

GENERAL SCIENCE

Class X Standard – State
Solution to Set -2

Physics and Chemistry

I

Q.No.	Ans	Q.No.	Ans	Q.No	Ans	Q.No	Ans	Q.No	Ans
1.	(3)	2.	(2)	3.	(3)	4.	(4)	5.	(1)
6.	(1)	7.	(2)	8.	(1)	9.	(2)	10.	(1)
11.	(3)	12.	(1)	13.	(2)	14.	(3)	15.	(1)
16.	(2)	17.	(2)	18.	(1)	19.	(2)	20.	(3)
21.	(1)	22.	(3)	23.	(4)	24.	(1)	25.	(3)
26.	(1)	27.	(1)	28.	(2)	29.	(4)	30.	(3)
31.	(1)	32.	(3)	33.	(4)	34.	(3)	35.	(2)
36.	(1)	37.	(3)	38.	(2)	39.	(4)		

II

- Laser is used to fix detached retina of the eye.
 - It is used in treatment of dental decay.
 - It is helpful in curing skin diseases.
 - It is also used in cosmetic surgery.
- As the hydrogen continues to fuse forming helium, a helium core forms at the centre. This is surrounded by hydrogen that continues to fuse rapidly. The resulting radiation causes the star's envelope to expand and cool. As a result the star appears red in colour and now it is called a red giant. Thus a steady state protostar becomes a red giant.
- Half life period of ${}_{15}\text{P}^{30}$ is 3 minutes means it takes 3 minutes to get reduced to half of its initial quantity by way of radioactive decay.
- $$\begin{aligned} \text{Distance} &= \text{velocity} \times \text{time} \\ &= 3 \times 10^5 \times 8.3 \times 60 \\ &= 1494 \times 10^5 \text{ km or} \\ &= 1.5 \times 10^8 \text{ kms (Rounding off to nearest hundred).} \end{aligned}$$
- The branch of science that deals with ultrasound is called ultrasonics. The term supersonics is used for velocities greater than that of the sound.
- The practical aspects that needed to be considered while launching a rocket are
 - The mass of the rocket decreases as it consumes fuel
 - Acceleration due to gravity changes as the rocket ascends.
 - The lower strata of the atmosphere offers resistance to the rocket.
- The factors that do not affect the gravitational force are
 - Intervening medium and mass
 - Change in temperature

(iii) Pressure and any other physical condition.

8. It is because you tend to move straight whereas the car has begun to follow a curved path. To make you go in the curved path the back of the seat exerts a force.
9. (i) It helps us to see things around us.
(ii) Photosynthesis takes place in the presence of visible light.
(iii) Optical instruments work only in the presence of visible light.

III

1. (a) The property of hydrocarbons to have same molecular formula but different structural formula is called isomerism. The isomers of butane are n-butane and isobutene.
(b) Alkanes when heated to high temperature in the absence of oxygen decompose to produce hydrocarbons of shorter chain. This is called thermal cracking.
Cracking of petroleum is done to obtain various substance viz. LPG, Petrol, Diesel etc.
2. (a) The diagram can be taken from the text book on Page No. 51.
(b) Radio-phosphorus and radio-iodine. Radio-phosphorus is used to in agriculture to determine the kind of phosphate required for the soil and radio-iodine is used in treatment of overactive thyroid glands.

Biology

Q.No.	Ans	Q.No.	Ans	Q.No	Ans	Q.No	Ans	Q.No	Ans
1.	(2)	2.	(4)	3.	(3)	4.	(1)	5.	(3)
6.	(4)	7.	(1)	8.	(1)	9.	(2)	10.	(3)
11.	(4)	12.	(2)	13.	(3)	14.	(2)	15.	(2)
16.	(4)	17.	(1)	18.	(2)	19.	(1)	20.	(2)
21.	(3)								

II

1. The diagram can be taken from the text book.
2. Effluents from industries, sewage containing domestic wastes leading their way into the water bodies causes water pollution.
3. Hands, legs, eyelids are some of the organs that contain voluntary muscles.
4. Astigmatism is disorder associated with eye caused by the unevenness of the refractive surface of the cornea or lens. It can be corrected by using cylindrical lenses that effectively refract light in one plane only.

III

1. The inner ear remains surrounded by a fluid called perilymph. The semicircular canals and the endolymph help in the maintenance of the balance of the body.
Receptor cells present at the tip of organ of corti convert sound impulses into electrical impulses to auditory regions of the cerebrum.
2. The human eye has the capacity of changing the focal length of the lens. This is possible by altering the convexity of the lens. While observing distant object the lens becomes thin thereby increasing the focal length. But while seeing nearby objects the lens becomes thick. Thus human eye is adapted to close distant visions.