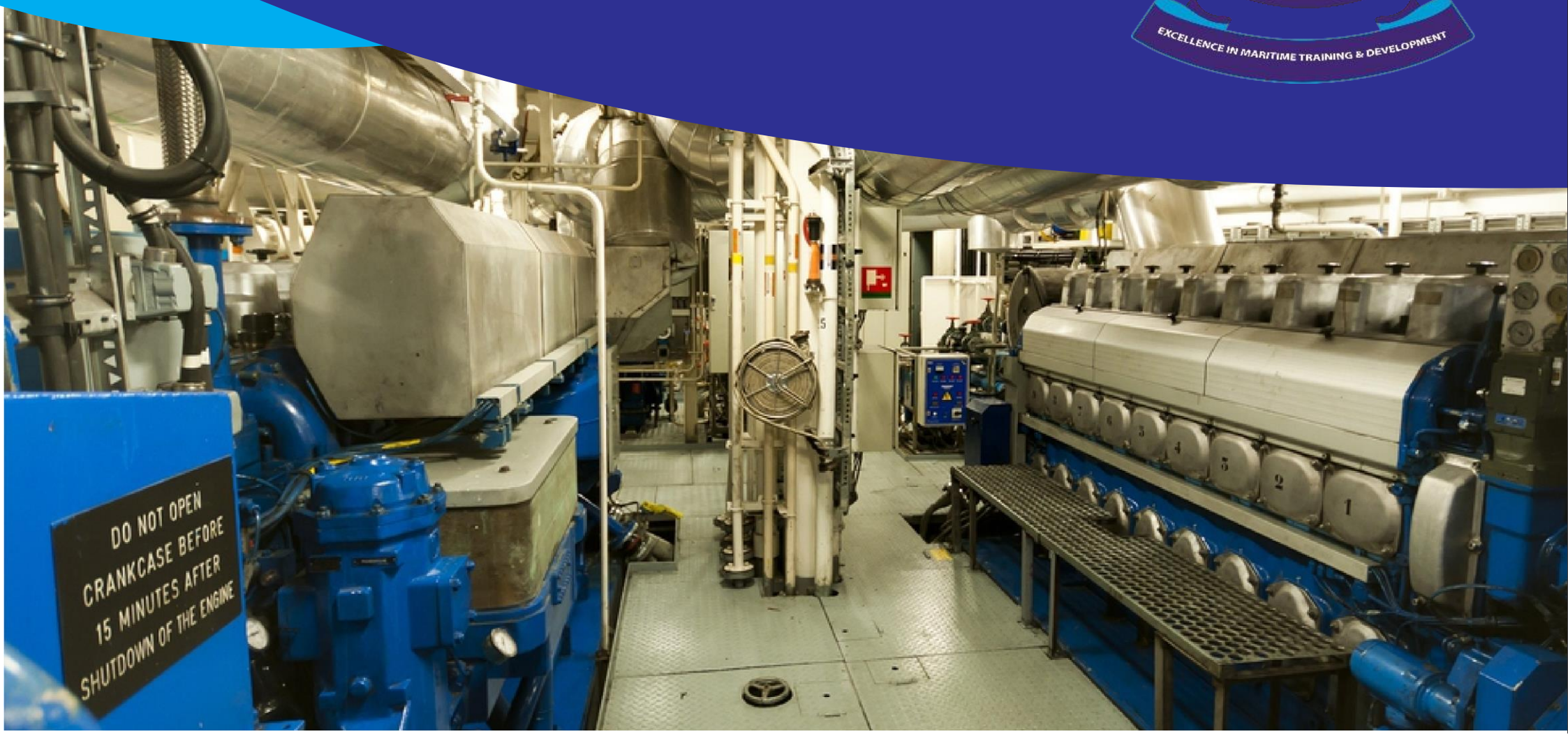


BANDARI MARITIME ACADEMY

DIPLOMA IN MARINE ENGINEERING MODULE 2

INDUSTRIAL ATTACHMENT LOGBOOK



Vision Statement

World Class Centre for Maritime Education and Training

Mission Statement

To Provide Competent Maritime Human Resource for Sustainable Blue Economy

Core Values

The Values guiding the culture and conduct of the Academy in the discharge of its mandate include: ~

