KALPAVRUKSHA MODEL SCHOOL

Answers of Assignments

Class: VIII **Sub: Physics** **Date: 29.5.2021**

Topic: STARS AND SOLAR SYSTEM

I. Answer the following questions:

1. Name the star (after the sun) which is closest to the Earth.

Ans: After sun the next nearest star to the earth is Proxima centauri.

2. What is a star?

Ans: A natural luminous body visible in the sky especially at night. Self-luminous gaseous spherical celestial body of great mass which produces energy by means of nuclear fusion reactions.

3. Why does a pole star appear to be stationary in the sky?

Ans:The star which appears stationary from the earth is a pole star. It appears to be stationary and does not change its position with time because it lies on the axis of rotation of earth which is fixed and does not change with time. Pole star remains fixed at the same place in the sky in the north direction. So it is also called north star,dhruva Tara or Polaris.

4. Do all the stars in the sky move? Explain.

Ans: The stars appear to move in the sky from east to west direction, this apparent motion of the stars in the sky due to the rotation of the earth from west to east on its axis. when the earth moves or rotates on its axis from west to east then the stars in the sky appear to move in the opposite direction that is from east to west.

5. **Name the star which remains fixed at the same place in the sky in the North**.

Ans: Pole star or north star remains fixed at the same place in the sky

in the North.

6. Why is the distance between stars and planets expressed in light years?

Ans: The distance between the stars is so large that Kilometers becomes a very small unit. Hence, the distance between stars and planets are expressed in light years.

7. What is one light year? How many kilometers make 1 light year?

Ans: A light year is the distance travelled by light in one year.

One light year=speed of light× number of seconds in a year

$=3\times10^8 m/s\times365\times24\times60\times60sec$

$=3\times10^8 m/s\times365\times24\times3600$

$=3\times10^8 m/s\times365\times86400$

$=3\times10^8 m/s\times31536000$

$=94608000\times10^8$

$=9.46\times10^{15} m$ or $9.46\times10^{12} km$

8. Name three distinct categories into which the objects of the solar system are placed.

Ans: The objects in the solar system are placed in three distinct categories: planets, dwarf planets and small solar-system bodies.

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