

**Que-1** With reference to African swine fever virus, consider the following statements

- 1- This is a large, double-stranded DNA virus in the Asfarviridae family.
- 2- The virus causes a hemorrhagic fever with high mortality rates in domestic pigs; some isolates can cause death of animals as quickly as a week after infection.
- 3- It also cause disease in humans.

Which of the following given above is/are correct

- |                 |                 |
|-----------------|-----------------|
| a) 1 and 2 only | b) 1 and 3 only |
| c) 1, 2 and 3   | d) 2 only       |
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**Que-2** What is AlphaFold?

- 1- It is an AI-based protein structure prediction tool.
- 2- It is based on a computer system called open neural network.
- 3- AlphaFold is fed with protein sequences as input.

Which of the following given above is/are correct

- |               |                 |
|---------------|-----------------|
| a) 1 only     | b) 1 and 3 only |
| c) 1, 2 and 3 | d) 2 and 3 only |
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**Que-3** With reference to Gati Shakti University Bill, consider the following statements

- 1- The Bill seeks to expand the scope of the university from beyond just the Railways to cover the entire transport sector and support growth and modernisation in the field.
- 2- The new university, will be funded and administered by the Ministry of Education.
- 3- The University is named after the government's flagship ₹100 lakh crore PM Gati Shakti National Master Plan for multi-modal connectivity.

Which of the following given above is/are correct

- |                 |                 |
|-----------------|-----------------|
| a) 1 and 2 only | b) 1 and 3 only |
| c) 1, 2 and 3   | d) 2 only       |
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**Que-4** Consider the following statements about Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Amendment Bill, 2022

- 1- This empowers the Centre to freeze, seize or attach financial assets and economic resources of people engaged in such activities.
- 2- The amendment bill seeks to insert a new Section 12A in the existing law.
- 3- The Weapons of Mass Destruction and their Delivery Systems (Prohibition of

Unlawful Activities) Act, passed in 2005, only banned manufacture and distribution of weapons of mass destruction.

Which of the following given above is/are correct

- a) 1 and 2 only      b) 1 and 3 only  
c) 1, 2 and 3      d) 2 and 3 only
- 

**Que-5 Who decides on creating or scrapping districts, or changing their boundaries?**

1- This power lies with the state governments, who can pass a law in the Assembly or simply issue an order and notify it in the gazette.

2- The Centre does not have a say in the matter.

3- The central government does play a role, however, when a change of name of a district or railway station is contemplated.

Which of the following given above is/are correct

- a) 1 and 2 only      b) 3 only  
c) 1, 2 and 3      d) 2 and 3 only
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**Que-6 Port of Odesa, recently in News, is located at which country?**

- a) Russia  
b) Taiwan  
c) Ukraine  
d) China
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**Que-7 With reference to Small Satellite Launch Vehicle (SSLV), Consider the following statements**

1- The Small Satellite Launch Vehicles have been designed by the Indian space agency, Indian Space Research Organisation (ISRO).

2- Design to attract the emerging small satellite market and provide launch-on-demand services to domestic and foreign customers.

3- The SSLV has been designed to launch a payload weighing 50 kg to a 500-kilometer planar orbit.

Which of the following given above is/are correct

- a) 1 and 2 only      b) 1 and 3 only  
c) 1, 2 and 3      d) 2 only
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**Que-8 Consider the following statements about Exercise Pitch Black**

- 1- The biennial exercise.
- 2- Hosted by the Australian Air Force.

Which of the following given above is/are correct

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

**ANSWER**

1- (a)

- It persistently infects its natural hosts, warthogs, bushpigs, and soft ticks of the genus *Ornithodoros*, which likely act as a vector, with no disease signs.
- It does not cause disease in humans.

2- (b)

- AlphaFold is an AI-based protein structure prediction tool. It is based on a computer system called deep neural network. Inspired by the human brain, neural networks use a large amount of input data and provides the desired output exactly like how a human brain would.
- The real work is done by the black box between the input and the output layers, called the hidden networks.

- AlphaFold is fed with protein sequences as input. When protein sequences enter through one end, the predicted three-dimensional structures come out through the other. It is like a magician pulling a rabbit out of a hat.

