Prelim Bits 30-03-2018

Smart India Hackathon-2018

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- Smart India Hackathon 2018 is a non-stop digital product development competition, where problems are posed to technology students for innovative solutions.
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- Smart India Hackathon (SIH) – 2018 is organized by All India Council for Technical Education (AICTE) under the aegis of Ministry of Human Resource Development (MHRD).
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- In the finale the teams would build innovative digital solutions for problems on different areas of Official Statistics identified by Ministry of Statistics and Program Implementation.
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- The event will
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1. Harnesses creativity & expertise of students
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2. Spark institute-level hackathons
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3. Build funnel for ‘Startup India’ campaign
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4. Crowdsource solutions for improving governance and quality of life
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5. Provide opportunity to citizens to provide innovative solutions to India’s daunting problems
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- It is the second massive scale hackathon initiative following the last year’s event.
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- SIH 2018 will have 2 sub-editions – Software as well as Hardware:
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1. Software Edition will be 36 hour software product development competition.
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2. The new Hardware Edition will be a hackathon where teams will be work for 5 straight days and build their hardware solutions.
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- SIH 2017 had only software edition and hardware edition is a new addition to this year event, which will be held later.
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Lonar Crater

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- Around 50,000 years ago, a meteorite about 50 to 60 km in diameter hit the ground in the Lonar region creating a crater.
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- Lonar is in Buldana district in Maharashtra.
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- The site was discovered by a Britisher, C. J. E. Alexander in 1823.
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- Lonar crater is unique because it’s the world’s only high-velocity meteor crater in hard basalt.
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- It is an impact crater or meteorite crater which is a bowl-shaped depression with a raised rim, formed by the impact of a meteoroid.
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- Crater can be volcanic in origin too.
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- The Lonar Lake formed in this depression is remarkable because its water is both **saline and alkaline.**
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Komodo dragon

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- Komodo dragons are the largest, heaviest lizards in the world and one of the few with a venomous bite.
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- The lizards prey on dogs, pigs, goats and other animals.
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- Komodo dragons are limited to a few Indonesian islands of the Lesser Sunda group including Rintja, Padar and Flores, and **island of Komodo.**
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- Acoording to IUCN, the species is in vulnerable category.
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GSAT-6A Satellite

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- India's Geosynchronous Satellite Launch Vehicle (GSLV-F08) successfully launched GSAT-6A Satellite into Geosynchronous Transfer Orbit (GTO).
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- A geosynchronous orbit is a high Earth orbit that allows satellites to match Earth's rotation.
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- A spacecraft is first launched into an elliptical orbit called Geosynchronous Transfer Orbit (GTO) to attain geosynchronous (and also geostationary) Earth orbits later.
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- GSAT-6A is a communication satellite built by ISRO to provide mobile communication services through multi beam coverage.
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- It is equipped with S and C band transponders.
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HF Band	3 to 30 MHz
VHF Band	30 to 300 MHz
UHF Band	300 to 1000 MHz
L Band	1 to 2 GHz
S Band	2 to 4 GHz
C Band	4 to 8 GHz
X Band	8 to 12 GHz
Ku Band	12 to 18 GHz
K Band	12 to 27 GHz
Ka Band	27 to 40 GHz

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- A transponder is a device that receives and transmits radio signals at a prescribed frequency range.
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Transiting Exoplanet Survey Satellite

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- The Transiting Exoplanet Survey Satellite (TESS) is an Explorer-class planet finder by NASA.
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- The principal goal of the TESS mission is to detect small planets with bright host stars in the solar neighborhood
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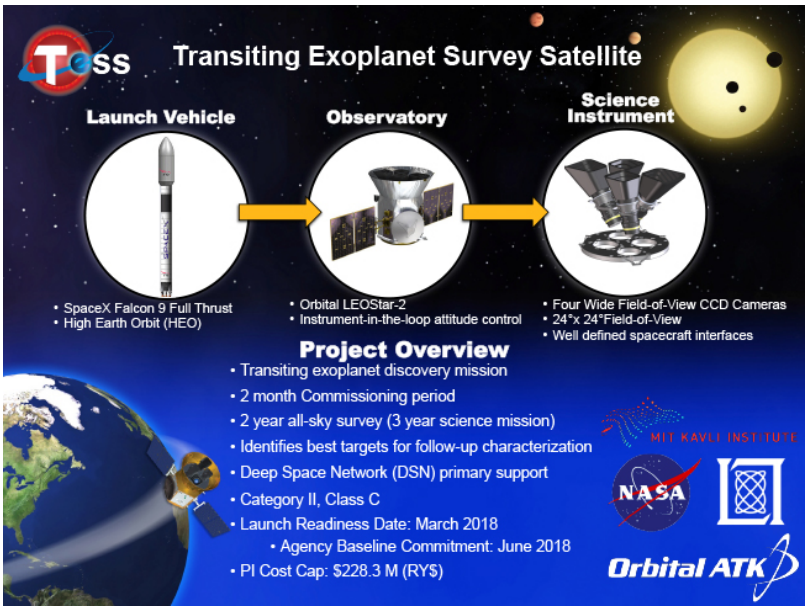

