AFLOAT TASK BOOK

MERGED ELECTRICAL ARTIFICER TRAINING(MEAT)

COURSES

INS VALSURA

JAMNAGAR

AFLOAT TASK BOOK (D2 TERM)
MERGED ELECTRICAL ARTIFICER TRAINING COURSE

Name of Trainee .....
Rank .....
P No.....
Ship .....

_____ _____
Officer-in-Charge (Trg) Signature **Department Officer's Signature**

II

Date_____ **(Electrical Officer)**

OBJECTIVE OF AFLOAT TRAINING

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1. The training of MEAT course is divided into five major terms (A to E) which are further subdivided into sub-terms. Trainees undergoing MEAT courses are deputed to various ships for afloat training in D2 and E2 terms for 04 weeks and 08 weeks respectively to enable practical training on actual systems, their maintenance and exploitation aspects and exposure to other field issues like dealing with repair agencies and spare depots.
2. Based on feedbacks from fleet ships and trainees regarding afloat attachments, a need has been felt to give a definite direction to the training process during the afloat attachment of these trainee sailors, so as to quantify the learning and understanding of the trainees. In order to fulfill this need, it is imperative that the underlying philosophy and the aims and objectives of both the afloat attachments be clearly defined. This would help in defining the scope of the learning, in a time bound manner. Accordingly, a 'work book' has been designed, comprising of questions to be answered by the trainees to quantify the learning process.
3. The training objectives of both afloat attachments (D2 & E2 terms) have been brought out in the succeeding paragraphs.

D2 Term

4. **Background**. Sailors report to ships on completion of training upto D1 term. By this time, the sailors have been taught technical subjects, technical administration and generic equipment subjects. On completion of these subjects, trainees are expected to have fair understanding of basic underlying theoretical concepts behind marine electrical/ electronics systems and, to an extent, practical aspects based on lab experiments and exposure to equipment, at this establishment. Under the subject Tech Admin in C2 term, topics like material management, book maintenance, preparing defect lists during refits etc are also covered and practical exposure is given wherever applicable.

5. **Aims and Objectives**. Based on the training curriculum, following would be the aims and objectives of D2 Term afloat attachment:-

(a) Gain an overview of functioning of various departments onboard a ship.

(b) Understand the functioning of following generic sections on a ship:-

(i) Power Generation and Distribution Section

(ii) Navigation, Direction and Communication Section

(iii) Weapons and Sensors Section

(iv) Underwater/ Sonar Section

(c) Understand the technical administration aspect of the department.

(d) Correlate the generic knowledge of systems learnt in D1 Term at Valsura with the systems onboard ships.

(e) Prepare to understand the maintenance philosophy of systems/equipment and acquaint themselves with the approach of 'what, why and how to' concepts of systems.

E2 Term

6. **Background**. The sailors are assigned their vertical groups in their E1 term by CABS. Thereafter on completion of 10 weeks of training in E1 term, they report to ships for E2 term. During the trainee reporting onboard for his E2 term, he is imparted with training so as to enable him to have gained a fair idea of broad functioning of the systems as per their assigned groups, their components and hands-on experience based on availability of the system in this establishment. The trainees are also exposed to various DI/DR procedures during the course of training.

7. **Aims and Objectives**. The trainee is expected to be trained on the following during his attachment in E2 term:-

(a) Identify all the devices, units and sub-assemblies of a system.

(b) Identify critical chains and components in the system (Txn, Rxn, TEA & TTA interlocks etc).

(c) Muster OBS and documentation of the systems to understand resources held onboard.

(d) Understand maintenance procedures and its relevant documents/ records.

(e) Analysis of defects recorded in EMAPS.

(f) Understand following administrative aspects:-

(i) Survey and demand procedures, LPO demands, ABER, SDRS, WLMS etc.

(ii) Defect raising procedures during refits.

(iii) Procedure for seeking assistance from dockyards.

(iv) Visit concerned centres of dockyards, pertaining to the system.

(g) Identify/ familiarise test equipment provided/ used for system maintenance & repairs.

(h) Identify all the STW & TT procedures on the system and prepare a detailed flow charts.

(j) Prepare a list of queries on the systems so as to clarify the same during the E3 term at Valsura.

(k) Apart from being maintainers of specific equipment, the sailors also carryout duties of Senior Electrical Sailor (Power and Radio). In the case of Naval Entry Artificer, Mechanicians and Direct Entry Artificers, the sailors pass out as Artificer Fourth Class and would be expected to join the duty roster in a short span of time. Hence the skill set required for carrying out the duties of electrical senior sailors also need to be imparted during E2 Term. Competency is to be achieved by the trainees in the following areas:-

(a) Gyro, ICCP & Switchboard for Power sailors.

(b) Main Broadcast and Navigation Radar for radio sailors.

Afloat Task Book

8. The Afloat Task Book has been prepared keeping in view the job specifications defined by IHQ, MOD(N).The Training Officer and Training Master Chief/ Chief are to ensure that the task book is filled up by the trainee and put up fortnightly to LO's signature and monthly for CO's perusal. Following are to be ensured by the Electrical Officers of the ships on reporting of the trainee onboard:-

(a) Nominate an Officer and Master Chief/ Chief to ensure conduct of systematical afloat training.

(b) Promulgate a firm programme for completion of the task book in time.

(c) Attach the trainees to system maintainers for conduct of practical training.

(d) Evaluate conduct of training on a weekly basis and comment on the progress in the workbook.

(AK Shukla)
Captain
Training Captain

Date: - May 13

JOB SPECIFICATIONS-
MEAT COURSES

JOB SPECIFICATIONS OF MEAT (P) COURSE

S No.	Job Specification
1.	To carry out operational function on following equipment:-
	(a) Missiles and Missile Launchers
	(b) Guns and Gun Mountings
	(c) Fire Control Systems (A/A & A/S)
	(d) Gyro & Navaids
	(e) Remote Control Systems of Engine
	(f) Instrumentation
	(g) Internal Communication Systems
	(h) Heavy Electrical Machinery and Conversion Machinery
	(j) Rockets and Rocket Launchers
	(k) Turbine Control Systems
	(l) Hull Outfits
	(n) Lifts and Cranes
	(p) Mines and Mines Sweeping Equipment
	(q) Degaussing Equipment
	(r) Telephone Exchange
	(s) Digital Computer
	(t) ICCP & Auxiliary Controls Distribution System
	(v) Helicopter/ Aircraft Landing Arresting Systems
	(w) Auto Plotter/ SPL Plotting
	(x) Night Vision Binoculars
2.	To be able to carry out fault finding on all equipment/ systems listed at Sl.1
3.	To assist a senior artificer sailor in setting to work and testing and tuning the equipment/ systems at Sl. 1
4.	To assist the senior artificer sailor in the refit of a ship

JOB SPECIFICATIONS OF MEAT (R) COURSE

S No.	Job Specification
1.	To carry out maintenance on the following equipment:-
	(a) Communication Equipment
	(b) Navigational Aids
	(c) Fire Control Systems (A/A & A/S)
	(d) Early Air Warning Radars
	(e) Fire Control Radars
	(f) Secondary Radars
	(g) Display Systems & Plotting
	(h) Sensors Associated with Missiles and Torpedos
	(j) EW Equipment
	(k) Echo Sounders
	(l) Sonar Equipment
	(m) AIO & CAIO systems.
	(n) Radiation Monitoring equipment
	(p) Interfacing Equipment
	(q) Data Bus Systems
	(r) Data Link Systems
	(s) MB/ SRE/ intercom & Wireless Internal Communication System
	(t) CCS MK III
	(u) Gyro, RLG STD 20 M, EM Log
2.	To be able to carry out Ship Staff repairs on all equipment/ systems listed at Sl. 1
3.	To assist a senior artificer sailor in setting to work and testing and tuning the equipment/ systems at Sl. 1
4.	To assist the senior artificer sailor in the refit of a ship

BLOCK SYLLABUS- MEAT COURSES

BLOCK SYLLABUS MEAT (P) COURSE

MEAT TERM A1 (POWER)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Basic Electronics Devices	2.0	60	50	30	10	10
2	Basic Electronic Circuits	2.0	60	50	30	10	10
3	Electrical Technology	4.0	120	100	60	20	20
4	L Measurements	1.0	30	25	20	0	5
5	Electrical and Engineering Practice (EEP)	1.0	30	25	5	0	20
	Total	**10**	**300**	**250**			

MEAT TERM A2 (POWER)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Digital Technology	2.0	60	50	30	10	10
2	Workshop Electrical	1.0	30	25	0	0	25
3	Circuit Theory	1.0	30	25	20	0	5
4	Workshop Mechanical	1.0	30	25	0	0	25
5	Common Test Equipment	1.0	30	25	0	0	25
6	Board	0	0	100	0	0	0
	Total	**6**	**180**	**250**			

MEAT TERM B1 (POWER)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Engineering Drawing	2.0	60	50	40	0	10
2	Power Generation and Distribution	1.0	30	25	20	0	5
3	Intro to Power Electronics	1.0	30	25	20	0	5
4	Basic Control System	2.0	60	50	30	10	10
	Total	**6**	**180**	**150**			

