# Cosmology.

1. **When we study astronomical objects, we are studying events that happened in the past because**
   **a) It takes time to analyse the data**
   **b) The speed of light is finite**
   **c) The universe is very old**
   **d) Our telescopes are not yet large enough**

2. **Which of the following observations about the nature of the universe could you make with a pair of binoculars?**
   **a) The universe is expanding**
   **b) Most of the matter in the universe does not emit light**
   **c) Luminous matter in the universe occurs in clumps rather than being evenly distributed**
   **d) There is background radiation in all directions from the Big Bang**

3. **The cosmological principle that the universe is homogeneous and isotropic means that wherever we look in space we expect to see that**
   **a) The universe does not change with time**
   **b) Galaxies are all moving away from the same point**
   **c) Space looks approximately the same in all directions**
   **d) Every region of space is unique**

4. **The cosmic microwave background is strong evidence that**
   **a) Star formation has been taking place for billions of years**
   **b) The universe evolved from a hot dense state**
   **c) Colliding galaxies release lots of synchrotron radiation**
   **d) At 3K, the early universe was very cool**

5. **If the universe only contains matter and its density is greater than the critical density**
   **a) The universe is open and will expand forever**
   **b) The universe is closed and will expand forever**
   **c) The universe is closed and will eventually collapse again**
   **d) The Big Bang can not be correct**