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AIR POWER MODULE

JOINT WARFARE

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LAND OPERATIONS

LAND OPERATIONS

TABLE OF CONTENTS

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TOPIC-1

GLOSSARY OF TACTICAL/OPERATIONAL TERMS

1. **Introduction**. Glossary of tactical operational terms are intro to understand the particular terms clearly for better understanding of particular op. In tactical discussion often we refer to wrong terminology. In most of the cases we do not know the tactical meaning. We use this terminology as common word of spoken English. Understanding these terms would assist us in conceptualizing the operation in depth. It is imperative to have clear idea of the related operational terms before we step in to detail Disc of any op.

Defence

2. **Area Defence**. Defence in which the bulk of the defending force, is disposed in selected tactical localities, where the decisive battle is to be fought; principal reliance being placed on the ability of the forces in the defended localities to maintain their position, and to control the terrain between them.

3. **Mobile Defence**. In this, primary reliance is placed on the use of mobile elements and fires for offensive action. In mobile defence minimum force is employed around nodal point (may be strong points/fortifications) in the forward areas and strong mobile reserve are held in the rear. The decisive action in this is fought within the defence area accepting a temporary loss of the ground. The enemy is so contained within the defence area that his destruction is facilitated.

4. **Air Defence**. All measures designed to destroy, nullify, or reduce the effectiveness of enemy attack by aircraft after they are airborne. Active measures include the use of fighter aircraft, anti aircraft artillery, electronic countermeasures and small arms fire. Passive measures include the use of cover, concealment, camouflage, dispersion, deception, and protective construction or the control of movement, illumination, and electromagnetic radiations.

5. **Attrition**. The reduction in the effectiveness of a force caused by loss of personnel and material accrued due to continuous tactical operations.

6. **Counter Penetration**. The action taken by a defender to halt further penetration of his defences by the enemy and to destroy by fire enemy forces which have penetrated is defended localities.

7. **Defensive Fire (DF)**.

   a. Fire delivered by supporting units to assist and protect a unit engaged in a defensive action.

   b. Fire which is pre-arranged and can be brought down quickly to disorganize the enemy's preparation for attack and to breakup his assault when it is delivered. It includes the following:

      (1) **Defensive Fire in Depth**. Fire delivered into the depth of enemy positions with the aim of disorganizing his preparations for an attack and causing casualties to his reserves.

(2) **Close Defensive Fire**. Fire delivered close in front of the forward defensive locations with the aim of breaking up the attack at the forming up place or start line or during the actual assault.

(3) **Defensive Fire (SOS)**. Fire that can be brought down immediately on the most dangerous approaches in areas close to own forward defended localities. When called for in response to a SOS signal, the aim is to breakup an enemy's assault. Guns and mortars are kept laid on a defensive fire (SOS) when not engaged elsewhere.

8. **Fire Support coordination Centre (FSCC)**. A single location in which are centralized communications facilities and personnel, incident to the coordination of all forms of fire support.

9. **Forward Edge of the Battle Area (FEBA)**. The foremost limits of a series of areas in which ground combat units are deployed, excluding the areas in which the covering or screening forces are operating, designated to co-ordinate fire support, the positioning of forces, or the manoeuvre of units.

10. **Fire Support Coordination Line (FSCL)**. A line established by the appropriate ground commander to ensure co-ordination of fire not under his control but which may affect current tactical operations. The fire support co-ordination line is used to co-ordinate fires of air, ground or sea weapon systems using any type of ammunition against surface targets. The fire support co-ordination line should follow well defined terrain features. The establishment of the fire support co-ordination line must be co-ordinated with the appropriate tactical air commander and other supporting elements. Supporting elements may attack targets forward of the fire support co-ordination line, without prior co-ordination with the ground force commander, provided the attack will not produce adverse surface effects on, or to the rear of the line. Attacks against surface targets behind this lime must be co-ordinated with the appropriate ground force commander.

11. **Forward Line of Own Troops (FLOT)**. A line which indicates the most forward positions of friendly forces in any kind of military operation at a specific time.

12. **Landing Zone (LZ)**. Any specified zone used for the landing of aircraft.

13. **Main Effort (ME)**. The main effort is directed against the decisive objective and must be given first priority in allocation of resources. In must be provided with the means to gain local superiority and to maintain momentum.

14. **Protective Detachments**. Those elements of a defending force which are placed outside the defensive position on the enemy's line of approach with the object of gaining information, harassing and delaying the enemy. These are the following types of protective detachments:

a. Reconnaissance elements.
b. Covering troops or advance position.
c. Screens.

15. **Rear Party**. Troops who, in a withdrawal remain in position in the forward defended localities until the time for final abandonment is reached, in order to prevent a quick follow up by the enemy.

16. **Rear Guard**.

a. A balanced and independent force tasked to protect the withdrawing force or giving it time to complete the occupation of a new position in the rear.

b. It is the rearmost element of an advancing or withdrawing force to protect its rear, keep the maintainance routes open or delay the enemy.

17. **Rendezvous (RV)**. A prearranged meeting at a given time and location from which to begin an action or phase of an operation, or to which to return after an operation

18. **Clean Break**. This implies that withdrawing troops break contact with enemy and reach the new main defence/predesignated area without getting involved in a running battle.

19. **Local Counter Attack**. An attack organized by a unit or sub-unit commander, to destroy local enemy forces who have penetrated, or threaten to penetrate into his defensive position/defensive locality, generally using a pre-arranged plan.

20. **Counter Attack**. Attack by a part of defence force, against an enemy attacking force, for a specific purpose such as regaining lost ground, and trapping and destroying hostile forces. Counter attacks are of two types local and deliberate. They differ in size and as to the level at which they are launched, and consequently in the time taken to launch them.

21. **Counter-Offensive**. A large-scale offensive action by a defending force, in order to stop the enemy offensive and to seize the initiative from the enemy and destroy his forces.

22. **Vital ground** .

a. Any locality, or area, the seizure or retention of which affords a marked advantage to either combatant.

b. **Defence**. It is the ground, capture of which by the attacker will render the defender incapable of fighting a successful defensive battle in that sector. If there is a piece of vital ground in the division sector nominated by higher commander, the divisional commander must so dispose his brigades as to prevent the enemy from seizing it and must so conduct the defensive battle that any threat to it is held and if necessary destroyed by counter-attack.

c. **Attack**. It is the ground which the attacker must capture before he continues his advance.

d. **Level of Consideration**. Consideration of ground vital to the conduct of the battle seldom enters into the plans of commanders below divisional level or formations holding independent sectors.

23. **Essential Timings**.

a. **Denial Timings**. It is the time up to which a position has to be denied to the enemy. It implies that there must be sufficient strength on the positions to defeat an enemy attack up to and including the denial time laid down.

b. **No Rearward Movement**. Time before which there is no rearward movement from present defensive position except for reconnaissance parties. Clearly after this time all non-essential personnel, vehicles and equipment should be redeployed as early as possible. The selection of this time will depend on the tactical situations and the requirements for support, cover, visibility and requirement at the next position.

24. **Additional Timings**. Following additional timings are necessary as time must be allowed to physically move out from present position.

a. **Thinning out**. This is the time at which forward companies in contact may start thinning out from their battle positions. This timing will normally be laid down by brigade commander. It will normally commence before the time of denial for a TRD not under enemy pressure. Thinning out may not be possible under enemy pressure.

b. **Final Abandonment**. Time at which, the position will finally be abandoned. That is the time at which the Rear Parties, including patrols finally abandon the position. Any movement on the position after the abandonment time will be regarded hostile and should be engaged with indirect fire, if this action is consistent with safety and deception plan.

c. **Clear of a Line**. The time by which, all redeploying troops will be clear of a lime. This should be a convenient report lime well behind the abandoned position. The line may conveniently be in the area of the battalion check point. Not only does it provide control within the battalion, but it also provides freedom for artillery and air support to engage forward of the line.

25. **Embossing Point**. An embossing point is an area to the rear of the battalion RV where marching troops join their transport. It is normally controlled by an officer or JCO (possibly the MTO) with communications and must be protected (by a rile platoon). A waiting area for F Echelon vehicles may be located at an embossing point.

26. **Main Defensive Position (MDP)**. A Tactical Redeployment (TRD) involves vacation of and redeployment to number of defensive positions. Present defensive location, which would be vacated, is called Main Defensive Position (MDP).

27. **New Main Position (NMP)**. New Main Position is an area where battalion will finally be deployed at the end of TRD.

28. **Intermediate Position (IP)**. In between MDP and NMP, there may be Covering Force and one or more Intermediate Position (IP) employed. The reason for having these troops/successive defensive positions is to achieve ‘clean break’ from enemy contact and if needed ‘delay’ him to allow time for NMP to be ready to accept enemy attacks. The number, siting and spacing of these positions will depend upon the ground and time available in which to prepare them.

Advance

29. **Advance.** It is an operation of war carried out to contact, locate and hold the enemy is position. The various components of a division during the advance usually are:

a. **Covering Troops**. Consists of the following:

(1) **Mobile Troops.** Used for reconnaissance and to secure important tactical features, e,g. bridges and defiles, ahead of the advance.

(2) **Flank Guard**. To watch and protect exposed flanks.

b. **Advance Guard**. The battalion or the armoured regiment group sent forward by the leading brigade. Its components are :

(1) **Van Guard**. The company or squadron sent forward by the advance guard to protect the main guard.

(2) **Main Guard.** Advance guard less the van guard.

c. **Leading Brigade**. The brigade group leading the advance of the division.

d. **Main Body.** Everything following the advance guard is called main body of the brigade or the division.

30. **Air Defence**. All measures designed to destroy, nullify, or reduce the effectiveness of enemy attack by aircraft after they are airborne. Active measures include the use of fighter aircraft, anti aircraft artillery, electronic countermeasures and small arms fire. Passive measures include the use of cover, concealment, camouflage, dispersion, deception, and protective construction or the control of movement, illumination, and electromagnetic radiation's.

31. **Air Observation Post (Air OP).** An army aviation aircraft from which aerial observation and direction of fire is carried out. It normally operates at low altitude, behind own forward troops and is flown by an army aviation officer, under the operational control of the appropriate artillery.

32. **Air Reconnaissance.** The collection of information of in intelligence interest either by visual observation from the air or through the use of airborne sensors.

33. **Air Strike**. Delivery of weapons from the air against surface targets. (STRIKE denotes delivery of nuclear weapons, and ATTACK denotes delivery of non-nuclear weapons in NATO parlance).

34. **Allocation.**

a. **Tactical Air Support**. The translation by the tactical air control centre (TACC) of the apportionment decision into total numbers of sorties by aircraft type available for each operation or task. (See also 'Apportionment; Taction Air Operation').

b. **Nuclear**. The specific numbers and types of nuclear weapons allocated to a commander for stated period of time as a planning factor only.

35. **Bridgehead.** An area of ground, in a territory occupied or threatened by the enemy, which must be held or at least controlled, so as to permit the conditions embarkation, landing or crossing of troops and material, and/or to provide maneuver space requisite for subsequent operations. It is established to prevent aimed small arms fire and observed artillery fire by the enemy on to the crossing places.

36. **Counter-Offensive**. A large-scale offensive action by a defending force, in order to stop enemy offensive and to seize the initiative from the enemy and destroy his forces.

37. **Immediate Air Support**. This consists of the heaviest particles of contaminated debris from cloud and stalk column which return to the surface within 15 to 30 minutes after the burst. It may be solid liquid or both, and is deposited in a roughly circular or elliptical pattern whose centre is slightly downwind of ground zero.

38. **Interception**. The act of listening in and recording communications, intended for another party for the purpose of obtaining intelligence.

39. I**nterdiction**. To isolate or seal off an area by any means; to deny use of a route or approach or to prevent, hinder, or relay the use of an area or route by enemy forces.

40. **Tactical Reconnaissance**. A type of reconnaissance which aims at obtaining information from the enemy's movements and dispositions on which is based the plan for a particular operation. It is carried out in areas of ground where enemy ground forces are within striking distance. It is divided into medium and close reconnaissance.

a. **Medium Reconnaissance**. Primary carried out by the air force or by highly mobile army units upto the extreme limit of striking distance or radius of action.

b. **Close Reconnaissance**. Reconnaissance carried out immediately ahead of our forward troops to obtain detailed information of the ground and of the enemy's location, strength and movements.

41. **Vertical Envelopment**. A tactical maneuver in which troops either air dropped or air landed, attack the rear and flanks of a force, in effect cutting off or encircling the force. It can be used by itself, or with a frontal attack by ground forces to effect a linkup, or in conjunction with a ground envelopment.

Attack

42. **Main Attk.** The principal attack or effort, into which the commander throws the full weight of the offensive power at his disposal, directed against the main objective of the campaign or battle.

43. **Mopping Up.** The liquidation of remnants of enemy resistance, in an area that has been surrounded or isolated, or through which other units have assembled/ passed without eliminating all active resistance.

44. **Quick Attk** This differs from the deliberate attack in that time being of paramount importance, the attack is mounted with speed and boldness with available combat elements and combat support elements, to achieve result in a quicker time frame.

45. **Close Sp.** That action of the supporting force against targets or objectives which are sufficiently near the supported force as to require detailed integration or co-ordination with the fire movement, or other actions of the supported force.

46. **Covering Fire**

a. Fire used to protect troops when they are within range of enemy small arms.

b. In amphibious usage, fire delivered prior to the landing to cover preparatory operations such as underwater demolition or minesweeping.

c. The aim of covering fire is the neutralization of enemy small arms and anti-tank weapons, which can engage the assaulting troops in an attack or in a counter attack. It should always be planned in advance whatever the scale of the operation. It may be controlled by observation, it may be in accordance with timed programme or on call of the attacking troops, or a combination of the last two.

47. **Dog Fight**. The phase of an offensive which develops after break in against a strong enemy defended position. It will take the form of a number of thrusts, possibly on different axes. Not until the dig fight phase has been successfully completed can the break-out take place.

48. **FSP.** This is the plan made by the infantry or armour commander advised by artillery commander to utilize the fire support (artillery, air, armour, infantry weapons etc) available to him for his operation.

49. **FB**

a. An area of ground, selected to give adequate protection, administration and support for troops embarking on a specific operation or a series of operations. From it patrols cab be sent out and recce and planning cab be carried on free from interference.

b. A place from where fire support is provided for an operation.

Interdiction

50. To isolate or seal off an area by any means; to deny use of a route or approach or to prevent, hinder, or delay the use of an area or route by enemy forces.

Vertical Envelopment

51. A tactical maneuver in which troops either air dropped or air landed, attack the rear and flanks of a force, in effect cutting off or encircling the force. It can be used by itself, or with a frontal attack by ground forces to effect a linkup, or in conjunction with a ground envelopment.

TOPIC-2

FORCES AVAL TO CONDUCT LAND OPERATION

Introduction

1. A campaign plan encompasses all the components of an armed forces i.e. land, sea and air. Their integrated efforts bring success for the nation accomplishing the strategic or national objectives. Joint Command Centre (JCC) plans and coordinates the operations of these three components. However, whatever may be the situation; Army will capture the ground and finally bring the victory for the country. Army will bring victory by conducting the land operations in varied situation. These operations are unique in nature which to be known by all members of the armed forces for better output.

2. In modern campaign, there is nothing called purely land operations. Sea and air operations are synchronized with land operations to achieve optimum success. In today's presentation. It is imperative to know what are the forces available within conducting any operation or forces available to support any land operation.

Forces Available to Conduct Operations

3. Land forces comprise of following arms and services:

a. **Fighting Arms**. Infantry and armour are the core elements of fighting arms.

(1) **Infantry**. The infantry is the predominant arm of Bangladesh Army and is the core of any army. It is called the QUEEN OF THE BATTLE. The mission and capabilities of this arms are:

(a) **Mission**. To close with and destroy the enemy.

(b) **Capabilities.** The infantry is capable of:

i. Capturing and holding ground.

ii. Taking part in different type of operations in any type of terrain, by day or night under any climate or weather condition.

iii. Moving by any method i.e. road, rail, sea or air.

iv. Establishing a base for fire and maneuver.

v. Providing limited anti tank protection.

(2) **Armou**r. It is the KING OF THE BATTLE. The mission and capabilities of armour corps are:

(a) **Mission**. To close with and destroy enemy forces by using fire, manoeuvre and shock action in coordination with other arms.

(b) **Capabilities**. The armour is capable of:

i. Attack or counter attack under hostile fire.

ii. Destruction of enemy armour by fire.

iii. Employment for exploitation after a breakthrough.

iv. Delaying action in mobile battle.

v. Cross country mobility.

vi. Deep penetration into the rear of enemy.

vii. Support of infantry or other tank unit by use of direct & indirect fire, maneuver and shock action.

b. **Supporting Arms.**

(1) **Artillery.** Artillery is a supporting arm. This is called the **GOD OF THE BATTLE.** It has following tactical functions:

(a) To provide firepower required for commanders operational plan.

(b) To locate enemy weapons and movement, and to acquire targets for attack by artillery firepower.

(c) To detect and engage aerial targets as part of the air def.

(2) **Engineers.** The primary role of combat engineers is to improve our own mobility whilst doing everything possible to hinder the movement of the enemy. Their main tasks can be grouped under following heads:

(a) Mobility.

(b) Counter Mobility.

(c) Survivability.

(3) Besides, Signal Corps provides vital communication, communication intelligence and electronic warfare, where as Army Aviation provides limited integral air support as air arm of the army.

c. **Services.** Army Services Corps, Army Ordnance Corps, Electrical and Mechanical Engineering, Army Medical Corps etc provide logistic supports to the land operations.

Minor Operations

4. Minor operations are low magnitude operations involving less forces and resources and are normally conducted as part or in conjunction with major operations. Types of minor operations are mainly:

a. Patrolling.

b. Raid.

c. Ambush.

Patrolling

5. **Definition**. Patrolling is one of the most reliable means of obtaining accurate and up-to date tactical information. All patrols must be prepared to fight, gain required information at the same time should be able to protect them.

6. **Aim of Patrolling.** The aim of patrolling is to:

a. Obtain information about the enemy.

b. Maintain contact with the enemy.

c. Harass or disrupt enemy forces.

d. Dominate 'No man's Land' and gaps.

7. **Types of Patrol.** Patrols are of following types:

a. Reconnaissance Patrols.

b. Fighting Patrols.

c. Escort Patrols.

d. Standing Patrols.

Ambush

8. **Definition**. Ambush is a minor operation of war involving the use of a small force. The action is usually violent but short lived and finishes on pre-arranged signal. Its success is mainly dependent upon the element of surprise, which is achieved by catching the victim or target unaware or unguarded, it does not envisage the capture or holding of ground permanently.

9. **Aim of Ambush.** The aim of ambush is:

a. Disrupt enemy lines of communications.
b. Force the enemy to increase the size of troops or convoys for protection of personnel or stores.
c. Inflict causalities on enemy patrols.

10. **Parties of Ambush.** An ambush team consist of fol parties:

a. Action party.

b. Cut off party.

c. Covering party.

d. Res party.

Raid

11. **Definition**. Raid is a sudden blow struck with a minimum required force at a pinpoint target followed by swift disengagement and rapid withdrawal. The history of warfare is full of the accounts of raids and their success.

12. **Aim of Raid.** The aim of raid is:

a. Capture or destroy specific enemy materials, prisoner.

b. Destroy enemy headquarters to paralyze command and control.

c. Destroy enemy line of communications particularly bridge and other high value targets.

13. **Parties of Raid.** A raid team consist of fol parties:

a. Action party.

b. Cut off party.

c. Covering party.

d. Holding party.

e. Res party.

Army-Air Cooperation

14. In order to gain and maintain favourable air situation to permit uninterrupted land operations by the land forces, a great support and coordination from air force is necessary. The success of both offensive and defensive operations depends greatly on massing of airpower at decisive point.

15. Effective actions taken to gain favourable air situation and to interdict enemy forces reduces enemy flexibility, deny him from reinforcement and enhance opportunities for friendly commanders to seize the initiative through counter offensive actions.

16. In defence, priority of air support shifts with the progress of operation. While initial priority is given to deep operation, it is shifted to the covering troops when enemy forward echelons contact friendly forces. The great slice of the air effort is then directed at supporting the covering troop's battle, by destroying enemy recce and forward formations. Later in main def battle, the point of main effort gets the major slice of air support. The reserve gets the highest priority once it is committed. Rear area security though remains at the bottom of the priority list: it gets adequate attention, when threatened.

17. In TRD, initial priority of air support is given in breaking up enemy's preparation of attack by hitting its command echelons, fire support assets etc. Later, air support is used in achieving clean break and engaging the pursuing enemy. A portion of air support is also delivered to covering troops or rear guards who are protecting the withdrawal. Later, fire support shifts to support the defence of intermediate position and new main position. It also protects rear area movements and creates avenues of escape.

18. In Offensive Operations, local air superiority even for a particular period is of optimum requirement for a large-scale operation. Before operation, air recce should provide essential intelligence on enemy terrain and early detection of en reactions. Interdiction and BAI will aid in preventing enemy from reinforcing and strengthening its defence. This also assists in carrying out deep operations. CAS is the most important fire support provided in the form of pre H Hour bombardment and during close battles. It also protects the maneuver of land forces.

19. This support we get from Air Force in the form of Tactical Air Operations which include:

a. Counter Air.

b. Air Interdiction.

c. Offensive Air Support.

