ساينس - Science

المنهاج المصري

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Question 1

A Complete the following statements:

- 1. The product of the velocity of moving body x the time equal.....
- 2. The galaxy that solar system belongs to is called.....
- 3. The image formed by concave lens is always.....erect and diminished.
- 4. The nucleolus and nuclear membrane disappear at the end off...... of mitosis.
- 5. The change of an object position as time passes according to the position of another fixed object is called....

B What is meant by each of the following ...?

- 1. Fertilization.
- 2. Pole of the mirror.
- 3. Average speed.

C Within 2.5 second, the speed of a car increases from 20 m/s to 25 m/s, while a bike moves from rest and its speed reaches 10 m/s in the same time. Which moves at a greater acceleration?

Question 2

A Choose the correct answer:

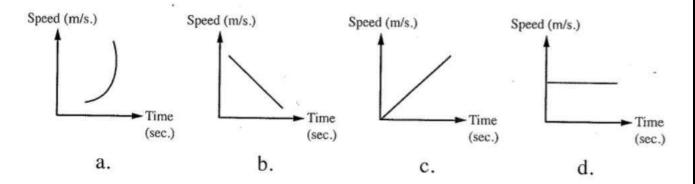
- 1. The reproduction which considered as a source of genetic variation is
- a. vegetative
- b. budding
- c. sexual

reproduction.

d. regeneration

- 2. Which of the following is considered as scalar physical quantities?
- a. Force
- b. Mass.
- c. Acceleration.
- d. Velocity.
- 3. The scientist who established the nebular theory is
- a. Chamberlain...
- b. Moulton.
- c. Fred Hoyle.
- d. Laplace.
- 4. Crossing over phenomenon happens in the end of first
- a. prophase
- b. metaphase
- c. anaphase
- d. telophase
- 5. Which of the following graphs represents the movement of an object at a constant

speed?....



B Give reasons for:

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- 1. Meiotic division is called by reduction division.
- 2. Pilots take in consideration the velocity of the wind.
- 3. The image formed by a plane mirror cannot be received on the screen.

C An object is placed at a distance of 30 cm from a concave mirror with a radius of curvature 40 cm.

- 1. Calculate the focal length of the mirror.
- 2. Show by drawing the path of rays that show the formed image in this case.

Question 3

A Correct the underlined words:

- 1. Velocity is the quantity that we can identify it accurately by knowing its **magnitude only.**
- 2. Spores are formed in bread mould fungus inside special organs called **buds**.
- 3. The two gases which are produced galaxies, stars and universe over millions of years are **oxygen and nitrogen**.
- 4. If an object is put in front of concave mirror at **focus**, the formed image is real, inverted and equal to the object.
- 5. When a moving object covers unequal distances at equal periods of time so, it moves with **non-uniform acceleration**.

B What would happen when ...?

- 1. A light ray passes through the optical center of the lens.
- 2. Putting a yeast fungus in a warm sugary solution.
- 3. The initial speed of the moving body is greater than the final speed.

C Compare between each of the following:

1. Short-sightedness and long-sightedness (according to the position of the formed image).

2. Asexual reproduction and sexual reproduction (according to the number of parents).

Question 4

Write the scientific term:

- 1. The distance covered in a certain direction.
- 2. The nucleic acid that carries the genetic traits of the living organisms.
- 3. The speed of the moving object relatively to a constant or moving observer.
- 4. An equipment was launched to the space, allows astronomers an opportunity to study the evolution of the universe.
- 5. The rebounding of the light to the same side when it strikes a reflecting surface.

B Mention the importance of each of the following:

- 1. Speedometres in the car.
- 2. Nano-molecules of gold.
- 3. A convex mirror which is put at the left side of the driver of the car.

C Two cells are divided, one of them in the plant stem and the other in the plant ovary, if you know the number of chromosomes in each of them is 6 pairs of chromosomes, mention:

- 1. The kind of cell division in each cell.
- 2. The number of chromosomes in each resulted cell.

A Complete the following statements:

- 1. The product of the velocity of moving body x the time equal... **displacement**..
- 2. The galaxy that solar system belongs to is called... Milky way Galaxy...
- 3. The image formed by concave lens is always..... **virtual**......erect and diminished.
- 4. The nucleolus and nuclear membrane disappear at the end off... **prophase**..... of mitosis.
- 5. The change of an object position as time passes according to the position of another fixed object is called... **motion**.

B What is meant by each of the following ...?

- 1. Fertilization. It is the combination of a male gamete a female gamete to form a zygote.
- 2. Pole of the mirror. It is the point that lies in the middle of the reflecting surface of the mirror
- 3. Average speed. It is the total distance covered by the moving object divided by the total time taken to cover this distance.
- C Within 2.5 second, the speed of a car increases from 20 m/s to 25 m/s, while a bike moves from rest and its speed reaches 10 m/s in the same time. Which moves at a greater acceleration?

