SSC Board: Std 7: Ch 19: Life Cycle of Stars – Q Bank

Exercises

1. Search and you will find.
a. Our galaxy is called.....
b. For measuring large distances..... is used as a unit.
c. The speed of light is ..... km/s.
d. There are about ..... stars in our galaxy.
e. The end stage of the Sun will be.....
f. Stars are born out of ..... clouds.
g. Milky way is a ..... galaxy. h. Stars are spheres of ..... gas.
i. The masses of other stars are measured relative to the mass of the.....
j. Light takes ..... to reach us from the Sun while it takes..... to reach us from the moon.
k. The larger the mass of a star the faster is its.....
l. The number of fuels used in the life of a star depends on its.....

2. Who is telling lies?
a. Light year is used to measure time.
b. End stage of a star depends on its initial mass.
c. A star ends its life as a neutron star when the pressure of its electrons balances its gravity.
d. Only light can emit from the blank hole.
e. The Sun will pass through the super giant stage during its evolution.
f. The Sun will end its life as a white dwarf.

3. Answer the following question.
a. How do stars form?
b. Why do stars evolve?
c. What are the three end stages of stars?
d. Why was the name black hole given?
e. Which types of stars end their life as a neutron star?

4. A. If you are the Sun, write about your properties in your own words.
B. Describe white dwarfs.

5. Answer the following:
1. What is a galaxy?
2. What are the different constituents of our solar system?
3. What are the major differences between a star and a planet?
4. What is a satellite?
5. Which is the star nearest to us?
6. If we look at the sky at night we see only planets and stars, then how did we get information about the other components of the universe?
7. What is meant by balanced and unbalanced forces?
8. Why doesn't the hot gas in the stars disperse in space?
9. Why have the properties of the Sun remained unchanged over the last 4.5 billion years?
10. How does the evolution finally stop? Or What is the end stage of a star?

Extra Questions:
Fill in the blanks:
1. The universe is made up of _____ galaxies.
2. Galaxies differ in _____ and shape.
3. We can divide galaxies into three types, _____, _____ and _____ galaxies.

4. Our galaxy is a _____ galaxy and is called the _____ and _____.
5. There are billions of stars which have higher or lower _____ and _____ than those of the Sun.
6._____ study the observations made by all these telescopes to obtain detailed information about the universe.
7. Hydrogen makes up for _____% of the mass of the Sun while helium is _____% and the rest _____% is made up of elements heavier than helium.
8. Our galaxy has about _____ stars.
9. The shape of our galaxy is like a disc with a _____ in the centre and its diameter is about _____ km.
10. The solar system is situated at a distance of _____km from its centre.
11. The galaxy is rotating around an axis passing through its centre and _____ to the disc.
12. The period of rotation of our galaxy is about _____ yrs.
13. The mass of the Sun is about _____ times that of the earth and its radius is _____ times that of the earth.
14. The mass of the Sun is written as _____ is used as the unit of mass.
15. The properties of the Sun have remained unchanged over its lifetime i.e. the past _____ years.
16. According to the studies made by astronomers, the properties of the Sun will slowly change in further after _____ years.
17. Huge clouds of gas and dust present in the empty spaces between stars in a galaxy are called _____ clouds.
18. Scientists use the unit of _____ for measuring large distances.
19. A light year is the distance travelled by light in _____.
20. As the speed of light is 3,00,000 km/s, the light year is equal to _____.
21. Because of the _____, the density of the cloud starts increasing and their temperature also starts to increase
22. Once the temperature and density at the centre of the sphere increase sufficiently, _____ energy generation starts there.
23. Because of the nuclear energy generation, the gas sphere becomes self _____ and a star is formed or we can say that a star is born.
24. In the Sun, this energy is generated by the _____ of hydrogen nuclei to form helium nuclei.
25. Light takes about _____ to reach us from the moon while it takes _____ minutes to reach us from the Sun.
26. _____ is the star closest to the Sun.
27. It takes 4.2 years to reach us from the star _____ which is the star closest to the Sun.
28. When a gas sphere contracts, its _____ increases.
29. More than one star can be produced by the _____ of a huge interstellar cloud.
30. The _____ is acting inwards, towards the centre of the star while the _____ is acting outwards, i.e. away from the centre of the star
31. Gas pressure depends on the _____ and _____ of the gas.
32. Higher the temperature and density, _____ is the pressure.
33. _____ of a star means change in its properties with time resulting in its passing through different stages.
34. As stars are continuously emitting energy, their energy is constantly _____.
35. For the stability of the stars to remain intact i.e. for maintaining a balance between the gas pressure and the gravitational force, it is necessary that the _____ remains constant.
36. For the temperature to remain constant, _____ must be generated inside the star.
37. The generation of energy in the stars occurs because of burning of fuel at the _____ of the star.
38. The reason for the evolution of stars is the burning of and therefore, the decrease in the amount of _____ in their centre.
39. When the fuel in the centre of the stars finishes, the energy generation _____.

40. When the energy generation in the stars stops, the temperature of the star starts _____.
41. Due to the decrease in temperature of the stars, the gas pressure decreases and the balance between _____ and _____ cannot be maintained.
42. When the gravitational force is _____ than the gas pressure, the star starts contracting.
43. When hydrogen at the centre is finished, helium starts undergoing _____ and energy generation starts again.
44. How mach fuel will be used depends on the _____of the star.
45. _____ the mass of the star higher is the number of fuels used.
46. As a number of processes occur inside the star, it sometimes _____ and sometimes expands at other times.
47. When all possible fuels are _____, the energy generation finally stops and the temperature of the star starts _____.
48. The higher the mass of the star faster is its _____.
49. The different stages during the evolution of the star also depends on its _____.
50. Stars having initial mass less than 8 times the mass of the Sun undergo huge expansion and their radius increases by a factor of 100 to 200. In this stage they are called _____ stars.
51. _____ is the end stage of stars having initial mass less than 8 times the mass of the Sun.
52. _____ star is the end stage of the stars having mass between 8 and 25 time the mass of the Sun.
53. The supernova explosion was first seen in _____.
54. As the size of the white dwarfs is similar to that of the earth, their _____ is very large.
55. A star in our galaxy exploded about _____years back.
56. The end stage of the star having mass larger than 25 times the mass of the Sun is called a _____.

Answer the following.
1. Why is Sun called an ordinary star?
2. Describe our galaxy.
3. What has led scientists to conclude that the properties of the Sun have remained unchanged over its lifetime?
4. After how many years will the properties of the sun start changing?
5. What are interstellar clouds?
6. What is a light year?
7. How to scientist measure large distances.
Scientists use the unit of light year for measuring large distances.
8. What is the speed of light?
9. How is energy generated in the sun?
10. Which is the star closest to the Sun?
11. When does the star remain stable?
12. What will happen if there was no gas pressure in the Sun?
13. On what does gas pressure of a star depend on?
14. What is meant by evolution of a star?
15. Why is the energy in the star constantly decreasing?
16. When does the energy generation in the star stops.
17. On what does the evolution of stars depend on?
18. What are red giant stars?
19. Why is the star called a red giant star?
20. How are neutron stars formed?
21. Write down the three paths in the life cycle of stars and their end stages.