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Q.1) Consider the following statements about 'Prithvi Defence Vehicle (PDV)'

1. It is indigenously developed by Defence Research and Development Organisation (DRDO)
2. It is designed for engaging the targets in the exo-atmosphere region at an altitude above 50 km of the earth's atmosphere.

Select the correct statements

- a) 1 Only
- b) 2 Only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.1) Solution (c)

Prithvi Defence Vehicle interceptor missile is capable of killing an incoming missile with a strike range of around 2,000 km outside the earth's atmosphere. India is the fifth nation in the world to have a robust Ballistic Missile Defence system. Other countries are US, Russia, Israel and China.

This Prithvi Defence Vehicle (PDV) mission is for engaging the targets in the exo-atmosphere region at an altitude above 50 km of the earth's atmosphere

Both the interceptor PDV and the two-stage target missile were equipped with motors specially developed for the mission.

Source: <https://www.businesstoday.in/current/economy-politics/india-conducts-successful-interceptor-missile-test-at-night/story/282750.html>

Q.2) 'Boundary Working Group (BWG)' was constituted to undertake the construction, restoration and repair of boundary pillars, including clearance of 'No-man's land' and other technical tasks. It is related to India and

- a) Pakistan
- b) Nepal
- c) Myanmar
- d) Bhutan

Q.2) Solution (b)

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India and Nepal have agreed to explore the possibility of using high resolution satellite images in boundary survey work

During the 5th meeting of the Nepal-India Boundary Working Group (BWG), both sides agreed to continue mapping of no-man's land encroachment and cross-border occupation

The two countries also agreed to maintain status quo in cultivation of the disputed land until an agreement is reached between the two governments.

The BWG is a joint body constituted by India and Nepal in 2014 to conduct works in the fields of construction, restoration and repair of boundary pillars, including clearance of no-man's land and other technical tasks

Source: <https://economictimes.indiatimes.com/news/politics-and-nation/india-nepal-to-explore-using-satellite-images-in-boundary-survey-work/articleshow/65914017.cms>

Q.3) Consider the following statements about 'MINERVA-II1'

1. It is the world's first rover to land on the surface of an asteroid
2. It is developed by European Space Agency

Select the correct code:

- a) 1 Only
- b) 2 Only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.3) Solution (a)

History was created as Japan became the world's country to successfully land two robotic rovers on an asteroid. This is the first time that the world will observe the surface of an asteroid via moving robots.

MINERVA-II1

- It is a compact rover consisting of two rovers. Minervall1 is a 3.3 kg compact package consisting the two cookie-tin shaped rovers, Rover-1A and Rover-1B, which are now operating on the asteroid surface.
- Both the rovers landed on the surface of asteroid Ryugu. Ryugu is a blackish coloured, diamond-shaped asteroid. It rotates on its axis once every 7.5 hours.

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- Though the European Space Agency had managed to land on an icy comet before, MINERVA-II1 is the world's first rover to land on the surface of an asteroid. This is also the first time for autonomous movement and picture capture on an asteroid surface.
- MINERVA-II1 is therefore 'the world's first man-made object to explore movement on an asteroid surface'.

Hayabusa2

- Hayabusa2 is the successor to Hayabusa1, JAXA's first asteroid explorer, Hayabusa
- The term 'hayabusa' is Japanese for falcon
- The solar panel equipped spacecraft is about the size of a large fridge
- The Hayabusa2 mission was launched in December 2014
- The spacecraft is scheduled to leave Ryugu in December 2919 and return to Earth with its samples in 2020

Source: <https://www.indiatoday.in/education-today/gk-current-affairs/story/minerva-ii1-rovers-from-japan-land-on-asteroid-surface-html-1346931-2018-09-23>

Q.4) Consider the following statements about 'LEADS index'

1. It is concerned with the performance of logistics
2. It is released by NITI Aayog

Select the correct statements

- a) 1 Only
- b) 2 Only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.4) Solution (a)

LEADS index

- Logistics Ease Across Different States (LEADS) index is developed by the commerce and industry ministry along with Deloitte.
- It is a composite indicator to assess international trade logistics across states and Union territories

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- LEADS is loosely based on the World Bank's biannual Logistics Performance Index (LPI), on which India was ranked 35 among 160 countries in 2016, up from 54 in 2014.
- LEADS is based on eight parameters such as infrastructure, services, timeliness, track and trace, competitiveness of pricing, safety of cargo, operating environment and regulatory process.

Q.5) 'Article 161' of the Constitution of India deals with

- a) Qualifications for appointment as Governor
- b) Power of Governor to grant pardons, etc., and to suspend, remit or commute sentences in certain cases
- c) Discharge of the functions of the Governor in certain contingencies
- d) None of the above

Q.5) Solution (b)

Article 161 of the Constitution of India deals with

Power of Governor to grant pardons, etc, and to suspend, remit or commute sentences in certain cases The Governor of a State shall have the power to grant pardons, reprieves, respites or remissions of punishment or to suspend, remit or commute the sentence of any person convicted of any offence against any law relating to a matter to which the executive power of the State extends.

Source: <https://www.thehindu.com/opinion/op-ed/governors-discretion/article25021561.ece>