Stars, Nebulas and Galaxies : Quiz-220

1) What is the apparent magnitude of a star?

2) What is the absolute magnitude of a star?

3) What two things determine the apparent magnitude of a star?

4) Three stars; X, Y, and Z, have the apparent magnitudes of, -1, 3, and 7. The absolute magnitude of each is equal to 2.0.

a) Which star appears the brightest?

b) Which star is farthest away?

5) A decrease of one in the magnitude indicates an increase in brightness of 2.5. How much brighter is a magnitude 3 star than a magnitude 7 star?

6) What is luminosity?

7) Which is hotter, a blue star or a red star?

8) What is a nebula?

9) What is a galaxy?

10) What is the name of our galaxy?

11) Name a nearby galaxy.

12) Name the three types of galaxies.

13) Explain briefly how stars are born in a nebula.

14) Explain briefly what happens during the main stage.

15) Explain briefly what happens to a low mass star after the main stage.

16) Explain briefly what happens to a high mass star after the main stage.

Answers: 1) It is the brightness of the star as it appears to us from the Earth., 2) It is the true brightness of the star., 3) absolute magnitude, distance from the Earth, 4)a) X, b) Z, 5) 39.1, 6) It is the total energy radiated by a star each second., 7) blue, 8) It is a small blurry object seen in the sky which is not a star. It is a galaxy or a cloud of dust., 9) It is a vast collection of stars., 10) Milky Way, 11) Andromeda, or, the Small and Large Magellanic Clouds, 12) spiral, elliptical, irregular, 13) A cloud of dust contracts due to gravity and heats up., 14) After the cloud contracts, it heats up until it is hot enough so that hydrogen fuses into helium which releases an enormous amount of energy., 15) Eventually, the hydrogen fuel runs out and the star expands and becomes a red giant. The outer shell is blown away and a small, hot, white star, called a white dwarf, is left behind., 16) Large stars will eventually explode in a supernova, leaving behind a small remnant called a neutron star.