



## SSC Board: Std 7: Ch 20: In the World of Stars – Q bank

Question 1: Write the proper words in the blanks.

(meridian, horizon, twelve, nine, apparent, celestial, ecliptic)

(a) When seen from a great distance, the sky seems to be touching the ground along a circle. This circle is called the .....

(b) The ..... is used while defining the zodiac signs.

(c) Classified according to seasons, one season will have ..... *nakshatras*.

(d) The rising of the sun in the east and its setting in the west is the ..... motion of the sun.

Question 2: A star rises at 8 pm tonight. At what time will it rise after a month? Why?

Question 3: What is meant by 'The sun enters a *nakshatra*'? It is said that in the rainy season the sun enters the Mrug *nakshatra*. What does it mean?

Question 4: Answer the following question.

(a) What is a constellation?

(b) What points should be considered before a sky watch?

(c) Is it wrong to say that the planets, stars and *nakshatras* affect human life? Why?

Question 5: Write a paragraph on the birth and lifecycle of stars using figure 20.1.

Question 6: What is a galaxy? What are the various components of a galaxy?

Question 7: What are the different types of stars?

Question 8: Using a Marathi calendar, collect information about the 27 *nakshatras* and divide them into the following three categories:

The monsoon *nakshatras*

The winter *nakshatras*

The summer *nakshatras*

Question 9: One zodiac sign = ..... *nakshatras*.

Question 10. Why is the Pole Star important for sky watch?

Question 11. What is the relation between the Pole Star and the constellations Saptarshi and Sharmishtha ?

### Extra Questions:

#### Fill in the blanks:

1. Stars are born out of \_\_\_\_\_.

2. Nebulae are clouds made up mainly of \_\_\_\_\_ gas and dust particles.

3. Our solar system is a tiny part of a galaxy called the \_\_\_\_\_.

4. Some stars, which appear to be close to one another making a particular figure are together known as a \_\_\_\_\_.

5. While standing on the ground, the point on the celestial sphere exactly above our head is called the \_\_\_\_\_.

6. While standing on the ground, the point on the celestial sphere exactly below our feet is called the \_\_\_\_\_.

7. If we extend the axis of rotation of the earth in the north and south directions it will penetrate the celestial sphere at points called the \_\_\_\_\_ and the \_\_\_\_\_, respectively.
8. In astronomy, the great circle which passes through both the celestial poles and the observer's zenith and nadir is called a \_\_\_\_\_.
9. If we uniformly expand earth's equator in all directions indefinitely, it will penetrate the celestial sphere along a circle. This circle is known as the \_\_\_\_\_.
10. The circle describing the apparent motion of the sun around the earth is called the \_\_\_\_\_.
11. The portion of earth's atmosphere and the portion beyond that which can be seen in the form of a roof by our eyes while standing on the earth is called \_\_\_\_\_.
12. The continuous, empty space between the spheres (planets, stars, etc.) in the sky is called \_\_\_\_\_.
13. The sun, the moon and the stars are seen to rise in the east and set in the west because the earth rotates from the \_\_\_\_\_.
14. The stars rise and set \_\_\_\_\_ minutes earlier every day.
15. If a star rises at 8 pm tonight, it will rise at \_\_\_\_\_ pm tomorrow.
16. The place for sky watching should be away from the city and, as far as possible, it should be a \_\_\_\_\_ night.
17. \_\_\_\_\_ or \_\_\_\_\_ should be used for sky watching.
18. Identifying the \_\_\_\_\_ in the north makes the sky watch easier.
19. As the stars in the west set early, sky watching should begin with stars in the \_\_\_\_\_.
20. In geographical maps, the east and west are shown to the \_\_\_\_\_ respectively in a sky map.
21. A group of stars occupying a small portion of the celestial sphere is called a \_\_\_\_\_.
22. Some of these stars appear to form certain figures of \_\_\_\_\_, humans or objects.
23. The constellations have been named after \_\_\_\_\_ or \_\_\_\_\_ of the times when the constellations were identified.
24. Western observers have divided the celestial sphere into \_\_\_\_\_ constellations.
25. Ancient western astronomers put forward the idea of \_\_\_\_\_ zodiac signs, whereas Indian astronomers suggested the \_\_\_\_\_ nakshatras.
26. The ecliptic has been imagined to be divided into \_\_\_\_\_ equal parts.
27. Thus each part of the ecliptic subtends \_\_\_\_\_ degrees at the centre of the celestial sphere.
28. Each part of the ecliptic is called a \_\_\_\_\_ or \_\_\_\_\_ sign.
29. The zodiac signs are named \_\_\_\_\_.
30. The moon completes one revolution around the earth in approximately \_\_\_\_\_ days.
31. The portion traversed by the moon in one day is called a \_\_\_\_\_.
32. So if we divide 360 degrees into 27 equal parts, each part is about \_\_\_\_\_.
33. The brightest star that a nakshatra contains is called the \_\_\_\_\_.
34. Which nakshatra we can see during a sky watch depends upon the \_\_\_\_\_ of the earth along its orbit.
35. During summer nights a particular arrangement of seven stars called \_\_\_\_\_.
36. \_\_\_\_\_ is a group of seven bright stars.
37. Saptarshi is in the shape of a quadrangle with a tail made up of \_\_\_\_\_ stars.
38. Saptarshi resembles a \_\_\_\_\_ and can be easily recognized.
39. If we extend one side of the quadrangle of Saptarshi, it reaches the \_\_\_\_\_.
40. In English Saptarshi is called the \_\_\_\_\_.
41. The constellations of Saptarshi and Sharmishtha or Cassiopeia are useful in locating the \_\_\_\_\_.
42. Sharmishtha is made up of \_\_\_\_\_ bright stars which are distributed along the figure of the letter M.
43. The perpendicular bisector of the line joining the third and fourth stars in \_\_\_\_\_ goes towards the Pole Star.
- The Pole Star has \_\_\_\_\_ on one side and \_\_\_\_\_ on the other.
44. As Sharmishtha \_\_\_\_\_, Saptarshi \_\_\_\_\_.
45. Thus, we can always use either Saptarshi or Shamishtha as a reference point on any given night to locate the \_\_\_\_\_.

