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Q44

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 Official key: A.

UPSC Civil Services Prelims 2017 · General Studies · 2 marks · Current Affairs and GK
Current events, government schemes, miscellaneous GK - Prelims GS Paper I.

Explanation**(a) Official key**

(a) Observation and understanding of the Universe. **Event horizon** and **singularity** are black-hole terms; **string theory** and the **Standard Model** are frameworks for fundamental physics and cosmology. Together they belong to studying the Universe. This is the official key.

(b)

(b) Study of solar and lunar eclipses. Eclipses are orbital-shadow events, not **string theory** or the **Standard Model**. Not the key.

(c)

(c) Placing satellites in Earth orbit. Mission mechanics do not use this cluster of terms as their home vocabulary. Not the key.

(d)

(d) Origin and evolution of living organisms. That is biology/evolution, not this physics vocabulary. Not the key.

Summary

Official key is (a) observation and understanding of the Universe. An **event horizon** bounds a black hole; a **singularity** is the classical breakdown at its core. The **Standard Model** organises known particles and forces (except gravity); **string theory** is a candidate unification. None of these is an eclipse handbook, a satellite-injection manual, or a Darwinian toolkit. **LIGO's** gravitational waves are a neighbouring Universe-observation story.

Related possible facts

These can be asked in a future Prelims paper.

Event horizon

Boundary of a black hole

Singularity

Infinite curvature in GR solutions

Standard Model

Particle physics framework

String theory

Quantum gravity candidate

LIGO

Gravitational-wave detection, 2015

CERN LHC

Higgs boson, 2012

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