

Entomology and Celestial Connections in South Asia

Entomology · Answer Key · 25 Questions

1. Which South Asian beetle species is known for its metallic elytra, often compared to the iridescent light reflecting off planets?

- A) *Sternocera chrysis***
- B) *Scarabaeus sacer*
- C) *Dynastes hercules*
- D) *Lucanus cervus*

2. The migration patterns of the Painted Lady butterfly (*Vanessa cardui*) across the Himalayas are sometimes tracked using technology derived from which celestial navigation system?

- A) GPS**
- B) Galileo
- C) GLONASS
- D) BeiDou

3. In South Asian mythology and folk entomology, the firefly (*Lampyridae*) is often symbolically linked to which celestial body?

- A) The Moon**
- B) Mars
- C) Venus
- D) The Sun

4. Which nocturnal moth in India follows lunar cycles for its reproductive cycles, similar to how the Moon affects Earth's tides?

- A) *Attacus atlas***
- B) *Acherontia styx*
- C) *Actias selene*
- D) *Bombyx mori*

5. The 'Pulsar' is a type of neutron star; which South Asian ant genus contains species that exhibit rapid, rhythmic movement patterns?

- A) *Harpegnathos***
- B) *Oecophylla*
- C) *Solenopsis*
- D) *Monomorium*

6. In the high-altitude regions of the Hindu Kush, which insect order is most studied for its resilience to solar radiation levels similar to high-atmosphere space conditions?

A) Coleoptera

- B) Orthoptera
- C) Hymenoptera
- D) Diptera

7. The study of insect chitin in South Asian research labs often involves structural analysis techniques similar to those used to map the density of which celestial objects?

A) Asteroids

- B) Nebulae
- C) Black holes
- D) Comets

8. Which South Asian insect is named after a celestial constellation due to its patterned wings?

A) Orion butterfly

- B) Draco beetle
- C) Lyra moth
- D) Ursa wasp

9. What celestial event has been observed to temporarily disrupt the navigation of migratory dragonflies (*Pantala flavescens*) in the Bay of Bengal?

A) Solar eclipse

- B) Meteor shower
- C) Supernova
- D) Lunar occultation

10. The iridescent scales on South Asian butterflies like the Blue Mormon are studied for their properties that mimic the light-filtering effects of which planetary atmosphere?

A) Saturn's rings

- B) Jupiter's bands
- C) Venusian clouds
- D) Martian dust

11. Many South Asian dung beetles use the Milky Way as a navigational guide, a behavior known as:

- A) Celestial orientation**
- B) Solar tracking
- C) Gravity sensing
- D) Magnetoreception

12. In the context of astrobiology, which resilient South Asian insect larva is used in space-simulation chambers for its ability to withstand vacuum-like pressures?

- A) Tenebrio molitor**
- B) Apis cerana
- C) Periplaneta americana
- D) Culex fatigans

13. Which South Asian insect's compound eye structure is studied by astronomers to improve the sensitivity of deep-space telescopic lenses?

- A) Dragonfly**
- B) Housefly
- C) Honeybee
- D) Butterfly

14. The lifecycle of the periodical cicada in South Asian forests involves synchronized emergence intervals comparable to the orbital period of which planet?

- A) Mercury**
- B) Mars
- C) Saturn
- D) Neptune

15. Which South Asian insect order exhibits the most consistent behavioral response to the Earth's magnetic field, which is generated by the planet's core?

- A) Isoptera**
- B) Coleoptera
- C) Lepidoptera
- D) Hemiptera

16. Research on the 'Sun-compass' navigation in South Asian honeybees involves measuring the angle of the sun, similar to navigation systems on which planetary probe?

- A) Voyager**
- B) Cassini
- C) Curiosity
- D) Pioneer

17. The silk of the South Asian Atlas moth is being researched for space-suit materials due to its resistance to radiation, a primary concern for travel to which celestial neighbor?

A) Mars

B) Venus

C) Jupiter

D) Mercury

18. Which South Asian insect's vibrational communication is being analyzed for potential 'bio-signals' that could mirror radio-frequency patterns found in deep space?

A) Cicada

B) Cricket

C) Grasshopper

D) Wasp

19. The color spectrum of the South Asian Jewel Beetle (Buprestidae) is used to calibrate sensors for analyzing the composition of which planetary surfaces?

A) Asteroid regolith

B) Gas giant storms

C) Ice moon crusts

D) Exoplanet atmospheres

20. Which South Asian aquatic insect larva uses dissolved oxygen in a way that parallels the chemical recycling systems used in the International Space Station?

A) Dytiscidae

B) Notonectidae

C) Gerridae

D) Nepidae

21. The migration of the Globe Skimmer dragonfly across the Indian Ocean is governed by seasonal winds driven by the heat of the Sun, the star at the center of which system?

A) Solar System

B) Andromeda

C) Orion Nebula

D) Alpha Centauri

22. Which South Asian insect is documented to perform 'gravity-sensing' which is essential for orienting in low-gravity environments like space?

A) Locust

B) Ant

C) Beetle

D) Moth

23. The 'Eyespot' patterns on the wings of certain South Asian moths are theorized to function similarly to radar-deflecting coatings used on which space-bound craft?

A) Space Shuttle

B) Mars Rover

C) Orbital Satellite

D) Lunar Lander

24. Which South Asian social insect builds mounds that maintain internal temperatures regulated by thermal convection, similar to the heat management systems of planetary landers?

A) Termite

B) Ant

C) Honeybee

D) Wasp

25. The study of insect pheromones in South Asia is often conducted using mass spectrometry, the same technology used to analyze the chemical composition of which celestial object's tail?

A) Comet

B) Meteor

C) Asteroid

D) Black Hole