# DEFENCE TECHNOLOGY

MR C MURALI KRISHNA SIR

- RADAR TECHNOLOGY
- AIRCRAFTS, MISSILES,
- VEHICLES, SUBMARINES,
- ARTILLERY,
- DEFENCE EQUIPMENT-
- MINISTRY OF DEFENCE
- DRDO, NEW DELHI
- DEFENCE TECHNOLOGY



### **EXAMINATION POINT OF VIEW**

- SUBMARINES, SINDHUGOSH,
- RUMIA DIESEL ENGINE
- INS ARIHANT-VIZAG, NUCLEAR INDIGENOUS

# INDIGENOUS HAL LIGHT FIGHTER AIRCRAFT FOR AIRFORCE AND NAVY

- LCA TEJAS, SINGLE ENGINE,
- AIRCRAFT





## CHINOOK -HELICOPTER, HEAVIEST LIFTING AIRCRAFT

USED FOR DISASTER MANAGEMENT



### MISSILE TECHNOLOGY

# LIKE ROCKETS WARHEAD/GUIDANCE SYSTEM/FUEL/WINGS MISSILE CARRIER WARHEAD

### TYPES OF MISSILES

- CAN BE CONTROLLED DURING FLIGHT
- EXAMPLE-BRAHMOS SERIES, PARALLEL TO EARTHCRUISE MISSILES-ENDO ATMOSPHERIC
- TRAVELS SMOOTHLY IN AIR, WATER,ETC



BALLISTIC MISSILES

- PARABOLA
- PROJECTILE MOTION
- CANNOT BE CONTROLLED DURING FLIGHT
- PRUTHVI SERIES, AGNI SERIES, DHANUSH



### CLASSIFICATION BASED ON LAUNCH MODE

- SURFACE TO SURFACE AGNI
- SURFACE TO AIR-AKASH
- SURFACE TO SEA-BRAHMOS
- AIR TO AIR-ASTHRA



#### FEW MORE TYPES

 AIR TO SURFACE-DRDO ANTI RADIATION MISSILE

- SEA TO SEA/SURFACE-
- VARUNASTRA/TORPEDO



# ANTI TANK MISSILE -NAG MAN PORTABLE MISSILE

### • ICBM-ABOVE 5000 KM-AGNI 5

### **AGNI 2-4**

- MEDIUM-UPTO 5000 KM-
- SHORT- UNDER 1000 KM-AGNI 1







### TACTICAL

- -LESS RANGE,
  CONICAL,
  CONVENTIONAL WARHEAD-
- PRAHAR



### PROPULSION

### RAMJET

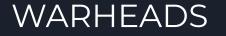
- OUTSIDE AIR HEATED UP

SCRAMJET

• SUPERSONIC

• TURBINE





# CONVENTIONAL GUN POWDER NUCLEAR STRATEGIC RADIOACTIVE USE

## TERRAIN COMPARISON-PRE RECORDED MAPS

- COMMAND CONTROL SYSTEM
- SIGNAL GUIDANCE FROM
- WIRE GUIDANCE



GUIDANCE SYSTEMS





# TERRESTRIAL GUIDANCE -ANGLES

- INERTIAL GUIDANCE-SENSORS
- BEAM RIDER GUIDANCE-BEAM LASER



### **BRAHMOS**

- INDIA AND USSR
- MECH 2.8 300KM
- LAND/AIR/SEA
- SOLID & LIQUID FUEL
- AFTER JOINING MTCR,
  - - **BRAHMOS RANGE CAN BE**
    - **INCREASED TO 500 KM**



#### AKASH

### • LAND TO AIR, MULTI-TARGET

- COMMAND GUIDANCE
- SUPERSONIC- RAMJET
   PROPULSION



#### MORE ABOUT AKASH

- RANGE -25 KM, ALTITUDE -18 KM
   MACH 2.8 3.5
- NEUTRALIZE ADVANCED AERIAL TARGETS



ASTRA

### • AIR TO AIR, INDIGENOUS - DRDO

- LAUNCHED ON SUKHOI-30
- WORKS EVEN IN JAMMING

ENVIRONMENTS



#### AVANGARD

- . USSR
- 20 MACH HYPERSONIC
- MULTIPLE TARGET RECENTLY PAYLOAD
- ICBM





# • UNDERWATER BALLISTIC MISSILE

- 3500 KM
- SUBMARINE MISSILE



STRUMATAKA-

### • ANTI-TANK MISSILE -USSR

### SURFACE TO SURFACE -200 KM



### PRANASH

TACTICAL BALLISTIC MISSILE
UNDER DEVELOPMENT
SURFACE TO SURFACE
200 KM





# MULTI-BARREL ROCKET LAUNCHER SYSTEM 40KM/75KM