Conclusion

20. Land operations are most critical and have a broad arena, which cannot be made clear to all of you in this short span of time. It is also difficult for you to grasp the inner mechanics of each type of operations in couple of periods. However, I tried to keep the subject broad and simple for better assimilation. At last I will again remind you that there is nothing called pure land operations in modern day's warfare. Without air and naval support, a land operation hardly can see the face of success.

TOPIC-3

MAJOR OPERATIONS

Introduction

1. A campaign plan encompasses all the components of an armed forces i.e. land, sea and air. Their integrated efforts bring success for the nation accomplishing the strategic or national objectives. Joint Command Centre (JCC) plans and coordinates the operations of these three components. However, whatever may be the situation; Army will capture the ground and finally bring the victory for the country. Army will bring victory by conducting the land operations in varied situation. These operations are unique in nature which to be known by all members of the armed forces for better output.

2. In modern campaign, there is nothing called purely land operations. Sea and Special operations and variations thereof, like FIBUA etc will not be discussed due to paucity of time.

CATEGORIES OF LAND OPERATIONS

Basing on Nature of Operations

3. Basing on nature of operations land operations are divided into following categories:

a. **Defensive Operations**. These are defensive in nature e.g. Defence and Tactical Redeployment.

b. **Offensive Operations.** These are offensive in nature e,g. Advance, Attack etc.

Basing on Involvement of Forces

4**.** Basing on involvement of forces land operations may be divided into following categories:

a. **Major Operations.** Major operations are high magnitude operations involving huge number of forces and resources. Major operations are of two types mainly defensive and offensive.

b. **Minor Operations.** Minor operations are low magnitude operations involving less forces and resources and are normally conducted as part or in conjunction with major operations. For example, raid, ambush etc.

DEFENSIVE OPERATIONS

Defence

5. Although as per Clausewitz's dictum, '**the defensive form of warfare is intrinsically stronger than the offensive',** it is also the less decisive form of warfare. A force conducts defensive operation when weaknesses compel it to do so. But as soon as the balance of strength tilts in defender's favour, it abandons defence in favour of attack.

6. **Aim of Defence**. Defence may be adopted as a prelude to attack with the objective of:

a. Developing favorable conditions for attack.

b. Economizing forces in one area in order to apply decisive force elsewhere.

c. Destroying a hostile force.

d. Reducing the enemy's capacity for offensive action.

e. Denying the enemy entry into an area.

7. The defence operation has two principal components - a static component to delay, impede, stop or thwart an attack; and a mobile component to achieve concentration at the decisive time and place.

8. **Forms of Defence**. Defence takes two basic forms :

a. Mobile Defence.

b. Area Defence.

9. **Mobile Defence**. Mobile defence is based on the ability of the defender to destroy the enemy through counter attacks. Mobile defence, therefore, is considerably offensive in character and envisages defence by a smaller portion of the available forces for discovering, delaying, canalising and fixing the enemy while the bulk of the force is used for attacking to destroy him under conditions, which are most favourable to the defender.

10. **Area Defence**. This form of defence is adopted when the aim is to deny a specific piece of ground or terrain to the enemy. Area defence, therefore, envisages holding and/or dominating, with the bulk of the troops, that piece of terrain, which is most suitable to accomplish the mission.

11. **Echelons of Defence**. Defence consists of three echelons- the Protective Detachments, the Main Position and the Reserve.

12. **Protective Detachments**. It is necessary to place a part of the force outside the main position on the enemy's line of advance or approach in order to:

a. Gain information.
b. Harass and delay the enemy.
c. Deny ground observation of the main position by enemy observation posts or patrols.
d. And in the process, cause attrition to the enemy.

13. **Reconnaissance Elements.** The main tasks of the reconnaissance elements are to keep a constant watch on the enemy's movement/actions, pass back information and to harass the enemy.

14. **Covering Troops**. A mobile force operating away from the main force for the purpose of intercepting, engaging, delaying, disorganizing and deceiving the enemy before he can attack the force covered. Covering troops achieve their mission by occupying a series of delaying positions.

15. **Advance Position.** A position held in front of the main defensive position on the enemy line of approach by an all arms force deployed on a broad front to harass and delay the enemy as well as deny information about own main position. The advance position is usually based on a natural obstacle.

16. **Screens.** The purpose of screen is to give depth to the defensive position in order to deny enemy close observation of the main position and inflict casualty.

19. **Main Position**. The main position is the foundation of defence around which various echelons and phases of defence are formulated.

17. **Reserves**. The reserve consists of those uncommitted forces with which the commander achieves final destruction of the enemy.

18. **Possible Deployment of an infantry Division in Defence**. Possible deployment of an infantry division is shown in the screen.

19. **Phases of Defencive Battle**. The defensive battle has following 3 phases:

a. **Preparatory.** This is when the attacker is assembling his forces and preparing for the assault and the defender is preparing his defensive positions.

b. **Assault.** This is when the attacker is attempting to break into and through the main position and the defender seeks to seal off any penetration and to stabilise the situation.

c. **The Counter Attack Phase**. This is when the enemy attack has lost its impetus and the moment has come to restore the position or to resume offensive.

Tactical Redeployment (TRD)

20. TRD is treated generally as the most difficult operation of war. It is an operation in which a deployed force disengages from the enemy and carries out a planned manoeuvre to the rear or away from it.

21. This operation has certain inherent disadvantages. It has a depressing effect on the morale of own troops, whereas it raises that of the pursuing enemy. The fear of losing resources and territory to the enemy, the apparent inferiority of own forces does have a detrimental effect. In spite of all these, the commander of a TRD force must make a timely decision and issue clear and timely orders to his subordinates.

22. **Reasons of Carrying out of TRD**. TRD may have to be carried out for any of the following reasons :

a. To disengage from an unsuccessful battle.

b. To draw the en to a favourable position.

c. To gain time without fighting a major battle.

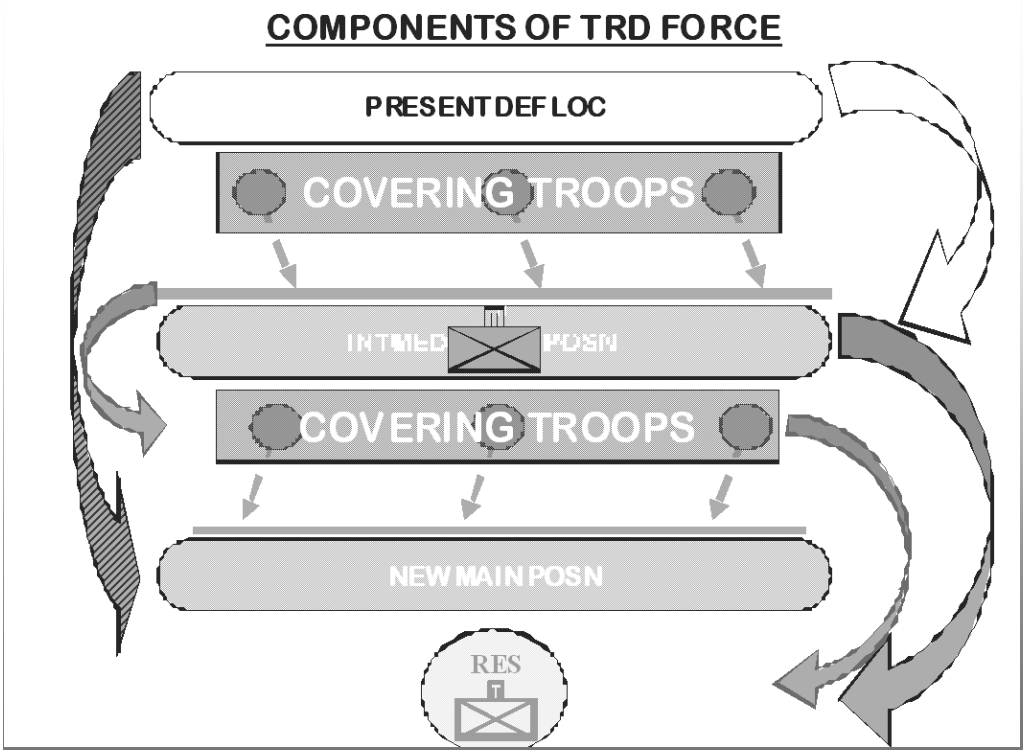
d. To conform to the manoeuvres of a flanking formation.

e. To allow the use of part of the force elsewhere.

f. To avoid battle under unfavourable conditions.

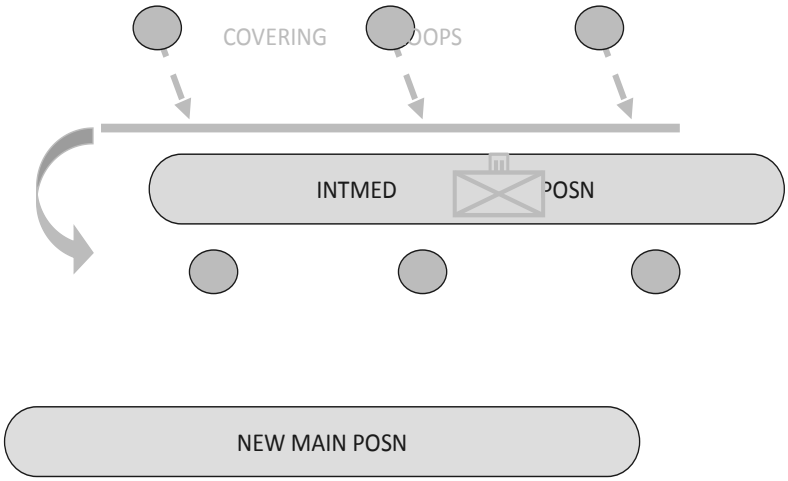
23. The various components of TRD force is shown below:

24.



Mechanism of TRD**.** The diagram below explains the mechanism of TRD.

25.



25. **Timings**. Timings in TRD assume special significance for the purpose of control and retaining balance by a TRD force. While formation HQ lays down the essential timings, the brigade commander or the battalion commander works out the additional timings.

26. **Essential Timings**.

a. **Denial Time**. Time up to which the position has to be denied to the enemy. It implies that sufficient strength must be there in the position to defeat an enemy attack up to and including the time laid down.

b. **No Rearward Move**. Except recce party, no rearward move is allowed before this time.

27. **Additional Timings**. These are :

a. **Thinning Out Time**. This is the time at which forward sub units start thinning from their battle positions.

b. **Final Abandonment**. Time at which, position will be finally abandoned. Any move on the position after this time is to be regarded as hostile and should be engaged with indirect fire.

c. **Clear of a Line**. Time by which all TRD troops will be cleared of a selected line. This is a convenient report line which not only provide control but also provides freedom to own arty and air to engage targets forward of this line.

OFFENSIVE OPERATIONS

28. In war, ultimate victory is achieved by defeating the enemy which involves destruction of enemy forces and breaking his will to resist or fight. This may only be achieved by offensive operations that are advance and attack.

Advance

29. Advance is an operation which opens up wide windows of tactical opportunity and where initiative and bold action offers scope for success. Advance is carried out to establish contact, to maintain contact or in pursuit.

30. **Aim of Advance**. The aim of advance may be :

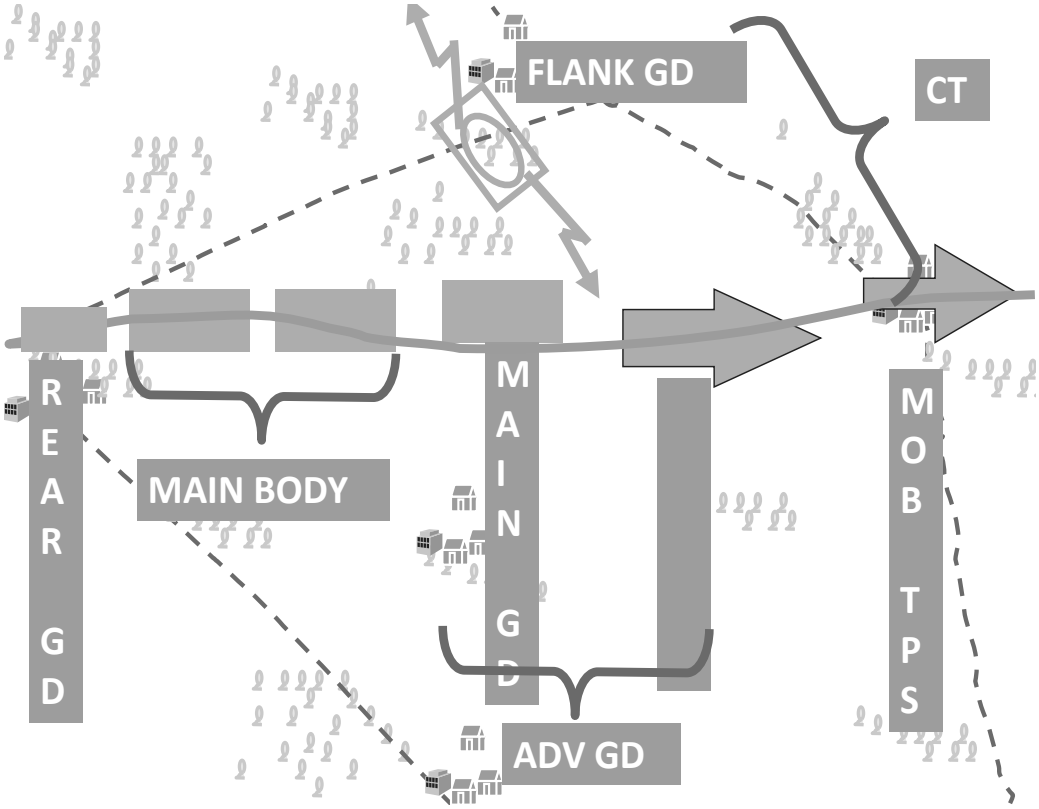
a. To locate and destroy enemy.

b. To demoralize enemy and reduce his capacity to fight.

c. To seize ground of tactical importance.

d. To seize and maintain initiative.

31. **Components of Advance**. The components of advance are below :



32. **Covering Troops**. Troops which provide security to the advancing force by covering its move on the front and the flank is called covering troops. It has two components-Mobile Troops and Flank Guard.

33. **Advance Guard**. An Advance Guard of a formation is a balanced force composed of all arms. This is based on infantry battalion or armoured regiment, which will follow the mobile troops.

a. **Task of Advance Guard**.

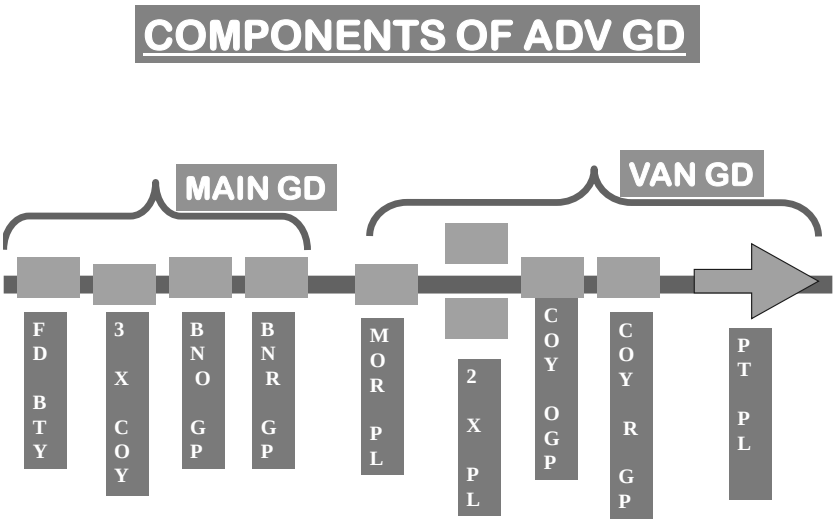
(1) Prevent main body from running blindly into en opposition.

(2) Clear minor opposition.

(3) Find and exploit gap.

(4) Establish Fire Base.

b. **Components of Adv Gd**. The components of advance guard are shown in diagram below :



34. **Main Body**. The advancing force less Advance Guard and the Covering Troops is termed as the Main Body.

Attack

35. Attack is a form of offensive operation designed to destroy enemy's will to fight by a combination of maneuver and aggressive action. Attacks are launched to destroy and disrupt the enemy or to seize ground.

36. **Aim of Attack**. The aim of attack must be tangible, clear and unambiguous. It may be either one or a combination of the following :

a. Destruction of an enemy force.

b. Capture of ground of tactical or strategic importance.

c. Destruction of enemy resources.

37. **Stages of Attack**. The attack may be conveniently divided into the following stages:

a. Preparatory stage.

b. Assault and destruction stage.

c. Exploitation stage.

38. **Preparatory Stage**. During this stage, the attacking commander intends to find out maximum possible information regarding enemy, complete all necessary preparation while exposing his forces as less as possible.

39. **Assault and Destruction Stage.** These are stages of intense activity for the

attacker in the process of his approaching the objective, fighting through, and ultimately capturing and consolidating their positions. The high lights are shown the screen:

a. **Approach to the Objective**. Use of cover, fire support, employment of assets such as tanks, needs special consideration.

b. **Fighting Through the Objective**. Units/sub units will go for specific objective. Full use of fire support by means of FOO and MFCs must be made.

c. **Mopping Up.** In the initial onslaught of assault, it will not be possible to clear all enemy position. Thus, it will be encountered later. Follow up troops will do it.

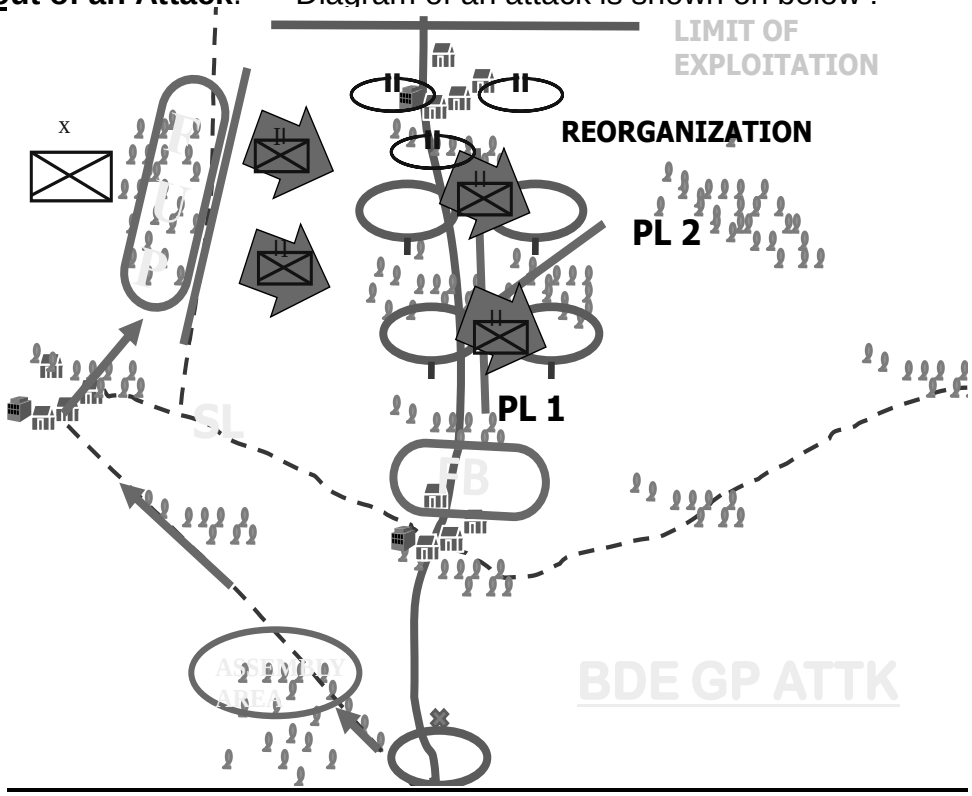
d. **Reorganization.** As each objective is captured, it must be immediately organised for defence against possible counter attack and as a firm base for further operation. The essence is speed in organising the defence of the area and in bringing forward support weapon and the balance of echelons.

40. **Exploitation Stage**.

a. The aim of exploitation is to retain the initiative by preventing enemy from reorganizing his def or conducting a planned withdrawal. Key to success is speed, as time will afford enemy to regroup, mount counter attack or deploy delaying position.

b. Commanders at all level should be prepared to seize the opportunity to exploit success.

41. **Layout of an Attack**. Diagram of an attack is shown on below :



MINOR OPERATIONS

42. Minor operations are low magnitude operations involving less forces and resources and are normally conducted as part or in conjunction with major operations. Types of minor operations are mainly:

a. Patrolling.

b. Raid.

c. Ambush**.**

Patrolling

43**.** **Definition**. Patrolling is one of the most reliable means of obtaining accurate and up-to date tactical information. All patrols must be prepared to fight, gain required information at the same time should be able to protect them.

44**.** **Aim of Patrolling.** The aim of patrolling is to:

a. Obtain information about the enemy.

b. Maintain contact with the enemy.

c. Harass or disrupt enemy forces.

d. Dominate 'No man's Land' and gaps.

45. **Types of Patrol.** Patrols are of following types:

a. Reconnaissance Patrols.

b. Fighting Patrols.

c. Escort Patrols.

d. Standing Patrols*.*

Ambush

46. **Definition**. Ambush is a minor operation of war involving the use of a small force. The action is usually violent but short lived and finishes on pre-arranged signal. Its success is mainly dependent upon the element of surprise, which is achieved by catching the victim or target unaware or unguarded, it does not envisage the capture or holding of ground permanently.