- a. **Excellence:**
The Academy is committed to delivering quality and exceptional services. The Academy strives to achieve constant adaptation, innovation and vigilance to deliver on its mandate;
- b. **Public Participation:**
The Academy embraces the contribution of the public, partners and customers towards realization of its mandate. This is achieved through collaborations, partnerships and stakeholders' engagements.
- c. **Good Governance:**
The Academy has established structures to effectively and efficiently manage its affairs and resources. The structures facilitate effective decision making process to enable the Academy deliver on its mandate. In addition, the Academy embraces the culture of integrity, transparency, accountability, equity and fairness.
- d. **Sustainable development:**
Academy shall continue to deliver on its mandate, having regard to efficiency and environmental integrity and being mindful of future generations.
- e. **National Ethos:**
The Academy is guided by the seventeen (17) national values and principles of governance in accordance with Articles 10 and 232 of the Constitution of Kenya.
- f. **Team work:**
The Academy inculcates the culture of working together and motivating each other so as to maximize every member's contribution to the team. The Academy takes full cognizance of everyone's ideas and expertise towards fulfilment of a common goal.

Introduction

This module unit is compulsory for all attachees undertaking technical training programs and is intended to equip the attachee with knowledge, skills and attitudes to enable him/her to perform duties in a real working environment. The rationale of the module unit is to:

- a) enhance the practical and communication skills/competences of attachees
- b) strengthen industrial/academy partnership
- c) provide a nation-wide mechanism to address key skill demand
- d) provide employers the opportunity to give back to society
- e) enhance training levels in acquired skills and competences
- f) provide a mechanism for the academy to respond to identified areas of national key skill needs
- g) develop the manual skills of attachees associated with scientific and technological operations
- h) develop the attachees' personality and understanding of individuals and groups in work situations
- i) provide the attachee with background information and experience in career choice

Competence

The attachee should have the ability to:

- a) work effectively under supervision
- b) apply knowledge and skills to solve real time problems
- c) develop teamwork and organizational competences

General Objectives

By the end of the Industrial attachment period, the attachee should be able to:

- a) comprehend the constraints of working life and functional relationships within and between organizations
- b) recognize the importance of human relationships and work attitudes
- c) develop procedural knowledge towards work processes
- d) apply theoretical concepts and school-based skills to practice
- e) develop work attitudes like curiousness, self-confidence, maturity and self-reliance
- f) obtain knowledge of potential careers and develop new areas of interest

The Industrial attachment scheme will enable the academy to:

- a) establish link with industry for technical development, particularly in the area of product innovation, design and construction
- b) know skill gaps and improve quality of training
- c) obtain materials for teaching and case studies
- d) have a balance assessment of attachees

The industrial attachment scheme will enable employers to:

- a) understand future skills availability
- b) improve the training delivered at the academy for industrial relevance

- c) influence the training of future generation of employees

Suggested roles of the academy, industry and attachees

It is the responsibility of the academy to:

- a) identify attachees who are qualified to go on attachment
- b) conduct an industrial attachment orientation and induction to attachees
- c) identify opportunities from the industry and match them with the number of attachees qualified to go on attachment
- d) prepare a code of conduct to be observed by attaches
- e) provide logbooks to attaches

It is the responsibility of the industry to:

- a) appoint an industry supervisor/mentor for the attachee
- b) carry out formal introduction/induction to the workplace by the industry supervisor/mentor
- c) design a weekly program of work for the attachee to carry out whilst on attachment
- d) develop clear and well communicated expectations of the work program
- e) expose attachee to relevant activities and training opportunities
- f) supervise and assess progress of the attachee
- g) complete and release the logbook of the attached attachee

It is the responsibility of the attached attachee to:

- a) read and observe the code of conduct applicable to the workplace
- b) report to the academy any problems encountered
- c) fill the logbook daily to be completed and endorsed by both the industry and the academy supervisor
- d) prepare a report at the end of the attachment period and submit to the academy.

