## Introduction to Seismology-Geop204 Quiz for Chapter 2- Seismic waves

## Name: No:

INU:

## **Multiple Choices**

- 1. \_\_\_\_\_ materials return to their original shapes and volumes when deforming stress is removed.
  - a. Brittle
  - b. Ductile
  - c. Elastic
  - d. Inelastic
- 2. The ratio of transverse strain to longitudinal strain is known as
  - a. Bulk modulus
  - b. Shear modulus
  - c. Poisson's ratio
  - d. Hooke's law
- 3. The wave that originates from the source, enters the outer core and then detected at the surface is represented by the phase \_\_\_\_\_
  - a. pP
  - b. PcP
  - c. P<sup>/</sup>
  - d. sP
- 4. The ability to deform permanently without breaking is \_\_\_\_\_
  - a. Ductility
  - b. Brittleness
  - c. Elasticity
  - d. Elastic limit
- 5. For\_\_\_\_\_, direction of wave propagation is perpendicular to the direction of particle motion.
  - a. P- wave
  - b. S-wave

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- c. Love wave
- d. Rayleigh wave
- 6. S-wave through inner core is represented by phase \_\_\_\_\_.
  - a. I
  - b. c
  - c. J
  - d. K
- 7. Which of the following quantities is not responsible for higher velocities \_\_\_\_\_

?

- a. High temperatures
- b. Lower temperatures
- c. High pressures
- d. Solid phases
- 8. \_\_\_\_is also known as rigidity.
  - a. Bulk modulus
  - b. Shear modulus
  - c. Poisson's ratio
  - d. Elastic limit

9. S-wave is slower than \_\_\_\_\_.

- a. P-wave
- b. Rayleigh wave
- c. Love wave
- d. Creeping wave

10.pP is used for \_\_\_\_\_

- a. P-wave upgoing from focus, reflected at surface
- b. P- wave reflected at surface
- c. P- wave reflected at surface twice
- d. P- wave through outer core

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## **Review Questions - True or False**

- 11. Ductile deformation results in the development of fractures.
- 12. According to Snell's law, a ray traveling from one medium with velocity V<sub>1</sub> will bend towards the normal after entering the second medium with velocity V<sub>2</sub>, where V<sub>2</sub> > V<sub>1</sub>.
- 13. According to Hooke's law, stress is inversely proportional to strain.
- 14. Rayleigh waves have both longitudinal and transverse motion.
- 15. Surface waves are smaller in amplitude and longer in duration than body waves.
- 16. PKP indicates that seismic wave did not enter the outer core.
- 17. S-waves are seismic waves that travel along the earth's surface.
- 18. For P-waves, particle motion direction is parallel to the wave propagation direction.
- 19. Rayleigh waves travel faster than S-waves.
- 20. A brittle rock fractures when it is forced to change its shape and deform only a small amount.