Assignment 1

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

Due on 2019-02-13, 23:59 IST.

1) Concept of quantization of energy was given by?

- Albert Einstein
- Theodore Maiman
- Max Planck
- Gordon Gould

No, the answer is incorrect.
Score: 0
Accepted Answers:
Max Planck

2) Which of the following is NOT true about the properties of LASER light?

- Directional
- High Power
- Monochromatic
- Incoherent

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Which of the following techniques can be performed without exclusive use of LASERs?

- Nonlinear Optics
- LIDAR
- LASIK
- Absorption Spectroscopy

No, the answer is incorrect.
Score: 0

Accepted Answers:

**Absorption Spectroscopy**

4) Who developed the microwave solid state MASER?

- Max Planck
- Gordon Gould
- Charles H Townes
- Nicolaas Bloembergen

No, the answer is incorrect.
Score: 0

Accepted Answers:

**Nicolaas Bloembergen**

5) Ratio of Einstein’s coefficients for absorption and stimulated emission, $B_{12}$ and $B_{21}$ is

- 2
- 1
- 0.5
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:

1

6) Which one of the following rate(s)
does not depend upon incident photon density?

- Rate of Absorption
- Rate of Stimulated Emission
- Rate of Spontaneous Emission
- Both (a) and (b)

No, the answer is incorrect.
Score: 0
Accepted Answers:
Rate of Spontaneous Emission

7) Ratio of the rate of spontaneous emission to the rate of stimulated emission is directly proportional to

- $\nu$
- $\nu^2$
- $\nu^3$
- $\nu^5$

No, the answer is incorrect.
Score: 0
Accepted Answers:
$\nu^3$

8) Which of the following was used as an active medium to construct first LASER

- Dye
- CO$_2$
- He-Ne
- Ruby Crystal

No, the answer is incorrect.
Score: 0
Accepted Answers:
Ruby Crystal

9) Which one of the following is
easiest frequency to construct a LASER

- Infra-Red
- Ultraviolet
- X Ray
- Microwave

No, the answer is incorrect. Score: 0

Accepted Answers: Microwave

For LASER action one needs the ratio of rate of stimulated emission to rate of absorption to be

- = 1
- > 1
- < 1
- = 0.5

No, the answer is incorrect. Score: 0

Accepted Answers: > 1