Instructions for the attachee on how to fill the logbook

- a) Each day, you should note in your logbook the work you have carried out. There are spaces for the dates and space where you should enter the numbers of the items in your industrial attachment training programme completed or partly completed during the period of your report.
- b) You may make sketches, any other exposure apart from the ones in the syllabus and additional comments to illustrate work carried out if you wish to, in the space provided at the back of each page.
- c) It is expected that your course instructor, supervisor or foreman will wish to see your logbook after you have recorded your weekly activities. You are advised to take the logbook to them to see and initial report in the space provided.
- d) Remember, this logbook is your property, and if you look after it, keep it clean, and complete it carefully and conscientiously it will form a valuable record of your training and may well assist you to obtaining employment in years to come.

(A) Attachee's Personal Details:

Last Name:Other Names.....Gender:.....

Identity Card No. Date of Birth: Date: Month: Year:

Course: Level: Year/ Module:

Home Address:Telephone:

Next of Kin (Name):Relationship:

Postal Address: Postal Code: Tel. No:

(B) Academy:

Name of Head of Academy:

Department:

School:.....

Head of School:Signature:Date:

(C) Details of Attachment Place:

Name of Organization:

Postal Address:Postal Code:

Tel:Mobile..... Email address.....

Industrial Attachment Supervisor (Name):

Position/ Designation:Signature:Date:.....

PERIOD	COMPETENCES	TASK COMPLET ED? (YES /NO)	ATTACHEES REMARKS ~Was the activity carried out? ~Was it completed on time? ~How difficult was it? ~ What are the learning experiences? ~ Challenges encountered?	SUPERVISOR'S REMARKS - How did the attachee perform? - What was his/her attitude towards work? - Did attachee receive assistance to perform well?	SUPERVISORS SIGNATURE
7 WEEKS	GENERAL MARINE ENGINEERING KNOWLEDGE II				
	Bearings and Lubrication				
	- Identify different types of bearings				
	- Dismantle bearings assembly of centrifugal pump				
	- Monitor the condition of a bearing				

	- Assemble the bearing assembly of centrifugal pump				
	Marine refrigeration, air conditioning and ventilation				
	- Dismantle a vapour compression refrigeration system				
	- Identify components of a refrigeration system				
	- Monitor the condition of refrigeration system components				
	- Assemble components of a refrigeration system				
	Purifiers and Clarifiers				
	- Select appropriate gravity discs				

	- Dismantle an oil purifier				
	- Determine the condition of oil purifiers				
	- Assemble an oil purifier				
	Shafting Installation and propellers.				
	- Perform shaft dismantling and servicing				
	- Perform shaft installation				
	- Service a propeller				
	- Mount a propeller				
	Steering gears and rudders				

	- Identify components of a steering system				
	- Identify type of rudder				
	- Carry out maintenance of steering system				
	Heat exchangers				
	- Dismantle a heat exchanger				
	- Identify components of different types of heat exchanger				
	- Determine and maintain the condition of components of heat exchanger				
	- Service components of different types of heat exchangers				

	- Assemble a heat exchanger				
	Corrosion and corrosion control				
	demonstrate electro chemical reaction				
	select appropriate paint scheme for an electric motor body				
	perform painting on an electric motor body				
	Engineering Watchkeeping				
	- demonstrate application of principle of maintaining safe engineering watch				
	- demonstrate application of ERM principle				

	Diesel propulsion engine ancillary systems				
	Identify diesel propulsion engine safety fittings				
	- Oil mist detector				
	- Crankcase explosion				
	- Door				
	- Starting airline flame				
	- Arrester				
	- Starting airline				
	- Bursting disc				
	- Cylinder head relief				
	- Valve				
	- Puncture valve				
	- Safety alarms				
	- Turning gear				

	- Safety interlock				
	- Dismantle and assemble air starting valve				
	- Dismantle and assemble interlock mechanism				
	- Identify components of combustion air Register				
	- Identifying propulsion engine interlock mechanisms:				
	Turning gear interlock				
	- Air/fuel interlock				
	- Reversing interlock				
	Combustion of fuel in diesel propulsion engine				