46. \_\_\_\_\_ nakshatra or Orion has very bright stars.
47. \_\_\_\_\_ nakshatra or Orion has seven - eight stars of which \_\_\_\_\_ are at the corners of a quadrangle.
48. The line passing through the three middle stars of the constellation, when extended, meets a very bright star called \_\_\_\_\_ or \_\_\_\_\_.
49. During the month of December, Mruga nakshatra rises at 8 pm on the \_\_\_\_\_ horizon.
50. \_\_\_\_\_ nakshatra is on the meridian during February and in June, it sets around 8 pm.
51. \_\_\_\_\_ or \_\_\_\_\_ is a constellation with 10 to 12 stars.
52. \_\_\_\_\_ or \_\_\_\_\_ is the brightest among stars of Vrushchik or Scorpio.
53. \_\_\_\_\_ or \_\_\_\_\_ constellation is below the equator, in the sky of the southern hemisphere.
54. In the third week of April, \_\_\_\_\_ or \_\_\_\_\_ can be seen in the eastern sky a few hours after sunset.
55. The observer looking at the sun sees not only the sun but also a \_\_\_\_\_ behind the sun.
56. As the \_\_\_\_\_ changes its position, a different constellation or zodiac sign or raashi appears behind the sun.
57. On \_\_\_\_\_ we say that the sun enters Makar raashi (Capricorn zodiac sign).
58. In reality, the sun does not move, but we perceive it as moving due to the motion of the earth around it. This motion of the sun is called its \_\_\_\_\_ motion and its path is called the \_\_\_\_\_ path.
59. The rising of the sun in the east and its setting in the west is also an \_\_\_\_\_ motion.
60. National Institutions \_\_\_\_\_ in Pune carries out fundamental research in astronomy.
61. In India, planetariums named after \_\_\_\_\_ have been established at New Delhi, Bangaluru, Allahabad, Mumbai and at New English School in Pune.
62. Planetariums present a \_\_\_\_\_ projection of various stars and constellations as if it were a sky watch.
63. Science has proved that the constituents of the solar system e.g. planets, satellites and comets as also distant stars and constellations do not have any influence on \_\_\_\_\_.
64. Far away, the sky seems to be touching the ground. The line at which they meet is called the \_\_\_\_\_.
65. The stars and planets moving in the sky appear to be moving on a virtual sphere called the \_\_\_\_\_.

### Answer the following questions:

1. What are Nebulae?
2. How are stars formed?
3. What is a constellation?
4. What is a horizon?
5. What is a celestial sphere?
6. What is Zenith?
7. What is Nadir?
8. What are Celestial poles?
9. What is a Meridian?
10. What is a Celestial equator ?
11. Describe Ecliptic?

12. Describe sky?
13. What is space?
14. Why do the sun, moon and the stars are seen to rise in the east and set in the west?
15. What is a Zodiac sign?
16. Name the twelve zodiac signs?
17. What is a Nakshatra?
18. What is the brightest star in the nakshatra called?
19. Describe Saptarshi.
20. How can Saptarshi help identify the Pole Star?
21. What is the English name for Saptarshi?
22. What is the English name for Sharmishtha?
23. What is the English name for Mrug nakshatra?
24. What is the English name for Vrushchik?
25. Describe Mrug nakshatra.
26. Describe Vrushchik nakshatra.
27. Describe the apparent motion and apparent path of the sun.
28. Write the full form of IUCAA? What does it do?
29. Name the places in India where you will find planetariums.
30. What is a planetarium?