MEAT TERM B2 (POWER)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Power Electronics (PLN)	2.0	60	50	30	10	10
2	Gyro & Navaids	1.5	45	35	30	0	5
3	Micro Controller	2.0	60	50	0	0	50
4	Ships Power System	3.0	90	75	45	15	15
5	Surface Weapon	2.0	60	50	30	10	10
6	Advance Control Engg.	1.5	45	40	30	0	10
7	Board	0	0	100	0	0	0
	Total	**12**	**360**	**400**			

DEDH (POWER) COURSE TERM B

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	CTE	1.0	30	25	0	0	25
2	Gyro & Navaids	1.5	45	35	30	0	5
3	Ships Power System	3.0	90	75	45	15	15
4	Advance control engg.	1.5	45	40	30	0	10
5	NBCD course at Shivaji	1.0	30				
	Total	**8.0**	**240**	**175**			

MEAT TERM C1 (POWER)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	EMI / EMC	1.0	30	25	20	0	5
2	BOHO	3.0	90	75	45	15	15
3	Computer & IT	2.0	60	50	30	10	10
4	ESI	2.0	60	50	30	10	10
5	Guided Weapon	2.0	60	50	30	10	10
6	Instrumentation & Control	2.0	60	50	30	10	10
	Total	**12**	**360**	**300**			

DEDH (POWER) COURSE TERM C1

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	EMI / EMC	1.0	30	25	20	0	5
2	BOHO	3.0	90	75	45	15	15
3	Surface Weapon	2.0	60	50	30	10	10
4	ESI	2.0	60	50	30	10	10
5	Guided Weapon	2.0	60	50	30	10	10
6	Instrumentation & Control	2.0	60	50	30	10	10
	Total	**12.0**	**360**	**300**			

Note:- Block Syllabus for of DEDH (P) course is same as of MEAT (P) from C2 term.

MEAT TERM C2 (POWER)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Applied Servo & Russian Language	2.0	60	50	40	0	10
2	Tech Admin	2.0	60	50	50	0	0
3	Project	2.0	60	50	0	0	50
4	Board	0	0	100	0	0	0
	Total	**6**	**180**	**250**			

MEAT TERM D1 (POWER)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Tech Aspects Of Gyro & Vertical Gyro	2.5	75	60	50	0	10
2	E/ R Controls	1.5	45	40	30	0	10
3	Tech Aspects of MTG., LCHR etc.	2.0	60	50	40		10
4	Tech Aspects Of Weapon Computer	2.0	60	50	40	0	10
5	Adv. Test equipment	1.0	30	25	0	0	25
6	Tech Aspects Of Steering & Stabliser	1.0	30	25	20	0	5
7	End of Course Board	0	0	100	0	0	0
	Total	**10**	**300**	**350**			

VERT SPL –PA 01(N2) (MOUNTING GROUP P16, P16A, P25A, PRABAL & P17)

(MEAT TERM E1, E2 & E3)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Hoist / Lower Mechanism of Towed Array Sonar/PTAS	1.0	30	25	20	0	5
2	AK 630	2.0	60	50	40	0	10
3	Hull Outfits 18 & 5	1.0	30	25	20	0	5
4	Torpedo Tube Mtg. A 224S	2.0	60	50	40	0	10
5	GI 738/ Toted – Winch	1.0	30	25	20	0	5
6	Presetter	1.0	30	25	20	0	5
7	Ladoga	2.0	60	50	40	0	10
8	Chaff Deceiver	1.0	30	25	20	0	5
9	Ottomelara	6.0	180	150	120	0	30
10	Barak Launcher	1.0	30	25	20	0	5
11	Kavach Chaff System	1.0	30	25	20	0	5
12	Blokirovka (P17)	0.5	15	13	10	0	3
13	Blokirovka (P16)	0.5	15	12	10	0	2
14	Board	0	0	100	0	0	0
	AFLOAT (MEAT TERM E2)	8.0	240	100			
	Total	**28**	**840**	**700**			

VERT SPL – PA02 (N2) (GYRO & NAV-AIDS GROUP -P16, P16A, SNF, 1241RE, 1241PE, PRABAL & OPVs)

(MEAT TERM E1, E2 & E3)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Gyro Anschutz 4S & 6S	2.00	60	50	40	0	10
2	Gyro Anschutz STD 20 M	2.50	75	60	50	0	10
3	Gyro Anschutz STD 22 M	2.00	60	50	40	0	10
4	RLG	1.00	30	25	20	0	5
5	Log (EM & Keltron)	1.50	45	40	30	0	10
6	Steering/ Auto Pilot System (Vosper Thornycraft, Riva Sepa)	3.00	90	75	60	0	15
7	Stabiliser Brown Brothers & Vosper Thorneycroft	2.00	60	50	40	0	10
8	E/ S Keltron	1.00	30	25	20	0	5
9	Deck Landing Aids (Helo Approach Path Indicator)	1.50	45	35	30	0	5
10	Auto Plotter SPL Plotting/ Navaids, Table and Wind Computer	2.00	60	50	40	0	10
11	MCR Control D 86 computer	1.00	30	25	20	0	5
12	Degaussing (P16, P 16A)	0.50	15	15	10	0	5
13	Board	0.00	0	100	0	0	0
	Afloat (MEAT Term E2)	8.0	240	100			
	Total	**28**	**840**	**700**			

VERT SPL -PC01 (N2) (ASW - SNF, P15,P17, P1135.6 AND 1241 PE)

(MEAT TERM E1, E2 & E3)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	RBU 6000	14	420	Subjects covered at ASW School			
2	RBU 1200						
3	PURGA 15						
4	SU 580 E						
5	POY 27ME						
6	QTTM						
7	PAUT 4A						
8	PAUT 4E						
9	KMP 60						
10	DTA 53						
11	IAC MOD (0)						
12	BOARD			100	0	0	0
13	PURGA (P1135.6)	3.0	90	75	60	0	15
14	YPX Hoist (P1135.6)	2.0	60	50	40	0	10
15	Toted Winch (P 15)	1.0	30	25	20	0	5
	Afloat (MEAT Term E2)	8.0	240	100			
	Total	**28**	**840**	**700**			

VERT SPL -PC02 (N2) (MOUNTING/ FCS - SNF, P25, 1241 RE & 1241PE)

(MEAT TERM E1, E2 & E3)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	AK 176	2.0	60	50	Subjects covered at INS Dronacharya		
2	AK 630	2.0	60	50			
3	PK 16	1.0	30	25			

4	Blokirovka	0.50	15	15	
5	RPK	1.50	45	35	
6	APK	1.50	45	35	
7	KORALL	2.50	75	65	
8	SSM Container	2.00	60	50	
9	BAZA	1.17	35	30	
10	PARUS	1.50	45	35	
11	PPC	1.67	50	40	
12	P 21/ 22	2.67	80	70	
13	BOARD	0.0	0	100	
	Afloat (MEAT Term E2)	8.0	240	100	
	Total	**28**	**840**	**700**	

VERT SPL -PC04 (N2) (GYRO & NAV.AIDS-SNF, P15, P1135.6, P25, P25A)

(MEAT TERM E1, E2 & E3)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Gyro KURS 5 and 7 ,10A	2.5	75	60	50	0	10
2	Gyro Anshutz 20M	1.5	45	35	28	0	7
3	Log- Keltron	1	30	25	20	0	5
4	Auto Plotter AP4	1	30	25	20	0	5
5	Echo Sounder Keltron	1.0	30	25	20	0	5
6	AIST Autopilot	1	30	25	20	0	5
7	LADOGA SINS	3	90	75	60	0	15
8	E/ S NEL 20K, M2B	1	30	25	20	0	5
9	Steering Brown Brothers	2	60	50	40	0	10
10	Log LI-2-1	0.5	15	10	8	0	2
11	Auto Plotter Topaz	1.5	45	35	28	0	7
12	IILMEN (Helo TX.Device)	0.5	15	10	8	0	2
13	Flight Processor (Helo	0.5	15	15	12	0	3

	Recorder)Topaz Mk						
14	Sight OVNTS	0.5	15	15	12	0	3
15	Magnetic Compass(KM-145&KM-115)	0.5	15	15	12	0	3
16	DGPS (Differential GPS)	0.5	15	15	12	0	3
17	GVUK (Helo Gyro)	0.5	15	15	12	0	3
18	Wind Speed System Talwar Class	0.5	15	15	12	0	3
19	Wind Speed System (P 15)	0.5	15	10	8	0	2
20	Board	0.0	0	100	0	0	0
	Afloat (MEAT Term E2)	8.0	240	100			
	Total	**28**	**840**	**700**			

