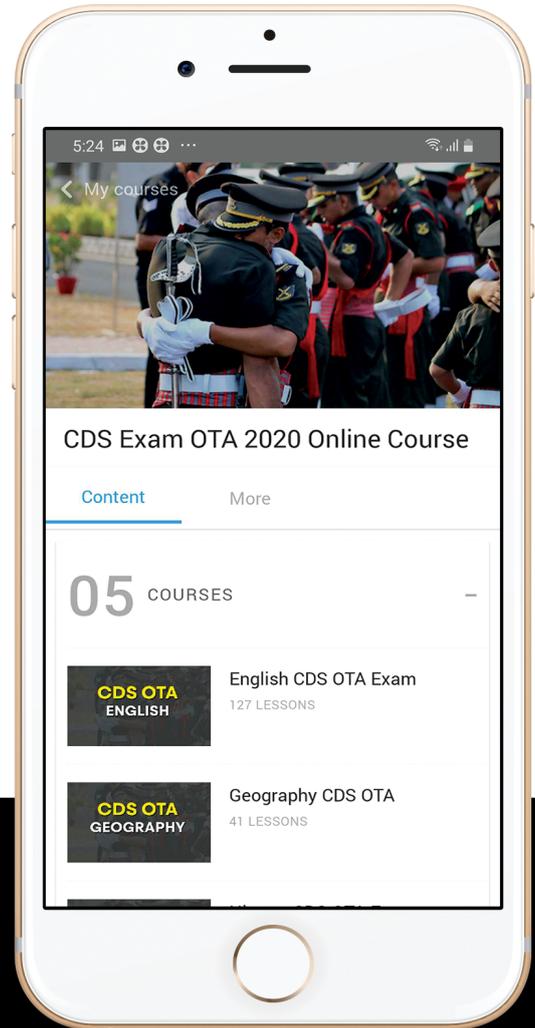




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WEEKLY DEFENCE UPDATES

11 – 17 JULY 2021

HAL's High Altitude Pseudo Satellites (HAPS): India's Futuristic Defence Satellite

- HAPS are advanced unmanned flying systems, which operate in the stratosphere at an altitude of 70,000 feet continuously for 2-3 months, to maintain surveillance on the ground below.
- The solar energized system is designed to act as a bridge between Unmanned Aerial Vehicles (UAVs) and conventional satellites. The futuristic project has not been designed by any other country yet.
- The design work has already been initiated by HAL and HAPS will be induced by 2024-2025.
- These unmanned aircraft may be airplanes, airships, or balloons and are stationed at a fixed place to enable versatile intelligence, surveillance, and reconnaissance (ISR) options thereby eliminating performance and capability limitations of satellites.

Advantages of HAPS:

- Cost-effective and are easier to launch.
- Can be controlled from anywhere using Beyond Line of Sight (BLOS) technology.
- Communication in remote locations or in deep seas.

HAL's CATS – Another advanced milestone...

- In a 'loyal wingman system', an aircraft with a human in it operates an Unmanned Aerial Vehicle (UAV) flying somewhere else using artificial intelligence.
- HAL along with the Bengaluru-based NewSpace startup is developing the indigenous 'Combat Air Teaming System' (CATS) drone that can be used in deep penetration strike warfare.
- On being aligned with CATS, HAPS can provide communication to the troops in strike missions with live video feeds and images.

ISRO Successfully Conducts Third Vikas Engine Long Duration Hot Test for Gaganyaan Program

- The engine (for the core L110 liquid stage of the human rated GSLV MkIII vehicle) was fired for a duration of 240 seconds at the engine test facility of ISRO Propulsion Complex (IPRC), Mahendragiri in Tamil Nadu. The performance of the engine met the test objectives, and the engine parameters were closely matching with the predictions.
- **May 29, 2019:** MoU signed between ISRO and IAF for cooperation in crew selection and training for Gaganyaan Project. 4 IAF pilots have already undergone generic space flight training in Russia.
- **Jun 08, 2019:** ISRO successfully tested Cryogenic Engine CE-20 engine, meant for the upper stage of GSLV MK-III.

