



Daily Current Affairs Prelims Quiz 30-12-2021 - (Online Prelims Test)

1) Consider the following statements:

1. Evolution that occurs between unrelated species that do not occupy the similar habitat is known as divergent evolution.
2. Convergent evolution takes places when species of different ancestry share analogous traits due to shared environment.
3. Convergent evolution is responsible for the evolution of humans and apes.
4. Two species evolving independently of each other, with the same level of similarity is called parallel evolution.

Which of the above statement(s) is/are **incorrect**?

- a. 1, 2 and 3 only
- b. 2 and 4 only
- c. 1 and 3 only
- d. 1, 2, 3 and 4

Answer : c

Types of Evolution

Divergent Evolution

- The evolutionary pattern in which two species gradually become increasingly different.
- This type of evolution often occurs when closely related species diversify to new habitats.
- On a large scale, divergent evolution is responsible for the creation of the current diversity of life on earth from the first living cells.
- On a smaller scale, it is responsible for the evolution of humans and apes from a common primate ancestor.

Convergent Evolution

- Convergent evolution takes place when species of different ancestry begin to share analogous traits because of a shared environment or other selection pressure.
- For example, whales and fish have some similar characteristics since both had to evolve methods of moving through the same medium: water.

Parallel Evolution

- Parallel evolution occurs when two species evolve independently of each other, maintaining the same level of similarity.
- Parallel evolution usually occurs between unrelated species that do not occupy the same or similar niches in a given habitat.

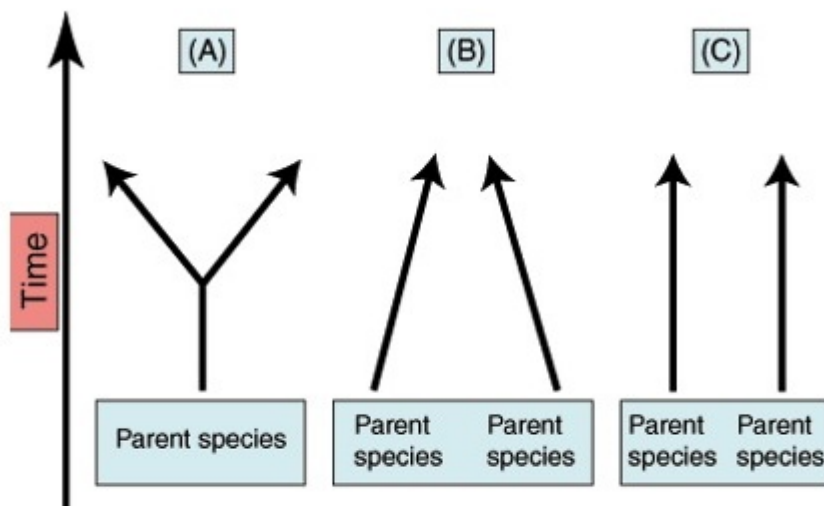


Figure: Types of evolution; a) divergent, b) convergent, and c) parallel.

2) How Oviparous animals are different from the Viviparous animals?

1. Oviparous refers to animals which can give birth to the younger ones whereas Viviparous refers to animals which lay unfertilized or fertilized eggs.
2. In Oviparous animals, fertilization can be internal or external whereas in Viviparous animals, fertilization happens only internally.

Select the correct answer using the codes given below:

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

Answer : b

Oviparity and Viviparity

Oviparity

- Oviparity is generally defined as “any spawning of oocytes (unfertilized) or fertilized eggs” by a species.
- Hard shells of eggs render protection, once foetus matures, egg hatches.
- Example – Birds, frogs, all fishes.
- Except for some snake species all other reptiles are oviparous, platypus and Echidna are egg-laying mammals.

Viviparity

- Viviparity is defined as any mechanism for live-bearing or maintenance of development, by either maternal or paternal parent in or on any part of the body.
- Development of the embryo and fertilization both occurs inside the female body.
- Matrotrophy (form of maternal care during embryo development) is observed. Example – Dogs, cat, humans etc.