VERT SPL -PC05 (N2) (GG GROUP P15, P1135.6)
(MEAT TERM E1, E2 & E3)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	AK 100 Gun Mounting	5.00	150	125	100	0	25
2	PK 2M Chaff Launcher	1.00	30	25	20	0	5
3	Smeta Computer	1.00	30	25	20	0	5
4	T-91E Computer	1.50	45	35	30	0	5
5	Blokirovka P-15	0.50	15	15	10	0	5
6	Blokirovka P-1135.6	0.50	15	15	10	0	5
7	AK 630	2.00	60	50	40	0	10
8	Ladoga (P 15)	1.50	45	35	30	0	5
9	Kashtan MGM &SRS	2.00	60	50	40	0	10
10	A 190	3.00	90	75	60	0	15
11	PK 10 Chaff Launcher	1.00	30	25	20	0	5
12	Barak Launcher	1.00	30	25	20	0	5
13	Board	0.00	0	100	0	0	0
	Afloat (MEAT Term E2)	8.0	240	100			
	Total	**28**	**840**	**700**			

VERT SPL PC06 (N2)

(MISSILE GROUP- P15, P17, P1135.6, P25A, P16A & PRABAL) (MEAT TERM E1, E2 & E3)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Kasu FCS	3.00	90	75	60	0	15
2	Uran Missile	2.00	60	50	40	0	10
3	Blokirovka	0.50	15	15	10	0	5
4	Ladoga (P 15)	1.50	45	35	28	0	7
5	Club FCS	5.00	150	125	100	0	25
6	Club Launcher	1.00	30	25	20	0	5
7	Kashmir / Shtil Launcher	4.00	120	100	80	0	20
8	PK 10 Chaff Launcher	1.00	30	25	20	0	5
9	Ladoga (P 16A)	2.00	60	50	40	0	10
10	Board	0.00	0	100	0	0	0
	Afloat (MEAT Term E2)	8.0	240	100			
	Total	**28**	**840**	**700**			

VERT SPL -PC07 (N2)
(GT CONTROL & GYRO NAV AIDS- 1241 RE, 1241PE, P15, P17, P1135.6, P25, P25A, PRABAL, SNF)(MEAT TERM E1, E2 & E3)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Burya Control System	1.50	45	35	28	0	7
2	Zarya Control System	2.00	60	50	40	0	10
3	Degaussing System (P1135.6)	0.50	15	15	12	0	3
4	Compressor	0.50	15	15	12	0	3
5	Stabiliser (Dolmite System)	1.00	30	25	20	0	5
6	Stabiliser RUL -63	0.50	15	15	12	0	3
7	Stabiliser Brown Brothers	1.50	45	35	25	0	10

8	Steering Gear Korrax	1.00	30	25	20	0	5
9	Steering Gear Brown Brothers	2.00	60	50	40	0	10
10	Steering Gear Riva Sepa/ AIST	1.00	30	25	20	0	5
11	E/ R Control & Instrumentation (Including GT Construction & Regulating Devices of P- 1135.6) (**Shivaji)**	4.0	120	100	**Covered at INS Shivaji**		
12	LOG LI-2-1	0.50	15	15	12	0	3
13	Auto Plotter AP 5	0.50	15	10	8	0	2
14	Wind Computer (KIEV & AGI)	0.50	15	10	8	0	2
15	Gyro Anshutz 20 M & GKY / Pastilshik-D	1.50	45	35	28	0	7
16	Degaussing System (P15)	0.50	15	15	12	0	3
17	RLG Sigma 40	1.00	30	25	20	0	5
18	BOARD	0.0	0	100	0	0	0
	Afloat (MEAT Term E2)	8.0	240	100			
	Total	**28**	**840**	**700**			

VERTICAL SPECIALISATION – COAST GUARD (POWER)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Ottomelara	6.00	180	150	120	0	30
2	Log (EM & SAGEM)	1.50	45	40	30	0	10
3	Steering Gear Riva Sepa/ AIST	1.00	30	25	20	0	5
4	Gyro Anschutz 4S	1.00	30	25	20	0	5
5	Gyro Anschutz STD 20 M	1.00	30	25	20	0	5
6	RLG	0.50	15	15	12	0	3
7	Stabilizer Brown Brothers	2.00	60	50	40	0	10
8	Keltron E/ S	1.50	45	35	28	0	7
9	Auto Plotter Spl Plotting/ Nav Aids, Table and Wind Computer	2.00	60	50	40	0	10
10	MCR Control D86	2.00	60	50	40	0	10

	computer						
11	Deck Landing Aids (Helo Approach Path Indicator)	1.50	45	35	28	0	7
12	Board	0.00	0	0	0	0	0
	Afloat (MEAT Term E2)	8.0	240	100			
	Total	**28**	**840**	**700**			

VERTICAL SPECIALISATION – FRN SAILORS (POWER)
(MEAT TERM E1, E2 & E3)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Ottomelara	6.0	180	150	120	0	30
2	Log (EM & SAGEM)	1.5	45	40	30	0	10
3	Steering Gear Riva Sepa/ AIST	1.0	30	25	20	0	5
4	Gyro Anschutz 4S	2.0	60	50	40	0	10
5	Sight OVNTS	0.5	15	15	12	0	3
6	Stabiliser Brown Brothers	2.0	60	50	40	0	10
7	Keltron E/ S	1.5	45	35	28	0	7
8	Auto Plotter SPL Plotting/ Nav Aids, Table And Wind Computer	2.0	60	50	40	0	10
9	MCR Control D86 computer	2.0	60	50	40	0	10
10	Wind Speed System	0.5	15	10	8	0	2
11	DGPS (Differential GPS)	0.5	15	15	12	0	3
12	Degaussing System	0.5	15	10	8	0	2
13	Board	0	0	0	0	0	0
	Total	**20**	**600**	**500**			

MEAT TERM E4 (POWER)
(Skill Development Capsule)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	ESW	1.5	45	40	0	0	40
2	STW & TT	1.5	45	35	25	0	10
3	Promotion Board (for Mechanician Sailors only)	0	0	100	0	0	0
	Total	**3**	**90**	**75**			

BLOCK SYLLABUS MEAT (R) COURSE
MEAT TERM A1 (RADIO)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Basic Electronic Devices	2.0	60	50	30	10	10
2	Basic Electronic Circuit	2.0	60	50	30	10	10
3	Common Test Equipment	1.0	30	25	0	0	25
4	TX/ RX,VHF/ UHF & DF Sets	2.0	60	50	40	0	10
5	Radio Engineering	2.0	60	50	30	10	10
6	Circuit Theory	1.0	30	25	20	0	5
	Total	**10**	**300**	**250**			

MEAT TERM A2 (RADIO)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Electrical and Engineering Practice (EEP)	1.0	30	25	5	0	20
2	L Measurements	1.0	30	25	20	0	5
3	Work Shop Electrical	1.0	30	25	0	0	25
4	Digital Technology	2.0	60	50	30	10	10
5	Work Shop Mechanical	1.0	30	25	0	0	25
6	Board	0	0	100	0	0	0
	Total	**6**	**180**	**250**			

MEAT TERM B1 (RADIO)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Engineering Drawing	2.0	60	50	40	0	10
2	Pulse & Switching Circuit	2.0	60	50	30	10	10
3	Basic Control System	2.0	60	50	30	10	10
	Total	**6**	**180**	**150**			

MEAT TERM B2 (RADIO)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Micro Controller	2.0	60	50	0	0	50
2	Computer & IT	2.0	60	50	30	10	10
3	Communication Theory	2.0	60	50	40	10	0
4	Gyro & Navaids	1.0	30	25	20	0	5
5	PGD	1.0	30	25	20	0	5
6	Basic Radar	2.0	60	50	30	10	10
7	Basic Sonar	2.0	60	50	40	10	0
8	Board	0	0	100	0	0	0
	Total	**12**	**360**	**400**			

DEDH (RADIO) COURSE TERM B

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	CTE	1.0	30	25	0	0	25
2	PGD	1.0	30	25	20	0	5
3	Gyro & Navaids	1.0	30	25	20	0	5
4	Basic Radar	2.0	60	50	30	10	10
5	Basic Sonar	2.0	60	50	40	10	0
	NBCD course at Shivaji	1.0	30				
	Total	**8.0**	**240**	**175**			

MEAT TERM C1 (RADIO)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	ESI	2.0	60	50	30	10	10
2	Signal Processing	3.0	90	75	60	15	0
3	Adv. Radar Engg. & EW	2.5	75	60	40	10	10
4	EMI/EMC	1.0	30	25	20	0	5
5	Adv. Sonar	2.0	60	50	40	10	0
6	Microwave Devices	1.5	45	40	30	0	10
	Total	**12**	**360**	**300**			

DEDH (RADIO) COURSE TERM C1

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Embedded System Interface (ESI)	2.0	60	50	30	10	10
2	Signal Processing	3.0	90	75	60	15	0
3	Adv. Radar Engg. & EW	2.5	75	60	40	10	10
4	EMI/EMC	1.0	30	25	20	0	5
5	Adv. Sonar	2.0	60	50	40	10	0
6	Microwave Devices	1.5	45	40	30	0	10
	Total	**12**	**360**	**300**			

Note: - Block Syllabus DEDH (R) course will be same as for MEAT (R) from C2 term.

