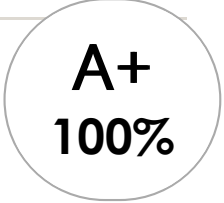


## 20 Multiple choice questions



**A+**  
**100%**

1. an electron emitted from a radioactive nucleus
  - a. carbon cycle
  - b. alpha particle
  - c. black hole
  - d. **CORRECT: beta particle**
  
2. radiation emitted by a black body that obeys Planck's law
  - a. **CORRECT: black body radiation**
  - b. black hole
  - c. black body
  - d. accretion
  
3. a high-energy photon emitted from a radioactive nucleus
  - a. fusion
  - b. atom
  - c. galaxy
  - d. **CORRECT: gamma**
  
4. the process of dust grain colliding and coalescing; used to help explain the formation of the sun and planets
  - a. fusion
  - b. **CORRECT: accretion**
  - c. atom
  - d. cluster
  
5. a group of stars , dust and gas bound together gravitationally; galaxies typically have billions of stars
  - a. **CORRECT: galaxy**
  - b. atom
  - c. gamma
  - d. fusion

6. an idealised body which absorbs all radiation that falls on it according to Planck's law
  - a. **CORRECT: black body**
  - b. galaxy
  - c. black hole
  - d. big bang
  
7. a group of stars or galaxies whose members are sufficiently close to each other to be physically associated
  - a. atom
  - b. atmosphere
  - c. **CORRECT: cluster**
  - d. fusion
  
8. a spectrum that shows a complete spread of colours from red to violet
  - a. atmosphere
  - b. carbon cycle
  - c. cluster
  - d. **CORRECT: continuous spectrum**
  
9. the apparent change in frequency (or wavelength) when there is relative motion between the source of waves and an observer; in astronomy, a star receding from us would experience a red shift in its spectrum; the Doppler effect can be used to determine distances to galaxies and the presence of spectroscopic binaries
  - a. cluster
  - b. **CORRECT: Doppler effect**
  - c. black hole
  - d. atmosphere
  
10. matter in a highly dense form that can exert a pressure, as a result of certain quantum-mechanical effects; this pressure stabilises a white dwarf against the gravitational force
  - a. **CORRECT: degenerate matter**
  - b. Doppler effect
  - c. gamma
  - d. carbon cycle

11. the average distance from the earth to the sun; equal to  $1.5 \times 10^{11}$
- atom
  - CORRECT: astronomical units**
  - carbon cycle
  - accretion
12. the layer of gas surrounding a planet
- CORRECT: atmosphere**
  - atom
  - black hole
  - cluster
13. a chain of nuclear fusion reactions by which energy may be generated in stars
- atmosphere
  - black hole
  - cosmology
  - CORRECT: carbon cycle**
14. the smallest part of an element that has all the properties of the element
- gamma
  - galaxy
  - CORRECT: atom**
  - fusion
15. the intensity of light or other radiation emitted or received from a celestial body
- CORRECT: brightness**
  - cluster
  - big bang
  - galaxy
16. an explosion which is postulated to have begun the expansion of the universe approximately 15 billion years ago
- galaxy
  - brightness
  - fusion
  - CORRECT: big bang**

17. the process by which light nuclei join together to produce a heavier nucleus
- gamma
  - atom
  - cluster
  - CORRECT: fusion**
18. a star which has collapsed under its own gravitation, to such an extent that its gravitational field is so intense that even light cannot escape from its surface
- black body
  - atom
  - big bang
  - CORRECT: black hole**
19. a nucleus of helium-4 emitted from a nucleus of an atom undergoing radioactive decay
- CORRECT: alpha particle**
  - beta particle
  - black hole
  - carbon cycle
20. the study of the organisation, structure and evolution of the universe
- gamma
  - fusion
  - galaxy
  - CORRECT: cosmology**