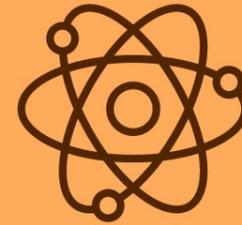


**SCIENCE & TECH**  
(विज्ञान एवं प्रौद्योगिकी)

**PART-4**

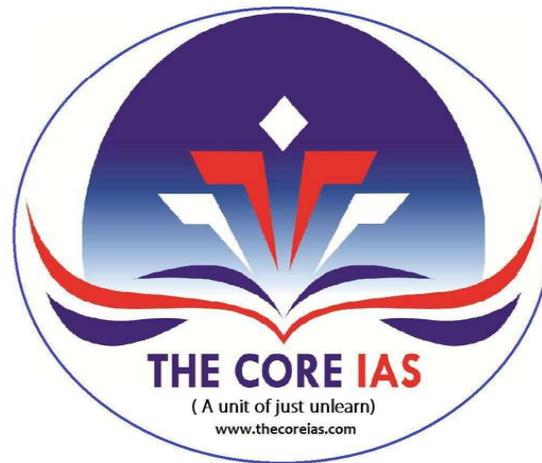
**PRELIMS**  
**2020**



**CURRENT AFFAIRS**

**THE CORE IAS**  
**WWW.THECOREIAS.COM**

# SCIENCE & TECHNOLOGY



# COSMOLOGICAL CONSTANT

---



- General relativity predicted that the universe must either expand or contract.
- Einstein: Static and introduced Cosmological constant
- Greatest Blunder

निम्नलिखित परिघटनाओं पर विचार कीजिए :

1. प्रकाश, गुरुत्व द्वारा प्रभावित होता है ।
2. ब्रह्माण्ड लगातार फैल रहा है ।
3. पदार्थ अपने चारों ओर के दिक्काल को विकुंचित (वार्प) करता है ।

उपर्युक्त में से एल्बर्ट आइन्सटाइन के आपेक्षिकता के सामान्य सिद्धान्त का/के भविष्यकथन कौन-सा/से है/हैं, जिसकी/जिनकी प्रायः समाचार माध्यमों में विवेचना होती है ?

- (a) केवल 1 और 2
- (b) केवल 3
- (c) केवल 1 और 3
- (d) 1, 2 और 3

Consider the following phenomena :

1. Light is affected by gravity.
2. The Universe is constantly expanding.
3. Matter warps its surrounding space-time.

Which of the above is/are the prediction/predictions of Albert Einstein's General Theory of Relativity, often discussed in media ?

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

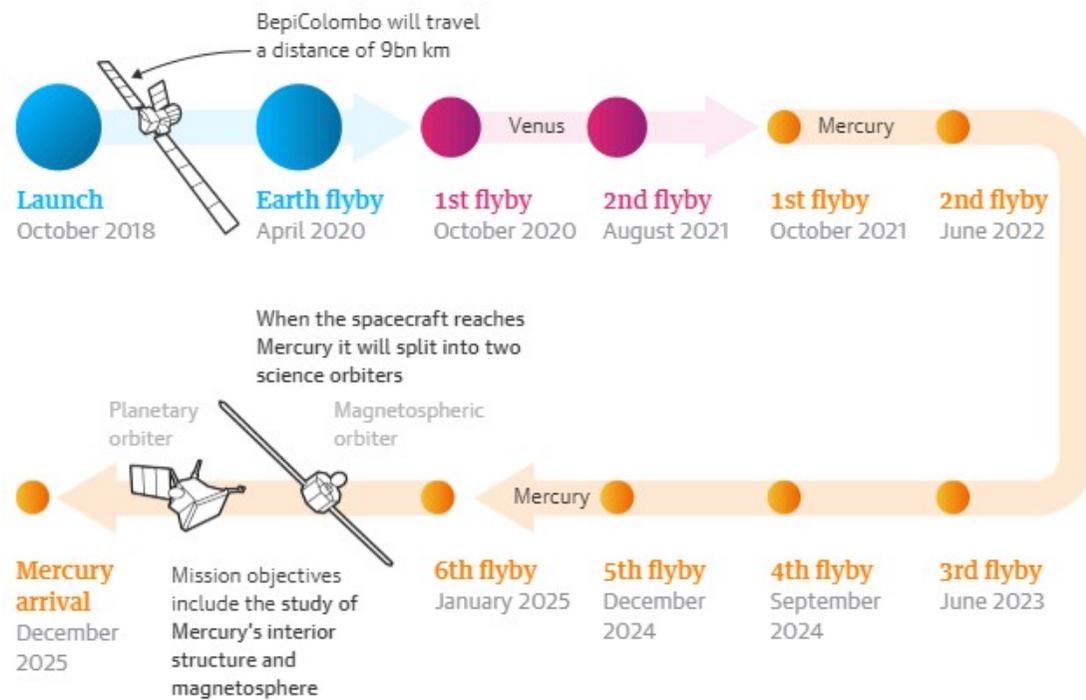
# HUBBLE CONSTANT

---



- Measure the speed of the expansion of the universe.