3) Identify the shadow puppetry art forms of India:

1. Pavakoothu
2. Putul Nach
3. Tholpavakoothu
4. Bommallattam
5. Tholu Bommallatta

Choose the correct option.

- a. 1, 3 and 5 only
- b. 2, 3 and 4 only
- c. 3 and 5 only
- d. All of the above

Answer : c

Puppetry in India

- Four major types of puppetry art forms in India are marionettes, shadow puppets, rod puppets and glove puppets.
- Finger and fist puppets, humanettes and water puppets are also some of the popular forms of puppetry today.

Rod Puppets

- Putul Nach – West Bengal; Kathi Kandhe – Orissa; Yampuri – Orissa

Shadow Puppets

- Togalu Gombeyata – Karnataka; Tolpavakoothu – Kerala; Tholu Bommallata – Andhra Pradesh; Ravanachhaya – Orissa; Thol Bommallattam – Tamil Nadu; Chamadyache Bahulya – Maharashtra

Glove Puppets

- Pava koothu – Kerala; Sakhi Kundhei Nata – Orissa; Beni Putul – Bengal.

String Puppets

- Putal Nach – Assam; Kalasutri Bahulya – Maharashtra; Gopalila Kundhei – Orissa; Bommallattam – Tamil Nadu; Gombeyatta – Karnataka; Kathputli – Rajasthan.

4) Consider the following statements:

1. The law of reflection defines that upon reflection from a smooth surface, the angle of the reflected ray is greater than the angle of incident ray.
2. In regular reflection the images produced by plane mirrors are always virtual, that is they cannot be collected on a screen.

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

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

Answer : b

Law of Reflection

- The law of reflection defines that upon reflection from a smooth surface, the angle of the reflected ray is equal to the angle of the incident ray, with respect to the normal to the surface that is to a line perpendicular to the surface at the point of contact.
- The reflected ray is always in the plane defined by the incident ray and the normal to the surface at the point of contact of the incident ray.

Regular Reflection

- The images produced by plane mirrors are always virtual, that is they cannot be collected on a screen.
- In the case of curved mirrors with a smooth surface, we can see the images of reflection either virtually or really.
- That is, the images produced by curved mirrors can be either real (collected on a screen and seen), or virtual (cannot be collected on a screen, but only seen).

Irregular Reflection

- Unlike mirrors, most natural surfaces are rough on the scale of the wavelength of light, and, as a consequence, parallel incident light rays are reflected in many different directions irregularly, or diffusely.
- Hence, diffuse reflection helps in seeing the objects and is responsible for the ability to see most illuminated surfaces from any position.

5) Consider the following statements about the Pallavas:

1. The Descent of the Arjuna's Penance, a rock carving was commissioned by Narasimhavarman I.
2. The Halmidi inscriptions depicts the musical interest of the Pallavas.
3. The book 'Thatchina Chitram' was composed by Rajasimha.

Which of the above statement(s) is/are **incorrect**?

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

Answer : b

Pallavas

- Mahabalipuram or Mamallapuram is on the Tamil Nadu coast, 56 km south of Chennai.
- Narasimhavarman I - The name Mamallapuram derives from Mamallan (great warrior), a title by which the Pallava King Narasimhavarman I (630-668 AD) was known.
- It was during his reign that Hiuen Tsang, the Chinese Buddhist monk-traveller, visited the Pallava capital at Kanchipuram.
- The Descent of the Ganga/Arjuna's Penance, a rock carving with its depiction of the Bhagirathi flowing from the Himalayas was commissioned by him.
- This may serve as a reminder of the geography of India-China relations and their shared resources.
- Narasimhavarman II (700-728 AD) - He built on the work of earlier Pallava kings to consolidate maritime trade links with South-East Asia.

Fine Arts

- The Pallava kings had also patronized fine arts.
- The Kudumianmalai and Thirumayam music inscriptions show their interest in music.
- Yaazhi, Mridhangam and Murasu were some of the musical instruments of the Pallava period.
- The paintings at Chittannavasal illustrate the nature of Pallava painting Mahendravarman I was known as Chittirakkarapuli.
- He had also composed the book, Thatchina Chitram and he was also the author of the satirical drama Maththavilasam Prakasanam.



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