(c) whether involvement of any agent has come to notice during the investigation;

(d) if so, the steps taken by Government to check the involvement of the agents in Army recruitment in future; and

(e) the steps being taken by Government to check the recruitment of the unwanted elements in the Army?

THE MINISTER OF STATE IN THE MINISTRY OF DEFENCE (DR. SUBHASH RAMRAO BHAMRE): (a) to (c) No, Sir. No recruitment rally was conducted by 39 Gorkha Training Centre, Varanasi in January, 2016.

However, Anti-Terrorism Squad (ATS) Eastern Zone, Varanasi had approached the Army Recruiting Office, Varanasi in September 2017 seeking information about three Indian Domicile Gorkha candidates enrolled in June 2016 and dispatched to 39, Gorkha Training Centre who have been reported to be enrolled by furnishing false documents.

(d) and (e) Recruitment in the Indian Army is carried out as per the laid down policy and procedures. Incidents of irregularities in recruitment are dealt as per extant rules and appropriate action is taken against those found culpable.

Engagement of private players in design and development for HAL

188. SHRI SAMBHAJI CHHATRAPATI: Will the Minister of DEFENCE be pleased to state:

(a) whether Government has any plan to engage private players in design and development of products and technologies relating to Hindustan Aeronautics Limited (HAL);

(b) if so, the details of the products and technologies opened up;

(c) whether the private players have expressed interest to come forward to join hands with HAL; and

(d) if so, the details thereof?

THE MINISTER OF STATE IN THE MINISTRY OF DEFENCE (DR. SUBHASH RAMRAO BHAMRE): (a) and (b) Yes, Sir. In order to create a sustainable defence Aerospace ecosystem, HAL has engaged private partners for Design & Development (D&D) of products and technologies.

To encourage private participations, HAL has created Research & Development (R&D) corpus of 10% of its Operational Profit After Tax (PAT).

A Portal for 'Make-in-India' has been launched on Company's website *www.hal-india.com* which gives details of various foreign Line Replaceable Units (LRUs), Systems, Spare parts, electrical, electronic items for HAL's projects such as Advance Light Helicopter (ALH), Light Combat Aircraft (LCA), Dornier (DO 228), Hawk, Jaguar etc. for indigenization by Indian private industries. The details are given in the Statement-I (*See* below).

(c) and (d) Yes, Sir. The details of major partnership with private players are given in the Statement-II.

Statement-I

Details regarding participation of private players

The following have been hosted on HAL's website to encourage participation of private industries:

(i) More than 300 numbers of systems and sub systems of mechanical, electrical, avionics, instrumentation for various HAL's project- such as ALH, LCA, DO 228, Hawk and Jaguar etc.

(ii) More than 100 Tools, Testers and Ground Equipment (TTGE) items of SU-30 MKI, which can be taken up by private companies for maintenance, repair and indigenization.

(iii) Details of testing facilities available at HAL for utilization by private industries.

2. Some of the major design initiatives taken by HAL for the following systems with the private partners are as under:

Platform	System
Light Utility Helicopter (LUH)	Smart Cockpit Display System Hardware
Light Combat Helicopter (LCH)	Control and Display Unit
	Data Interface Unit
	Multi-Function Display Hardware
Jaguar Darin III	Data Transfer System
SU30-MKI	Solid State Flight Data Recorder

Statement-II

Details of major partnership with private players

Sl. No.	Private player	Products / technologies developed
1.	M/s Accord Software	Control and Display Unit (CDU) for IADS of LCH.
		Control Saturation & Warning System of ALH.
2.	M/s ACD Technologies	Antenna & Diplexer for UHF SATCOM.
3.	M/s Aerospace Engineers	Lube pump for ALH, LCH & LUH.
		Fuel system bellows for ALH, LCH & LUH.
		Hydraulic system hoses and hose fittings for ALH, LCH & LUH.
4.	M/s Alpha Design Technologies	BSP (Board Support Package) and firmware.
5.	M/s Ananth Technologies	V/U HF Power Amplifier
6.	M/s Ananya Technologies	Air Data Attitude and Heading Reference System (ADAHRS) for Jaguar Darin III aircraft.
7.	M/s Amphenol Interconnect	Different types of soldering (76 types) and crimping types (181 types) of connectors used in SU-30MKI and MIG series aircraft.
8.	M/s Comavia System Technologies	Static test JIG for AFCC.
9.	M/s Data Pattern	Smart Cockpit Display System for LUH.
10.	M/s Datasol Inovative Labs	Control and display unit of IFF for IJT, Indian Naval Ships.
		Integrated standby instrument system of SU-30MKI aircraft and ALH.

Sl. No.	Private player	Products / technologies developed
11.	M/s Electro Circuit Systems	PCB design for various projects
		Receiver sub module of IFF MK XII transponder for Boing P81.
12.	M/s Excell RF Technologies	Manufacture of Transmitter antenna and receiver antenna for Akash missiles.
13.	M/s Indo Electrostat	Solenoid Valve.
14.	M/s Karnataka Hybrid Micro Devices	Manufacture of ECCM Modules.
15.	M/s L&T Limited, Strategic Electronic Centre	Passenger Oxygen System (Oxygen Cylinder, Regulator, Hose, Mask)
16.	M/s Merlinhawk Aerospace	Tester for Engine, Fly by Wire and Air Intake Control Panel of SU-30 MKI Aircraft.
17.	M/s Mahendra Aerospace (Formerly Plexion Technologies)	Design of LCH Front & Centre Fuselage.
18.	M/s Raga Associates	Mixer, Module Development for V/UHF.
19.	M/s S Wave Systems M/s Samtel Hal Display	Data Interface Unit (DIU) for IADS of LCH.
		Data Transfer Systems (DTS) for Jaguar Darin III Aircraft.
		Smart Multi Functional Display (SMFD) for SU-30 MKI.
20.	Systems (SHDS)	Multi-Functional Display (MFD) for IADS of LCH.
21.	M/s Shakti Enterprises	Crew Helmet for ALH.

Sl. No.	Private player	Products / technologies developed
22.	M/s SLN Technologies	Solid State Flight Data Recorder (SSFDR) for SU-30MKI.
23.	M/s Sonic Multitech	Signal Conditioning Unit used in MIG-29 Aircraft Engine Health Monitoring System.
24.	M/s Systems Aids	Multi Input Audio Warning Unit (MIAWU) for Jaguar Darin III Aircraft.
25.	M/s Southern Electronics	Stand by Warning Panel (SWP) for ALH & LCH.
		Engine Fire Detection Unit for ALH, LCH & LUH.
26.	M/s Turbo Tech	Oil Cooling System for ALH.
27.	M/s Wavelet Group	TPC (Turbo Product Code) Algorith, Development for SDR (Software Defined Radio).

Comparative military spending of China and India

189. SHRI SAMBHAJI CHHATRAPATI: Will the Minister of DEFENCE be pleased to state:

(a) whether the budgetary spending on military preparedness of China is three times more than that of India;

(b) if so, the strategy to protect the borders adjoining China;

(c) whether the Indian Defence Forces should be immediately equipped with information and cyber warfare, Artificial Intelligence, autonomous systems, robotics, etc. and also the basic infrastructure like air strips and roads on the borders in a big way; and

(d) the details thereof?

THE MINISTER OF STATE IN THE MINISTRY OF DEFENCE (DR. SUBHASH RAMRAO BHAMBRE): (a) to (d) As per open source information, China's defence budget is larger than the defence budget of India. Budgetary allocations for defence