MEAT TERM C2 (RADIO)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Applied Servo & Russian Language	2.0	60	50	40	0	10
2	Tech Admin	2.0	60	50	50	0	0
3	Project	2.0	60	50	0	0	50
4	Board	0	0	100	0	0	0
	Total	**6**	**180**	**250**			

MEAT TERM D1 (RADIO)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Tech aspects of Surv & Nav. Radar	2.0	60	50	40	0	10
2	Tech Aspects of Tracking Radar	1.5	45	35	30	0	5
3	Tech Aspects of Sonar	1.5	45	40	30	0	10
4	Data Bus & Networking	1.5	45	35	30	0	5
5	Tech Aspects of EW Systems	1.5	45	40	30	0	10

6	Adv Test Equipment	1.0	30	25	0	0	25
7	Tech Aspects of SRP & XBT	0.5	15	15	10	0	5
8	Tech Aspects E/S	0.5	15	10	8	0	2
9	End of Course Board	0	0	100	0	0	0
	Total	**10**	**300**	**350**			

VERT SPL– RA01 (N2) (NDC, EW & CAIO - P15, P16, P16A, P17 AND SNF (RANVIR & RANVIJAY)
(MEAT TERM E1, E2 & E3)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	I A	PR
1	Selesmar	1.00	30	25	20	0	5
2	Vision Master	1.00	30	25	20	0	5
3	Rawl 02 MK II / III	2.50	75	65	50	0	15
4	Sews-V5	1.50	45	35	28	0	7
5	IFF MK XI and JAT Transponder With Applique Unit 400 NV	1.00	30	25	20	0	5
6	Data Bus ,TME	2.50	75	65	50	0	15
7	CTD (Colour Tactical Display)	1.00	30	25	20	0	5
8	Ellora	2.00	60	50	40	0	10
9	Sanket	1.50	45	35	28	0	7
10	EMCCA/ LINK2/ SADL	3.00	90	75	60	0	15
11	MDB	1.00	30	25	20	0	5
12	Echo Sounder Keltron	1.00	30	25	20	0	5
13	ECDIS, MDA & AIS	1.00	30	25	20	0	5
14	Board	0	0	100	0	0	0
	Afloat (MEAT Term E2)	8.0	240	100			
	Total	**28**	**840**	**700**			

VERT SPL– RA02 (N2) (SONAR AND ASW- SNF, P16, P16A, P15, P1135.6 & P17)
(MEAT TERM E1, E2 & E3)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Humsa & Humsa-NG	8.00	240	200	160	0	40
2	Humvad	4.00	120	100	80	0	20
3	Keltron UWT	1.00	30	25	20	0	5
4	VDS (SNF)	0.50	15	15	12	0	3
5	IRBIS	1.00	30	25	20	0	5
6	PTAS	1.00	30	25	20	0	5
7	Toted Body	1.00	30	25	20	0	5
8	XBT-RS10A	1.00	30	25	20	0	5
9	Asor	2.50	75	60	45	0	15
10	Board	0.00	0	100	0	0	0
	Afloat (MEAT Term E2)	8.0	240	100			
	Total	**28**	**840**	**700**			

VERT SPL– RC01 (N2) GG (SNF, P16, P16A AND P17)
(MEAT TERM E1, E2 & E3)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Barak	4.0	120	100	80	0	20
2	AMDR	2.0	60	50	40	0	10
3	LYNX U1/ Shikari	4.0	120	100	80	0	20
4	MR 105 Radar	4.0	120	100	**Subjects covered at INS Dronacharya**		
5	MR 310	3.0	90	75			
6	MPTS/PULT	3.0	90	75			
7	Board	0.0	0	100			
8	**Afloat (MEAT Term E2)**	8.0	240	100			
	Total	**28**	**840**	**700**			

VERT SPL- RC03 (N2) (NDC EQUIPMENT - P15, P25, P25A, 1241RE, 1241PE, P1135.6 & PRABAL, SNF (RANA, RAJPUT AND RANJIT)) (MEAT TERM E1, E2 & E3)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	MR 123 / Vymple	3.00	90	75	60	0	15
2	Rawl 02 MK II	2.50	75	65	50	0	15
3	Garpun (RE Class)	2.00	60	50	40	0	10
4	Positiv – E	4.00	120	100	80	0	20
5	Ajanta & EW Sys	2.00	60	50	40	0	10
6	Sanket	1.50	45	35	28	0	07
7	MISS	2.00	60	50	40	0	10
8	ECDIS, MDA & AIS	1.00	30	25	20	0	5
9	IFF MK XI AND JAT Transponder With Applique Unit 400 NV	1.00	30	25	20	0	5
10	CTD	1.00	30	25	20	0	5
11	Board	0.00	0	100	0	0	0
12	**Afloat (MEAT Term E2)**	8.0	240	100			
	Total	**28**	**840**	**700**			

VERT SPL- RC04 (N2) (MISSILE GROUP - P25A, P15, P1135.6, PRABAL, P16A) (MEAT TERM E1, E2 & E3)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	FREGAT MAE (P15)	2.00	60	50	40	0	10
2	Garpun BAL (P15)	3.00	90	75	60	0	15
3	LYNX/ Shikari	4.00	120	100	80	0	20
4	Garpun BAL-E (1135.6)	5.00	150	125	100	0	25
5	FREGAT M2EM (1135.6)	4.00	120	100	80	0	20
6	LYNX U1 & LYNX U2	2.00	60	50	40	0	10
7	Board	0.00	0	100	0	0	0
	Afloat (MEAT Term E2)	8.0	240	100			
	Total	**28**	**840**	**700**			

VERT SPL- RC05 (N2) (FCR AND CAIO GROUP P15 AND P1135.6) (MEAT TERM E1, E2 & E3)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	Request E	4.00	120	100	80	0	20
2	T 91E Radar	5.00	150	125	100	0	25
3	Barak FCR	4.00	120	100	80	0	20
4	Request M (BIUS)	6.00	180	150	120	0	30
5	CTD	1.00	30	25	20	0	5
6	Board	0.00	0	100	0	0	0
7	**Afloat (MEAT Term E2)**	8.0	240	100			
	Total	**28**	**840**	**700**			

VERTICAL SPECIALISATION - CGR 01 (CG SHIPS) (MEAT TERM E1, E2 & E3)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	SMART F, SACU & Indigenous Data Links	1.0	30	25	20	0	5
2	HF / VHF / UHF Transceivers	3.0	90	75	60	0	15
3	Radar Bridge Master	1.0	30	25	20	0	5
4	CTD	2.0	60	50	40	0	10
5	IFF MK XI	1.0	30	25	20	0	5
6	Rawl 02 MK II	3.0	90	75	60	0	15
7	FCS LYNX / Shikari	4.0	120	100	80	0	20
8	ECDIS	0.5	15	15	12	0	3
9	XBT	1.0	30	25	20	0	5
10	RLG Sigma-40	1.5	45	35	28	0	7
11	GMDSS,HF DSC/VHF DSC,INMARSAT B/C/ MINI C/M / RADAR RANI	2.0	60	50	40	0	10
12	Board	0.0	0	100	0	0	0
13	**Afloat (MEAT Term E2)**	8.0	240	100			
	Total	**28**	**840**	**700**			

VERTICAL SPECIALISATION – FRN SAILORS (RADIO)

(MEAT TERM E1, E2 & E3)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	COTS Radar	2.0	60	50	40	0	10
2	Rawl 02 MARK I/II/III	3.0	90	75	60	0	15
3	COTS 'S' Band Radar Nucleus 26000	2.0	60	50	40	0	10
4	IFF MK XI	1.0	30	25	20	0	5
5	Rashmi / Rani	2.5	75	65	50	0	15
6	CTD(Colour Tactical Display)	2.0	60	50	40	0	10
7	MR 212/201-1	2.0	60	50	40	0	10
8	Aparna	2.5	75	60	50	0	10
9	Data Bus TME	3.0	90	75	60	0	15
10	Board	0	0	0	0	0	0
	Total	**20**	**600**	**500**			

MEAT TERM E4 (RADIO) (Skilled Development Capsule)

SNo	SUBJECT	DURATION		MARKS			
		WEEKS	SESSION	Total	TH.	IA	PR
1	ESW	1.5	45	40	0	0	40
2	STW & TT	1.5	45	35	30	0	5
3	Promotion Board (for Mechanician Sailors only)	0	0	100	0	0	0
	Total	**3**	**90**	**75**			

TEST EQUIPMENTS, TEST KITS, SPECIAL TOOLS

TRAINING ON TEST EQUIPMENT, TEST KITS AND SPECIAL TOOLS (MEAT POWER)

1. **Test Equipment**. Practical and theoretical training on following test equipment have been imparted to each trainee:-

SNo	Test Equipment	Duration (Sessions)
(a)	Analog and Digital Multimeter	04
(b)	Tong Tester/ Clamp Meter	02
(c)	Megger	02
(d)	Stroboscope	01
(e)	LCR Q Meter and IC Tester	04
(f)	Digital Shock Pulse Meter	04
(g)	Electric Motor Checker (EMC-22)	04
(h)	Current Injection Test Set (CIT)	04
(j)	Oscilloscope	04
(k)	Signal Generator	02
(l)	Cable Fault Locator	04
(m)	RF Power Meter	02

