

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) In the equation $E = hf$, the f stands for 1) _____
A) frequency characteristic of quantum phenomena.
B) the smaller wavelengths of visible light.
C) wave frequency as defined for sound, radio, and light waves.
D) none of these
- 2) The ratio of the energy of a photon to its frequency is 2) _____
A) the photon's speed.
B) Planck's constant.
C) the photon's wavelength.
D) pi.
E) not known.
- 3) Which has less energy per photon? 3) _____
A) blue light
B) red light
C) Both have the same energy.
- 4) The photoelectric effect best demonstrates the 4) _____
A) particle nature of light. B) wave nature of light.
C) both of these D) none of these
- 5) Light behaves primarily as a wave when it 5) _____
A) travels from one place to another. B) interacts with matter.
- 6) The uncertainty principle applies not only to momentum and position, but also to energy and 6) _____
time. This statement is
A) false. B) true.
- 7) According to the uncertainty principle, the more we know about a particle's momentum, the less 7) _____
we know about its
A) speed.
B) location.
C) mass.
D) kinetic energy.
E) none of these
- 8) Which of the following is not quantized? 8) _____
A) radiation
B) number of people in a room
C) electric charge
D) energy
E) All are quantized.

19) When an alpha particle is ejected from a nucleus, the nucleus then has less

A) charge.

B) mass.

C) both of these

D) neither of these

19) _____

20) When a beta particle is ejected from a nucleus, the nucleus then has a greater

A) mass.

B) charge.

C) both of these

D) neither of these

20) _____

Answer Key

Testname: 31,32,33

- 1) C
- 2) B
- 3) B
- 4) A
- 5) A
- 6) B
- 7) B
- 8) E
- 9) B
- 10) B
- 11) A
- 12) C
- 13) C
- 14) D
- 15) C
- 16) A
- 17) A
- 18) C
- 19) C
- 20) B