4th Edition of Joint Training ‘Exercise Ekatah’ Between Indian Navy Marine Commandos and MNDF Marines

- It was carried out at MNDF CTC over a span of 12 days wherein participants were trained in aspects of Special Ops, Combat Diving, & the interoperability of the forces.
- Closing ceremony was attended by V Adm AK Chawla, FOC-in-C Southern Naval Command, Mr. Sunjay Sudhir, High Commissioner, and Maj General Abdulla Shamaal, Chief of Maldives National Defence Force.

Mobile Library Initiative by the Indian Army and Humdard NGO in Kashmir Valley

- Indian Army TA Battalion and Humdard NGO located in Ramban district initiated a service to make books available to the children of rural and inaccessible areas, encouraging them to start reading. Initially, the Army procured about 300 books of varied interest like Comics, Sci-Fi, Biographies, and Novels which can attract children of all age groups.

Vice Adm. G. Ashok Kumar, Vice Chief of Naval Staff Visits Commander, U.S. 3rd Fleet

- He met with Vice Adm. Steve Koehler, the commander of U.S. 3rd Fleet, during a visit to San Diego, June 28.
- The purpose of the meeting, held at the invitation of Commander, U.S. Pacific Fleet, focused on U.S. and Indian Navy cooperation in the area of undersea domain awareness, and is part of a larger visit which included various stops throughout San Diego and the Pacific Northwest
- While in San Diego, VCNS visited Undersea Warfighting Development Center, Submarine Squadron 11, Undersea Rescue Command, Fleet Anti-Submarine Warfare Training Center, and the aircraft carrier USS Theodore Roosevelt (CVN 71).
- In the Pacific Northwest, VCNS visited with elements of Submarine Development Squadron 5 and Commander, Undersea Surveillance.

Chief of Army Staff Visits Jaisalmer

- The COAS, accompanied by Lieutenant General JS Nain, Army Commander, Southern Command, then proceeded to the Pokhran Field Firing Ranges where he witnessed firing of various artillery guns, including equipment which is under development by indigenous manufacturers.
- He was also briefed by General Officer Commanding Konark Corps and other formation commanders on the operational situation and preparedness.

Chief of Defence Staff General Bipin Rawat Visits Jammu to Review Security on LoC

- CDS visited Rajouri-Poonch Sector along the Line of Control and reviewed the prevailing security situation and operational preparedness. Earlier in June also, he had visited the forward areas along the Line of Actual Control in the central sector in Himachal Pradesh and Uttarakhand area.

Raksha Rajya Mantri Shri Ajay Bhatt visits Indian Coast Guard Headquarters in New Delhi

- He was briefed by DG Coast Guard Shri K Natarajan and other senior officials on the capacities & capabilities of various operations of Coast Guard including firefighting, tackling oil spill, search & rescue, environment protection, anti-drug trafficking and combating transnational maritime crimes.

POP of 130 Young Gorkha Soldiers Held at 58 Gorkha Training Centre in Happy Valley

- The parade was reviewed by Colonel Vibhu Vashishtha, Officiating Commandant, 58 Gorkha Training Centre who congratulated the Young Soldiers for the successful completion of their training while also exhorting them to strive to be finest soldiers of Indian Army.

POP of Batch 01/2021 at INS Chilka on 09 Jul 21

- A total of 2142 trainees of Indian Navy and Coast Guard of batch 01/2021 graduated from INS Chilka under Southern Naval Command. The parade was reviewed by Vice Admiral MA Hampiholi AVSM, NM, Commandant, Indian Naval Academy.
- The Admiral gave the Overall Championship Trophy to Shivaji Division and Runners Up trophy to Eklavya Division

About INS Chilka:

- **Location:** Barkul, Odisha
- **Motto:** “*Uddhamena hi Sidhyanti Karyani*” (Success comes through efforts).
- **Commandant:** Commodore NP Pradeep
- This is an ab-initio training establishment of the Indian Navy for the sailors.

Raksha Mantri launches Artificial Intelligence powered grievance management application CPGRAMS

- A tripartite MoU for the project was signed among Department of Defence of MoD, Department of Administrative Reforms & Public Grievances (DARPG) and IIT Kanpur on August 04, 2020. The AI tool developed has capability to

understand the content of the complaint, categorize them, and gives geographical analysis along with whether the complaint was adequately addressed or not.