47. **Aim of Ambush.** The aim of ambush is:

a. Disrupt enemy lines of communications.

b. Force the enemy to increase the size of troops or convoys for protection of personnel or stores.

c. Inflict causalities on enemy patrols.

48. **Parties of Ambush.** An ambush team consist of fol parties:

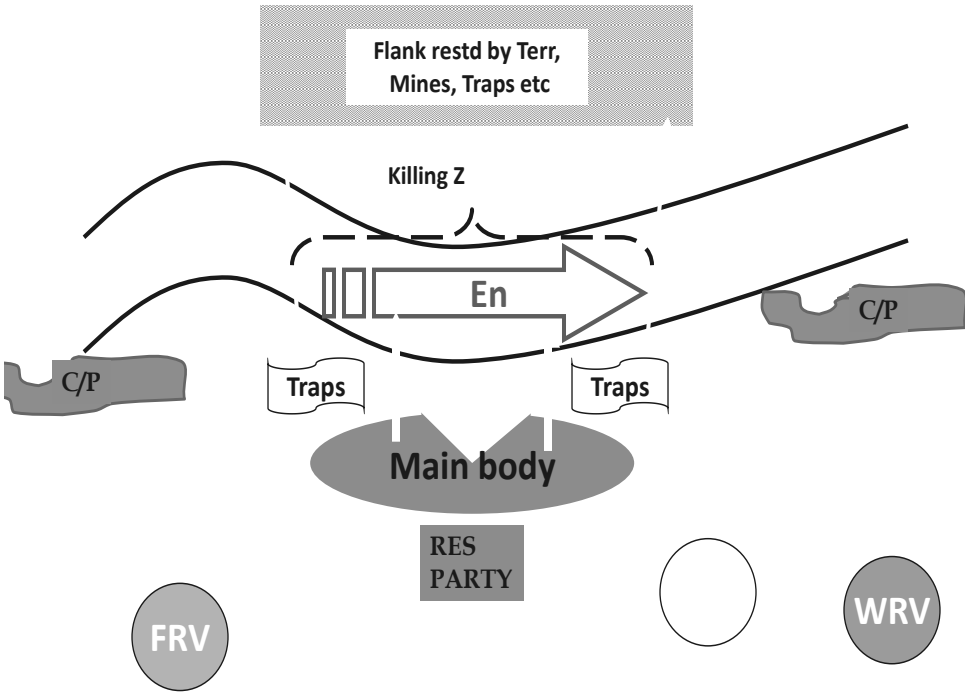
a. Action party.

b. Cut off party.

c. Covering party.

d. Res party.

49 **Deployment and Execution of Ambush.** The following diagram gives as clear idea of deployment and execution of ambush :



Raid

50. **Definition**. Raid is a sudden blow struck with a minimum required force at a pinpoint target followed by swift disengagement and rapid withdrawal. The history of warfare is full of the accounts of raids and their success.

51. **Aim of Raid.** The aim of raid is:

a. Capture or destroy specific enemy materials, prisoner.

b. Destroy enemy headquarters to paralyze command and control.

c. Destroy enemy line of communications particularly bridge and other high value targets.

52 **. Parties of Raid.** A raid team consist of fol parties:

a. Action party.

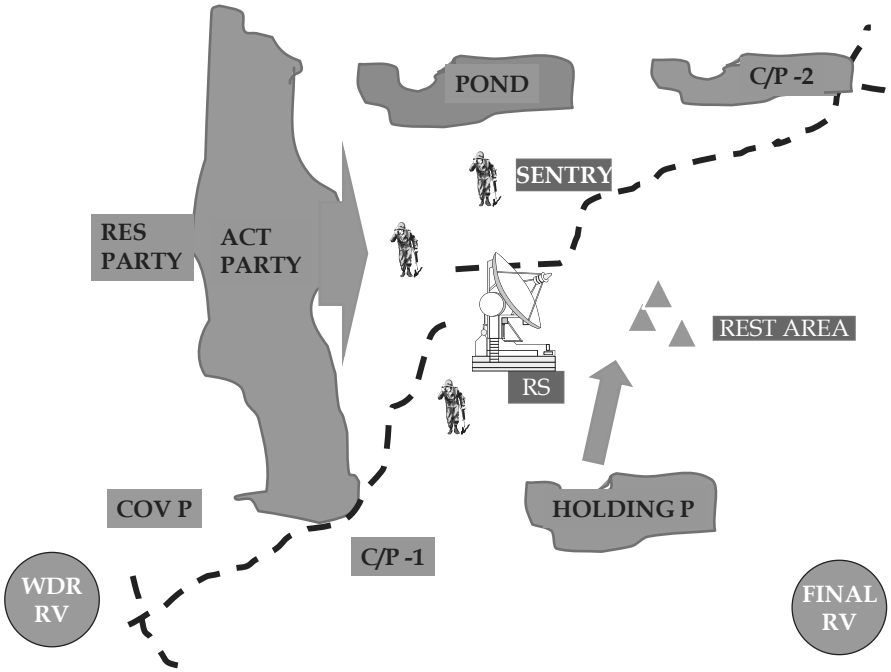
b. Cut off party.

c. Covering party.

d. Holding party.

e. Res party.

53. **Deployment and Execution of Raid.** The following diagram shows the deployment and execution of raid.



ARMY-AIR COOPERATION

Introduction

54. In order to gain and maintain favourable air situation to permit uninterrupted land operations by the land forces, a great support and coordination from air force is necessary. The success of both offensive and defensive operations depends greatly on massing of airpower at decisive point.

55. Effective actions taken to gain favourable air situation and to interdict enemy forces reduces enemy flexibility, deny him from reinforcement and enhance opportunities for friendly commanders to seize the initiative through counter offensive actions.

56. **Defence**. In defence, priority of air support shifts with the progress of operation. While initial priority is given to deep operation, it is shifted to the covering troops when enemy forward echelons contact friendly forces. The great slice of the air effort is then directed at supporting the covering troop's battle, by destroying enemy recce and forward formations. Later in main def battle, the point of main effort gets the major slice of air support. The reserve gets the highest priority once it is committed. Rear area security though remains at the bottom of the priority list: it gets adequate attention, when threatened.

57. **TRD**. In TRD, initial priority of air support is given in breaking up enemy's preparation of attack by hitting its command echelons, fire support assets etc. Later, air support is used in achieving clean break and engaging the pursuing enemy. A portion of air support is also delivered to covering troops or rear guards who are protecting the withdrawal. Later, fire support shifts to support the defence of intermediate position and new main position. It also protects rear area movements and creates avenues of escape.

58. **Offensive Operations**. Local air superiority even for a particular period is of optimum requirement for a large-scale operation. Before operation, air recce should provide essential intelligence on enemy terrain and early detection of en reactions. Interdiction and BAI will aid in preventing enemy from reinforcing and strengthening its defence. This also assists in carrying out deep operations. CAS is the most important fire support provided in the form of pre H Hour bombardment and during close battles. It also protects the maneuver of land forces.

58. This support we get from Air Force in the form of Tactical Air Operations which include:

a. Counter Air.

b. Air Interdiction.

c. Offensive Air Support.

Conclusion

59. Land operations are most critical and have a broad arena, which cannot be made clear to all of you in this short span of time. It is also difficult for you to grasp the inner mechanics of each type of operations in couple of periods. However, I tried to keep the subject broad and simple for better assimilation.

60. At last I will again remind you that there is nothing called pure land operations in modern day's warfare. Without air and naval support, a land operation hardly can see the face of success.

TOPIC-4

ARMY OPO COVERING ASPECTS OF AIR SP

Introduction

1. In BD Armed Forces, there are different means of conveying operation orders. One of such means is OpO which is widely used in BD Army. In addition to different instrs applicable for the land forces, this OpO also specify the type of air sp that any fmn will get in the btl fd.

2. It is imperative to have clear idea on how such air sp is provided through opO and finally how the sp is provided on grd. In today's cl we shall discuss initially opO and then will relate with the aval air sp.

Aim

3. The aim of this OpO is to know how to coord for Land Battle air sp during the progression of Land Battle.

Scope

4. The cl will be conducted as under:

   a. Brief Disc on opO.

   b. Procedure to coord air sp.

5. A sample opO is given as under with the air related portion . Detaile discussion would help to understand the procedure of co-ordinating with various elements of land forces for providing air support.

SAMPLE OF AN ARMY OPO

Copy No….of 35
Total pages……

HQ 7 Inf Div
NARAIL 1827

G/1370 Oct 11

OPO 1/11

Ref:
A. GREENLAND Sheets 98A/1,2,3,5,6,7,9,10,11,12,13,14,15 and 16, C/1,2,3,4,5,6,7 and 8; 1:50000.

Time Z Used Throughout the Order: FOXTROT.

1. **SITUATION.**

a. **En Forces.**

(1) WL likely to launch offn not before 01 Aug 08 with two corps abreast to capr NARAIL.

(2) En three divs are ident DISPY 0874, RAIPUR 0461, and HARIRAMPUR(10 km SW of SOLAKURI 0342).

(3) En is cap of hel lifting one bn.

(4) See INTSUM.

(5) Air Sit. WL enjoys 3:1 air superiority. However, ltd air superiority by GLF is expected over des areas.

b. **Friendly Forces.**

(1) Flank Fmn. Anx A.

(2) Air. 12 x FGA sortie per day.

c. Atts and Dets. (Eff forth with / 0800 hrs D+1 unless otherwise stated)

(1) **Atts**.

(a) **UC**.

One Sqn from 5 Cav
10 GLR Bn
11 GLR Bn
6 Ansar Bn

6 Fd Regt

(b) **In DS**.
Rotary Wg (RW) Flt Army Air Regt (4xMI 17)

(c) **INSPUCM**.
201 AD Regt
204 Indep

2. **MISSION**. Defend AOP as fwd as poss by 30 Jul 08 with a view to create a favorable sit for launching c offn by army res .

3. **EXECUTION**.

a. Concept of Op. Overlay showing bdry - Anx B, Gp - Anx C.

(1) The terr within AOR provides three axial routes which can provide AA for divs and bdes.

(2) MAONA is the main disputed area, what en intends to capture and facilitates en's further capture of DHAKA. Thus MAONA is the vital grd of the div.

(3) In order to capture MAONA, en is likely to launch maj offensive through land, sea and air. En is likely to capture MAONA for his subsequent offensive towards DHAKA.

(4) To offset WL design of battle, the div will fight a def battle within AOR in 3 phases. After causing max attrition to en's ldg corps and the ldg bdes of the fol on corps in the forth phase after battle is handed over to 20 Div, own div will depl to protect DHAKA. For all the phases 64 Indep Inf Bde is asked to protect our eastern flank.

(5) In phase 1 a covering tps (CT) battle will be fought within international bdry (IB) and River BRAHMAPUTRA, by a strong CT comprising one armd regt and one div sp bn. In phase 2 the def battle will be fought along River BRAHMAPUTRA line and 3 rd ph def will be along KALIHATI - SHAKHIPUR-BHALUKA line .

(6) The CT 1 will fight ahead of JAMALPUR from two delay lines and CT 2 ahead of MYMENSING from three delay lines. The CT will cause attrition to ldg bdes and delay 36 and 48 hrs respectively.

(7) The first main def along River BRAHMAPUTRA line will have two bdes up i.e. 66 Bde will def gen area JAMALPUR and 49 Bde in gen area MYMENSING. 62 Bde will be depl in gen area TRISAL as depth. A task force (TF1) comprising 12 Inf Bde less one bn and a GLR bn will depl in gen area MUKTAGACHA taking the adv of natural obs. GLR Sec with only one bn will form TF2 and depl in area TANGAIL gd landing site to counter amph landing. From this line the bdes should be able to attrite and incapacitate the fwd div. In this regard min delay to be achieved for 7 days.

(8) The bdes should fight aggressive def along this line. Should there be any nec. On order, the div will tac redepl in 2nd line of def in gen area KALIHATI-SHAKHIAPUR- BHALUKA. 66 Inf Bde will depl in gen area KALIHATI, 49 Inf Bde in BHALUKA and 62 Inf Bde in area MAONA. TF to depl in area BARACHANA. From this line the div will cause attrition to the ldg bdes of he fol up corps and delay en for min 4 days. However, the bdes should be prep to fight aggressive battle to hold en as long as poss. Fwd bdes should formulate plan to ut the para cdo pls to strike en's vulnerable pts spl the iog and engr assets.

(9) After the def battle along 2nd de line, the div will tac redepl, in DHAKA to protect it. 49 Bde to depl to in gen area UTTARAand 66 Bde south east and south west of DHAKA.

(10) Res in 1st phase will be composed of 7H less 2 sqns, 15 Div Sp Bn less sp coys, one inf bn and two Ansar bns. Out of these one sp coy along with bn HQ, one inf coy and two Ansar bns will be dedicated for C hel/AB ops.After the delay battle, leaving some elms to the fwd bdes, bulk of the CT will form part of res. The res will be emp to repulse en attempt of x at critical stage.

(11) GLAF will provide OAS ,FGA and recce msn to bring en to culminating pt , while fighting def battle in any def line these assets would be empl to destroy en's log and sp elms, engrs assets, fol up ech and C2 system**.**

(12) To sp the entire op log will remain cen. Bdes will be maint from DAA. However, they may have fwd BAA if so nec.

b. **12 Inf Bde**.

(1) Phase 1 and 2.

(a) Def along axis ------- within bdry.

(b) Attrite fwd divs of WL corps.

(c) Carr out anti hel borne/AB op within AOR.

(d) Be prep tp carr out TRD across Rive TETULIA on wdr.

(e) Provide res dml gd for br on River KUMAR.

c. **28 Inf Bde**.

(1) Phase 1 and 2.

(a) Def along axis ------- within bdry.

(b) Attrite fwd divs of WL corps.

(c) Carr out anti hel borne/AB op within AOR.

(d) Be prep tp carr out TRD across Rive TETULIA on order.

d **34 Inf Bde.**

(1) Phase 1 and 2.

(a) Def gen area JAMALPUR.

(b) Attrite divs of WL ldg corps.

(c) Carr out anti hel borne / AB op north of MADHUPUR.

e. **7H.** Act as per gp.

g. **10 Div Sp.** Act as per gp.

h. **15 Div Sp Bn.** Act as per gp.

j. **CT 1.** (Phase 1 only)

(1) **Comd.** Co 10 Div Sp Bn.

(2) Tasks.

(a) Op between IB and KUMAR.

(b) Inflict max cas to en fwd bdes.

(c) Delay en for 36 hrs.

(d) Hand over the battle to 66 Bde along river BRAHMAPUTRA.

k. **CT 2.** (Phase 1 only)

(1) Comd. Co 19H.

(2) Tasks.

(a) Inflict max cas to en fwd bdes.
(b) Delay en for 48 hrs.
(c) Hand over the battle to 49 Bde along River BRAHMAPUTRA.

l. **Res.**

(1) Comd.CO 7H.

(2) Tasks.

(a) Be prep to reinforce/asst fwd bdes on order.

(b) Be prep to launch C attk on fwd bde loc along Riv KUMAR.

(c) Be prep to launch C attk on bde loc along Riv TETULIA

(d) Be prep to launch C attk on bde loc at NARAIL.

XXXXXXXXXXXXXXX

m. Coord Instr.

(1) Timings. XXXXXXX

XXXXXXXXXXX

4. SERVICE SUPPORT. XXXXXXX

5. COMMAND AND SIGNAL. XXXXXXX

Ack Instr: Ack

AKHTARUZZAMAN SIDDIQUE
Col
For GOC

Authen:

Anxs:

A. Int Assessment.

B. Op Overlay.

C. Gp.

D. Code Words and Nicknames.

Distr:

External:

Action: Copy No incl Anxs

12 Inf Bde

xxxxxxxxxxx

TOPIC-5

STX: JCSC BAF

ISSUE DS
EX JOUTHO
ANUSHILON SER 2 E-4
ISSUE STUDENTS E-2

GEN IDEA

1. BLUE LAND (BL) (own) and REDLAND (RL) (en) are 2 neighbouring states with their IB almost running along line as shown on the sk. The relationship between them remained strained over land dispute ever since the indep of BL. RL claimed terr up to mineral rich border town KISHOREPUR 4238. Recent discovery of huge gas and oil in the vicinity of KISHOREPUR provoked RL to be adamant on her claim.

2. All diplomatic efforts by peace loving BL turned futile due to the doggedness of RL. Finding no other altn, the helpless BL raised the issue in the UN. This has further enraged RL and incited her to serve ultimatum to BL to cede the area by mid Nov 11 or face dreadful mil consequences.

3. To materialise her illegal claim, RL mob her forces along the border by early Oct 11. BL Govt stood firm to def her motherland and ordered depl of her forces in their respective AOR.

4. ORBAT. Anx A.

5. Org and Tac.

   a. BL Army. In line with Org precis issued by SI&T.

   b. RL Army. As per GSTP 0048 and 0049.

6. Air. RL Air Force (RLAF) enjoys air superiority. However, BLAF can achieve local air superiority for ltd pd.

7. Met Condition. Actual.

Anx:

A. ORBAT.

ANX A TO
SER 2 TO
EX JOUTO ANUSHILON

ORBAT

Fmn/Unit	Tac No	Fmn Sign

RL Army

1. 8 Inf Div. (Op in this Sec) 800 Golden Deer head on black back grd
   - a. 18 Inf Bde 830
   - b. 28 Inf Bde 840
   - c. 38 Inf Bde 850
     - (1) 16 Tufan Regt 851
     - (2) 24 Fox Regt 852
     - (3) 32 Fox Regt 853
   - d. 8 Arty Bde 820
   - e. 49 Armd Regt 810
   - f. 50 Div Engr 812
   - g. 68 Sig Regt 871
   - h. 72 ASC Bn 888
   - j. 32 Air op flt

Fmn/Unit	Tac No

BL Army

2.	<u>10 Inf Div</u>		700
	a.	20 Inf Bde	730
	b.	25 Inf Bde	740
	c.	30 Inf Bde	750
	d.	10 Arty Bde.	760
	e.	115 H	710
	f.	119 Tigers (Sp Bn)	729
	g.	120 Engr Bn	777
	h.	101 Sig Bn	707

ISSUE DS
EX JOUTO ANUSHILON
SER 3 E-4
ISSUE STUDENTS E-2

SPL IDEA

1. Fmn to def AOR ftg def btl blending UCW. 20 Inf Bde to def gen area SHERPUR gd AA 3, 25 Inf Bde to def gen area PHULPUR gd AA 4, TF composed of BDR Bns to def PURBADHALA, 30 Inf Bde (+) to def JMB and deny en app through riv route, and 1 x bde (-) to def MYMENSINGH. Div res composed of armr, sp and inf bn to be maint. Spl forces with UWF to conduct deep ops behind en lines across bdry. Air elms to provide btlfd air cover and OAS during all ph. The btl will be fought in 4 phs:

a. Ph I. Depl and Deterrence. Fmn tps incl para-mil and UWF to be depl in respective AOR. ME is UWF

b. Ph II. ME- Sy Z Btl

c. Ph III. Def Btl as fol:

Line 1: SHERPUR- PHULPUR- PURBADHALA- NETROKONA

Line 2: JAMALPUR- MYMENSINGH- GOURIPUR

Line 3: MADHUPUR-TRISHAL-NANDAIL

ME is Along AA 4

ISSUE DS
EX JHOUTO ANUSHILON
SER 4 E-4
ISSUE STUDENTS E-2

Narrative -1

1. You are the ALO appointed in the 10 Inf Div. GSO-1 of the div called you in his office and said “Dear, welcome to 10 Inf Div HQ. I am sure you have gone through the gen idea and spl idea. You need to updt your map that will be reqr for our upcoming op. Pl mk all the info on your map as mentioned in the narrative. Should you face any problem , pl take nec help from my GSO-3(Ops). I am positive that you will able to do it in the best poss way as you have learnt in your JCSC. ”

Reqr-1

2. As ALO of 10 Inf Div pl mk your map basing on the info aval in the narratives.

MARITIME OPERATIONS

COMMAND AND STAFF TRAINING INSTITUTE, BAF

MARITIME OPERATIONS

1. Maritime Operations module is presented for the students of Junior Staff Course, BAF. It is designed to impart preliminary knowledge on Maritime Operations including some basics of Maritime facts. Knowing the basic of Maritime Operations will enable the students to understand and will equip them to participate effectively in joint operations and when required.

2. Contents.

LIST OF ABBREVIATIONS

AAW	Anti Air Warfare
AEW	Airborne Early Warning
AOA	Amphibious Objective Area
ASuW	Anti Surface Warfare
ASW	Anti Submarine Warfare
CAP	Combat Air Patrol
CVBG	Carrier Battle Group
CZ	Convergence Zone
ECCM	Electronic Counter Counter Measure
ECM	Electronic Counter Measure
EMCON	Emission Control
ESM	Electronic Support Measure
EW	Electronic Warfare
FF	Frigate
FFG	Guided Missile Frigate
FSG	Corvette
HVU	High Valuable Unit
MACC	Military Assistance to the Civil Community
MAD	Magnetic Anomaly Detection
MCMV	Mine Counter Measure Vessel
NCS	Naval Control of Shipping
NEO	Non-Combatant Evacuation Operation
NGS	Naval Gunfire Support
OOB	Order of Battle
PIM	Path of Intended Motion
POSSUB	Possible Submarine
PROBSUB	Probable Submarine
ROE	Rules of Engagement
SAM	Surface to Air Missile
TMA	Target Motion Analysis
VDS	Variable Depth Sonar
VTOL	Vertical Take-off Landing

TOPIC-1

SEA POWER

Sea Power

1. Sea power is a generic term. This implies the power exerted through sea either directly or indirectly or both. Since the time of the ancient Greeks, the sea has played a vital part in trade and world economy. It has brought great wealth and prosperity to nations that could use it effectively.