2. **Test Kit**. Practical and theoretical training on following test kits have been imparted to each trainee:-

SNo	Training Kit	Duration (Sessions)
(a)	Micro-Strip Antenna Trainer	02
(b)	Micro-Strip Component Trainer	02
(c)	Interface Training Simulator	02
(d)	MIL STD 1553 B Set up	02
(e)	I-Bots and I-Mots	02
(f)	GPS Recievers	02
(g)	VMware for software installation (virtual setup)	02
(h)	Computer Hardware Kit	06
(i)	Resistance Boxes	04
(j)	Tektronix DC Regulated Power Supply	02
(k)	Law & Network Theorems Trainer	08
(l)	Transistor Characteristics KIT Omega	04
(m)	Romtek IC Trainer Board	02
(n)	Counter Kit	02
(p)	Advance Microprocessor Trainer Kit	04
(q)	APMS	08
(r)	Switch Board Model	04
(s)	ICCP Trainer Kit	01
(t)	Auto Changeover Switch	01

(u)	Distribution of Lighting Supply	02
(v)	Emergency cable	02
(w)	Motor current	02
(x)	Single Phasing Protection Relay panel	02
(y)	Phase sequence indicator & SS connection box	02
(z)	Generator	02
(aa)	Three Phase Induction Motor Fault Simulator	02
(ab)	Electrical Safety Demonstration Kit	01
(ac)	SPM Trainer	02
(ad)	Strap-down model and cut section of P-21 missile	02
(ae)	3-D Models of various concepts in Surface Weapon	02
(af)	Missile guidance using optical homing head	02
(ag)	PCB based Gun Control chain	02
(ah)	Motor driven Gyro precision demonstration model	02
(aj)	Cycle wheel to demonstration model	02
(ak)	Steering system	02
(al)	Instrumentation Trainer	06
(am)	Mobile Generator Sets	04
(an)	Alternators sets	02
(ap)	Transformer	02
(aq)	Analog and digital servo fundamental kit	04
(ar)	Syncro error transmitter chain	02
(as)	Three element chain	04
(at)	Two element chain	02
(au)	Basic servo element models	04
(av)	Transparent hydraulic kit	02
(aw)	Hydraulic system simulation kit	04
(ax)	Hydraulic elements	06
(ay)	Distribution Panel	02
(az)	MG Set	06
(ba)	Sine square wave generator	02
(bb)	IGBT Trainer	02
(bc)	800A Electrically operated draw out type C-Power air circuit breaker	02
(bd)	AC Trainer Kit	02
(be)	DC Trainer Kit	02
(bf)	80SB51 Kit	08
(bg)	Mini-8051 Kit	08

3. **Special Tools**. Practical and theoretical training on following special tools have been imparted to each trainee:-

S No	Special Tools	Duration (Sessions)
(a)	Frequency Counter	01
(b)	Signal Generator	02

TRAINING ON TEST EQUIPMENT, TEST KITS AND SPECIAL TOOLS (MEAT RADIO)

4. **Test Equipment**. Practical and theoretical training on following test equipments have been imparted to each trainee:-

S No	Test Equipment	Duration (Sessions)
(a)	Analog and Digital Multimeter	04
(b)	Tong Tester/ Clamp Meter	02
(c)	Megger	02
(d)	Stroboscope	01
(e)	LCR Q Meter and IC Tester	04
(f)	Digital Shock Pulse Meter	04
(g)	Electric Motor Checker (EMC-22)	04
(h)	Current Injection Test Set (CIT)	04
(j)	Oscilloscope	04
(k)	Signal Generator	02
(l)	Cable Fault Locator	04
(m)	RF Power Meter	02

5. **Test Kit**. Practical and theoretical training on following test kits have been imparted to each trainee:-

S No	Test Kit	Duration (Sessions)
(a)	Radar trainer kit	30
(b)	THALES Radar trainer	10
(c)	Acoustics system trainer	20
(d)	Microwave test bench	20
(e)	Microwave simulator	20
(f)	Fiber optics trainer kit	05
(g)	CDMA DSSS trainer	06
(h)	FM and AM trainer kit	04
(j)	A/D and D/A convertor kit	04
(k)	PAM/PWM/PPM Mod/ Demod trainer kit	04
(l)	Multiplexing/ Demultiplexing trainer kit	04
(m)	ASK/FSK trainer kit	04
(n)	Communication trainer	10
(p)	N/W communication trainer	04
(q)	In- house Satellite communication trainer	02
(r)	Micro strip antenna trainer	02
(s)	Micro strip component trainer	02
(t)	Interface trainer simulator	02
(u)	MIL STD 1553 B set up	02
(v)	I-Bots and I-Mots	02

(w)	GPS receivers	02
(x)	VM ware for software installation (virtual setup)	02
(y)	Computer hardware kit	06
(z)	Resistance boxes	04
(aa)	Tektronix DC regulated power supply	02
(ab)	Law & Network theorems trainer	08
(ac)	Transistor characteristics KIT Omega	04
(ad)	Romtek IC trainer board	02
(ae)	Counter kit	02
(af)	Advance microprocessor trainer kit	04
(ag)	APMS	08
(ah)	Switch board model	04
(aj)	Distribution of lighting supply	02
(ak)	Emergency cable	02
(al)	Motor current	02
(am)	Electrical safety demonstration kit	01
(an)	SPM Trainer	02
(ap)	Transformer	02
(aq)	Analog and digital servo fundamental kit	04
(ar)	Syncro error transmitter chain	02
(as)	Three element chain	04
(at)	Two element chain	02
(au)	Basic servo element models	04
(av)	80SB51 Kit	08
(aw)	Mini-8051 Kit	08

6. **Special Tools**. Practical and theoretical training on following special tools have been imparted to each trainee:-

S No	Special Tools	Duration (Sessions)
(a)	Frequency Counter	01
(b)	Signal Generator	02

PROJECTS UNDERTAKEN DURING TRAINING

PROJECTS UNDERTAKEN DURING TRAINING

(MEAT-RADIO)

S No.	Projects
1	Water Level Sensor with Display
2	Telephone Call Recorder
3	Sound Operated Timer
4	Remote Control for Home Appliances
5	Sensitive Vibration Detector
6	PC Based Automated Time Manager
7	Musical Door Bell with Memory
8	Cell Phone Detector
9	Electronic Auto Dipper
10	Fire Alarm
11	Fastest Finger First Indicator
12	IR Remote Switch
13	Long Range Burglar Alarm Using Laser
14	Door Open Alarm

(MEAT-POWER)

S No.	Projects
1	Magic Eye
2	Low Cost Hearing Aid
3	Condenser Mic Amplifier
4	Two Door Bell
5	Heat Sensitive Switch
6	Blown Fuse Indicator
7	Heat Sensor
8	Simple Water Temperature Indicator
9	Sine to Rectangular Wave Conversion Circuit
10	Automatic Solar Garden Lights with LEDs
11	Relay Activating Circuit with MV Sensitivity
12	Temperature Relay Circuit

INSTRUCTIONS FOR FILING UP THE AFLOAT TASK BOOK

1. No classified data of the equipment is to be entered in the book.

2. The answers are to be filled in with neat diagrams, wherever applicable/required. Additional sheets, if required may be added to the task book.

3. Operation & maintenance are to be preferably displayed in the form of a flow chart.

4. Copying from RBRs/BRs is to be avoided.

5. Duly completed original forms (e.g., survey and demand forms) are to be attached to the book wherever required.

6. The trainee is to utilized to prepare draft letters to external agencies and some of them are to be reproduced in the task book in the service writing format.

7. A daily log is to be maintained highlighting the study time provided to trainees, qualitatively and quantitatively.

8. Prepare a list of queries arising during the afloat training that could not be clarified satisfactorily by ship's staff due to paucity of time.

D2 TERM

MERGED ELECTRICAL ARTIFICER TRAINING(MEAT)

COURSES

INS VALSURA

JAMNAGAR

ELECTRICAL OFFICER'S TEMPORARY MEMORANDUM

(SAMPLE TY MEMO TO BE PREPARED BY ELECTRICAL DEPARTMENT OF SHIP)

ELECTRICAL OFFICER'S TEMPORARY MEMORANDUM NO /

TRAINING OF D2 TERM AFLOAT TRAINEES

1. Following trainees have reported onboard for D2 afloat training w.e.f _____ for a duration of 04 weeks:-

(a)
(b)
(c)
(d)
(e)

Importance

2. The afloat attachment is an important part of the Artificer/ Mechanician training and forms a part of hands on training on the onboard equipment. It is to be noted that these trainees will be joining the fleet on completion of training and be a part of the Ship's company. Thus, the Electrical Department can contribute in a major way to ensure that these sailors are professionally competent to discharge their duties when posted onboard. Thus, trainees are not to be deployed on extraneous duties that are not related to training.