The screenshot shows four tweets from the official account of the Ministry of Defence, India (@DefenceMinIndia). Each tweet features a profile picture of a man in a yellow shirt. The tweets discuss the development and use of AI-based systems for grievance redressal in the government, comparing it to public grievance mechanisms and highlighting its application in various sectors like health, education, and agriculture. The tweets also mention specific AI projects like 'NETRA' and 'Atman AI'.

रक्षा मंत्री कार्यालय/ RMO India @DefenceMinIndia · 22h
This is the first AI based system developed to improve grievance redressal in the Government. The AI tool developed as part of the initiative has capability to understand the content of the complaint based on the contents therein.
4 22 115

रक्षा मंत्री कार्यालय/ RMO India @DefenceMinIndia · Jul 15
Public Grievances की तरह अन्य sector में भी AI का इस्तेमाल कैसे हो सकता है, उस पर भी मैं चाहता हूँ कि आपकी टीम विचार करे। यह Department चूँकि Public Grievances का ही Department नहीं है, Administrative Reforms का भी Department है: रक्षा मंत्री
2 39 173

रक्षा मंत्री कार्यालय/ RMO India @DefenceMinIndia · Jul 15
इसलिए इसे राष्ट्र के सम्यक विकास के लिए Health, Education, Agriculture, Skilling, Manufacture और retail जैसे sectors में भी AI की संभावनाएं तलाशनी चाहिए। इसके लिए technical study, या scoping study conduct कराया जाना चाहिए: रक्षा मंत्री
21 97

रक्षा मंत्री कार्यालय/ RMO India @DefenceMinIndia · Jul 15
रक्षा मंत्रालय के अंतर्गत, DRDO ने पिछले कुछ समय में काफी काम किया है। इस संगठन ने, सैन्य उपयोग में आने वाले robots, 'NETRA' जैसे application, chest X-ray से Covid detect करने वाले 'Atman AI' जैसे equipment विकसित किए हैं: रक्षा मंत्री
36 160

IAF's Second Rafale Squadron to Get Operational from Strategic Hasimara Air Base by July 26

- The newly raised squadron named 101 Squadron only has five Rafale jets. The remaining 13 jets will arrive early next year.
- The first Rafale jets squadron – the '17 Golden Arrows' – is fully operational at Ambala with 18 warplanes and is carrying out regular sorties over skies of Ladakh in the last few months amid the military standoff between India and China.

- 101 Squadron, also known as the **'Falcons of the Chhamb and Akhnoor'** participated in the Indo-Pakistani wars of 1965 and 1971 and was operational till 2011. MiG 21 squadron is now being resurrected with omni-role Rafale jets.
- The Air Force has received around 25 aircraft from France, and more are expected to be delivered in the next few months out of the 36 planes that India had ordered in 2016.
- India is now planning to place orders for 114 multirole fighter aircraft along with the indigenously developed stealth fighters Advanced Medium Combat Aircraft whose seven squadrons would join the IAF in the next 15-20 years.

147 Additional Indian Army Women Officers Granted Permanent Commission

- A Special Number 5 Selection Board for screening Women Officers for grant of PC was constituted in September 2020 and results were declared in November 2020.
- Consequently, 147 more Women Officers are being granted PC, taking the total PC granted to 424 out of the 615 officers considered. Results of few Women Officers have been withheld for administrative reasons.
- A batch of 33 Women Officers has already successfully completed the Mid Level Tactical Orientation Course from Army War College Mhow recently.
- With grant of PC, the Women Officers are transcending into an era of gender parity and are gearing up to assume challenging leadership roles, akin to their male counterparts.

IAI unveils latest loitering munition at DEFEX in Greece

- IAI says the Mini-Harpy is the world's only loitering munition with Dual EO/IR and Anti-Radiation seeker. The ability to seek and attack any target from any direction at any angle gives the Mini HARPY a significant advantage in any environment.

The loitering munitions family developed by IAI includes the

- Harpy-NG – a third generation of the system homing against radiating targets,
- HAROP, a second-generation of a precision electro-optical attack system,
- Mini-Harpy dual (Electro-optical day& night + Anti-Radiation seeker) tactical advanced munitions system and

- Tactical loitering Green-Dragon system,
- ROTEM VTOL Tactical Loitering Munition.