# BEPICOLOMBO SPACECRAFT



Guardian graphic. Source:ESA



---

Which of the following pairs is/are correctly matched? [2014 - I]

**Spacecraft**

**Purpose**

1. Cassini-Huygens : Orbiting the Venus and transmitting data to the Earth
2. Messenger : Mapping and investigating the Mercury
3. Voyager 1 and 2 : Exploring the outer solar system

Select the correct answer using the code given below.

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

# WORMIVET



- 
- Herbal medicine
  - By National Innovation Foundation India
  - an alternate to chemical method of treatment of worm.

# PRIMORDIAL BLACK HOLES



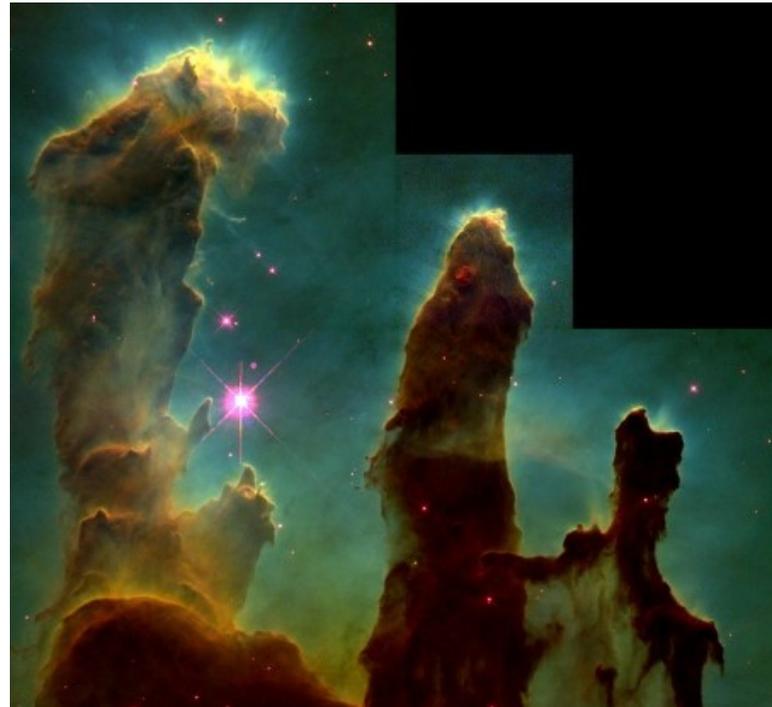
- Born very early in the life of the universe



# PILLER OF CREATION (EAGLE NEBULE M16)



Towering tendrils of cosmic dust and gas sit at the heart of M16, or the Eagle Nebula





कभी-कभी समाचारों में 'इवेंट होराइजन', 'सिंगुलैरिटी', 'स्ट्रिंग थियरी' और 'स्टैण्डर्ड मॉडल' जैसे शब्द, किस सन्दर्भ में आते हैं ?

- (a) ब्रह्माण्ड का प्रेक्षण और बोध
- (b) सूर्य और चन्द्र ग्रहणों का अध्ययन
- (c) पृथ्वी की कक्षा में उपग्रहों का स्थापन
- (d) पृथ्वी पर जीवित जीवों की उत्पत्ति और क्रमविकास

The terms 'Event Horizon', 'Singularity', 'String Theory' and 'Standard Model' are sometimes seen in the news in the context of

- (a) Observation and understanding of the Universe
- (b) Study of the solar and the lunar eclipses
- (c) Placing satellites in the orbit of the Earth
- (d) Origin and evolution of living organisms on the Earth

# APPOLLO MISSION

---



Consider the following statements with reference to the *Apollo-13*.

1. The Apollo 13 crewed mission to the Moon known as a successful failure as its crew were able to pull off a safe return despite the spacecraft enduring an explosion.
2. It was the seventh crewed mission in the Apollo space program and the third meant to land on the Moon.
3. Recently, European Space Agency (ESA) marked the 50th anniversary of the Apollo-13 crewed mission to the Moon.