2. 'Sea Power' is the term used to describe the ability of a nation to exploit the oceans to its advantage. The sea has been used for centuries to provide a cheap method of carrying goods, and as a source of food. More recently it is providing the world with that valuable energy source, mineral oil, and it is likely that in the next few decades it will provide many other valuable minerals.

3. Sea power consists not only of the ability to exploit the oceans commercially, but the strength to protect this ability from interference. It also implies the ability of a nation to influence others in peace and impose its will in war.

4. Sea power is made up of the following elements:

   a. Merchant fleets, fishing fleets and ship-building capability.

   b. Ports and naval bases.

   c. The industrial capacity to sustain the national economy through overseas trade.

   d. All stakeholders (personnel engaged in merchant shipping, navies and sea-related trade etc).

   e. The capacity to safeguard sea borne trade and other maritime interests.

   f. The maritime forces to enable a nation to impose its will on an enemy in war, to influence others in peace and to protect the other elements of sea power.

   g. Geographical location.

Maritime Strategy

5. Maritime Strategy is the art of directing and the development and application, both direct and indirect, of the maritime elements of a national, during peace and war towards the accomplishment of its objectives.

Naval Strategy

6.The development, organization and employment of Naval Forces for the protection of own military, political and economic interests at sea and denying the same to the enemy. Strategists have come out with various thoughts on Naval Strategy.

Use of Naval Power

7. Maritime power ensures freedom of action of a nation at sea. When freedom is challenged, a nation must first protect or establish it before the sea can be used. There are various concepts governing the use of Maritime Power.

8. **Command of the Sea**. Mahan and other maritime strategists have described the freedom to use the sea for one's own purposes and to deny its use to the enemy as command of the sea. Maritime strategists consider command of the sea as the principal objective of a maritime campaign.

9. **Sea Control**. Sea control is defined as the condition in which one has freedom of action to use the sea for one's own purposes in specified areas and for specified periods of time and, where necessary, to deny its use to the enemy.

10. **Sea Denial**. Sea Denial is exercised when one party denies another the ability to control a maritime area without either wishing or being able to control that area himself.

11. **Fleet-in-Being**. This means the possession of a fleet, which, although weak to challenge a superior power in a Decisive Battle, is strong enough to threaten elements of the superior navy.

12. **Maritime Power Projection**. The other principal use of the sea in time of war has been to project military power from the sea against the land by all means ranging from naval bombardment to the support of full-scale invasion. The projection of maritime power is the application of maritime force from the sea to influence events on land directly.

13. **Naval Diplomacy**. Naval Diplomacy is the use of naval forces as a diplomatic instrument in support of foreign policy. Naval Diplomacy is an action designed to influence the leadership of a state or group of states in peacetime and in all situations short of war.

14. **Gunboat Diplomacy.** Gunboat Diplomacy is the use or threat of limited naval force, otherwise than the act of war, in order to secure advantage, or to avert loss, either in the furtherance of an international dispute or else against foreign nationals within the territory or the jurisdiction of their own state.

15. **Blockade**. Blockade is a combat operation to prevent access to, or departure from, a defined area of an enemy's coast and waters. It can be used operationally as a method of achieving sea control or sea denial through containment. Strategically it may also be used as an extreme form of sanctions enforcement. During full hostilities, it can prevent reinforcement, resupply and maritime trade, and thus deprive an enemy of the national material and moral resources necessary to continue hostilities. To be recognized under International Law, a blockade must have been declared and notified to all concerned; be effective; and, be applied impartially to ships of all nations. A blockading force has the legal right to seize in prize any merchant ship, be it enemy or neutral, which attempts to run the blockade either inwards or outwards. The blockade can be either close, denying an enemy access to or from his ports, or distant, denying the access to sea area through which all ships must pass in order to reach the enemy's territory.

TOPIC-2

THE APPLICATION OF MARITIME POWER

Nuclear Deterrence

1. The maintenance of a secure *strategic nuclear deterrent* is the first Military Task of the nuclear powers. Instruments of strategic nuclear deterrence are deployed at sea because the stealth of nuclear powered submarines makes them extremely hard to find and destroy. They are not therefore liable to preemptive attack or counter-attack.

Combat Operations against the Land

2. Maritime combat power can be projected ashore using *manoeuvre from the sea* through organic attack aircraft, submarine and surface launched land attack missiles, *naval gunfire support (NGS),* amphibious forces and special forces. Amphibious operations can be *assaults, raids, demonstrations, feints* or *withdrawals.* Operations ashore will usually be joint, requiring effective co-operation and a clearly understood command structure. Contribution to a ground *campaign* by specific *manoeuvre* operations from seaward can be used for *envelopment, turning movements* or *infiltration* and *interdiction* of key vulnerabilities ashore. *Poising* afloat, power projection forces can provide *distraction* by tying down a disproportionate number of enemy forces in defending a coastline, rendering them unavailable for other operations. Raids, feints or demonstrations can enhance the effect. Distraction is an important aspect of maritime leverage.

3. Combat operations against the land include the following tasks:

a. **Advance Force Operations.** To prepare an *amphibious objective area (AOA).* They may include the insertion of personnel by submarine or aircraft, precursor mine countermeasures operations, and bombardment by naval gunfire support (NGS) forces and aircraft.

b. **Amphibious Assault.** Specialist amphibious troops can be landed to secure a j*udgement area* by seizing a *beachhead* or other means of entry such as ports or airfields. This lodgment area can then be used as a springboard for further operations, either by the landing force, or by follow on forces inserted through the lodgement area. They can be used as part of a campaign plan to provide leverage, to contribute to *simultaneity* and to increase the *tempo* of an operation. Ideally amphibious assault requires: the establishment of robust sea control around the assault forces and over the area of sea adjacent to the assault, but at minimum a *favourable air*

situation, which must also extend over the landward portion of the amphibious objective area; creation of a beachhead to allow heavier forces ashore. Amphibious assault may be used to seize advanced logistic facilities such as a sheltered anchorage, port or airhead for maritime forces.

c. **Amphibious Raid.** Amphibious forces may be landed for a discrete task, on completion of which a withdrawal takes place. The period over which sea control must be maintained may be shorter for a raid than for an assault, or to provide simultaneity. While comparatively small forces often carry them out, they can be up to Brigade strength.

d. **Amphibious Feints and Demonstrations.** While assaults and raids involve the landing of troops, amphibious forces can also be used without landing. They can deceive an enemy (a feint) or demonstrate capability (a demonstration) with the effect of tying down forces; creating uncertainty; or, as a *coercive* act of naval diplomacy to reinforce a diplomatic message.

e. **Amphibious Withdrawal.** A withdrawal is a normal operation for amphibious forces as the value of leverage is lost if they are committed for extended periods ashore on non-specialist tasks. Sea based forces can also secure an exit route for land forces, both for tactical and unplanned withdrawals and can provide for mass evacuation.

f. **Naval Support to Land Operations.** Organic naval aircraft can contribute to *strategic air offensive, counter-air, anti-surface force (land and sea),* and *combat support air operations,* all of which may be supporting land or joint campaign objectives. Submarines and, indeed, surface ships armed with *land attack missiles* could contribute to an attack on important shore targets. Naval gunfire support can provide fire support to ground forces. Maritime electronic capabilities can contribute significant intelligence support and naval surface to air missiles provide air defence over coastal areas.

g. **Land Attack in Support of Sea Control.** Power projection forces (including Special Forces) may be employed as part of a sea control campaign to destroy enemy maritime forces in harbours, ports and air bases, and enabling capabilities such as *command and control systems* and logistics. Alternatively, they can be used to secure a land flank for sea control forces.

Combat Operations in Defence of Forces Ashore.

4. Maritime forces can assist in the protection of land forces or territory by providing a sea based defensive barrier. Broadly they could defend the maritime flank against manoeuvre from the sea. More specially they could contribute to air defence, supplementing land based forces or, in the early stages of establishing a lodgement area, supply total air defence capability. Within this is the potential of sea based forces to provide defence against Theatre Ballistic Missiles.

Evacuation Operations

5. Maritime forces would usually contribute to *Non-Combatant Evacuation Operations (NEO)* as part of a joint or combined force. However, where airfields and commercial ports are not available, an independent naval operation across a beachhead may be necessary. *Naval forces* may also be used to poise in theatre, as a precaution should an evacuation become necessary as a result of local instability. This type of evacuation is referred to as a *Services Assisted Evacuation.* Alternatively forces may be required for the protection of the evacuees as well as to provide an avenue of evacuation and transport – an operation known as a *Services Protected Evacuation.* In extreme cases an evacuation may amount to an amphibious raid. Amphibious forces will land, secure and defend beachheads and airheads, establish mustering points for evacuees and the routes linking them, move the evacuees to safety, and finally withdraw.

Naval Force in Support of Diplomacy

6. Naval diplomacy is the use of naval forces as a diplomatic instrument in support of foreign policy. Naval diplomacy is action designed to influence the leadership of a state or ground of states in peacetime and all situations short of full *hostilities.* Naval diplomacy can be used on the one hand to support or reassure and can be a significant contributor to *coalition building.* On the other hand it can be used to deter and coerce troublemakers.

7. For the purpose of *doctrine* naval diplomacy can be broadly categorised as follows:

a. **Presence.** When naval diplomacy is exercised in a general way involving deployments, port visits, exercising and routine operating in areas of interest, it is known as presence. A traditional way in which naval forces demonstrate *presence* is by visiting foreign ports to remind the local inhabitants of the effectiveness of the navy and the state that owns it. There is no threat of force; instead the vessel and her ships company impression on the local population. Warships are unique in their international acceptability and ability to make this kind of impacts. The presence of a naval vessel in an area may be the primary symbol of national commitment. The term *forward presence* is used to express a strategic decision to deploy forces for presence into or close to theatres of interest or concern.

b. **Symbolic Use.** Naval forces can be used purely to signal a message to a specific government while not in themselves posing any threat to an opponent or providing significant military assistance to a friend.

c. **Coercion.** When a stronger message is required, naval diplomacy can take the form of the employment of carefully tailored forces with an offensive capability. This can act as a signal of will and greater force to follow, or encouragement of a friend or ally by providing some reinforcement. The threat or use of limited offensive action is coercion, which may be designed to deter a possible aggressor or to *compel* him to comply with a diplomatic *demarche* or resolution.

Maritime Power at Sea

Operations against Enemy Forces

8. **Interdiction of Enemy Maritime Forces, Sealift and Commercial Shipping.** Denying the enemy the ability to use maritime forces and sealift to move resources and conduct trade, erodes his strategic capability to wage *war.* At the operational level interdiction hampers an enemy's attempts at reinforcement or manoeuvre from the sea and frustrates his sea control and sea denial operations. Interdiction operations can be conducted against shipping and aircraft at sea, in harbour, in the air or on land.

9. **Containment by Distraction.** Containment can also be achieved by posing a threat to an enemy's critical interests so that he must retain maritime forces in defence of those interests. The threat to these enemy interests may take the form of a direct challenge to the enemy's own sea control forces or power projection forces that could threaten targets ashore. Containment of the Soviet Navy in this manner, in order to maintain freedom of action in the Atlantic and Pacific, was an important component of the United States' Navy's Forward Maritime Strategy of the 1980s.

10. **Area Sea Control Operations.** These operations are essentially static and are conducted using long range surveillance systems and weapon delivery systems over large areas of sea. Their targets are principally enemy aircraft, ships and sub-marines that are in transit into attack positions. Careful co-ordination of command and control is required to allow a mobile force under afloat command to pass through areas of Area Operations under the control of commanders ashore without mutual interference.

11. **Establishment and Maintenance of Exclusion Zones.** Although exclusion zones have no accepted status under international law, *Military* and *Total Exclusion Zones* serve both a military and diplomatic function. In conflict they offer a means of simplifying a sea control problem through the promulgation of an intention to maintain *sea denial* over a specific area. Their enforcement requires rules of engagement that allow the selective use of combat. Diplomatically they are a way of enhancing coercive action by declaring resolve to use combat if necessary.

12. **Barrier Operations.** Barriers of sea control forces can be set up where geographic or oceanographic features or operational constraints will channel or concentrate attacking enemy forces.

13. **Defended Areas.** In the past, attempts to defend sea-lanes directly have always failed because the available sensors and weapons were not able to prevent attacking forces from penetrating the defences. There are some defined areas of water, however, which may require to be cleared of hostile forces by *precursor operations and* subsequently protected against incursion. These might include straits, geographical approaches, convoy assembly and dispersal areas, and an AOA. With modern capabilities for long-range surveillance, maritime forces may

now be tasked to provide area sea control and static *layered defence* of these areas, though the difficulty of achieving area sea control should not be underestimated.

14. **Precursor (Advance Sea Control) Operations.** These are operations in advance of a main force, particularly a power projection force, to eliminate enemy sea denial forces such as conventional submarines and mines. Advance operations in littoral areas may take a considerable time to reduce the risk to acceptable levels, which may compromise surprise. However, by the same token, they can contribute to the credibility of a *feint* or other *distractive* device.

15. **Layered Defence (Close and Distant Screening).** Moving layers of air, anti-submarine and anti-surface defence are organized about a unit, formation of high value or perhaps even a sea area of importance in screens are allocated sectors or zones of responsibility. Sectors or zones ensure economy of effort and prevent mutual interference.

Protection of Maritime Trade

16. In peacetime, naval forces maintain freedom of the seas for maritime trade by general presence and, on occasion, by *freedom of navigation operations.*

a. **Naval Control of Shipping (NCS).** When there is a significant risk to maritime trade, the Government may offer specific protection to merchant ships through control of merchant shipping. This protection and control would be confined to voluntary participation by ships or ships' owners and operators within a clearly defined geographical region or regions under *Regional Naval Control of Shipping (*RNCS). Mobile NCS teams for RNCS provide a flexible response to any crisis affecting allied merchant shipping as do a range of other NCS measures, through the issue of navigational warnings, to selected advisory briefing, to accompanying, to *escorting*, and finally, to the formation of convoys for merchant ships.

b. **Methods of Protection.** Protection of maritime trade can take different forms depending upon whether the aim is to deter attacks, or to defend against them.

c. **Sea Control Methods.** If the threat to shipping is sufficiently great, protection will require sea control methods discussed earlier in this section. Merchant shipping may benefit from a wider sea control campaign that will offer protection in the waters through which it will pass, or a specific sea control operation may be devoted to the shipping under threat using *convoying.* Both concepts can be used within a wider sea control campaign if resources permit.

d. **Convoying.** When there is a severe risk to maritime trade, convoying is a tested method of reducing the scale of the sea control problem. If shipping is gathered into convoys the area and time over which sea control must be exercised for their protection is reduced to a minimum. Convoying complicates the attacker's task and concentrates escorting forces

to enhance the effectiveness of protection. However convoying is disruptive to trade. The strategic or operational decision to convoy requires a careful weighing of the balance of advantage and the opportunities for drawing the enemy into decisive action.

e. **Distant and Close Escort.** If there is regional tension or where there is a threat of piracy or attack by irregular forces, maritime forces can be on hand in theatre demonstrating presence to deter attack. When the threat is greater, distant or close escort provides more specific protection. Maritime forces can provide surveillance against threats, be positioned in the vicinity of concentrations of merchant shipping (distant escort). While conducting both close and distant escort, naval forces offer a measure of defense but the concept is to deter attack through the threat of reprisals. It will rarely be possible to escort and, therefore, to defend every vessel in which case measures can be taken to enhance the defensive capability of individual merchant ships.

Constabulary (Policing) Application of Maritime Power

17. **Embargo, Economic Sanctions and Quarantine Enforcement.** These tasks are frequently carried out under international mandate. As with other constabulary tasks the level of force that may be used in enforcement must be mandated to ensure legality. Forces involved may be subject to counterattack, so a level sea control may be required to ensure the protection of enforcement forces. *Quarantine* is normally use to restrict the egress of certain categories of cargo. These tasks are distinct from blockade which is a military application constituting an act of war and which must fulfil the requirements of international law described earlier.

18. **Peacekeeping.** This expression strictly means the use of observer missions and interposition force. They are carried out with the consent of the belligerent parties, in support of efforts to achieve or maintain peace. Peacekeeping forces operate with impartiality. Maritime forces have a part to play in peacekeeping. A maritime interposition force can supervise a maritime or riverine demarcation line, monitor a cease-fire afloat and patrol a buffer zone at sea. Alternatively, naval personnel and Marine units and formations can be used as ground peacekeeping forces.

19. **Anti-Piracy Operations.** Operations to uphold international law to curb minor instances of piracy may be constabulary. Within territorial seas they are a national responsibility. Where piracy is rife and pirates are equipped with modern weapons and craft, the task has the same characteristics and requirements as other forms of protection of shipping including, perhaps, the need for robust sea control measures.

20. **Military Assistance to the Civil Power and Civil Ministries.** In the Maritime Domain (that series of jurisdictional zones that surround the coast and those of the Dependent Territories) maritime forces perform a number of tasks on behalf of the relevant Civil Authorities known as M*ilitary Aid* to *the Civil Power and*

Civil Ministries. These consist of law enforcement and the maintenance of good order around the coast.

Benign Application of Maritime Power

21. **Humanitarian and Disaster Relief.** As part of our overall security policy, armed forces have a history of contributing to regional stability by participating in humanitarian and disaster relief operations around the world. The flexibility of maritime forces and their independent logistic support makes them particularly effective in disaster relief operations following hurricanes and tropical cyclones.

22. **Peace Building Operations.** Naval logistic resources can be deployed for peace building from afloat bases. Another maritime contribution to peace building is the clearance of mines and other ordnance from waterways and beaches.

23. **Search and Rescue.** All vessels on the *high seas* are required under international law to assist in search and rescue. Nearer to home naval aircraft, together with the Air Force and civilian rescue organizations, provide continuous Search and Rescue cover around coasts.

24. **Military Assistance to the Civil Community.** In the many states' Maritime Domain, disaster relief and search and rescue form part of *Military Assistance to the Civil Community (*MACC) as do salvage, ordnance disposal, pollution control, hydrographic surveying and the provision of vessel traffic services in Dockyard Ports.

TOPIC-3

GENERAL ORGANISATION

'Types' and 'Classes' of Warship

1. Types. Depending on the capabilities and characteristics, warships are classified as different type Like 'Destroyers', ''Frigates', Aircraft Carriers'. etc.

2. Classes. When a batch of ships of the same model and type is built the name given to the very first named ship of the batch becomes the Class name of the others that follow it. So, if we take the Leander Class frigates as an example these would all be of the same Type (Frigates) and would all be similar if not identical in their hull design.

Various Types of Warships

Type of Ships	Description/ Basic Characteristics	Remarks
Battleship	a. Heavily armoured b. Designed to take considerable punishment c. Having guns of 15 to 18 inches caliber together with minor armament	a. Became obsolete after World War II b. Most powerful prior aircraft carrier era b. USS WISCONSIN and MISSOURI saw action during Gulf war in Feb 91. These ships are equipped with TOMAHAWK missiles and have a platform for operating VTOL (vertical take-off and landing) aircraft.
Cruiser (C)	a. Displacement from about 6000 to 15000 tons, though some American cruisers were heavier b. Having guns of between 6 and 8 inches in caliber c. Large radius of action and supplements the battleship in major fleet actions	Until World War II, the term cruiser was used to classify medium sized, general-purpose warships
Destroyer (D)	a. Fast general-purpose ship with guns, missiles and anti-submarine weapons b. Supports larger ships in fleet actions.	a. The name destroyer originated from the torpedo boat destroyer, which was a small and fast vessel. During World Wars, Destroyer

		became a fast general-purpose ship, capable of anti-submarine work and with its guns and torpedoes, b. Except in the USN, the destroyer is a larger ship than the frigate.
Frigate (FF/FFG)	a. The term Frigate was previously used to describe ships which were smaller & slower than destroyers, did not carry torpedoes and had a preponderance of anti-submarine or anti-aircraft weaponry. b. Increasing importance of anti-submarine warfare has resulted in advanced anti-submarine detection and attack equipment being carried in most fleet ships besides surface and AA weapons.	The terms destroyer and frigate have tended to merge. However, except in the USN, the Frigate is normally smaller, less powerful, and slower than the destroyer.
Aircraft Carrier (CV)	a. Major offensive ship of the fleet b. Chief weapon is its aircraft.	
Corvettes (FSG)	a. Small fleet ships with displacement varying from 500 to 2000 tons are generally classified as Corvettes	a. The came from Latin “Corbita” meaning basket, which was lashed by Egyptian grain ships to their mastheads to indicate their trade. Later the term became synonymous with the fast light but well-armed man-of-war used for lookout duties.
Patrol Craft (PC)	a. Patrol craft could range from vessels of 500 to 1000 tons b. Designed for escort duties for coastal shipping c. Craft of 50 to 100 tons are designed for patrols in and off harbour entrances. d. The weaponry of such craft would normally have an ASW bias, but AA or surface capability could be fitted if corresponding threats were envisaged.	