Three Aircraft Carriers Meet Up in the Gulf of Aden

- UK, Dutch and U.S. naval forces conducted an integrated at-sea exercise on 12 July 21, designed to enhance maritime interoperability and demonstrate naval integration through a series of training scenarios.
- The Queen Elizabeth (UK) and Ronald Reagan carrier strike groups (CSG), alongside the Iwo Jima amphibious ready group (ARG) of US, conducted this exercise in Gulf of Aden.

UK Carrier Strike Group And Indian Navy To Conduct Joint Maritime Exercises

- The strike group led by aircraft carrier HMS Queen Elizabeth has sailed into the Indian Ocean region and will carry out a wargame with the Indian Navy later this month in reflection of growing bilateral military ties.
- The Carrier will visit West Coast Ports where it will engage in a series of events.
- Later this year, the UK has invited Prime Minister Modi to attend the G7 Summit in Cornwall, UK, in recognition of India's role as the world's largest democracy and as a vital partner.
- The Carrier Strike Group will travel over 26,000 nautical miles from the Mediterranean to the Red Sea, from the Gulf of Aden to the Arabian Sea, and from the Indian Ocean to the Philippine Sea.

REVIEW QUESTIONS

1. High Altitude Pseudo Satellites are made by:

- A. Hindustan Aeronautics Limited
- B. National Aeronautics Limited
- C. DRDL Liquid Propulsion Laboratory
- D. Combat Vehicles Research & Development Establishment

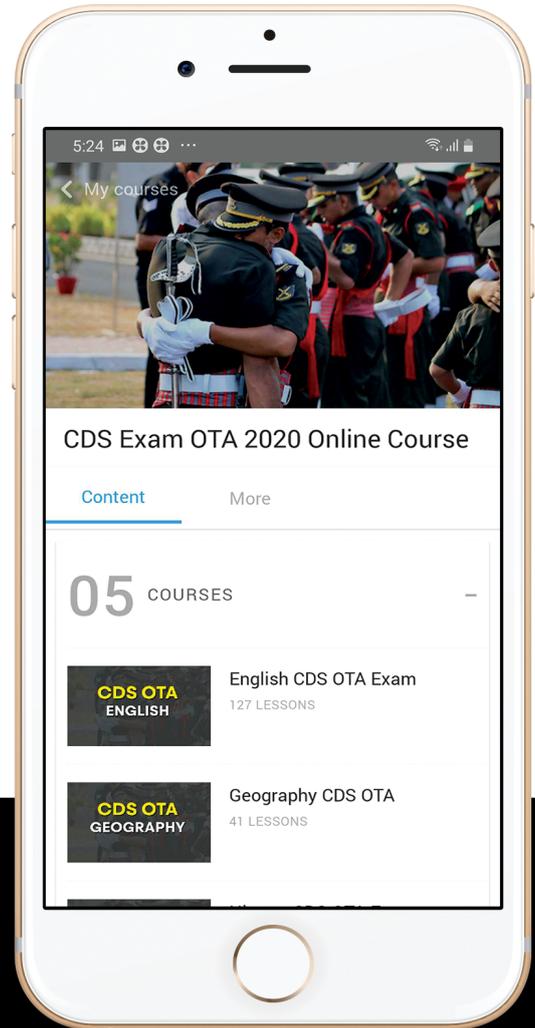
ANSWER: A



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2. Which of these is not true regarding HAL's HAPS?

- A. The system is solar energized.
- B. It acts as a bridge between UAVs and conventional satellites.
- C. It has not been designed by any other country yet.
- D. It can be controlled only from designated air pods.

ANSWER: D

3. HAPS can be controlled from anywhere using:

- A. Beyond Visual Range Radar Technology
- B. Under Line-of-Sight Technology
- C. Beyond Missile Breach Technology
- D. Beyond Line-of-Sight Technology

ANSWER: D

4. HAL's Combat Air Teaming System (CATS) is a type of "Loyal Wingman System". This means, a drone under this system is likely:

- A. Ground-launched
- B. Sea-launched
- C. Air-launched
- D. Space-launched

ANSWER: C

5. An MoU was signed between ISRO and IAF for cooperation in crew selection and training for Gaganyaan Project. According to this, how many pilots of IAF have finished their training and where?