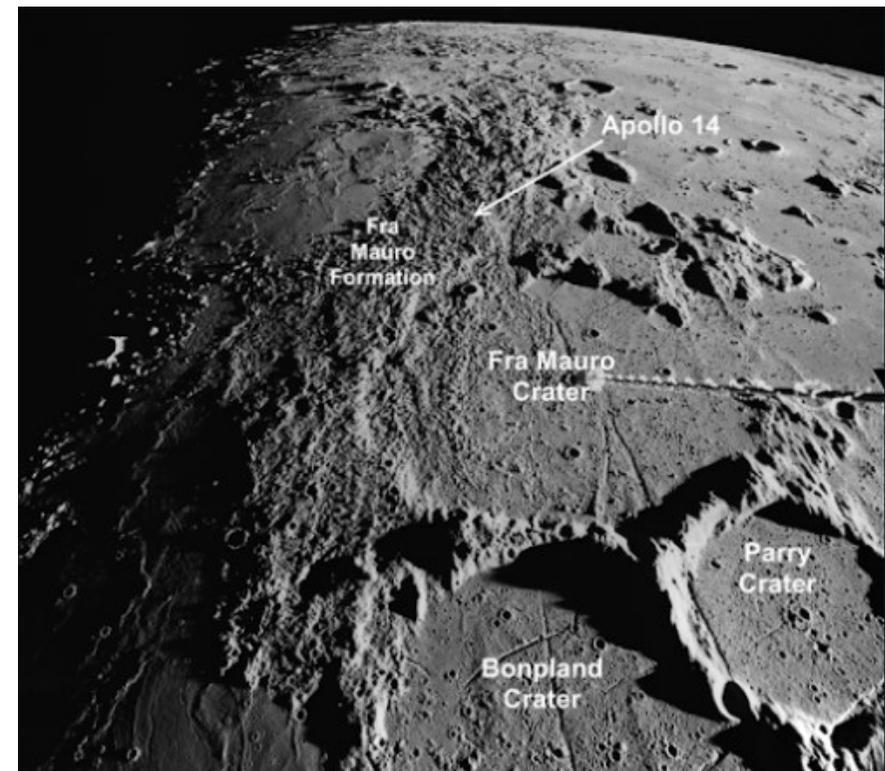
Which of the statement(s) given above is/are correct?

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

# FRA MAURO FORMATION



- A **formation** on the near side of Earth's Moon that served as the landing site for the American Apollo 14



# SIFONOFOR APOLEMIA'

---



A giant sea creature that scientists discovered off the coast of Western Australia has been called the longest animal ever discovered



# OSERIS REX



- 
- Origins, Spectral Interpretation, Resource Identification, Security-Regolith Explorer.
  - Will travel to a near-Earth asteroid called Bennu and bring a small sample back to Earth for study.
  - WHY BENNU?

# HARPOON



- 
- Over-the-horizon, anti-ship missile manufactured by Boeing Defence, Space & Security.

# MEASEL



- 
- Contagious viral disease
  - transmitted via droplets from the nose, mouth or throat of infected persons

# POOLED TESTING

---



A pooled testing algorithm involves the Polymerase Chain Reaction (PCR) screening of a specimen pool comprising multiple individual patient specimens, followed by individual testing (pool de-convolution) only if a pool screens positive.

## VPN: ICMR WEBSITE

---



Work from home On enabling work from home for the entire government during the lockdown, the official said there were some challenges such as configuring virtual private network (VPN) access — core to enabling government employees to work from their homes — to large number of employees in a span of three or four days was a herculean task



---

What is “Virtual Private Network” ? [2011 - I]

- (a) It is a private computer network of an organization where the remote users can transmit encrypted information through the server of the organization.
- (b) It is a computer network across a public internet that provides users access to their organization’s network while maintaining the security of the information transmitted.
- (c) It is a computer network in which users can access a shared pool of computing resources through a service provider.
- (d) None of the statements (a), (b) and (c) given above

# NeMO-Net



---

! Single player iPad game where players help NASA classify coral reefs by painting 3D and 2D images of coral. Players can rate the classifications of other players and level up in the food chain as they explore and classify coral reefs and other shallow marine environments and creatures from locations all over the world



WE'RE HERE TO HELP

Follow us



FACEBOOK



+91-8800141518



Telegram



Instagram



YouTube



Twitter

[www.thecoreias.com](http://www.thecoreias.com)



---

Consider the following statements with reference to the *Convalescent Plasma (CP) Therapy*.

1. It involves transfusing certain components from the blood plasma of people who have had the disease and recovered into people who are suffering from it.
2. This Therapy works on the principle of antibodies targeting the disease which is a classic adaptive immunotherapy.
3. Best time to give convalescent plasma containing antibodies is before disease develops.

Which of the statement(s) given above is/are correct?

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

# G.S. Foundation

# 20

# 21 / 22 / 23



✓ **Answer Writing (G.S.)**

Online  
/Offline

✓ **Hindi Literature/ Pol. Science (Optional)**

✓ **The Hindu Classes**

✓ **Prelims & Mains Test Series**

✓ **Module Classes**