Missile Boat (MB)	a. The development of the SSM has led to design of small fast SSM fitted vessels such as the Russian Osa and Komar class boats. b. Best suites the task of defensive interception but has proved to be very potent weapon even in offensive roles.	
Torpedo Boat (TB)	a. Have high speeds and manoeuvrability b. Generally very limited endurance. c. Used in packs, these boats are capable of posing a threat to larger and better-armed warships.	
Mine Countermeasure Vessels (MCMV)	a. Specially constructed and equipped to clear sea mines b. Mines are cleared by towing wire sweeps which cut the mooring wires. c. Equipped to actuate magnetic, acoustic and pressure mines.	
Fleet Support Ships (A)	a. Supports ships of a fleet b. Replenishment at sea is done by tankers fitted with the equipment necessary for transfers while underway c. Ammunition and victualling stores are usually transferred.	

Organaisation of Naval Force

3. There are two systems for organising the naval forces allocated to a command, namely Type organisation and Task organisation. These are described in the following table:

Organisation	Description	Grouping of Organaisation	Examples of the Grouping
a. Type Organisation	Ships may be grouped together in fleets or squadrons. This grouping is called type organisation because it is based on the class or type of ships. The type organisation is semi-permanent, and is designed to meet the needs of	a. Squadron. The grouping of ships of the same class is termed a Squadron. (Armoured Corps and Air Force officers should find this term familiar). A Squadron is identified by a number and a description of the Type of ship.	a. 7 FS. This would stand for 7 Frigate Squadron. The Squadron Commander would be the senior most of the Commanding Officer of the ships that comprise the squadron. b.9 MSS.This would

	administrative and those of operational training and efficiency		stand for 9 Mine Sweeper Squadron and would comprise ships specially designed for ‘’mine sweeping’’ and ‘’mine hunting’’. The Squadron Commander would be the senior most of the Commanding Officers of the ships that comprise the squadron.
		b. Flotilla. Two or more squadrons of ships and such other small brown water capable units are usually placed under an authority responsible for the defence of a sea area.	a. The Commodore Commanding BN Flotilla(COMBAN).
			b. The Commodore Commanding Khulna(COMKHUL).
		c. Fleet. An organisation of ships, aircraft, marine forces and shore-based fleet, all under a commander or commander-in-chief who my exercise operational and administrative control. We do not have such organisation in BN	
b. Task Organisation	The Type organisation does not have the flexibility to meet operational requirements at sea. For operations, a task organisation is used. In this organisation a force is divided into groups and sub-groups	a. Task Force (TF). A (temporary) grouping of units, under one commander, formed for the purpose of carrying out a specific operation or mission. In a functional or task	

	based on the tasks envisaged. It is similar to the allotment of units in the army to corps, divisions and brigades. The fleet commanders are allocated blocks of task force numbers. For each continuing tasks or operations, ships are allocated to specific task force, task groups, task unit and task elements:	organization a TF is the highest level of echelonment.	
		b. Task group (TG). A (temporary) grouping of units under one commander subordinate to a task force commander, formed for the purpose of carrying out a specific function or functions. It is the second highest level of echelon in a task organization.	
		c. Task unit(TU). It is the third level of echelon in a task organization.	
		d. Task Element(TE). It is the fourth and lowest level of echelon in a task organization.	

TOPIC- 4

SCOUTING OPERATIONS

1. **Scouting**. Scouting is a mission involving search, patrol, tracking or reconnaissan
2. ce. A surface ship, submarine or aircraft engaged in scouting may be referred to as a scout.

2. **Aim of Scouting**. The aim of scouting is to provide information about the objective so that our forces can be tasked to take the necessary action. Maritime scouting includes the following:

a. Search or patrol to locate the objective.

b. Reporting the objective when found.

c. Tracking the objective.

d. Reconnaissance.

3. Selecting a Scout. A scouting mission may be carried out by surface ships, submarines or aircraft, or any combination thereof. The principal advantages and disadvantages of each are:

a. Search. The search rate of an aircraft is so much greater than that of a surface ship or submarine, that it should be used whenever circumstances permit. Aircraft are also freer to communicate even in a hostile environment than are surface ships.

b. Patrol. For patrolling a small area over an extended period, a ship is often more suitable than an aircraft because of its endurance.

c. Reconnaissance. Aircraft can obtain more information than surface ships or submarines, and can obtain it quickly and with fewer hazards. However, for specialized types of reconnaissance, surface ships or submarines may be more suitable. Satellites may be used for strategic reconnaissance.

SEARCH

4. Search. A search is the systematic investigation of a particular area, for the purpose of locating or confirming the absence of an objective known or suspected to be somewhere in that area. The basis of all search schemes is the suitable arrangement of the swept paths of a scout, so that they cover the area in which the objective is most likely to be at the time of the search.

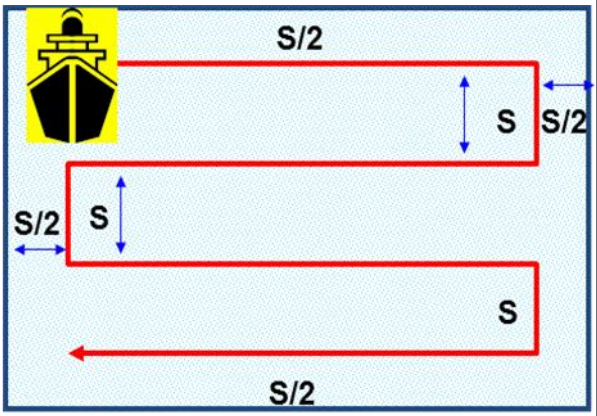
5. Types of Searches. There are four basic types of searches:

a. Rectangular search.

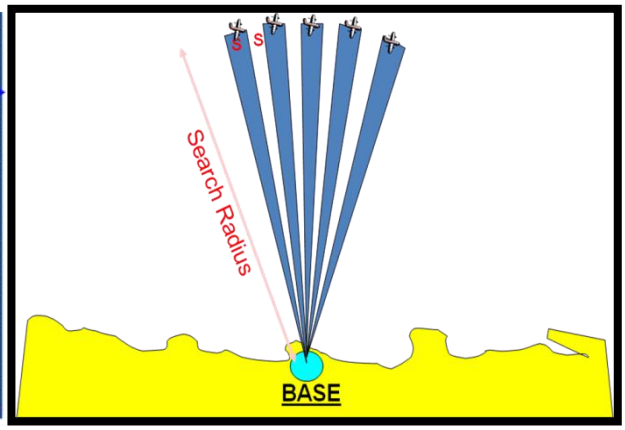
b. Sector search.

c. Expanding Square search.

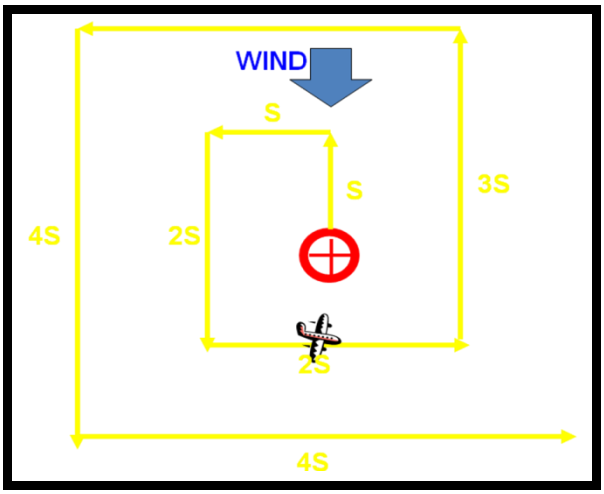
d. Intercepting search.



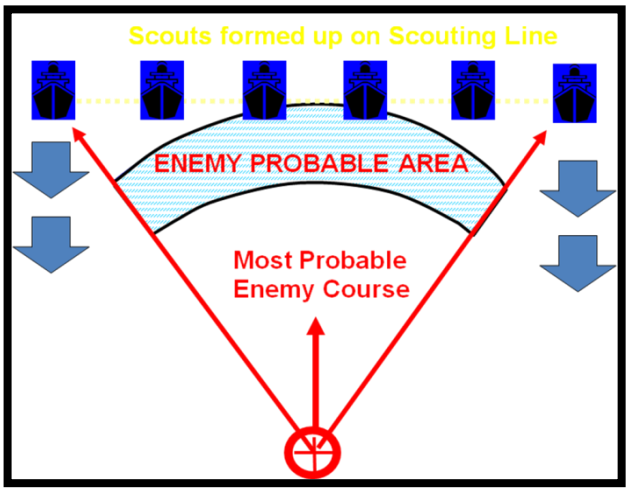
a. Rectangular search.



b. Sector search.



c. Expanding Square search.



d. Intercepting search.

PATROL

6. **Patrol**. A patrol is the systematic and continuing investigation along a line known as the barrier line to prevent a moving objective from crossing it undetected. Instead of searching an area where the enemy is believed to be, the scout traverses over the same geographical tracks, or patrols in such a manner that it will be able to give warning if the objective attempts to cross those lines.

7. **Difference between Search and Patrol**. The essential differences between a search and patrol are as follows:

a. In a search the scout goes out to find the objective being searched for, whereas in a patrol the scout waits for the objective to approach.

b. Surface ships, submarines and aircraft on patrol are normally capable of attacking the expected enemy, but this capability is not essential when they are engaged in a search.

8. **Type of Patrols**. The basic types of patrols are as follows:

a. Fixed Stations Patrol.
b. Linear Patrol.
c. Crossover Patrol.

TRACKING

9. Tracking is the observation of a mobile objective for the purpose of regularly reporting its composition, location, movement and any other relevant information.

10. Once an objective has been located by a scout either by a search or a patrol, own forces may or may not be in a position to take any action at the time. The objective therefore has to be tracked till a more opportune time. Tracking is therefore often a sequel to a search/patrol.

Means of Tracking

11. By Aircraft. Aircraft are suitable for the task of tracking for the following reasons:

a. Their speed.

b. Their ability to continue tracking in the face of opposition by surface forces.

c. They can determine the required information with reasonable accuracy.

d. Under most circumstances they can maintain reliable communications.

12. **By Surface Ships**.

a. **Surface Targets**. Surface ships ordinarily track surface targets only till friendly forces can be brought to the scene.

b. **Enemy Aircraft**. They track enemy aircraft till they have been destroyed or contact has been lost.

c. **Hostile Submarines**. They track submarines to obtain data for attack.

13. **By Submarines**.

a. **Conventional**. They could be employed for tracking provided the enemy's speed is not too great.

b. **Nuclear**. Because of their high speeds, they could be employed to track both surface units and submarines, and are particularly suitable for tracking the latter.

c. **Advantage**. The submarine's greatest advantage is that they can continue to track without disclosing to the enemy that he is being tracked. However, this advantage may be lost as soon as the submarine starts to transmit the information it has obtained.

RECONNAISSANCE

14. Reconnaissance is a mission undertaken to obtain, through observation, information about the activities and resources of an enemy or potential enemy, or data concerning the meteorological or geographic characteristics of a particular area.

15. Reconnaissance may be classified according to the purpose of the mission, such as the following:

a. Weather Reconnaissance.
b. Anti Submarine Reconnaissance.
c. Beach Reconnaissance.

16. It may also be classified according to the means employed for obtaining the information such as the following:

a. Radar Reconnaissance

b. Visual Reconnaissance.

c. Photographic Reconnaissance.

17. Reconnaissance may be conducted by aircraft, submarines, surface ships or satellites depending on the nature of the mission and type of information required.

18. The military application of orbital satellites for space based global reconnaissance has added a new dimension in gathering strategic and to a limited extent tactical intelligence. The course of a future battle would be decided in favour of the belligerent that is privy to such intelligence.

TOPIC-5

MODERN NAVAL WARFARE

General

1. The basic idea of all tactics (land, sea and air) is Fire, concealment and movement. The delivery of firepower to support a mission and movement is the achievement of scouting and firing positions over any period of time. Movement is especially obvious in modern combat where a fleet can travel hundreds of kilometres in a day.

2. In naval warfare the key is to detect the enemy and to deny to the enemy the attempt to detect own forces. There is also the concept of battle space -- a zone around a naval force within which a commander is confident of detecting, tracking, engaging and destroying threats before they pose a danger. This is why navy prefers the open sea. The presence of land and the bottom topology of an area compress the battle space by limiting the opportunities to maneuver, make it easier for an enemy to predict the location of the fleet and make the detection of enemy forces more difficult. In shallow waters the detection of submarines and mine is especially problematic.

Order of Engagement

3. Once a commander has considered the geography of a mission he then examines the assets the enemy is believed to have available, the enemy's order of battle (OOB), what units are needed to succeed at the mission objective and the added constraints placed by mission requirements (time etc.). This results initially in a Path of Intended Motion for the forces.

4. As enemy forces are encountered and (hopefully) identified, they should be catagorised by potency and urgency and the OOB altered to reflect this. There are four threat classes:

a. **Class A**. Class A is Potent and Immediate; this is a need to drop everything and respond immediately. This might be a gaggle of sea-skimming missiles racing towards you, or something as powerless as a tug -- which is communicating the fleet's position to a more distant enemy.

b. **Class B**. Class B is Immediate only; this requires fast action but is not mission threatening. A small boat detected in the outer screen for example.

c. **Class C**. Class C is Potent only; this is a 'win' for the fleet commander, a significant threat detected at a range where there is time to either mass force to destroy it or to avoid it.

d. **Class D**. Class D is Neither Immediate nor Potent; a target of opportunity which is not a threat and the destruction of which does not aid the assigned mission.

Fleet Formation

5. After establishing a path of intended motion the forces must be organised. This depends on the threat axis - an estimate of the likely direction from which enemy attack will come. A threat axis may change over time. There may be a single threat axis or one for each type of enemy - AAW (Anti-Air Warfare) axis, ASW (Anti-Submarine Warfare) axis and ASuW (Anti-Surface Warfare) axis. The use of more than one axis is uncommon as they are complex to use and confuse the formation.

6. The positions in the formation are called station assignments. Which unit is placed where depends on the capabilities of the unit. Despite the multi-task abilities of modern units some are more capable at specific tasks than others. AAW and ASW are the important defensive properties, ASuW is usually offensive in nature.

7. A formation consists of a number of layers of defense usually known as Layered Defence. Furthest out are the picket ships, Combat Air Patrol (CAP) craft and early warning aircraft (AEW). These units operate at 200 nautical miles (nm) or more out from the high value units (HVUs). The outer screen is between 12 and 25 nm from the main body and the inner screen is within 10 nm of the HVUs.

8. The mission of the outer screen is to detect and engage any enemy units that have bypassed the pickets. These units need to be multi-role but there is usually an emphasis on ASW, especially passive detection (it is quieter out there than near the HVUs and so detection is easier). Often there are helicopter ASW assets for 'stand off' engagement. AAW in the outer screen is to protect ASW operations and to attack aircraft before they reach their weapons-launching points, range of defensive weapon is more important than rate of fire here.

9. The inner screen emphasis is on AAW. The task is to engage any airborne threats that penetrate that far. This means the threat is almost certainly a missile so AAW rate of fire is important. The more defensive firepower in the air the more enemy threats will be destroyed. For ASW the inner screen needs good active sonar. The threat is too serious for passive sonar as immediate targeting is needed. If possible at least one ASW helicopter is airborne all the time, to target detected contacts as quickly as possible.

Detection

10. In modern naval combat there is the potential of a deadly strike being launched from up to 600 nm away. This is a huge area to scout. The double-edged answer to this is electronic warfare.

11. Electronic warfare (EW) consists of three elements -- Electronic Support Measures (ESM), Electronic Counter-Measures (ECM) and Electronic Counter-Counter-Measures (ECCM).

12. ESM is the passive detection of enemy electromagnetic (EM) emissions. The radiated energy of an emitter can be detected far beyond the range at which it returns a usable result to its user. Modern ESM can identify the actual class of the emitter, which helps identify the unit on which it is used. Passive cross-fixing between a number of units can create a reasonably small area of probability. ESM fixes are placed in three classes: Detected, Tracking and Targeted, depending on the accuracy of the fix and whether a unit's course and speed has been derived.

13. The fact that a passive, over-the-horizon missile is completely deadly creates a central problem for a naval force -- when and even if units should ever radiate, and if not how to detect the enemy?. This is detectability vs. survivability. The need to obtain a targeting solution has to be balanced against the enemy's ability to do the same. Although once a commander feels that the fleet's position is known to the enemy a move to active emissions may be vital to prevent destruction.

14. The control of emissions is called EMCON (Emissions Control). There are three states, A, B and C. A is no emissions, B is limited emissions (no unique emissions), and C is unrestricted. EMCON is not a blanket condition across the fleet. The surface units can be at A while a sufficiently distant AEW aircraft can be at C.

15. ECM is both offensive and defensive, covering all methods used to deny targeting information to an enemy. Offensive ECM is usually jamming. This prevents the determination of incoming strikes until the jamming unit is destroyed. Chaff is also used to confuse AAW operations. Defensive ECM also uses chaff as well as Soids, Blip Enhancement and jamming of missile terminal homers.

ASW Operations

16. Submarines are the greatest threat to offensive CVBG operations due to the stealth of modern submarines (anechoic coatings, near-silent magneto hydrodynamic drives etc.), which is the submarine's sole advantage. The move towards shallow-water operations has greatly increased this threat. The cherry-on-top is that even the suspicion of a submarine threat forces a fleet to commit resources to removing it as the consequences of an undetected submarine are too great.

17. **Sonar Operation.**

a. In the ocean the main factor affecting sonar operation is temperature. Ocean temperature varies with depth, but at between 30 and 100 metres there is often an marked change -- the thermocline, also simply called the layer. This divides the warmer surface water and the cold, still waters that make up the rest of the ocean. Regarding sonar, a sound originating from one side of the thermocline tends to remain on that side -- it is reflected off

the layer change -- unless it is very noisy (active sonar, cavitation, firing weapons, explosions etc.). Pressure, salinity and the turbulence of the water also affect sound propagation.

b. As in all EW the issue with sonar is passive versus active. Whatever the case the thermo cline is the major issue. On passive detection the radiated noise of a unit is only apparent across the layer in a narrow cone, undetectable unless units pass almost directly over or under each other. For a surface unit there is the option then of towing a passive sonar array above or below the thermocline - variable depth sonar (VDS).

c. A further issue is convergence zones (CZ). Sound waves that are radiated down into the ocean bend back up to the surface in great arcs due to the effect of pressure on sound. Under the right conditions these waves will then reflect off the surface and repeat another arc. Each arc is called a CZ annulus. CZs are found every 33 nm, forming a annular pattern of concentric circles around the sound source. Sounds that can be detected for only a few miles in a direct line can therefore also be detected hundreds of miles away. The signal is naturally attenuated but modern sonar suites are very sensitive. Modern active sonar is limited to 250 dB (decibels). This level of noise can be detected at about ten times the range that is useful to the operator, acting as a giant beacon to any submarine in 100 nm. So a target needs to be nearby and preferably on the same side of the layer to be detected by active sonar; just where a commander would not like a submarine to be!

d. VDS is designed to solve this problem. The passive array can be put below the layer to detect approaching submarines and when the target is within strike range a brief and unit-selective move to active transmissions can quickly return a targeting solution. The added advantage of VDS is that while it is operatiing below the layer, a unit's hull- mounted systems can be used above the layer.

e. Unfortunately VDS is a blue-water solution. In shallow water, high levels of biological, wave and tide noise, the influx of fresh water from rivers and the lack of a thermal gradient -- and therefore CZs -- make it a truly dreadful environment to detect a sub-surface threat. Passive detection is almost impossible and surface units are forced to use active sonar to search. The move too close to shore must only be done for mission purposes and there a fleet must act as if they have already been detected and may be even targeted.

18. **The ASW Triad.**

a. For successful ASW, all surface, air and subsurface assets must be used in the most tactically efficient manner. ASW egagements occur in three phases:

(1). Detected - From any source a submarine is possibly (POSSUB) or probably (PROBSUB) in the area.

(2) Localized - A submarine contact has been localized to a sufficiently small area to allow an attack with some chance of success.

(3) Targeted - The submarines bearing, range, course and speed are known with sufficient accuracy to attack with a high probability of success.

b. Area ASW is the coordination of search ahead of the main force. Detection and localization are the objectives, with destruction if possible. Area ASW is best conducted by units with endurance and potency: maritime patrol aircraft (MPA) at 150 nm out or towed-array equipped surface units 30-50 nm out are most common. If the air unit has magnetic anomaly detection (MAD) as well as sonobuoys then so much the better.

c. Local ASW is within the outer screen, 12-25 nm from the main fleet. Detection is strictly passive as the distance is still great enough for the HVUs to be safe. Once a contact has been made, helicopter ASW assets (with dipping sonar, MAD or sonobuoys) must be rushed into the area. Three or more passive contacts are rapid enough for aerial delivery of torpedoes. Ship-mounted ASW weapons such as ASROC are reserved for when a contact is too close -- generally less effective -- their role is to distract the submarine from attacking and buy time for a more effective strike.

d. If a submarine penetrates to the inner screen all and any efforts to distract the submarine from attacking the HVUs must be made. The issue is getting weapons in the water, even if they are not accurately targeted. Torpedo evasion maneuvers are also necessary.

e. A general maneuver tactic against submarines is a zig-zag. A submarine usually relies on passive detection, not risking active sonar or a periscope observation. So to determine where a unit is heading the submarine needs Target Motion Analysis (TMA). This requires several minutes of passive contact and if the contact starts to zig-zag this process must restart.

f. The most effective unit to find and destroy submarines is another submarine. Called Hunter-Killers, they utilize the stealth advantage of submarines to track enemy submarines. The difficulty is that they have to be out of communication with the units they are protecting for most of the time to use this stealth. Usually therefore most submarines operate independently within general rules of engagement (ROE) for reconnaissance, ESM and early offensive operations. Modern diesel submarines are almost as efficient as SSNs as Hunter-Killers.

