

20 Multiple choice questions

1. an electron emitted from a radioactive nucleus
 - a. carbon cycle
 - b. alpha particle
 - c. black hole
 - d. beta particle

2. radiation emitted by a black body that obeys Planck's law
 - a. 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. gamma

4. the process of dust grain colliding and coalescing; used to help explain the formation of the sun and planets
 - a. fusion
 - b. accretion
 - c. atom
 - d. cluster

5. a group of stars , dust and gas bound together gravitationally; galaxies typically have billions of stars
 - a. galaxy
 - b. atom
 - c. gamma
 - d. fusion

6. an ideallised body which absorbs all radiation that falls on it according to Planck's law
 - a. 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. 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. 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. 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. degenerate matter
 - b. Doppler effect
 - c. gamma
 - d. carbon cycle

11. the average distance from the earth to the sun; equal to 1.5×10^{11}
 - a. atom
 - b. astronomical units
 - c. carbon cycle
 - d. accretion

12. the layer of gas surrounding a planet
 - a. atmosphere
 - b. atom
 - c. black hole
 - d. cluster

13. a chain of nuclear fusion reactions by which energy may be generated in stars
 - a. atmosphere
 - b. black hole
 - c. cosmology
 - d. carbon cycle

14. the smallest part of an element that has all the properties of the element
 - a. gamma
 - b. galaxy
 - c. atom
 - d. fusion

15. the intensity of light or other radiation emitted or received from a celestial body
 - a. brightness
 - b. cluster
 - c. big bang
 - d. galaxy

16. an explosion which is postulated to have begun the expansion of the universe approximately 15 billion years ago
 - a. galaxy
 - b. brightness
 - c. fusion
 - d. big bang

17. the process by which light nuclei join together to produce a heavier nucleus
 - a. gamma
 - b. atom
 - c. cluster
 - d. 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
 - a. black body
 - b. atom
 - c. big bang
 - d. black hole

19. a nucleus of helium-4 emitted from a nucleus of an atom undergoing radioactive decay
 - a. alpha particle
 - b. beta particle
 - c. black hole
 - d. carbon cycle

20. the study of the organisation, structure and evolution of the universe
 - a. gamma
 - b. fusion
 - c. galaxy
 - d. cosmology