- It uses processes based on “training, learning, retraining and relearning.” The first step uses the available structures of 1,70,000 proteins in the Protein Data Bank (PDB) to train the computer model. Then, it uses the results of that training to learn the structural predictions of proteins not in the PDB. Once that is done, it uses the high-accuracy predictions from the first step to retrain and relearn to gain higher accuracy of the earlier predictions. By using this method, AlphaFold has now predicted the structures of the entire 214 million unique protein sequences deposited in the Universal Protein Resource (UniProt) database.

3- (b)

- The new university, will be funded and administered by the Ministry of Railways.
- The Central Universities (Amendment) Bill, seeks to convert the National Rail and Transportation Institute (NRTU), a deemed-to-be university, into the Gati

Shakti Vishwavidyalaya, an autonomous Central university.

- The new university, once the Bill clears both Houses of Parliament, will be funded and administered by the Ministry of Railways.
- The Gati Shakti Master Plan is essentially a digital platform bringing together 16 Ministries, including roadways and railways for integrated planning and coordinated implementation of infrastructure connectivity projects such as Bharatmala, Sagarmala, and inland waterways, dry and land ports, and UDAN.

4- (a)

- The Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act, passed in 2005, only banned manufacture of weapons of mass destruction.
- Passed by the Rajya Sabha with a voice vote. The bill was approved by the Lok Sabha in April.
- The amendment bill seeks to insert a new Section 12A in the existing law which states that "no person shall finance any activity which is prohibited under this Act, or under the United Nations (Security Council) Act, 1947 or any other relevant Act for

the time being in force, or by an order issued under any such Act, in relation to weapons of mass destruction and their delivery systems."

5- (c)

- The central government does play a role, however, when a change of name of a district or railway station is contemplated. The request of the state government in this regard is sent to several central government departments before a no-objection certificate is issued.
- The 2001 Census recorded 593 districts, which went up to 640 in 2011. India currently has more than 775 districts.
- Uttar Pradesh has the most districts (75) in the country, followed by Madhya Pradesh (52). Goa, by contrast, has only 2 districts. However, the number of districts in a state is not always a function of the area of the state, or of its population.
- West Bengal, for example, has 42 Lok Sabha MPs but only 30 districts even after the addition of the 7 new districts, and Andhra Pradesh, even after the recent doubling of the number of districts to 26, has only one more district than the number of Lok Sabha seats. Tamil Nadu, which has 39 MPs in Lok Sabha — after only Uttar

Pradesh, Maharashtra, Bihar, and West Bengal — has one fewer district.

6- (c)

- The Port of Odesa or Odesa Sea Port, located near Odesa, is the largest Ukrainian seaport and one of the largest ports in the Black Sea basin, with a total annual traffic capacity of 40 million tonnes (15 million tonnes dry bulk and 25 million tonnes liquid bulk).
- The port has an immediate access to railways allowing quick transfer of cargo from sea routes to ground transportation. Along with its younger satellite ports of Chornomorsk (1958) and Yuzhne (1973), the Port of Odesa is a major freight and passenger transportation hub of Ukraine.

7- (a)

- SSLV will free Isro's workhorse Polar Satellite Launch Vehicle for bigger missions. The maiden mission is aimed to demonstrate the technological advancement made by Isro and its capability to deliver smaller payloads into low Earth Orbit.
- SSLV is a brainchild of current Isro chief S Somnath, who has been known for his rocket wizardry worldwide. The SSLV has been designed to launch a payload weighing 500 kg to a 500-

kilometer planar orbit. By comparison, the PSLV — the workhorse of Isro — can take up to a 1,750-kilogram payload into the Sun Synchronous Orbit at 600 km altitude.

- Apart from the capability to launch up to 500 kg of satellite mass, the SSLV will have the option of multiple satellite mounting options for nano, micro, and small satellites.

8- (c)

- The participants this year are Australia, Canada, France, Germany, Indonesia, India, Japan, Malaysia, Netherlands, New Zealand, the Philippines, South Korea, Singapore, Thailand, UAE, the U.K. and the U.S.