AAW Operations

19. The key threat in modern naval combat is the missile. This can be delivered from surface, subsurface or air units. With missile speeds ranging up to Mach 4 the engagement time may be only seconds.

20. The key to successful AAW is to destroy the launching platform before it fires, thus removing a number of missile threats in one go. This is not always possible so the AAW resources need to be balanced between the outer and inner air battles.

21. There are several limitations on Surface-to-Air missiles (SAMs). Modern missiles are commonly semi-active homing. They need the firing unit to actively illuminate the target with a missile fire-control director throughout the flight. If a guiding director shuts down then the missiles still in flight will self-destruct. So the number of intercepts a unit can simultaneously prosecute are limited by the number of directors possessed.

22. **Airborne Early Warning.** The key to successful AAW is AEW. If attacking units can be identified before they reach their launch points then the battle can occur at the outer air-battle screen rather than the inner screen. An AEW unit in a race-track loiter 100 nm ahead of the PIM, with a fighter escort, is perfect.

23. **The Outer Air Battle.** In this area the interceptor aircraft of the Combat Air Patrol (CAP) are the principal element, whether originating from a CVBG or land base. The CAP is most effectively positioned 160-180 nm from the units to be protected on the expected threat axis. At this point the units will wait in a fuel saving loiter to engage incoming groups with AA missiles. As the engagements progress, relief units need to be dispatched to the CAP to ensure that later attacks are met with full weapon loads. If attacking units penetrate the outer defenses they can be intercepted with aircraft in ready-5 status, if used.

24. **The Inner Air Battle.** Within the main body AAW shooters should be positioned to provide layered and overlapping coverage. The optimum firing position is directly between the target and the inbound missiles. If the missile passes a unit on a tangent (a crossing shot) the probability of a kill (Pk) is greatly reduced. Aegis equipped units should be kept in close proximity to the HVUs, with less able AAW units no more than 10 nm out along the threat axis with if possible further AAW assets 18-24 nm out. Other AAW tactics include the use of picket ships in a silent SAM or missile trap. If the main body is forced to use active emissions (they are already detected and localized) the one or two ships can be positioned in emission silence 100-150 nm out. When other units detect an incoming raid the cruisers can go active as the raid moves into their engagement envelope. However if one of these units go active, they are unsupported and are vulnerable to individual attack. Silent SAM is a technological tactic. Some modern missiles can be fired from one platform with targeting and guidance from another platfrom and need never illuminate the targets themselves.

TOPIC-6

AMPHIBIOUS OPERATIONS

Introduction

1. The amphibious operation is the most complex of all operations and thus it is also most demanding in its planning and execution. The principal usefulness of the amphibious operation stems from the ability to concentrate balanced forces and to strike at selected points in the hostile defence system. This type of operation exploits the element of surprise and capitalizes on enemy weaknesses by applying the required type and degree of force at the most advantageous locations and at the most opportune times. The mere threat imposed by powerful amphibious forces may induce the enemy to disperse his forces and this, in turn, may result in his inability to oppose landings.

2. Amphibious warfare integrates virtually all types of ships, aircraft, weapons, and landing forces in a concentrated military effort against a hostile shore. The inherent naval character of amphibious warfare is reflected in the principles that govern the organization of forces involved and the conduct of the operation:

a. The landing force is totally dependent on the Navy for both operational and logistic support.

b. This is a joint operation and to preserve unity of command, all concerned agree that the joint commander should be a naval officer.

c. Forces are removed in both time and space from the actual area of operations initially.

d. The landing force must conduct its assault over restricted points of entry.

Definition and Characteristics

3. An amphibious operation is an attack launched from the sea by naval and landing forces embarked in ships or craft involving a landing on a hostile shore.

4. The amphibious operation normally requires extensive air support. It is characterized by closely integrated efforts of forces trained, organized, and equipped for different combatant functions. Technical problems of logistics represented by loading thousands of troops and large quantities of material into ships at widely separated embarkation points, moving them to the objective, then landing them in exactly the planned sequence usually on open beaches or landing

zones at times under fire initially, require extraordinary attention in the form of detailed planning. The amphibious operation, therefore, requires considerable time for detailed planning and preparations.

5. The salient requirement of the amphibious operation is the necessity for building up combat power ashore from an initial zero capability to full co-ordinated striking power as the attack drives toward the final objectives. The special measures introduced to meet this requirement are the basis for the organizational and technical differences existing between amphibious and land warfare. The closest co-operation and detailed co-ordination among all participating forces are essential to success. They must be trained together. These factors tend to create problems in preparation that are more extensive than for other types of military operations.

Purposes

6. There are some operations possessing certain characteristics and employing some techniques of, but not classified as, amphibious operations. Combat operations which involve waterborne movement, such as inland-water ferrying, and shore-to-shore operations in which the landing forces are not embarked in naval shipping, waterborne administrative landings on friendly territory, riverine, water terminal, and logistics over-the-shore (LOTS) operations are not considered amphibious operations.

7. Amphibious operations are conducted primarily to establish a landing force on a hostile shore in order to :

a. Prosecute further combat operations.

b. Obtain a site for an advanced naval or air base.

c. Deny the use of an area or facilities to the enemy.

Scope

8. The amphibious operation is a complete operation within itself. However, when a joint force conducts it is usually one phase or part of a campaign of larger magnitude. As an entity, the typical amphibious operation includes the following activities:

a. Planning.

b. Embarkation of troops and equipment.

c. Rehearsals.

d. Movement to the objective area.

e. Final preparation of the objective.

f. Assault landing of troops with accompanying supplies and equipment.

g. Support of the landing force until termination of the amphibious phase of the operation.

9. The amphibious operation does not include marshalling of forces, preliminary training in amphibious techniques, initial preparation of the objective area, independent supporting operations, and operations subsequent to the termination of the amphibious operation.

Types of Amphibious Operations

10. The four types of amphibious operations are assaults, withdrawals, demonstrations, and raids.

a. **The Amphibious Assault.** The principal type of amphibious operations is the amphibious assault. It is primarily distinguished from the other three types of amphibious operations in that it involves establishing a force on a hostile shore. Other types of amphibious operations governed by the doctrine discussed herein, but these do not involve establishing a landing force on a hostile shore.

b. **The Amphibious Demonstration.** The amphibious demonstration is an operation conducted for the purpose of deceiving the enemy by a show of force with the expectation of deluding the enemy into a course of action unfavourable to him.

c. **The Amphibious Raid.** Amphibious raids are landings from the sea on a hostile shore involving swift incursion into, or a temporary occupancy of an objective, followed by a planned withdrawal. Raids are conducted for such purposes as:

(1) Inflicting loss or damage.

(2) Securing information.

(3) Creating a diversion.

(4) Capturing or evacuating individuals and/ or materials.

d. **The Amphibious Withdrawal.** An amphibious withdrawal is the withdrawal of forces by sea in naval ships or craft from a hostile shore in order to disengage forces for employment elsewhere.

Phases of Amphibious Operations

11. **Planning.** The planning phase starts on an order (called the Initiating Directive - see paragraph 2025) that directs the operation to take place and ends with the embarkation of forces. Planning must be conducted in detail before any of the other phases can start.

12. **Embarkation.** The embarkation phase involves the detailed embarkation of troops and equipment in accordance with the tactical plan.

13. **Rehearsals.** Rehearsals, normally conducted en route to the objective area, test the forces' landing plans to ensure timings, communications, etc are workable.

14. **Movement to Objective Area.** This is the movement from embarkation areas to the Amphibious Objective Area (AOA).

15. **Assault.** The assault phase runs from the arrival time of forces in the objective area until the mission has been achieved.

Termination

16. Termination is the end of a particular amphibious operation and involves either a re-embarkation of the landing force for operations elsewhere or dissolution of an amphibious task force with command of the landing force being transferred to an appropriate commander ashore. In the latter context, termination should not be contemplated until:

a. The amphibious task force mission has been achieved.

b. The landing force is firmly established ashore, with the necessary command and control facilities and the beach head secured.

c. There are enough forces ashore to conduct subsequent operations.

d. Arrangements have been made to maintain the combat and logistic support previously provided by naval forces.

e. The Commander Amphibious Task force (CATF) and the Commander Landing Force (CLF) are content that the previous conditions have been met.

f. The authority that issued the Initiating Directive is prepared to dissolve the amphibious task force.

Organization for Operations

17. **Amphibious Task Force.** An amphibious task force will include naval and landing forces and may include air assets organized under a conventional naval task organization (Task Force, Task Group, Task Units etc).

18. **Naval Forces.** The naval element of an amphibious task force may include any of the following groups (the list is not exhaustive). Groups may be joined together for more effective control and titles altered accordingly:

a. **A Transport Group.** Includes the shipping necessary to carry personnel, equipment and logistic support of the landing force throughout

the transit phase, and helicopters, boats and craft necessary for ship-to-shore movement.

b. **A Control Group.** Includes ships, equipment and personnel required controlling waterborne or heliborne ship-to-shore movement.

c. **Tactical Air Control Groups.** The ship borne organization necessary to operate the agencies required for control of air operations.

d. **Fire Support Groups.** Group of ships tasked to provide naval gunfire and missile support for the landing and subsequent operations ashore.

e. **A Screening Group.** Ships, submarines and aircraft tasked to protect the Transport Group.

f. **A Mine Warfare Group.** Units tasked to conduct mine laying and mine countermeasure operations.

g. **A Reconnaissance and Underwater Demolition Group.** Ships and personnel to conduct reconnaissance, hydrographic survey and demolition of natural or man-made obstacles.

19. **Landing Force (LF).** The LF consists of ground aviation and combat support units together with their command and logistic support units. They are organized for specific tasks during each phase of an operation.

20. **Advance Force.** An advance force is a temporary organization within an amphibious task force which precedes the main body to the objective area. Its function is to participate in preparation of objective for assault by conducting such operations as reconnaissance, seizure of supporting positions, minesweeping, preliminary bombardment, underwater demolition and air support.

21. **Air Support.** When the amphibious assault is carried out by an amphibious task force the AD is conducted by the ACOC/ADOC and the AI and OAS are planned by the CATF. A portion of the OAS is allocated to the amphibious task force, which is utilized by establishing an ASOC afloat in the flagship.

22. **Fire Support.** Success or failure of an amphibious operation may depend on the effective coordination of air support, naval gunfire and artillery support. Once a landing has begun, control of these assets, and of the airspace has to be carefully coordinated and gradually delegated ashore. Continuity of fire support during a landing and subsequent operations ashore is complicated and should be planned and executed by specialist personnel.

BAF AIR OPERATIONS PROCEDURE

BAF AIR OPERATIONS PROCEDURE

TABLE OF CONTENTS

TOPIC-1

DEFINITION OF TERMS

1. **Air Interdiction**. Air operations conducted to destroy, neutralize or delay the enemy's military potential before it can be employed effectively against friendly fortes at such distance from friendly farces that detailed integration of each air mission with the firs and movement of friendly forces is not required.

2. **Air Reconnaissance**. The collection of information of intelligence interests either by visual observation from the air or through the use of airborne sensors.

3. **Area of Interest**. That area of concern to the commander, including the area of influence, areas adjacent thereto, and extending into enemy territory to the objectives of current or planned operations. This area also includes areas occupied by enemy forces to could jeopardize the accomplishment of the mission.

4. **Area of Responsibility**. A defined area of land in which responsibility is specifically assigned to the commander of the area for the development and maintenance of installations, control of movement and the conduct of tactical operations involving troops under his control along with parallel authority to exercise these functions. In naval usage, a predefined area of enemy terrain for which supporting ships are responsible for coveting by fire on known targets or targets of opportunity and by observation.

5. **Armed Reconnaissance**. An air mission flown ii4th the primary purpose of locating and attacking targets of opportunity, i.e. enemy materiel, personnel, and facilities, in assigned general areas or along assigned ground communications routes, and not for the purpose of attacking specific briefed targets.

6. **Column Cover**. Providing air cover to an army column by aircraft, which is in radio contact with the column. The cover is provided by reconnaissance and/or attack of air or ground targets, which might threaten the column.

7. **Combat Zone**. That area required by combat forces for the conduct of operations.

8. **Combined**. Between two or more forces or agencies of two or more allies.

9. **Command**. Command is the authority vested in individual of the armed forces for the direction, co-ordination and control of military forces. . Therefore, a base commander or a squadron commander has command of the forces allocated to him without necessarily having full or operational command of those forces - full and operational command of Air Force is normally held only by the COAS.

10. **Contact Point**. In land warfare, a point on the terrain, easily identifiable, where two or more units are required to make contact. In air operations, the position at which a mission leader makes radio contact with an air control agency.

11. **Control**. That authority exercised by a commander over putt of the activities of subordinate organizations, or other organizations not normally under his command, which encompasses the responsibility for implementing orders or directives. All or part of this authority may be transferred or delegated.

12. **Counterattack**. Attack by a defending force against an enemy attacking force, for regaining ground lost or cutting off or destroying enemy advance units, to deny the enemy the attainment of his own objective. In sustained defensive operations, it is undertaken to restore the battle position and is directed at limited objectives.

13. **Covering Force**. A force operating apart from the main force for the purpose of intercepting, engaging, delaying, disorganizing and deceiving the enemy before he can aback the force covered.

14. **Covering Force Area**. The area forward of the Forward Edge of the Battle Area (FEBA) out to the assessed positions of enemy forces. It is here that coveting forces execute assigned tasks.

15. **Defensive Counter-Air-Operations**. Operations consisting of all measures which might be used to nullify or reduce the hostile air action.

16. **Fire Support Co-ordination Line (FSCL)**. A line established by the appropriate ground commander to ensure coordination of fire not under his control but which may affect current tactical operations. The FSCL is used to co-ordinate fires of air, ground or sea weapons systems against surface targets. The FSCL should follow w11-deflned terrain features and its establishment must be coordinated with the appropriate tactical air commander and other supporting elements. Supporting elements may attack targets forward of the FSCL, without prior coordination with the ground force commander, provided it will not produce any adverse effect. Attacks against surface targets behind (short of) this line must be coordinated with the appropriate ground force commander.

17. **Forward Combat Zone**. That part of the combs zone which contains the FEBA covering force area, main defence area, and Corps rear area.

18. **Forward Edge of the Battle Area (FEBA)**. The foremost limits of a series of areas in which ground combat units are deployed, excluding the areas in which the covering or screening forces are operating, designated to coordinate fire support, the positioning of forces, or the manoeuvre of units.

19. **Forward Line of Own Troops**. A line that indicates the most forward positions of friendly forces in any kind of military operation at a specific time.

20. **Full Command**. The military authority and responsibility of a superior officer to issue orders to subordinates. ft covers every aspect of military operations arid administration and remains a national responsibility, which cannot be delegated. No multinational commander will therefore have full command over forces assigned to him by other nations.

21. **Immediate Air Support**. Air support to meet specific requests, which arise during the course of a battle and which by their nature, cannot be planned In advance.

22. **Indirect Air Support**. Support given to land or maritime forces by air action against objectives other than enemy forces engaged in tactical battle. It includes the gaining and maintaining of air superiority, interdiction and harassing.

23. **Initial Point**. The term is generally used to mean anyone of the following:

a. A defined point, easily distinguishable visually and/or electronically, used as a starting point for the run to the target.

b. The first point at which a moving target is located on a plotting board.

c. (Airborne) A point close to the landing area where serials (troop carrier air formations) make final alterations in course to pen over individual drop or landing zones.

d. (Helicopter) An air control point in the vicinity of the landing zone from which individual flights of helicopters are directed to their prescribed landing sites.

e. A pre-selected point on the surface of the earth which is used as a reference.

24. **Joint**. Connotes activities, operations, organizations etc in which elements of more than one service of the same nation participate. (when all services are not involved, the participating services shall be identified. e.g., Joint Army-Air).

25. **Mission**. A dear, concise statement of the task of the command and its purpose.

26. **Objective**. The physical object of the action taken, e.g., a definite tactical feature, the seizure and/or holding of which is essential to the commander's plan.

27. **Objective Area**. A defined geographical area within which an objective to be captured or reached by the military forces is located. Some competent authority, for purpose of command and control, defines this area.

28. **Offensive Air Support**. OAS is that part of Tactical Air Support of land operations that consists of TAR, BAI and CAS, which are conducted in direct support of land operations.

29. **Offensive Counter Air Operations**. An operation mounted to destroy, disrupt or limit enemy air power as dose to its source as possible. This includes SEAD, Fighter Sweep, Airfield Attack etc.

30. **Operational Command**. The authority granted to a commander to assign missions or tasks to subordinate commanders, to deploy units, to reassign forces, and to retain or delegate operational and/or tactical control as may be deemed necessary. It

does not of itself include responsibility for administration or logistics. May also be used to denote the forces assigned to a commander.

31. **Operational Control (OPCON)**. Operational control is the authority granted to a commander to direct forces assigned so that the commander may accomplish specific missions or tasks which are usually limited by function, time or location, to deploy units concerned, and to retain or assign tactical control of those units. It does not include authority to assign separate employment of components of the units concerned. Neither does it, of itself, include administrative or logistic control.

32. **Pre-designated Target Zone (PTZ)**. PTZs are target areas where commanders have specific plans for the employment of OAS operations against enemy ground forces. Land force commander in co4anction with air farce designates PTZs. PTZ attack procedures may be combined in Target Folders, which permit aircrews to rapidly locate and successfully attack targets.

33. **Rear Area**. For any particular command, that area extending rearward from the rear boundary of its main defence area to that command's rear boundary. This area is primarily provided for the performance of administrative and logistic functions.

34. **Sortie**. An operational flight by aircraft.

35. **Tactical Air Operations**. Tactical Air operations are carried out in coordination with land or naval farces to:

a. Attain and maintain air superiority

b. Prevent movement of enemy forces into and within the combat zone and to seek out and destroy these forces and their supporting Installations:

c. Assist in the attainment of ground or naval force objectives by joint operations.

36. **Tactical Air Support**. Air operation carried out in coordination with surface forces that directly assist the land or naval battle.

37. **Tactical Air Support of Land Operations (TASLO)**. Tactical Air Support of land operations encompasses those air activities that are conducted to influence a land battle. These activities include the following basic air operations:

a. Counter Air
b. Air Interdiction
c. Offensive Air Support
d. Tactical Air Transport

38. **Tactical Command**. The authority delegated to a commander to assign tasks to forces under his command for the accomplishment of the mission assigned by higher authority.

39. **Tactical Control (TACON)**. The detailed and, usually, local direction and control of movement or maneuvres necessary to accomplish missions or tasks assigned.

40. **Tasking**. The process of translating allocation into ardors, and passing these orders to the units involved. Each order normally contains sufficient detailed Instructions to enable the executing agency to accomplish the mission successfully.

41. **Time on Target**. Time at which an aircraft is scheduled to attack/photograph a target.

TOPIC-2

OFFENSIVE AIR SUPPORT AND TACTICAL AIR SUPPORT MARITIME OPERATION

Offensive Air Support (OAS).

1. OAS is that part of Tactical Air Support of land operations that consists of Tactical Air Reconnaissance (TAR), Battlefield Air Interdiction (BAI) and Close Air Support (CAS), Which are conducted in direct support of land operations. These OAS tasks are defined as follows:

a. Tactical Air Reconnaissance (TAR). Tactical Air Reconnaissance is air action to acquire intelligence information employing visual observation and/or sensors in air vehicles.

b. Battlefield Air Interdiction (BAI). BAI is air action against hostile surface targets which are in a position to directly affect friendly forces and which requires joint planning and co-ordination during the execution stage.

c. Close Air Support (CAS). CAS is air action against hostile targets, which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces. This means that the aircraft must operate under positive or procedural control.

Tactical Air Support of Maritime Operations (TASMO).

2. Tactical Air Support of Maritime Operations (TASMO) may consist of aerial mine laying, surveillance and reconnaissance, and interdiction of enemy naval surface and subsurface forces, port-facilities, and shipping.

Applicability.

3. OAS and TASMO must be closely coordinated with other supporting arms such as artillery, attack helicopters and naval gunfire. This publication is designed for the guidance of pers who may be involved in planning and execution of OAS and TASMO to maritime operations. The procedures permit air forces to assist directly in achieving the immediate and short-term objectives of surface forces.

OAS, TASMO and Related Activities.

4. In air warfare, the unity of effort is best achieved when authority for command and control of the air effort is established at the highest practicable levels, under a designated air commander. Centralised control of resources better permits flexibility and responsiveness in performing OAS/TASMO tasks. Such control is exercised through the tactical air control organisation (ACOCIASOC), with authority for decentralised execution delegated to the lowest level (Bese/Sqn) consistent with the effective management of OAS/TASMO. In the subsequent paragraphs OAS (TAR, BAI and CAB) and TASMO are discussed. Armed reconnaissance is intentionally omitted since it is historically proved to be uneconomic.

Tactical Air Reconnaissance (TAR).

5. **General**. The objectives of TAR are to provide timely and accurate tactical information on the location, composition, activities and movement of enemy forces, and to monitor the results (through post attack recce) of friendly operations. Such information is used for planning of subsequent operations.

