1. From where the Swiss engineer George de Mestral became inspired to create Velcro?
   a. Opuntia   b. Tylecodon
   c. Burdock burrs   d. Sea Urchins

2. Pushing air out of the way rather than ahead of the train in a bullet train is inspired by the bill of the kingfisher. It will help in?
   a. Quieting down the noise level of the train
   b. Nuclear reactor safety measures
   c. Slowing down the average speed of trains
   d. Air traffic control tower

3. Which architect was inspired by termite mounds to create buildings, as they demonstrate an ingenious structure that self-cools?
   a. Adrian D. Smith: American architect
   b. Mick Pearce: Zimbabwean architect
   c. Alexandre Gustave Eiffel: French civil engineer
   d. Jørn Oberg Utzon: Danish architect

4. A sharkskin-like material might also serve as a line of defence against bio-fouling, or the accumulation of algae and barnacles on the bottom. This is used in:
   a. Boats, planes
   b. Planes, hospitals
   c. Houses, boats
   d. Boats, hospitals

5. A “Dew Bank Bottle”, designed by Pak Kitae of the Seoul National University of Technology, where morning dew condenses on it and conveys it to a bottle, imitates an organism that has a drinking spout:
   a. Beetle’s water-collection system
   b. Camel’s fatty hump
   c. Concentrate excretions of xerocole
   d. Water lost through the stomata of Prickly pear

6. From membrane protein that allows water to pass through cell walls, Peter Agre of Johns Hopkins discovered “Nature’s Water Filter”. For this, he was a Nobel winner. In which year did he receive the Nobel Prize?
   a. 2000   b. 1995
   c. 2009   d. 2003

7. Blade applications, including wind turbines, hydroelectric turbines, irrigation pumps, ventilation pumps are inspired from:
   a. Mechanical power of generator
   b. Whale power tubercle technology
   c. Water turbines
   d. Hydraulic drive system

8. Long, slender polypropylene fibres used in climbing equipment and medical devices and have a much
heavier preload and peel strength mimic:
- a. Infundibulum and acetabulum of octopus
- b. Spider silk rope
- c. Gecko’s setae
- d. Aerial roots of a banyan tree

9. What property(ies) of Blue mussel attracted Dr. Kaichang Li to create soy-based formaldehyde-free Purebond technology?
- a. Blue colour body surface
- b. Bio-indicators
- c. Response to varying oil product concentrations
- d. Adhesion properties underwater

10. The Sinosteel skyscraper in Tianjin, China has its windows inspired from:
- a. Ice-cream Cone
- b. Hexagonal Honeycomb
- c. Cheese Cube
- d. Spherical Globe

11. The German company Festo developed a bionic arm, called the Bionic Handling Assistant, the free-moving “third-hand system,” This technology imitates the
- a. Elephant Trunk
- b. Cthopus Legs
- c. Aerial roots of a banyan tree
- d. Creeping Pumpkins

12. Organising the arrangement of wind turbines is based upon which technology of schooling fish?
- a. Buoyant force
- b. Moment of inertia
- c. Vortices shed
- d. Centripetal

13. From where the bioengineering professor Russell Stewart and co-workers were inspired to invent glue that contains chemical analogues that can be separated from water but still adhere to wet surfaces.
- a. Sandcastle worm
- b. Bobbit Worm
- c. Ragworms
- d. Eulagisca gigantea

14. Inspired by jellyfish who developed a microchip that uses tiny strands of DNA to grab hold of tumour cells roaming in the bloodstream as jellyfish extend their long tentacles to reach for food.
- a. Dr. Jeffrey Karp
- b. Dr. Fiorenzo Omenetto
- c. Dr. Janine Benyus
- d. Dr. Benyus Zsuzsanna

Answers:

Contributed by Dr. Siraj Datta, Professor, Department Biotechnology, Haldia Institute of Technology, Haldia; Email: dattasiraj@gmail.com
Aishwarya Roy, Student of Biotechnology pursuing M.Tech from Haldia Institute of Technology, Haldia; Email: royaishwarya30071995@gmail.com