

Ganaraja  
2818  
9A

Science

22/12/2020  
Tuesday

Physics

I

- 1.) ~~Ex the product of mass/masses~~ D) the medium between <sup>material</sup>
- 2.) C) gravitation & effect of moon on earth
- 3.) D)  $180^\circ$

II

- 1.) a) work against gravity =  $M \times g \times h$   
 $= ~~1000~~ 80 \times 10 \times 1$   
 $= 800 \text{ J}$   
 b) 80 J, as the angle he is holding it at it's  $90^\circ$  therefore making  $\cos 0 = 0$
- 2) Given  $m_1 = 6 \times 10^{24} \text{ kg}$ ,  $m_2 = 2 \times 10^{30} \text{ kg}$ ,  $d = 1.5 \times 10^{11} \text{ m}$   

$$F = G \frac{m_1 m_2}{r^2} = \frac{6.67 \times 10^{-11} \times 6 \times 10^{24} \times 2 \times 10^{30}}{(1.5 \times 10^{11})^2}$$
  

$$F = 35.573 \times 10^{21} \text{ N}$$
- 3) universal law of gravitation: every particle in the universe attracts every other particle with a force along a line joining them.

$$F = G \frac{m_1 m_2}{r^2}$$

Bio

- 1) (1) (i) viruses have very few biochemical mechanisms of their own.  
(ii) Tuberculosis

- 2) - Health of an organism depends upon ~~the surrounding environmental conditions.~~  
- ~~the surrounding environment should be~~

- 2) Food is necessary for the growth and development of the body. A balanced diet provides all the required raw materials and energy in appropriate amount like proteins, carbohydrates, fats, minerals etc.

- 3) First the physician look for the symptoms of the disease by sometimes it is difficult to know the disease as the symptoms of various diseases are same so, then the physician ask to do laboratory test done.

- 4) a) staphylococci  
b) bacteria  
c) sleeping sickness  
d) protozoa  
e) leishmania  
f) protozoa

- 5) a) ~~dia~~ diabetes, Goitre  
b) Acute

\* this disease last for a short period  
\* do not cause any lasting effects

Chronic

\* This disease lasts for a longer ~~per~~ period.  
\* causes lasting effects on our body.



chemistry

- I.) 1.) B) Diatomic  
2.) C) 8  
3.) B) Statement 2 only

ii) A sodium atom is natural whereas sodium ion is with a +1 charge. Also in a sodium atom the number of protons and electrons are same i.e. but in a sodium ion the number of electrons is 10 and protons is 11.

- 2) i) The number of atoms constituting a molecule is known as its atomicity  
ii) diatomic - (b)  $\text{HCl}$   
iii) triatomic - (a)  $\text{H}_2\text{O}$  (c)  $\text{NaOH}$  (d)  $\text{O}_3$

3.) Law of conservation of mass states that mass can neither be created nor destroyed in a chemical reaction.



$$x + 5.85g \rightarrow 22.85g$$

$$x = 22.85 - 6.85g$$

$$= 17g$$

Mass of silver nitrate = 17g

- 4.)
- i) All matter is made up of very tiny particles called atoms.
  - ii) Atoms combine in a ratio of small whole numbers to form compounds.
  - iii) Atoms are ~~invisibile~~ indivisible particles which cannot be destroyed in a chemical reaction.
  - iv) Atoms of a given element are identical in mass and chemical properties.