6. **Consideration**. In peacetime, TAR will be used to supplement information gained from other sources to provide the warning time needed for the deployment of defensive forces. Information should be gathered on potential targets such as assembly areas and choke points. In periods of tension, continuous reconnaissance of border areas and international waters should be carried out to determine enemy intentions and threats to friendly surface and air forces. After a force has been deployed to meet aggression and during military operations that may ensue, the requirement for information is increased. A large portion of this information is required for situation analysis and timely tactical decision-making.

7. **Targeting**. The request for information should be clear and include sufficient tactical background to ensure that the ground force commander's intentions and need are fully understood. This allows air forces to fully exploit their reconnaissance potential.

8. **Control and Co-ordination**. The requirements for TAR may exceed the capabilities of the resources available. Control is therefore usually exorcised at a high level. However, once allocated and tasked the tactical air control organization must coordinate the mission with other airspace users.

Battlefield Air Interdiction (BAI)

9. **General**. BAI is air action directed against enemy forces and resources that are in a position to directly Influence and affect ongoing land operations, but which are not yet directly engaged for some tactical reason. BAI is used to isolate the enemy forces in the battle zone from his relief of reinforcements, re-supply, and to restrict his freedom of manoevre. BAI missions are planned against targets in the area located either side of the FSCL. Missions flown against targets short of the FSCL may be GAS or BAI.

10. **Considerations**. BAI missions should respond, to the maximum extent possible within the time allowed by intelligence, to lucrative targets. Immediate BAI requirements may be satisfied by using aircraft on ground or airborne aircraft. If possible, CAS aircraft should have a pre-planned BAI area/target, which would be attacked if the CAS mission cannot be performed or if the aircraft is diverted.

11. **Targeting**. Joint planning of targets is required to ensure effective use of BAI missions. Examples of BAI targets include armour, vehicles, troops, road junctions, bridges, chock points, weapon positions, and targets of opportunity.

12. **Control and Co-ordination**. BAI mission corned out within (behind) FSCL needs adherence of airspace control measures and coordination with friendly fire support.

Close Air Support (CAS)

13. **General**. CAS is air action against hostile targets which are in close proximity to friendly forces and which requires detailed integration of each air mission with the fire and movement of those forces. The firepower and mobility of aircraft in the CAS role can make an immediate and direct contribution to the land battle. When targets in the area are inaccessible or invulnerable to the available surface-based weapons, they may be within the attack capability of CAS aircraft. Furthermore, it may not always be possible to achieve the desired Concentration of fire on some targets unless the firepower of both surface-based weapons and CAS aircraft is effectively Integrated Augmentation of the firepower of surface forces by CAS can contribute decisively to the ground operations during breakthrough, counter-attack operations, enemy assaults and surprise attacks. CAB Is particularly important to offset shortage of surface firepower during the critical landing stages of airborne, air-mobile and amphibious operation by friendly forces.

14. **Considerations**. Normally CAS planning begins at the ground unit that requires the support. The is accomplished by direct interface between TACP/ALO/FAC and the ground unit commander and/or his staff (fire support coordination element). Prior to initiating a request for CAS the unit requiring support should determine whether the target i~ suitable for air attack and weather organic firepower is available. if the target is suitable for air attack and organic firepower is not available or is insufficient, a CAB request, either preplanned or immediate, is fwd through appr request channels. Approval of CAS requests is given by higher comd level's fire support co-coordinating agency, either by passing the request on (preplanned) or by silence (immediate).

15. **Targeting**. Almost any enemy threat found on the modem battlefield is suitable for CAS targeting, but mobile targets, presenting the most immediate threat to friendly ground forces ore generally suitable targets for CAS.

16. **Control and Co-ordination**. CAS missions are normally conducted under the control of an FAC but there may b circumstances where procedural control without an FAC Is used.

a. Control by an FAC. Missions under control of an FAC are defined as either direct or indirect control, as described below:

(1) Direct Control by an FAC. The FAC will provide the necessary coordination control or direction for target acquisition. It is preferred when the target is In an area where opposing forces are engaged in close combat, and CAS mission -

(a) Is only possible when the FAC has the target in sight.

(b) Requires the FAC to be familiar with the attack profiles of the aircraft he is controlling.

(c) Requires good communications.

(2) Indirect Control by an FAC. The FAC provides information covering the latest situation and gives instructions for necessary coordination with fire and/or movement of friendly forces. These missions -

(a) Are possible against targets not in sight of the FAC out on which he has detailed information and, therefore, require the flight leader to acquire the target with minimum assistance.

(b) Require communications but are possible under circumstances where the communications are limited.

b. Emergency Control. Only in an emergency, will an individual, who is not a qualified FAC, direct attacking aircraft for CAB, and in such cases the ground force commander must assume responsibility for own troop safety.

(1) CAS without and FAC. Where an FAC is not available, CAS mission can be conducted under procedural control. The procedures to be used must be established by the air commander and ground force commander, and the ground force commander assumes responsibility for the safety of his forces. This type of control may include updating information and assistance during the mission by an ALO, ASOC, qualified pilot, or other agency in radio contact with the aircraft.

Tactical Air Support of Maritime Operations

17. **General**. Air support of maritime operations may be performed unilaterally by air force or in co-ordination with friendly naval air arms, integrating the unique capabilities of air and naval forces in operations against a common threat or in accomplishment of a common objective.

18. **Planning Considerations**. Aircrews engaged in support of maritime operations require an understanding of the special features of those operations. Briefing by a competent NLO may be of great use in this respect. Particular consideration should also be given to the following aspects of mission planning:

a. Routing. The routing of aircraft to their target must take into account naval Missile Engagement Zone (MEZ) and Fighter Engagement Zone (FEZ), and the Identification Safety Rang (ISR) of each force.

b. Attack Support. The ability of tactical aircraft to undertake maritime support operations may be limited by weather condition, uncertainty of exact enemy location or limitations of navigational equipment Tactical assistance in locating the target (commonly termed as ‘Attack Support’) may be provided by other air or surface units.

c. Operation in Coastal Waters. SOP is to be followed for operation in coastal waters. However, the details will vary according to local conditions Lind the nature of the air assets available.

Related Activities

19. Other activities that contribute to OAS operations and TASMO Include:

a. Airspace control

b. Suppression of Enemy Air Defence

c. Electronic Warfare

20. **Airspace Control**. Airspace control in the combat zone is a service provided to increase operational effectiveness by promoting the safe and flexible use of airspace. It is provided In order to permit greater flexibility of operations. OAS operations require special ABC provisions, which must enable airspace users in the combat zone to operate with minimum mutual interference and without undue restraints. Land/air/naval user should be incorporated within the ASC system.

21. **Suppression of Enemy Air Defence**. Tactical aircraft conducting OAS or TASMO operations is likely to be threatened by enemy AD. Therefore AD suppression sorties and EW missions, integrated with army defence suppression operations, will be required to enhance the survivability of tactical aircraft. Suppression operations will be aimed at the temporary degradation, neutralization or physical destruction of critical enemy defensive elements. In addition, the SEAD will require coordinated air and land force effort to locate and attack key enemy air defence headquarters and communications facilities. These joint suppression efforts should allow increased flexibility to OAS/TASM0 missions and enhance aircraft survivability.

22. **Electronic Warfare (EW)**. EW will play an essential part in any operation and must be considered during planning. EW activities of air, land and naval forces should be mutually supporting to enhance effectiveness and avoid mutual interference.

Planning for OAS and TASMO

23. **General**. Joint planning will be necessary at all levels of command concerned with OAS operations and TASMO. It may be undertaken by air and land/naval force headquarters, which may be collocated, or though use of liaison elements. The tactical situation end objectives to be achieved will dictate the degree and level of co-ordination necessary to ensure unity of effort.

24. **Requirement for Joint Planning**. Staffs should jointly develop detailed plans for OAS/TASMO to exploit various tactical situations. The advantage of planning lies in the fact that a set of procedures can be produced that allows efficient operation during peacetime, periods of tension, and after hostilities are initiated. Planning for the transition from peace through crisis to war should allow commanders to use the time available in peace to prepare for hostilities. Therefore, such planning and the procedures built upon it must take into consideration warning time and the mobilization of resources to meet the developing threat.

25. **Threat and Tactical Air Resource Distribution**. The distribution of Tactical Air Resources is made on the basis of response to the overall objectives to be achieved. When requesting air support, the surface force commander will state.

a. The requirement for OAS/TASMO in terms of specific targets and target arrays that will affect their operations.

b. The degree of threat to their operations that such targets poses; and

c. Target priorities.

This allows OAS/TASMO to be viewed as an entity, which provides direct support to the surface force commanders.

26. **Distribution of Tactical Air Resources**. The following terms are used in the distribution of Tactical Air Resources:

a. Allotment. Allotment is the temporary change of assignment of tact io81 air forces between subordinate commands. The authority to allot is vested in the commander having operational command. Allotment is done 1:0 balance forces for facilitating the achievement of objectives stipulated by that commander.

b. Apportionment. Apportionment is the determination and assignment of the total expected effort by percentage and/or by priority that should be devoted to the various air operations and/or geographic areas for a given period of time.

c. Allocation. Allocation Is the translation of the apportionment into total numbers of sorties by aircraft type available for each operation or task.

27. **Relationship between CAS and BAI**. The basic difference between CM and BAI lies in the proximity of targets to friendly forces and the control arrangements, needed for them. Both CAS and BAI are tasked in support of the land force commander against targets directly threatening land operations. CAS missions require detailed control to integrate them with the fire and/or movement of friendly forces end must be responsive to direction by land force at all stages of execution. On the other hand BAI missions forward of the FSCL is conducted entirely under air force direction. BAI missions against targets on or short of the FSCL are to be coordinated with the appropriate ground force commander.

28. **Peacetime Planning**. Control measures and procedure, should be planned and exercised in peacetime training. Target planning for OAS/TASMO are based upon threat assessment to land forces posed by specific targets or target arrays. The surface force commanders will establish the priority of targets for attack. The final decision on the priority of attack will be possible just before or after the outbreak of hostilities. Attack planning should consider air and land/naval force capabilities and target systems, to include:

a. Vulnerability
b. Geographic location

c. Mobility

d. Degree of dispersion or concentration

e. Active defences

f. Terrain

g. Camouflage

h. Electronic emission control (EMCON) measures

j. Threat to friendly forces

k. Accuracy of location aids.

l. Weather

29. **Pre Designated Target Zone (DTZ)**. DTZs are target areas where commanders have specific plans for the employment of OAS operations against enemy ground forces DTZs are designated by laid force commander in conjunction with air forces. The identification of DTZs in peacetime permits initial planning to be accomplished prior to hostilities and the final planning to be completed prior to mission execution Initial planning may include the identification of navigation checkpoints, probable target locations within the DTZ, hazards to flight, and desirable attack heading and/or parameters. The final planning may include known enemy defence, air space control measures, positions of friendly forces, and other factors. The degree of initial planning possible will vary with the time after initiation of hostilities that the DTZ is envisioned to be used. Execution of air attacks on DTZs would depend on the situation and could be tasked from either the ASOC or higher level.

30. **Wartime Planning**. A basic division of wartime planning can be made that separates it into short and long-term planning.

a. Short-term Planning. Short-term planning is centered upon a 24-hour cycle. Requests for OAS/TASMO are filtered up the system; a daily apportionment/allocation decision is made; tasking to fulfill requests is performed; missions are executed; and results are evaluated. OAS/TASMO activities may be directed against either preplanned or immediate targets.

(1) Preplanned requests are submitted when requirements for OAS/TASMO can be foreseen in sufficient time to be included in the daily orders for air tasking.

(2) Immediate requests are submitted when requirements OAS/TASMO are generated by the dynamic tactical situation.

c. Long-term Planning. Long term planning is done while deciding on the concept of operation and at different phases of the war. At this stage it is decided

what percentage of total combat effort will be apportioned for OAS/TASMO in different phases of the war.

31. **Planning for Related Activities**

a. **Airspace Control Measures**. Planning for OAS/TASMQ must include airspace control measures for positive and procedural control. It must be simple and undue restrictions should be avoided. Restrictive measures should be clearly identified and established for as short a period of time as; possible. Airspace control measures in the forward combat zone are based upon the following assumptions:

(1) That the necessary planning for coordination is met by standing operating procedures wherever possible, to reduce the need for detailed, time-consuming coordination and the use of communications.

(2) That the surface force commander, fire support coordinator, TACP and FAC will use good judgment to integrate the application of tactical air support with other firepower Which is being applied in the same place and at the same time. They also have responsibilities to coordinate AD systems under their immediate control.

b. **Suppression of Enemy Air Defence (BEAD)**. Planning for SEAD must be accomplished to ensure the following:

(1) Coordination of air and land/naval operations to suppress enemy AD.

(2) Integration with OAS/TASMO activities.

c. **Electronic Warfare (EW)**. Except for those activities, which form part of SEAD, EW operations in connection with OAS/TASMO will be designated primarily to achieve aircraft self-protection. EW planning will therefore be an integral part of mission planning and must be based on the most up-to-date threat intelligence available.

32. **Condition of Readiness**. For OAS/TASMO purpose, aircraft will generally be maintained on ground alert, armed and reedy to take off. When aircraft are on ground alert, the state of readiness is to be stated in terms of time to be airborne in minutes, e.g. Alert 5 or Alert 30. In the case of Alert 5, aircraft are to be armed for take off with crews normally in the cockpit. At longer states of alert the aircraft are to be serviced and armed to the extent necessary to enable take-off in the time stated. Authority to assign missions to ground /deck alert aircraft is usually retained by the tasking agency.

OAS AND TASMO Organisations

33. **General**. The organization to accomplish OAS/TASMO is based on the principles of coordinated joint planning at each level and the centralized control and decentralized execution of tasks.

34. **Functions**. The organisation required for OAS/TASMO must be able to perform six major functions: Joint Planning, Liaison, Requesting, Tasking, Execution and Mission Reporting.

35. **Joint Planning**

a. Establishing Policy priorities. The planning function is to be effected at the highest appropriate level.

b. Planning Level Agencies. The agencies on the planning level vary depending on the command structure. Joint Command Centre (JCC) is formally established at the highest level to carry out the planning function on a joint basis.

36. **Liaison**. In the usual situation, ASOC (army/navy) will task the airbase(s) to provide support to a specific army/naval formation. Here, ALO, NLO and GLO at different level should suffice to meet liaison requirements.

37. **Requesting**. Requests for OAS/TASMO may be initiated at any surface force level of command. ALO or TACP and FAC are attached to army/navy command echelons to advise and assist in the transmission of requests for OAS/TASMO. The procedure for requesting is discussed later.

38. **Tasking**: Tasking is the process of translating the allocation into orders and passing these orders to the units involved. Each tasking order normally contains sufficient detailed instructions to enable these units to accomplish the mission successfully.

39. **Execution**. Execution comprises all activities which are fulfilled within a given air task order such as:

a. Aircraft launch.

b. Control of the aircraft to the target area.

c. Capability for diversion.

d. Recovery.

40. **Reporting**. Mission reporting is the transmission of results to the requesting and / or interested unit/formation/agency. Reporting must include results of the mission and all other information gathered during the execution of the mission (e.g. enemy concentrations, missiles, radar, etc.) It can be executed by the following:

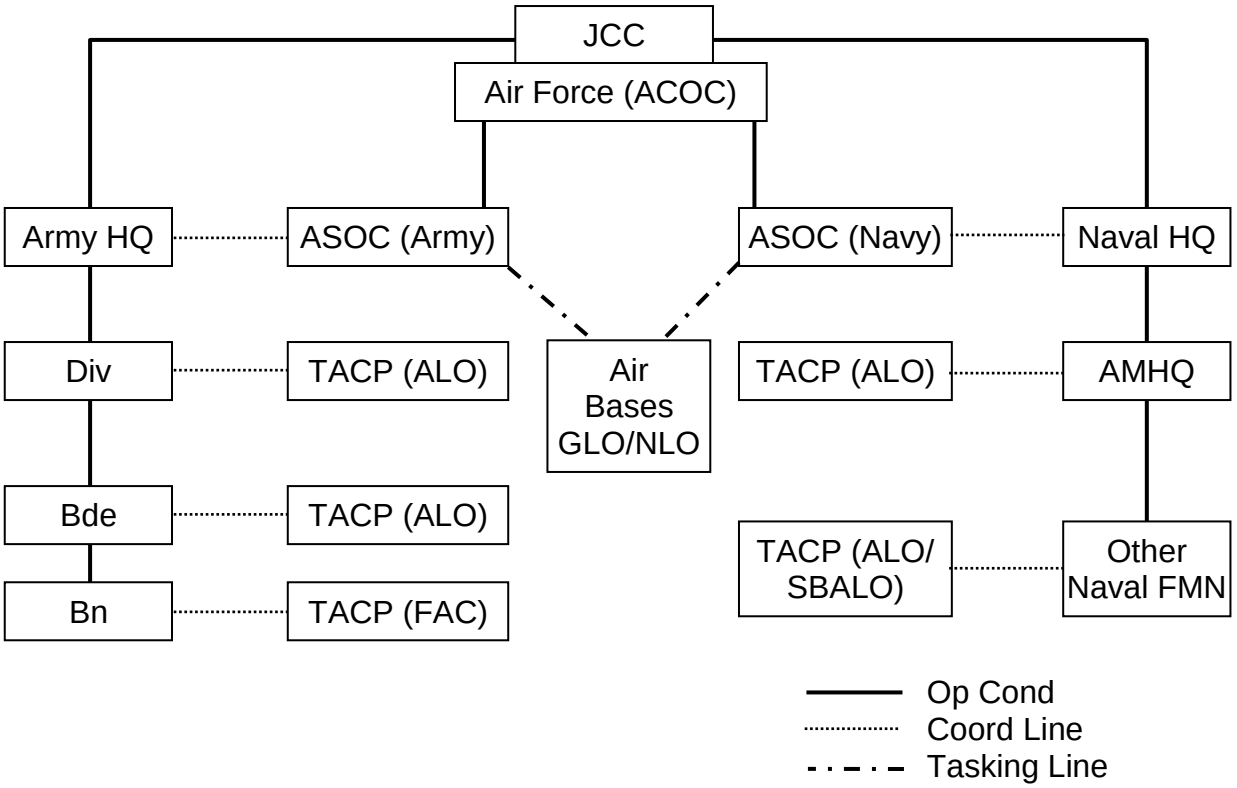
a. In-flight reports from the aircraft to the ground station.

b. Data link transmission of imagery to the data link terminal station.

c. Intelligence Officer or appropriate liaison officer from the airfield to the requesting and / or interested unit/formation/agency.

Basic Air Ground Organization

41. An air / ground organisation is illustrated below:



Command, Control and Liaison Agencies

42. **Joint Control and Liaison Agencies (JCC)**. JCC is the tri-service command control to coordinate war efforts of the services. JCC gives guideline to services to efficiently use their resources with a joint perspective.

43. **Air Command Operation Centre (ACOC)**. The ACOC is the air operations at Air HQ level. The ACOC is capable of controlling, directing and tasking of all operations. However, some of these functions may be delegated to a subordinate tasking agency (e.g. ADOC). ACOC allocates the air resources based on the guidance received from the JCC considering the following points:

a. Assessing the availability of air resources.

b. The allocation of air resources to meet specific tasks in conjunction with joint operational plans.

c. Additional requests for OAS.

44. **Air Support Operations Centre (ASOC)**. The ASOC is the air agency subordinate to ACOC. The ASOC (army) and ASOC (navy) are responsible for tasking the air efforts allocated to OAS and TASMO respectively. It is an air force agency that includes GLO and NLO as the case may be. The ASOC is collocated with the appropriate land force/Naval force tactical operations centre.

a. Functions. Specific functions of the ASOC are to:

(1) Advise land / naval forces commander on aspects of OAS/TASMO.
(2) Evaluate, coordinate and process OAS/TASMO request organising within their area of responsibility.

(3) Emp the OAS/TASMO mans op in their area of responsibility.

(4) Exchange and disseminate info and intelligence concerning the en and friendly air, grd and M sit.

(5) Disseminate weather info.
(6) Monitor the activities of the TACP or ALO and FM.

(7) Keep ACOC updated about the use of apportioned air effort to ensure best use of air resources as a whole.

b. Composition. Separate cells may be formed within it to con Offensive Support (OS), Air Transport (AT), Support Helicopters (SH), Maritime Patrol Aircraft (MPA). It may also contain a Joint Reconnaissance Cell (JRC). A typical composition may be as follows:

(1)	Officer-in-Charge:	Group Captain.
(2)	Army/Navy:	GLO - Lt Col/NLO – Cdr Liaison officer – Maj/Lt Cdr Army Aviation Representative.
(3)	Air force:	ALO (OS)/ALO (AT)/ALO (SH)/ARLO, as appropriate and operational clerks.
(4)	General:	Communication personnel as required.

45. **Tactical Air Control Party (TACP)**. The TACP is an air support control agency usually at division / brigade / battalion level in case of army and at Area Maritime Headquarter (AMHQ) or onboard ship at which there are normally no air force ‘asking agencies. The TACP consists of en ALO and/or NLO and/or FAC with supporting communications, equipment and personnel. The TACP is responsible for:

a. Providing air advice to the commander of the supported surface force unit and assisting in fire support coordination/integration.

b. Coordinating the movement of the TACP-controlled aircraft with tile appropriate airspace control agency.

c. Monitoring the Tactical Air Request Net

d. Providing front-line weather reports.

e. Taking control of aircraft at designated points such as the contact point or orbit point and directing GAS against targets as required.

