

SCIENCE AND TECHNOLOGY UPSC PRE 2021

1. In the context of hereditary diseases, consider the following statements:

1. Passing on mitochondrial diseases from parent to child can be prevented by mitochondrial replacement therapy either before or after in vitro fertilization of egg.
2. A child inherits mitochondrial diseases entirely from mother and not from father.

Which of the statements given above is/are correct?

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

Answer-c

2. Bollgard I and Bollgard II technologies are mentioned in the context of

- (a) clonal propagation of crop plants
(b) developing genetically modified crop plants
(c) production of plant growth substances
(d) production of biofertilizers

Answer-b

3. In a pressure cooker, the temperature at which the food is cooked depends mainly upon which of the following?

1. Area of the hole in the lid
 2. Temperature of the flame
 3. Weight of the lid
- Select the correct answer using the code given below.
(a) 1 and 2 only (b) 2 and 3 only
(c) 1 and 3 only (d) 1, 2 and 3

Answer-c

4. Consider the following:

1. Bacteria 2. Fungi 3. Virus

Which of the above can be cultured in artificial/synthetic medium?

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

Answer-a

5. Water can dissolve more substances than any other liquid because

- (a) it is dipolar in nature
(b) it is a good conductor of heat
(c) it has high value of specific heat
(d) it is an oxide of hydrogen

Answer-a

6. With reference to street - lighting, how do sodium lamps differ from LED lamps?

1. Sodium lamps produce light in 360 degrees but it is not so in the case of LED lamps.
2. As street -lights, sodium lamps have longer life span than LED lamps.
3. The spectrum of visible light from sodium lamps is almost monochromatic while LED lamps offer significant colour advantages in street - lighting.

Select the correct answer using the code given below.

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

Answer-c

7. Bisphenol A (BPA), a cause of concern, is a structural/key component in the manufacture of which of the following kinds of plastics?

- (a) Low-density polyethylene
(b) Polycarbonate
(c) Polyethylene terephthalate
(d) Polyvinyl chloride

Answer-b

8. 'Triclosan', considered harmful when exposed to high levels for a long time, is most likely present in which of the following?

- (a) Food preservatives
(b) Fruit-ripening substances
(c) Reused plastic containers
(d) Toiletries

Answer-d

9. Which one of the following is a reason why astronomical distances are measured in light-years?

- (a) Distances among stellar bodies do not change.
(b) Gravity of stellar bodies does not change.
(c) Light always travels in straight line.
(d) Speed of light is always same

Answer-d