- A. 4, US
- B. 4, Russia
- C. 3, US
- D. 3, Russia

ANSWER: B

6. The 4 IAF pilots selected for Gaganyaan Space Flight Programme have undergone training at which establishment in Russia?

- A. Roscosmos Mission Control Centre
- B. Yuri A Gagarin Training Centre
- C. Baikonur Cosmodrome

D. Vostochny Cosmodrome

ANSWER: B

7. ISRO recently conducted the third Vikas Engine long duration hot test for Gaganyaan mission. This is going to be a part of:

- A. Solid propulsion in GSLV Mk III
- B. Liquid propulsion in GSLV Mk III
- C. Solid propulsion in GSLV Mk II
- D. Liquid propulsion in GSLV Mk II

ANSWER: B

8. On June 08, 2019, ISRO successfully tested Cryogenic Engine CE-20 engine, meant for the upper stage of GSLV MK-III. A cryogenic engine has which of these as its major components?

- A. Liquid hydrogen and liquid oxygen
- B. Liquid nitrogen and liquid oxygen
- C. Liquid hydrogen and liquid nitrogen
- D. Liquid nitrogen and liquid argon

ANSWER: A

9. 4th Edition of Joint Training 'Exercise Ekatah' was conducted between Indian Navy Marine Commandos and the marines of which country?

- A. Mauritius
- B. Maldives
- C. Malaysia
- D. Madagascar

ANSWER: B

10. FOC-in-C Southern Naval Command:

- A. Vice Admiral AK Chawla
- B. Vice Admiral G Ashok Kumar
- C. Vice Admiral Ajendra Bahadur Singh
- D. Vice Admiral R Hari Kumar

ANSWER: A

11. Who is High Commissioner of India at Maldives?

- A. Sunjay Sudhir
- B. Gaitri Issar Kumar
- C. Gopal Baglay
- D. Vikram Doraiswami

ANSWER: A

12. Maj General Abdulla Shamaal is the:

- A. Chief of Maldives National Defence Force
- B. Vice Chief of Maldives National Defence Force
- C. Deputy Chief of Maldives National Defence Force
- D. Army Chief of Maldives National Defence Force

ANSWER: A

13. Mobile Library Initiative was taken up by the Indian Army along with which NGO in Kashmir Valley?

- A. Ashray NGO
- B. Aakar NGO
- C. Humdard NGO
- D. Darpan NGO

ANSWER: C

14. Vice Adm. G. Ashok Kumar, Vice Chief of Naval Staff recently visited Commander of the U.S. 3rd Fleet. What was the main purpose of this meeting?

- A. Undersea domain awareness
- B. Aerial combat
- C. Naval systems integration
- D. Submarine acquisition

ANSWER: A

15. Which of these is the place where US Pacific 3rd fleet is based whose location is in San Diego?

- A. Naval Base Norfolk
- B. Naval Base Point Loma
- C. Naval Base Coronado
- D. Naval Base Ventura County

ANSWER: B

16. Commander of the US 3rd Fleet whom our VCNS has visited recently:

- A. Admiral Robert P. Burke
- B. Admiral Michael M. Gilday
- C. Vice Admiral Steve Koehler
- D. Vice Admiral Daryl L. Caudle

ANSWER: C

17. Vice Adm. G. Ashok Kumar, Vice Chief of Naval Staff, while on visit to US Naval Establishments, has visited which aircraft carrier and its troops?

- A. USS Theodore Roosevelt
- B. USS Gerard R Ford
- C. USS Sterett
- D. USS Nimitz

ANSWER: A

18. Indian Coast Guard Headquarters:

- A. Mumbai
- B. Visakhapatnam
- C. New Delhi
- D. Kochi

ANSWER: C

19. Indian Coast Guard Motto:

- A. *Nabhah Sparsham Deeptam*
- B. *Sham No Varunah*
- C. *Vayam Rakshamah*
- D. *Aakashe Shatrun Jaahi*

ANSWER: C

20. Current Director General of the ICG:

- A. Krishnaswamy Natarajan
- B. V D Chafekar
- C. S Paramesh
- D. Prakash Badola

ANSWER: A

21. Raksha Mantri launched a grievance management application CPGRAMS. Its specialty is that:

- A. It is Artificial Intelligence powered
- B. It is first such application in our country
- C. It is used for redressal of grievances of pension seekers
- D. All the above