46. **Air Liaison Officer (ALO) and Ship-Borne Air Liaison Officer (SBALO)**. AL Os are air force officers attached to a ground unit or formation. SBALOs are air force officers assigned to a naval headquarters afloat. Their duties include:

a. Acting as advisers to the land / naval force commander on all aspects i)f OAS/TASMO activities.

b. Assisting in the coordination of ground/naval fire with air operations.

c. Receiving coordinating and disseminating directives from the higher tasking agency on the time and place of air support missions.

d. Supervising the activities of subordinate TACPs as appropriate.

e. Coordinating airspace control activities with appropriate agencies.

f. Assisting land and naval commanders with aspects of SEAD and EW.

47. **Naval Liaison Officer (NLO)**. NLOs are naval officers assigned to coordinate various navel aspects in connection with OAS/TASMO.

48. **Forward Air Controller (FAC)**. The FAC is an individual who, from a forward position (ground or aircraft), directs the action of combat aircraft engaged in CAS of land forces. The functions of the FAC are:

a. Advising the local land force commander on tactical air matters.

b. Coordinating the movement of aircraft under his control with the operations of the local land forces.

c. Assisting in identifying the location of friendly front-line units to aircraft.

d. Directing aircraft against ground targets.

e. Receiving information from aircraft for transmission to land force units as required.

f. Reporting results of air attacks.

g Reporting weather in the target area.

49. **Ground Liaison Officer (GLO) and Air Reconnaissance Liaison Officers (ARLO)**. GLOs are officers of the land force appointed to represent the land force at airbases/sqns and at some air force commend posts (ACOC, ADOC and ASOC). Air Reconnaissance Liaison Officers (ARLOs) are specialised GLOs. The duties of GLO and ARLO include:

a. Advising and assisting the tactical air commander on all matters concerning land force operations.

b. Portraying the tactical ground situation to the commander, the flying staff and the pilots.

c. Assisting in briefing and do-briefing aircrew.

d. Passing all information obtained from the tactical air units to the appropriate land forces headquarters.

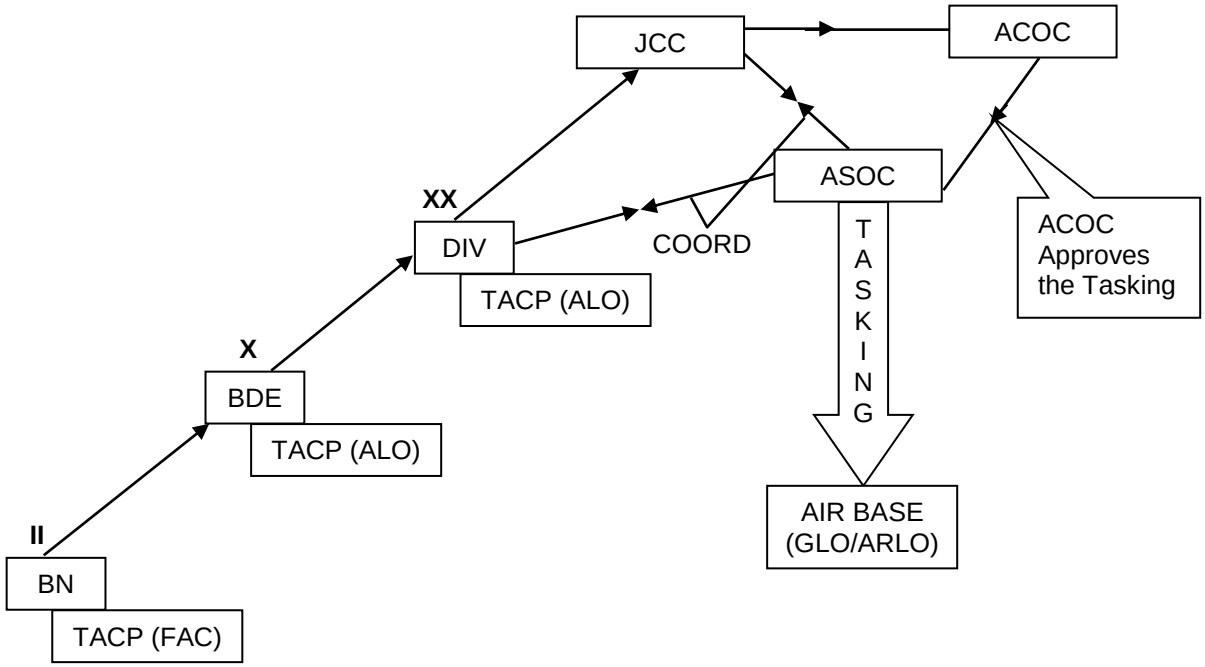
50. **Unit/Airbase Commander.** The Unit/air base commander should be allowed the widest possible latitude in the detailed execution of a mission consistent with the achievement of the effect desired by the land forces.

OAS AND TASMO Procedure

51. **General**. OAS/TASMO requirement varying degrees of coordinate and integration with the fire and manoeuvre of the concerned surface forces. Procedures for OAS/TASMO will be dealt with under four main headings: Requesting, Tasking, Execution, and Reporting.

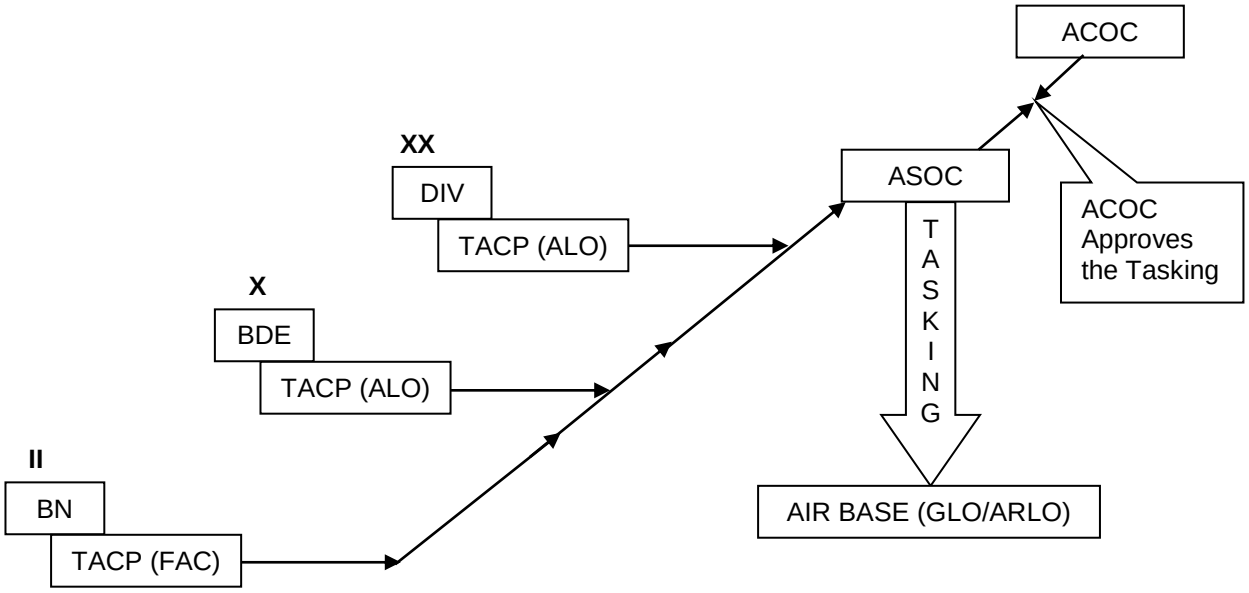
52. **Requesting Procedures**. There are two separate procedures for requesting OAS/TASMO men. These are:

a. Preplanned Requests. Requests for preplanned OAS/TASMO missions may originated from any combat formation (in coordination with air force liaison elms) of the surface forces and are passed up through own channels to their respective HQs. Services HQs (Army/Navy), after scrutinizing and pri, will fwd the some to collocated ASOC (Army/Navy). ASOC will send the same to ACOC, which will finalize the allocation as per the guidance from JCC. After receiving the allocation ASOC tasks the airbases to y out the missions. When the requests exceed the allocation, missions are carry out as per priority. The procedure for preplanned request for OAS (For TASMO replace Army formations with corresponding Navel one) is illustrated in Figure below:



b. Immediate Requests. Requests for immediate OAS/TASMO missions may also originated from any combat formation of the surface forces. The request is simultaneously pawed over a dedicated communication net to the ASOC (Army/Navy) and intermediate HQs. When an immediate request is received for

relay, it should be fwd without delay for decision making. An intermediate HQs may not approve the request, or signify approval by silence (for 10 minutes). In the case of two or more requests occurring at the same time, an Intermediate HQs will determine priority. ASOC then meets the requirement from own apportioned air effort. However, if requirement badly, ASOC may also ask for additional allocation from ACOC. The procedure for immediate request for OAS (For TASMO replace Army formations with corresponding Naval one) to Army is illustrated in Figure below:



53. **Scrutiny of Request**. The points for scrutiny of OAS/TASMO request applicable for Army/Naval staff are as follows:

a. Is the mission asked for, tactically sound?

b. Is it necessary, inescapable and economical?

c. Does a TACP/FAC/Pathfinder exist to direct the air effort?

d. Is it going to endanger the safety of own troops operating nearby?

e. Is the surprise factor being kept in mind?

f. Is there enough time for the air strike?

g. Are the necessary re-fuelling and re-arming facilities available?

54. The points for scrutiny applicable for air staff are as follows:

a. Is there any political restriction on the planned mission?

b. Are the desired number and type of aircraft available with suitable weapons in right quantity?

c. Is the mission practicable?

d. Is the target within the ROA of the aircraft from the operating airfield?

e. Can the demand be met within the available time?

f. If air effort is not available, does the demand justify a request to ACOC for extra allocation?

g. Is the air situation favourable? If not, is any fighter escort necessary?

h. Does the planned mission adhere to the existing Airspace Control Order (ACO)?

j. Is there any requirement of pro-attack recce?

k. Does the planned mission comply with the existing Rules of Engagement (ROE)?

l. Is the weather suitable?

55. **Tasking Procedures**. Tasking of aircraft in response to a surface force commander's request for OAS is accomplished through a tasking agency (ASOC Army/ASOC Navy) to an airbase. The senior most staff officer in-charge of the ASOC (Army/Navy) intimates all concerned about the preplanned OAS missions of a day. The Air Force Commander is responsible for establishing execution procedures. Execution of OAS missions is the responsibility of the appropriate tasking agency (ASOC) and air base(s) tasked to provide support. Briefing of OAS aircraft in forward areas may be difficult because of communications jamming and flight profiles chosen to reduce vulnerability to enemy AD systems. It is therefore advantageous to complete as much radio communication as possible whilst the aircraft are less vulnerable in rear areas. Rear briefing should normally be carried out by the control agency (e.g GLO at Base) with updates where necessary being provided by the TACPs of HQ of the ground formation being supported or by FAC deployed forward.

56. **Reporting Procedure**. The Air Force Commander is responsible for establishing reporting procedures. Normally the same agencies responsible for execution of OAS missions are also responsible for ensuring that appropriate reports are submitted in a timely manner. Standard air support formats, which cover most of the requirements for the staff work of OAS operations, are described below. When applicable, code words, as established by SOPs, are to be used in all message forms for brevity as well as for security.

a. Air Allocation Message. The Air Allocation message is used to inform subordinate units/formations and/or tasking agencies of the allocation of air effort by sorties (preferably) or percentages with information to requesting units/formations.

b. Air Request/Task Message. The Air Request/Task message is used by units/formations to request OAS in the form of CAS or BAI. Requests for immediate OAS are normally passed by a unit/formation to the appropriate tasking agency over the Tactical Air Request Net. Requests for preplanned air support are normally passed over army command channels. If air allocation has been given, however, the request for execution of the mission is passed over the Tactical Air Request Net direct to the tasking agency to which the allocation was made. On acceptance of a request, the tasking agency originates an Air Task Message and passes it over the appropriate Tactical Air Command Net to the concerned air base (s).

c. Air Reconnaissance Request /Task Message. The Air Reconnaissance Request/Task Message is used by units/Formations and tasking agency for requesting intelligence information and/or tasking air reconnaissance missions. Requests originated by unit formation headquarters are passed to the appropriate tasking agency over command channels, or, if urgency dictates, over the Tactical Air Request Net. The tasking agency, if accepts the request, relays the air reconnaissance request to the selected air base for execution over the Tactical Air Command Net.

d. Accept/Refuse Message. The tasking agency (ASOC) processes the request and informs the requesting unit/formation and intermediate headquarters of the acceptance and mission details, if known, or of the refusal of the request. The message is passed over the Tactical Air Request Net.

e. Time-on-Target (TOT) Message. The airbase informs the tasking agency and the requesting unit/formation of the details of the mission being dispatched to meet the request, if these differ from information previously transmitted in the Air Request/Task Message. Normally this is sent by the airbase to the tasking agency (ASOC) over the GLO's Net and then from the tasking agency to the requesting unit/formation over the Tactical Air Request Net.

f. In-Flight Report (INFLIGHTREP). The INFLIGHTREP is used by pilots/crews to pass the results of a mission or vital tactical information to units/ formations and/or reporting post on a pre-briefed frequency. The information may then be passed by the unit/formation to the tasking agency (ASOC) by the fastest means, normally the Tactical Air Request Net.

g. Mission Report (MISREP) The MISREP is the standard form of message whereby the tasked base/sqn informs the requesting and/or other concerned unit/Formation/agency of the results of an OAS mission. It will be sent when requested in the tasking message or when the mission provides information that the appropriate commanders need to know. It must be forwarded by the fastest means commensurate with the security classification and within 30 minutes (actual time) from the completion of the mission.

h. Reconnaissance Exploitation Report (RECCEEXREP). The standard form of message used by the airfield to inform, whenever possible, the tasking/requesting and/or interested unit/formation/agency of the results of a recce mission. In short, it gives the immediate results of the recce mission. Normally it is to be completed within 45 minutes (actual time) after engine shutdown and the Imagery confirmed when possible.

j. Initial Photographic Interpretation Report (IPlR). IPIR is used to report on programmed mission objectives or other vital intelligence information which can be readily identified in reasonable proximity to those objectives, and which has not been previously reported elsewhere. The IPIR should be disseminated not later than 4 hrs after engine shutdown.

k. Supplemental Photographic Interpretation Report (SUPlR). SUPIR is used to report on significant targets covered by the mission not Included in other reports or when other supplemental information is required. There is no fixed time limit for sending SUPIR but it should be disseminated as soon as possible.

l. Forward Line of Own Troops (FLOT) Message. The FLOT message is originated by units/formations to inform the tasking agency and own GLO at the forward position. It may be passed over the Tactical Air Request Net if time is critical.

m. Fire Support Co-Ordination (FSCL) Message. The FSCL message is sent to airbases and interested units/formations. The FSCL message is passed over the appropriate Tactical Air Command Net and via Army Command Nets.

TOPIC-3

AIR SUPPORT TO LAND BATTLE

General

1. Enemy land forces may have the ability to concentrate rapidly from dispersed locations with highly mechanized, tank-heavy forces. To outplay the enemy, firstly, friendly air and land force Commanders must be able to ascertain the location and direction of the enemy's main efforts. Once these have been identified, forces are to be employed as coordinated team, to ensure concentration of force to the critical points and time.

Concept

2. Modem battles are no more a single service affair. There is requirement of interaction and cooperation among the services in almost every function of combat. While all forms of OAS are required during major land operations, TAR will be essential throughout the operations for the planning and assessing the damage already inflicted. Land Force operations fall into three areas:

a. Offensive Operations

b. Defensive Operations

c. Delaying Operations

Offensive Operations

3. Offensive operations form a vital part of the overall defensive strategy as it is only offensive action that the enemy will be defeated. Major offensive operations are divided into the approach/advance to contact, the attack, and the exploitation and pursuit.

a. The Approach/Advance to Contact. During the approach/advance to Contact the focus of OAS will be on the nearest enemy main force. In addition, OAS may be used to attack critical targets beyond the range of land forces' firepower.

b. The Attack. During the attack, OAS is used to give weight to the main attack and maintain offensive momentum. When breakthrough is assured, OAS may be shifted to succeeding enemy defensive echelons or reinforcing elements.

c. Exploitation and Pursuit. During exploitation and pursuit friendly forces strive to advance with maximum strength and speed to disorganise the enemy and secure objectives deep in the enemy rear. OAS is particularly effective in disrupting enemy command and control, denying battlefield mobility and interdicting reinforcements.

Defensive Operations

4. Defensive operations are undertaken to halt the enemy's advance or to break his attack. The defensive battle is normally fought in three phases: the covering force battle, the main defensive battle and the counter-attack. Air operations in support of the three phases of the defensive battle will tend to be of an immediate nature since the enemy will have the Initiative, however, allocation of OAS to preplanned tasks may provide additional fire support to the ground forces.

a. Covering Force Battle. The covering force will require OAS to extend its ability to detect the enemy, manoeuvre against the enemy, bring fire upon the enemy, and disengage from enemy contact for passage through the main defensive position. It is at this initial stage in any battle that BAI will play a vital role in attacking the enemy's second tactical echelon divisions while they are in the more vulnerable configuration of march order.

b. Main Defensive Battle. Behind the covering force area lies the area in which the main defensive battle will be fought. To win this, the land force commander must know where the enemy main effort will be, and must have the flexibility to concentrate combat power. TAR will be used to monitor enemy movements and concentrations. Priorities for the use of AI and OAS will shift. BAI is vital in this phase. CAS provides a quick and major increase in combat power to prevent or counter enemy breakthrough attacks.

c. Counter Attack. Counter Attack, the crucial phase of the battle, take place when the defender seeks to exploit any weakness of the enemy force in order to gain the initiative and regain control of his area. Counter attacking forces will require increased OAS.

Delaying Operations

5. Delaying operations are normally fought for one or more of the foil wing purpose:

(1) To protect a larger force, or to gain for the preparation of a defensive position or a counter offensive, or for political negotiations to be conducted.

(2) To wear down and disorganise the enemy.

(3) To lead the enemy into a situation or on to terrain considered more suitable for his destruction.

(4) To identity the enemy point of main effort.

In a delaying action the land forces require TAR to define the main axis of the enemy's advance and to survey areas unoccupied by friendly troops, and BAI and CAS to slow the advance of the enemy ground forces. CAS may be used to allow disengagement and withdrawal from the enemy forces.

Development

6. During any warning period prior to hostilities, some friendly forces will have to move from their peacetime locations to defensive positions. After the outbreak of hostilities tactical air operations including OAS, are essential to allow this movement to continue. The OAS mission could include TAR to provide information about the strength and direction of the attack, and BAI and GAS to slow the advance of leading elements of the enemy forces.

Land Air Battle Planning Lines

7. In order to facilitate joint planning for the use of air to ground or sea weapon systems at least two planning lines are required. These are:

a. Forward Line of Own Troops
b. Fire Support Co-ordination Line

Relationship of OAS Tasks and Land Air Battle Planning Lines

8. The relationship of CAS, BAI and AI, and the area of operation for OAS and AI are shown in Figure 1 and 2 respectively.

	CAS	BAI	AI
Target	Directly affecting friendly operations		Indirect bearing on friendly operations
Area	In contact or close proximity to friendly forces	Either side of FSCL but not within close proximity to friendly forces	Beyond FSCL
Coordination Requirements	Detailed integration with fire and movement of surface forces (Army & Navy)	Joint planning/coordination	
		At ASOC/Corps level	JCC, ACOC & ASOC level
Control	Positive or Procedural Control	Control required when within FSCL.	No control required

Figure 1: Relationship Between CAS, BAI and AI

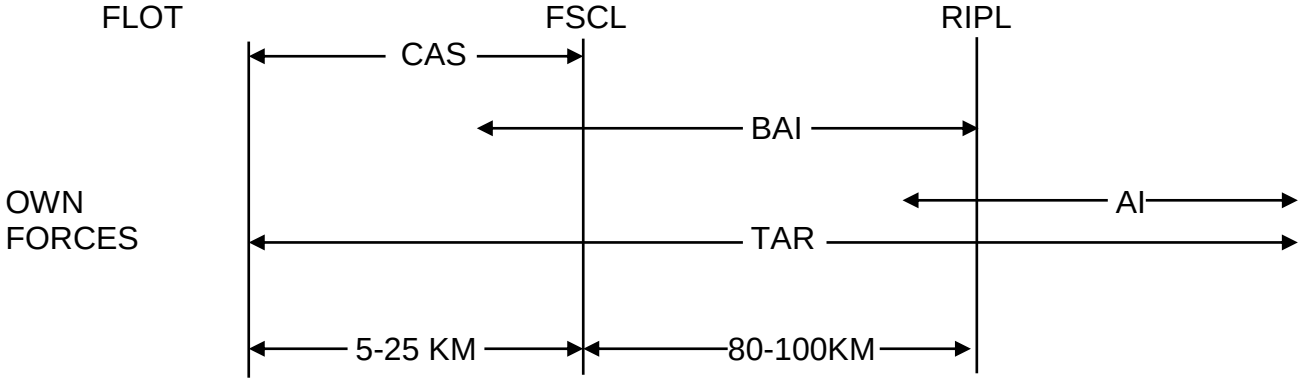


Figure 2: Area of Operation for OAS and AI