The car!
$$a = \frac{V_2 - V_1}{T} = \frac{25 - 20}{2.5} = 2 \text{m/sec}^2$$
.
The bike $a = \frac{V_2 - V_1}{T} = \frac{10 - 0}{2.5} = \frac{4 \text{ m/sec.}}{2.5}$

→ So the bike moves at a greater acceleration Than the car Question 2

A Choose the correct answer:

- 1. The reproduction which considered as a source of genetic variation is
- a. vegetative
- b. budding

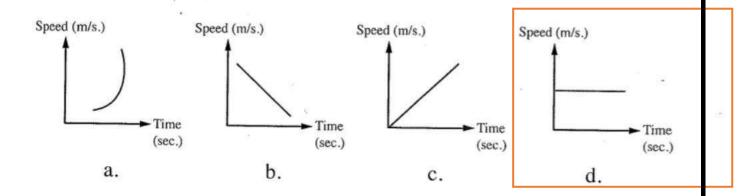
c. sexual reproduction.

d. regeneration

- 2. Which of the following is considered as scalar physical quantities?
- a. Force
- b. Mass.
- c. Acceleration.
- d. Velocity.
- 3. The scientist who established the nebular theory is
- a. Chamberlain..
- b. Moulton.
- c. Fred Hoyle.
- d. Laplace.
- 4. Crossing over phenomenon happens in the end of first
- a. prophase
- b. metaphase
- c. anaphase
- d. telophase
- 5. Which of the following graphs represents the movement of an object at a constant

نلهمك لتبدع ...!

speed?....d



B Give reasons for:

- 1. Meiotic division is called by reduction division. Because the produced cells (gametes) contain half the number of chromosomes of the reproductive cell
- 2. Pilots take in consideration the velocity of the wind. Because the time and the amount of Consumed Fuel defend on the direction of the wind.
- 3. The image formed by a plane mirror cannot be received on the screen.

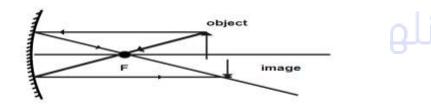
Because it is a virtual image

C An object is placed at a distance of 30 cm from a concave mirror with a radius of curvature 40 cm.

1. Calculate the focal length of the mirror.

focal length =
$$\frac{r}{2} = \frac{40}{2} = 20$$
 cm

2. Show by drawing the path of rays that show the formed image in this case.



Question 3

A Correct the underlined words:

- 1. Velocity is the quantity that we can identify it accurately by knowing its magnitude and direction.
- 2. Spores are formed in bread mould fungus inside special organs called **sporangium**.
- 3. The two gases which are produced galaxies, stars and universe over millions of years are **hydrogen and helium**.
- 4. If an object is put in front of concave mirror at **The centre of the curvature**, the formed image is real, inverted and equal to the object.
- 5. When a moving object covers unequal distances at equal periods of time so, it moves with **non-uniform speed**.

B What would happen when ...?

- 1. A light ray passes through the optical center of the lens. Passes through the lens without refraction.
- 2. Putting a yeast fungus in a warm sugary solution. A bud emerges from the cell, which anew individual.
- 3. The initial speed of the moving body is greater than the final speed.

The speed of the moving body decrease by time, and movement is decelerating motion

C Compare between each of the following:

- 1. Short-sightedness and long-sightedness (according to the position of the formed image).
- 1- short sightedness:- in front of retina.
- -Long Sightedness: behind the retina.
- 2. Asexual reproduction and sexual reproduction (according to the number of parents).

A sexual reproduction: by only 1 Parent.

- sexual reproduction: by 2 individuals (male and female)

Question 4

Write the scientific term:

- 1. The distance covered in a certain direction. **Displacement**
- 2. The nucleic acid that carries the genetic traits of the living organisms. **DNA**
- 3. The speed of the moving object relatively to a constant or moving observer. **Relative Speed**
- 4. An equipment was launched to the space, allows astronomers an opportunity to study the evolution of the universe. **The Hubble telescope**
- 5. The rebounding of the light to the same side when it strikes a reflecting surface. **Light reflection**

B Mention the importance of each of the following:

- 1. Speedometres in the car. Identifying the speed of the car directly
- 2. Nano-molecules of gold. Absorb the light energy Convert it to heat energy, that kills cancer cells
- 3. A convex mirror which is put at the left side of the driver of the car.

It forms and erect and diminished image for the way behind the car

C Two cells are divided, one of them in the plant stem and the other in the plant ovary, if you know the number of chromosomes in each of them is 6 pairs of chromosomes, mention:

1. The kind of cell division in each cell.

In the plant stem cell: mitosis.

 \rightarrow In the ovary cell : meiosis

2. The number of chromosomes in each resulted cell.

The resulted cell from mitosis 6 Pairs .

-resulted cell from meiosis: 3 Pairs