	- dismantle and assemble fuel injector pump				
	- dismantle and assemble fuel injector valve				
	- sketch line diagrams for fuel systems of diesel propulsion engine				
	- dismantle and assemble diesel propulsion engine unit				
	- identify propulsion engine safety fittings				
	- Take appropriate action for different alarms: Abnormal machinery				
	- Fire alarm				
	- Abandon ship				
	- CO2 alarm				
	- Dead man alarm				

	- Engineers call alarm				
	- Demonstrate escape from machinery space				
	- Fill the engine room logbook.				
1 WEEK	SHIP STABILITY				
	- Carry out sounding and determine ship trim				
	- Use hydrostatic curves/deadweight scale to determine ship loading condition				
	- Perform calculations related to ship displacement				
	- Perform calculation on ships statistical stability.				
	- Perform calculations on				

	list and list correction				
4 WEEKS	MARINE ELECTRICAL TECHNOLOGY II				
	A.C. Generator				
	- verify Fleming's right hand rules				
	- identify various parts of a generator				
	- verify the variation of e.m.f. when a simple loop generator coil is rotated between two poles				
	- identify electrical ratings of appliances in a ship				
	- connect and sketch a schematic arrangement of a three phase alternator with star connection				
	- terminate and illustrate the				

	connections in a terminal box of a stator field winding				
	- excite the generator				
	- maintain various systems in a generator				
	- install an automatic voltage regulator in the ship power systems				
	- operate ship generator in parallel				
	- operate an emergency generator				
	D.C. Generators				
	- identify parts of a D.C. generator				
	- connect a D.C. generator circuit				
	Transformers				
	- test transformers				

	for proper operation				
	- connect transformers to single phase and three phase circuits				
	- connect instrument transformers				
	- demonstrate the operation of three phase transformers				
	Power distribution systems				
	- identify switchgears in a ship power system				
	- connect circuit breakers				
	- test a circuit breaker for tripping under fault conditions				
	- connect emergency power supply in a ship				
	- draw a line diagram of a typical power distribution				

	system in a ship				
	- identify insulated systems and earthed neutral systems				
	- select cable sizes for a given application				
	- use the correct procedure to connect a ship power distribution system to a shore supply				
	- identify and locate earth faults in an electrical power distribution system				
	A.C. 3 Motors				
	- identify types of A.C. 3 motors commonly used on board ships and their area of applications				

	- identify components of a three-phase induction motor				
	- assemble starter for 3 motors				
	- overhaul an A.C. 3 motors				
	- identify motor enclosures				
	- sketch speed-load and current- load characteristics A.C. motors				
	- interpret information displayed on name plate of motor				
	D. C. Motor				
	- measure starting current and load current of D.C. motors				
	- wire D.C. motor starters				
	- test D.C. motors				

	- maintain D.C. motors				
	Electrical Protection and high-voltage installations				
	- install various over current protection devices in a ship				
	- test a motor circuit for single phasing				
	- identify high-voltage installation systems				
	- carry out risk assessment of maintenance activities on high voltage installation				
	- monitor the condition of high voltage installation				
	Electrical maintenance				
	- test and record values of insulation resistance				
	- perform routine				

	maintenance and testing of a generator				
	- carry out a maintenance routine on main circuit breakers				
	- carry out a logical procedure to detect the location of an earth fault, using earth-fault lamps and an insulation-testing instrument on a given distribution circuit				
	- carry out the maintenance necessary for a squirrel cage electric motor				
	- carry out the maintenance necessary, and complete reports on, starters and controllers				
	- carry out routine testing				

	and maintenance of lighting circuits and fittings				
	- fit cables through glands into a terminal box, earthing the armoring as appropriate				
	- solder and crimp terminal sockets to conductors				
	- measures resistance of cables				
	- carry out temporary repairs to insulation				
	Electrical fault prevention, diagnoses, and repair				
	- adjust, maintain and test the types of fault protection normally encountered				
	- compare pneumatic, hydraulic and electronic-				

	electrical control systems				
	- locate faults in simple control systems				
	- demonstrate the ability to take actions to prevent damage				
	- sketch the layout of a typical main switchboard				

ADDITIONAL REMARKS

Students Name:Signature:.....Date:

Supervisor's Name:Signature:.....Date:.....



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