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- The spacecraft will be launched aboard a SpaceX Falcon 9 rocket from Cape Canaveral Air Force Station in Florida.
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- The spacecraft will be looking for a phenomenon known as a transit, where a planet passes in front of its star, causing a periodic and regular dip in the star’s brightness.
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Map of the day

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World Volcanoes

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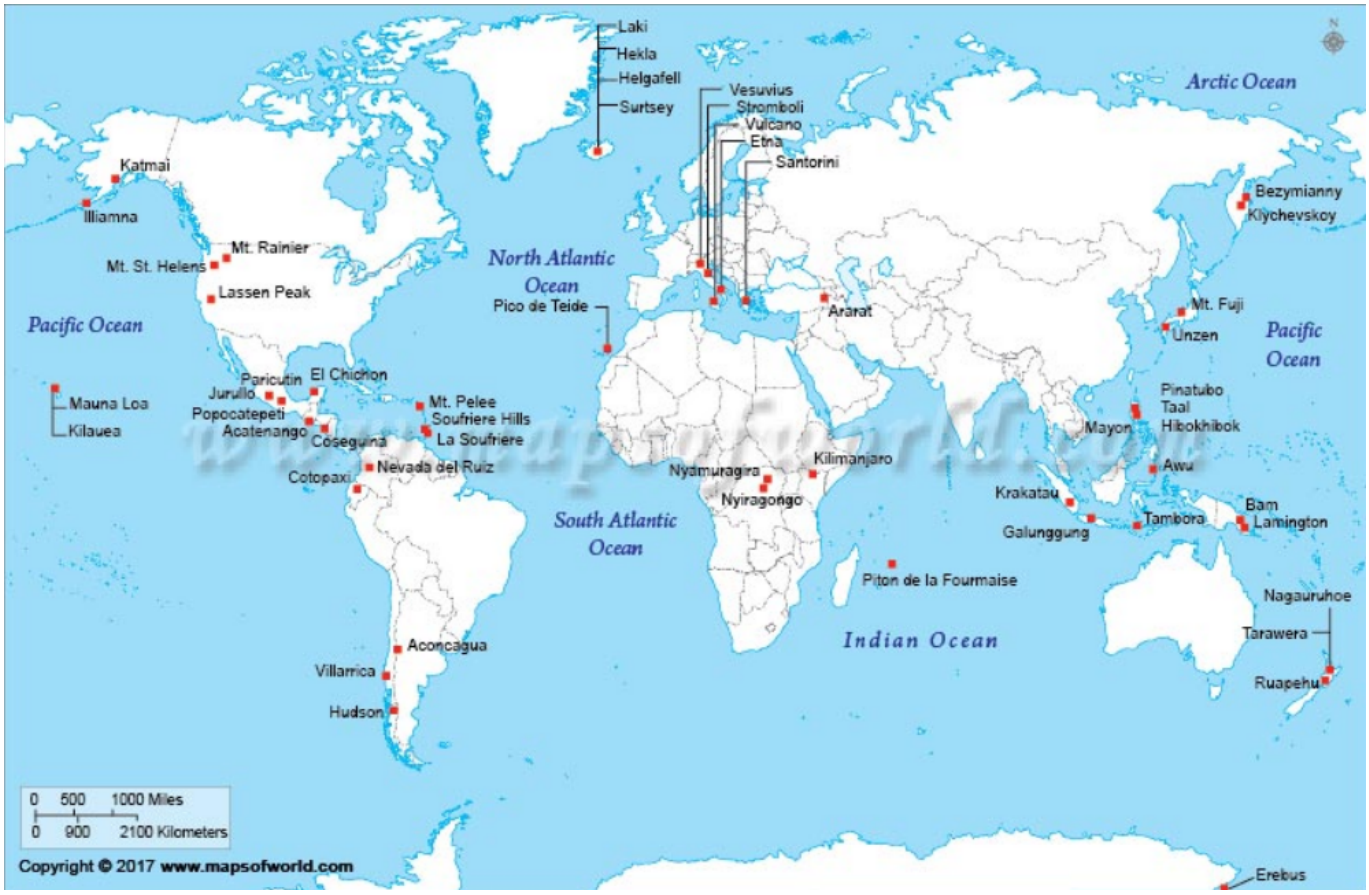

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- A stratovolcano (or composite volcano) is a conical volcano consisting of layers of solid lava flows mixed with layers of other rock.
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- Examples of Strato volcano Mt Vesuvius, Mt Krakatau, Mt Rainier, Mt Etna, Mt Fuji, Mt Cotopaxi, Mt Peele, Mt Kilimanjaro
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- A cinder cone volcano doesn’t have any horizontal layers, and is instead a steep conical hill of tephra (volcanic debris) that accumulates around and downwind from the vent.
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- Mt Paricutin in Mexico and Mount Nuovo in Italy are the best examples of cinder cone volcanoes.
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- A shield volcano is entirely or mostly composed of fluid lava vents.
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Example- Mauna kea (Hawaii)

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Source: PIB, The Hindu, Business Standard

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