ANSWER: D

22. CPGRAMS full form:

- A. Centralized Pension Grievance Recovery And Monitoring System
- B. Centralized Pension Grievance Redress And Monitoring System
- C. Centralized Public Grievance Redress And Monitoring System
- D. Centralized Public Grievance Recovery And Monitoring System

ANSWER: C

23. IAF's Second Rafale Squadron is soon going to get operational from which strategic air base by July 26, 2021?

- A. Ambala Air Base
- B. Yelahanka Air Base
- C. Hasimara Air Base
- D. Jodhpur Air Base

ANSWER: C

24. First Rafale Squadron of IAF:

- A. 17 Squadron
- B. 101 Squadron
- C. 77 Squadron
- D. 18 Squadron

ANSWER: A

25. Second Rafale Squadron of IAF:

- A. 17 Squadron
- B. 101 Squadron
- C. 77 Squadron

D. 18 Squadron

ANSWER: B

26. Which of the squadrons along with their nicknames is wrongly assigned?

- A. 17 Squadron – Golden Arrows
- B. 101 Squadron – Raiding Raptors
- C. 77 Squadron – Veiled Vipers
- D. 18 Squadron – Flying Bullets

ANSWER: B

27. How many aircraft, out of 36, according to the inter-governmental deal, have reached India from France until now?

- A. 5
- B. 25
- C. 32
- D. 19

ANSWER: B

28. Mini-Harpy is the world's only loitering munition with Dual EO/IR and Anti-Radiation seeker. It is developed by which organisation?

- A. Defence Research & Development Organization
- B. Israeli Aerospace Industries
- C. Roscosmos of Russia
- D. Thales Air Defence System of US

ANSWER: B

29. UK, Dutch and U.S. naval forces conducted an integrated at-sea exercise on 12 July 21 at:

- A. Gulf of Aden
- B. Gulf of Mexico
- C. Gulf of Mannar
- D. Gulf of Khambhat

ANSWER: A

30. Which of these is not correct regarding Gulf of Aden?

- A. India-EUNAVFOR Naval Exercise happened there recently.
- B. Quad, France & UAE also had a naval exercise there previously.
- C. Approximately 11% of the world's seaborne petroleum passes through this gulf.
- D. It separates Indian Ocean from South China Sea.

ANSWER: D

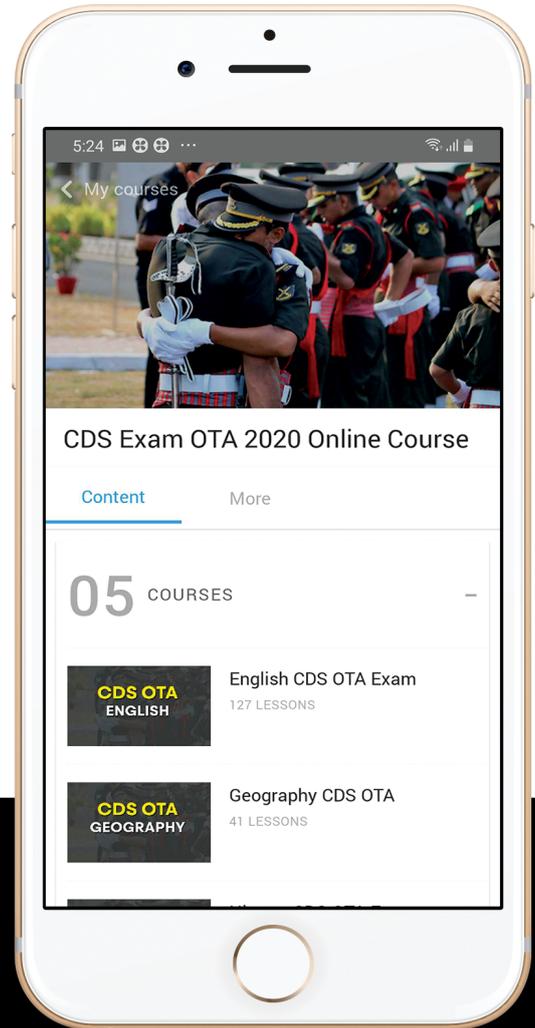




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