3. All the trainees are to be exposed to machinery compartments, switchboards, ops room/ bridge equipments, IT assets, various fleet exercises and filling up of various records/ documents maintained by electrical department.

Schedule and Delegation of Duties

4. In order to have structured training for the trainees and ensure completion of their Afloat Task Book, a broad training schedule has been prepared and is placed at Appendix. The trainees shall be attached to various section of the department as a part of their training. Following personnel are nominated to ensure that the training schedule is strictly adhered and also to ensure that the training is of a high standard:-

(a) - Training Officer

(b) - Training Master Chief/Chief

Evaluation

5. The Training Officer is to keep me apprised on the progress of training on a regular basis. Trainees are to be evaluated for their performance weekly by their section in charges and monthly by ALOs & DLOs. Trainees are also to be interviewed by me on arrival and completion of the afloat training. The Afloat Task Books are to be perused by the Training Officer every week and it is to be put-up for my perusal every fortnight (Friday). The same is to be put up for Commanding Officer's perusal at monthly basis. At the end of the training duration, a board shall be formed comprising of members indicated below and shall conduct viva voce and examine the Afloat Task Book. The marks are to be endorsed in work books and forwarded to INS Valsura at the earliest.

(a)	Electrical Officer	-	Board President
(b)	Training Officer	-	Member
(c)	Training Master Chief/Chief	-	Member

( )
Cdr/ Lt Cdr
Electrical Officer

DAILY ACTIVITY LOG

DAILY ACTIVITY LOG D2 TERM

1. Date of reporting onboard the ship_____

2. Date of departure from the ship _____

(Note: All dates are to be entered from day of reporting to the ship till the day of departure including, Sundays and holidays)

Day	Date	Activity
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COMMON QUESTIONNAIRE

D2 TERM

COMMON QUESTIONNAIRE D2 TERM

General Information

Q1. Write down name and classification (Class) of the ship.
Ans.

Q2. Write down basic information about ship's parameter (length, beam, draft, tonnage etc).
Ans.

Q3. Give brief history about your ship indicating when, where and in which shipyard was the construction done? Which class of ship does she belong to? Are there any other ships of the same class? Name them.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Administration

Q4. Draw the organisation of your ship and highlight the electrical department on it.
Ans.

Q5. What is the organisation of Electrical Department onboard your ship?

Ans.

Q6. Draw the organisation of the fleet/squadron you are in and highlight your ship on it.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q7. Draw the organisation of your Command and highlight your fleet on it.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q8. Draw the organisation of Integrated Headquarters, Ministry of Defence (Navy).
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q9. Draw a line organisation from Integrated Headquarters, Ministry of Defence (Navy)/ CNS to your Electrical Officer of the ship and understand the flow of orders.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Electrical Department

Q10. Read Captain's Standing Order & Ship's Standing Orders and note down the functions of Electrical department.
Ans.

Q11. List the functions of Electrical sailors in following groups:-

(a) Attack Party in Fire and Emergency Party/ SSFP.
Ans.

(b) Search Party in Fire and Emergency Party/ SSFP.
Ans.

(c) Specialist group in Fire and Emergency Party
Ans.

(d) Ship's Duty watch
Ans.

(e) Ship's Landing and Boarding Party
Ans.

(f) Entering and Leaving Harbour
Ans.

(g) Helo Emergency landing Party
Ans.

(h) Replenishment at Sea
Ans.

(j) Fuelling
Ans.

(k) Dry Docking
Ans.

Q12. Read the Electrical Officer's Standing Orders. Briefly explain all evolutions and activities covered in the Standing Orders. Do the activities mentioned in Question No 8 figure in standing orders. If you find any additional activities, mention them here.
Ans.

Q13. Browse through Command Technical Orders {ENCO/WENCO(Tech)}. What are these orders all about? Write briefly about what you have seen in it and list down certain important topics according to you? Study the fleet organization and know the duties and responsibilities of FLO.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q14. Write briefly about charging & maintenance procedures for batteries.
Ans.

Q15. List various precautions to be taken while handling UPS/ Stabliser.
Ans.

Q16. Write a brief note on maintenance and operation of MSB.
Ans.

Q17. List down various controls available in AC and Ref plant control panels.
Ans.

Q18. List various Galley Equipments and precautions while changing hot plate elements.
Ans.

Q19. Write down procedure and precautions for maintenance of AC & DC Motors.
Ans.

Q20. What is Machinery Intercom System?
Ans.

Q21. Draw and explain the basic block diagram of Main broadcast system and explain its maintenance routines.
Ans.

Q22. List the various tasks carried out by LO writer onboard ship.
Ans.

Q23. List the various tasks carried out by electrical store keeper onboard ship. Also fill up a demand form and attach with your afloat task book.
Ans.

General Awareness- Electrical Equipment

Q24. Write briefly about maintaining electrical hygiene onboard ship and read the policy letters issued by IHQ MoD (N), Command Headquarters and FLO on the subject. Also read the LO Ty Memo issued on the subject. List down the salient features of electrical hygiene maintenance.
Ans.

Q25. Write briefly about ship's husbandry.
Ans.

Q26. List various upper deck electrical machineries and procedure/ precautions of their maintenance.
Ans.

Q27. Measure and note down the parameters mentioned against following test equipments:-

S No	Test eqpt	Parameter	Value	Parameter	Value
(a)	Multi meter	Ship's Mains		Lighting supply	
(b)	Tong Tester	Starting current of capstan motor		Running current of Galley Exhaust fan	
(c)	Megger	SWBD Insulation		Ships convertor insulation	
(d)	SPM meter	SPM of E/R vent motor		SPM of Gyro convertor	
(e)	EMC meter	Boat davit motor		AC compressor	
(f)	Oscilloscope	Peak value audio signal of MBS		Frequency of audio signal of MBS	

Q28. List various Do's & Don'ts of LAN PC.
Ans.

Q29. Draw & explain LAN network onboard your ship.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q30. Write briefly about all the weapon systems onboard your ship.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q31. Write briefly about all the sensors onboard your ship.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q32. Write briefly about the CAIO of your ship.
Ans.

Q33. What are the various power supplies used onboard ship (mains, domestic, converted and rectified)?
Ans.

Q34. Write briefly about the Power Generation and Distribution of your ship starting from generators to various users, including convertors and rectifiers. (Use additional sheets as required)
Ans.

Q35. Write briefly about internal and external communication systems present onboard your ship.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)
Q36. Write briefly about Navaids onboard your ship.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

NBCD Arrangements

Q37. Read NBCD Standing Orders and note down the functions of Electrical Department.
Ans.

Q38. What is the emergency power supply organisation of the ship?
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q39. What are the various Firefighting arrangements onboard your ship?
Ans.

Q40. What are the dewatering arrangements onboard your ship?
Ans.

Q41. Write a short note on NBC monitoring facilities onboard your ship (both fixed and portable).
Ans.

Q42. Write a short note on NBC warfare protection facilities onboard your ship.
Ans.

Q43. What is the Damage Control organistion of your ship?
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q44. What are the various panels present in DCHQ and what do they indicate?
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q45. Write briefly about magazine firefighting systems
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q46. Write briefly about fire, flooding and radiation sensors/ alarms onboard your ship.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Technical Administration

Q47. Go through an EMAP and list down the sections in it and comment about the contents of each section. (Use additional sheets as required)
Ans.

Q48. Write briefly about Planned Maintenance about the system/ equipment that you have been attached to. How would you know which and when a routine is supposed to be done?
Ans.

Q49. List the defects for which the ship has requested assistance from dockyard during your time onboard the ship.
Ans.

Q50. How was the assistance requested? What is SDRS? Trace the information flow in SDRS.
Ans.

Q51. Visit survey yard and participate in survey of a BER item. Write a short note on survey procedure and attach a draft copy of survey form with afloat task book.
Ans.

Q52. Fill an e-DART form and attached a print of draft copy of e-DART form. Write various data required in e-DART form.
Ans.

Dockyard

Q53. Write briefly about various centers you have visited in dockyard.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q54. Draw the organisation of the dockyard.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q55. Map systems with centers of dockyard.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q56. Find out what are the roles of FMU and FTTT vis-a-vis dockyard.
Ans.

Q57. What is the refit cycle of your ship (OCR cycle)? When is your ship due for next refit? Go through various defect lists of your ship and write at least three serials of each defect list from electrical department.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Watchkeeping

Q58. Carryout the duties of Asst Switchboard Watchkeeper atleast for three watch and write down the duties of Switchboard Watchkeeper along with details recorded in respective logs. Find out the reasons as to why logs are required and how would they help in posterity. List the actions in case of following exigencies:-

(a) Shore Supply breaker trips

(b) GTG/ DA trips

(c) Fire in Main Switchboard.

Ans.

Q59. Carryout the duties of Asst Gyro Watchkeeper at least for two watches. Write down the duties of Gyro Watchkeeper along with details recorded in respective logs. Find out the reasons as to why logs are required.
Ans.

EMI/EMC

Q60. List the measures taken to ensure EMC and avoid EMI onboard your ship.
Ans.

Q61. Observe practically and list down examples of various types of bonding used onboard the ship.
Ans.

Preparation for E1 term

Q62. What is the vertical group allocated to you and what are the systems in your vertical group (find at Valsura). What systems of your vertical are available onboard your present ship. In the absence of equipment onboard your ship, you are required to visit other ships in harbour to see the system in your vertical group.
Ans.

Q60. Visit each of these systems/ compartment and observe the operation/ location of the systems and their sub-units. Write down briefly, which all devices/ systems you have seen. List the utility of each equipment.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)
Q61. Compare the systems in your vertical group to the equipment taught to you in your generic phase and equivalents onboard your ship and write down the differences between them.
Ans.

E2 TERM

MERGED ELECTRICAL ARTIFICER TRAINING(MEAT)

COURSES

INS VALSURA

JAMNAGAR

AFLOAT TASK BOOK (E2 TERM)
MERGED ELECTRICAL ARTIFICER TRAINING COURSE

Name of Trainee .....
Rank .....
P No.....
Ship .....

_____ _____
Officer-in-Charge (Trg) Signature **Department Officer's Signature**

II

Date_____ **(Electrical Officer)**

ELECTRICAL OFFICER'S TEMPORARY MEMORANDUM

(SAMPLE TY MEMO TO BE PREPARED BY ELECTRICAL DEPARTMENT OF SHIP)

ELECTRICAL OFFICER'S TEMPORARY MEMORANDUM NO /

TRAINING OF E2 TERM AFLOAT TRAINEES

1. Following trainees have reported onboard for E2 afloat training w.e.f _____ for a duration of 08 weeks:-

(a)
(b)
(c)
(d)
(e)

Importance

2. The afloat attachment is an important part of the Artificer/ Mechanician training and forms a part of hands on training on the onboard equipment. It is to be noted that these trainees would join the fleet on completion of training and would be part of ships company onboard similar class of ship. Thus, the Electrical Department can contribute in a major way to ensure that these sailors are professionally competent to discharge their duties when posted onboard. Thus, trainees are not to be deployed on extraneous duties not related to training. Visits are to be organized to Kalinga/ Tunir, MO (MBI/V/K), Dronacharya, INSMA, FMU, ETMA, Ships of other class/ Submarines etc.

3. All trainees (P/R) are to be exposed to machinery compartments, switchboards, ops room/ bridge equipments, IT assets, various fleet exercises and filling up of various records/ documents maintained by electrical department.

Schedule and Delegation of Duties

4. In order to have structured training for the trainees and ensure completion of their Afloat Task Book, a broad training schedule has been prepared and is placed at Appendix (This Training schedule is to be prepared by Electrical Department depending on Ship's program and equipment fit). The trainees shall be attached to various equipment of respective vertical specialisation group. Following personnel are nominated to ensure that the training schedule is strictly adhered and also ensure that the training is of a high standard:-

(a) - Training Officer
(b) - Training Master Chief/Chief

Evaluation

5. The Training officer is to keep me appraised of the progress on a regular basis. Trainees are to be evaluated for their performance weekly by their section in charges and monthly by ALOs & DLOs. Trainees are to be interviewed by me on arrival and completion of the afloat training. The Afloat Task Books are to be perused by the Training officer every week and it is to be put-up for my perusal every fortnight (Friday). The same is to be put up for Commanding Officer's perusal on monthly basis. At the end of the training duration, a board shall be formed comprising of members indicated below and shall conduct viva voce and examine the Afloat Task Book. The board is to conduct pre-evaluation and prepare the trainee for Fleet Board:-

(a)	Electrical Officer	-	Board President
(b)	Training Officer	-	Member
(c)	Training Master Chief/Chief	-	Member

( )
Cdr/ Lt Cdr
Electrical Officer

DAILY ACTIVITY LOG

DAILY ACTIVITY LOG E2 TERM

1. Date of reporting onboard the ship_____

2. Date of departure from the ship _____

(Note: All dates are to be entered from day of reporting to the ship till the day of departure including, Sundays and holidays)

Day	Date	Activity
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COMMON QUESTIONNAIRE - PART I (GENERIC QUESTIONS)

COMMON QUESTIONNAIRE- E2 TERM
(Part I – Generic Questions)

Preventive Maintenance & Refit Cycle

Q1. What do you understand by Preventive Maintenance and why is it required?
Ans.

Q2. What is Ops Cum Refit (OCR) cycle? Write down the OCR for the class of ship on which you are presently appointed for training.
Ans.

Q3. List down the types of refit.
Ans.

Q4. Assuming your ship is about to undergo NR, list down the following:-

(a) When was the last refit undertaken for your ship and what type of refit was that? Read all the correspondence with respect to your systems and prepare fresh correspondence under the present assumption of NR (i.e fresh Defect lists etc for a simulated refit) and list some important defects.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

(b) What are the STW and TT procedures carried out post refit. List down the external agencies involved and test equipment required. Make a detailed flow chart for each such procedure, including the administrative aspects (requesting assistance etc) and indicating time line for all the activities.
Ans.

Onboard Spares (OBS)

Q5. What do you mean by 'Critical Spares' and how are they identified for each system?
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q6. Have you found any certificates pertaining to the spares during the muster? If yes, list them down and explain their technical relevance?
Ans.

Q7. Fill a specimen demand form with an example and enclose it with your journal (Both Russian and Western spares).

Q8. Is there any difference in procedure for demanding spare from Material Organisation and Weapon Equipment Depot?
Ans.

Q9. Specify spares for which all equipments are stored by the Material Organisation and Weapon Equipment Depot.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)
Q10. Fill up a specimen survey form with an example and enclose it with your journal.

Q11. What do you understand by a PTS demand? Examine the correspondence onboard regarding a PTS demand. Draw a flowchart as to how such a demand is executed and what is the follow-up action required. (Trainee is required to note the addressees in the correspondence as well the data sent, approving authority etc)
Ans.

Q12. What is meant by the 'Range' and 'Scale' of the OBS?
Ans.

Q13. What do you understand by MTBF? Explain its relevance with respect to maintaining OBS (scale of OBS).
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q14. Write briefly as to why knowledge of OBS is required for a maintainer? How did the muster of OBS affect your knowledge about the system? What is the frequency/ occasions for mustering the OBS?
Ans.

Q15. Write down the procedure and occasion of raising OPDEM and STOREDEM. Also explain difference between both demands.
Ans.

Defect Investigation/ Defect Rectification (DI/DR)

Q16. How would you request assistance from Dockyard?
Ans.

Q17. If your ship is at sea for any operation and your system develop a defect that you are not able to rectify, then:-

(a) What should the maintainer do under such a situation?

(b) How would you advise your Electrical Officer?

(c) If you could fix it with a certain spare parts, that are not available in OBS, then how do you get the spare?

(d) How would you use the EMAPs for possible guidance for DI / DR?
Ans.

Q18. Explain what is SDRS and how have you witnessed its utilisation onboard. (The trainee is to practically register the records in SDRS independently).

Ans.

Q19. Prepare a list of queries/ clarifications which could not be clarified during your course of afloat attachment to clarify during E3 Term.
Ans.

General Questions

Q20. Explain importance of '**securing for sea'** and list various actions for the same as an electrical sailor.
Ans.

Q21. List down various Ops room activities/ exercises conducted at sea.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q22. List down various precautions to be excised during rough sea/ wet weather.
Ans.

COMMON QUESTIONNAIRE - PART II (EQUIPMENT SPECIFIC QUESTIONS)

COMMON QUESTIONNAIRE- E2 TERM
(Part II – Equipment Specific Questions)

(ANSWER ALL THE QUESTIONS W.R.T EACH EQUIPMENT IN YOUR VERTICAL GROUP)

Preventive Maintenance & Refit Cycle

Q1. What is the relevance of Maintops and EMAPs with respect to Preventive Maintenance? List down the following with respect to Maintops and EMAPs of the systems of your Vertical Group:-

(a) Write down each routine of the Maintops for system in your Vertical group and briefly explain the procedure as to how to carry out the routine along with following details:-

(i) Periodicity

(ii) Documentation (Where are the procedures mentioned in the manuals of the systems to carry out such a routine)

(iii) Difficulty (Practical difficulties encountered and experiences of existing maintainers)

(iv) Necessity to carry out such a routine (Underlying reasons and outcome if not carried out as per laid down norms)

(v) Test equipment required (Held onboard or to be borrowed on Ty loan from external agencies. If so, what is the procedure for Ty loan?)

(vi) Requirement of assistance from the external agencies (FTTT, DYD etc). In case they are required, how and when is assistance sought? Also, list the agencies associated with each of such routines)

(vii) If it is an annual routine, when was the last time it was carried out?

Ans. (a) (To be answered in separate sheet and deposited back to ship after afloat training)

(b) List down the following (ref: EMAP)

(i) List down the sections in the EMAP.

Ans.

(ii) List down all critical parameters of the systems of your vertical group by which you can assess the performance of a system and also explain the rationale behind the assessment.

Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

(iii) Examine the list of critical spares and comment on their consumption pattern, availability and their positions in the critical chains.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

(iv) List down the major defects that have occurred on your ship as recorded in the EMAP along with the following:-

(aa) Analysis of each defect.

(ab) e-DART entry of each defect sent to INSMA and how such entries are made. (Required fields to be filled up and the sources of such fields are to be listed along with where the software is installed who is controlling it and when such transactions are done. The trainee is to be utilised for making few e-DART entries if possible)

(ac) Any remark received from INSMA w.r.t to Sl (ab)

(ad) Examine, analyse and write briefly about correspondence received from INSMA with respect to your systems in chronological order.

Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q2. Assuming your ship is about to undergo NR, list down the following:-

(a) All routines to be carried out on your relevant system during the refit.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

(b) Your responsibility as a maintainer for the system to initiate correspondence along with requisite time line.
Ans.

Q3. Prepare a list of queries/ clarifications which could not be clarified during your course of afloat attachment to search for answers during E3 Term.
Ans.

Onboard Spares (OBS)

Q4. Physically muster the onboard spares of your systems and take signatures to that effect against the muster certificates (enclosed) from LO/ DLO.

Q5. Assuming, that you have found deficiencies in the OBS for your equipment. Explain the action to be taken to replenish the OBS.
Ans.

Q6. Discuss with the maintainers onboard and find out if similar spares exist with other systems onboard. If so, list down the systems with similar set of spares (including partial similarity) and list down few common spares.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Technical Documents

Q7. Muster the documents of the systems of your vertical group and take signatures to that effect against the muster certificates (enclosed) from LO/ DLO.

Q8. List down the additional documents that are supplied to the naval dockyard/ Technical training teams and other external Agencies (e.g RTD) etc.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q9. Write briefly about the extent of coverage of technicalities of the system from the Technical Documents (TDs) from your perspective.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q10. List down documents/ topics of each system that you have read to answer this journal.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q11. Write briefly as to why knowledge of documentation of a system is required for a maintainer. How did the muster of documentation affect your knowledge about the system?
Ans.

Q12. Prepare a list of queries/ clarifications which could not be clarified during your course of afloat attachment to search for answers during E3 Term.

Defect Investigation/ Defect Rectification (DI/DR)

Q13. Explain in brief about one DI/DR you have participated-in during the duration of your Afloat Attachment. List down steps with rationale behind each step.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q14. List the known defects in your systems onboard the ship.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q15. Attempt in theory to rectify at least two known defects independently. (In the absence of any known defect, two defects are to be simulated for the trainee to exercise his knowledge of the system.)
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

General Questions

Q16. Draw the Block Diagram of the system of your Vertical Specialisation group.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q17. Draw the power supply chain from Switchboard to the system. Enquire about the possibility of provisioning emergency supply to your system(s) and explain in brief.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q18. What are the interlocks provided in the system? Draw circuit diagram(s) explain the function of each interlock.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q19. Show how the system is interfaced with other systems (sensors, SHHD etc). Examine the information flow. What are the formats in which various data is transferred?
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q20 List down various modes for operation of the system and explain the tactical/ operational utility/ advantage of each mode.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q21. Does the system have a built in test mode? If so, how does that function?
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q22. Explain the switching on procedure of the system.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q23. What is your role as a maintainer in the 'Sea and Action' checks?
Ans.

Q24. Draw and show the ventilation arrangement for your system.
Ans.

Q25. What are the various exercises at sea and in harbor, which involve operation of your systems? What is the role of your system in the exercise?
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q26. How your system is linked to the Action Information Organisation? Explain tactical relevance of your system.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q27. What are the levels of redundancy provided in your system? (e.g Two power supply inputs from two different switchboards)

Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q28. List down various equipment fitted in Bridge and Ops Room onboard your ship and explain role of each equipment.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q29. List down all equipment fitted in Engine Room onboard your ship and explain role of each equipment.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q30. List down all weapons and sensors fitted onboard your ship and specify main technical / operation parameter of each of them.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

Q31. List down various antennae fitted onboard your ship, and explain purpose of each antenna.
Ans. (To be answered in separate sheet and deposited back to ship after afloat training)

CERTIFICATES

Muster Certificate

(To be submitted to E2 Term Board for Evaluation)

It is hereby certified that (Name) _____, (Rank) _____, No_____ has physically mustered **Onboard Spares** and **Technical Documentation** of the following equipment, as part of E2 Term afloat attachment, under the supervision of (Name) _____, (Rank) _____, No _____ :-

(a) _____
(b) _____
(c) _____
(d) _____

[Training Chief] [LO/ DLO]

[Member1] [Member2] [President]

CERTIFICATE OF EVALUATION

(for Evaluation by E2 Term Fleet board)

It is hereby certified that the journal of (Name) _____, (Rank) _____, No_____ has been evaluated with respect to the aims and objectives for the D2 and E2 terms' afloat attachment. The entries in the journal are adjudged as Below average/ Average/ Above average/ Good/ Excellent.

[Member1] [Member2] [President]

FEEDBACK PERFORMA

MEAT COURSE

THIS PERFORMA IS USED FOR IMPROVING THE STANDARD AND EFFECTIVENESS OF TRAINING IMPARTED AT INS VALSURA

User Unit:	Period: From	To:
Name:	Rank:	No.
Course Name:	Course/Batch No.	

SECTION I

Instructions. Instructions for filling up the Performa are as follows:-

(a) Performa is to be filled up during last week of afloat training.

(b) Rating scale from zero to nine (0-9) (where 0 denotes ' Not observed/Insufficient knowledge, 1-2 denotes 'Poor', 3-4 'Below Average', 5-6 ' Average', 7-8 'Good' and 9 'Excellent') is to be used for providing requisite responses in different sections.

(c) Read carefully and understand the tasks list before providing the response.

SECTION II (TO BE FILLED BY TRAINEE)

S No.	Description	Tick Most Appropriate Grade									
1	Adequacy of duration for afloat training	0	1	2	3	4	5	6	7	8	9
2	Covering of all topic of MEAT Afloat Task Book	0	1	2	3	4	5	6	7	8	9
3	Conduct of organised visit to external units	0	1	2	3	4	5	6	7	8	9
4	Are topics covered during working hours	0	1	2	3	4	5	6	7	8	9
5	Participation in Ships activities	0	1	2	3	4	5	6	7	8	9
6	Are you satisfied with training imparted onboard	0	1	2	3	4	5	6	7	8	9
7	Accommodation and habitability	0	1	2	3	4	5	6	7	8	9
8	Involvement in defect rectification/ Documentation	0	1	2	3	4	5	6	7	8	9

SECTION III (TO BE FILLED BY SECTION IN CHARGE/ DEPT. REGULATOR)

S No.	Description	Tick Most Appropriate Grade									
1	Knowledge of switching on/off procedure of equipment and system	0	1	2	3	4	5	6	7	8	9
2	Ability to trace, identify and checks different components i.e. diode, transistor, ICs etc.	0	1	2	3	4	5	6	7	8	9
3	Ability to handle PCBs/ modules	0	1	2	3	4	5	6	7	8	9
4	Knowledge/ operation of various test equipment i.e. Meggers, Oscilloscope, Multi-meters, SPM, electric motor checker, current injector, tong tester, neon tester, stroboscope and specialized test equipment	0	1	2	3	4	5	6	7	8	9
5	Ability to refer and follow various documents/ drawings of equipment	0	1	2	3	4	5	6	7	8	9

SECTION IV (TO BE FILLED BY TRAINING OFFICER)

S No.	Description	Tick Most Appropriate Grade									
1	Knowledge of ship's organization	0	1	2	3	4	5	6	7	8	9
2	Knowledge of HQ and repair organisation in brief and concerned centers in details (Cmd/Dyd/FMU)	0	1	2	3	4	5	6	7	8	9
3	Knowledge of stores organization	0	1	2	3	4	5	6	7	8	9
4	Knowledge of survey/ demand procedure i.e. (SLMS/ILMS)	0	1	2	3	4	5	6	7	8	9
5	Knowledge of NBCD organisation of the ship	0	1	2	3	4	5	6	7	8	9
6	Ability to provide first aid for electrical shock	0	1	2	3	4	5	6	7	8	9
7	Ability to carry out firefighting and to take charge of electrical damage control situations	0	1	2	3	4	5	6	7	8	9

SECTION V (TO BE FILLED BY ELECTRICAL OFFICER)

S No.	Description	Tick Most Appropriate Grade									
1	Ability to implement PPM routine and undertake DI/DR of concerned equipment as a trainee	0	1	2	3	4	5	6	7	8	9
2	Ability to use various test equipment and monitor parameter	0	1	2	3	4	5	6	7	8	9
3	Knowledge about general PGD	0	1	2	3	4	5	6	7	8	9
4	Punctuality and discipline	0	1	2	3	4	5	6	7	8	9

SECTION VI

SUGGESTIONS FOR IMPROVEMENT IN QUALITY OF TRAINING

(a)
(b)
(c)

Date:
Unit:

ELECTRICAL OFFICER

COUNTERSIGNED

COMMANDING OFFICER