Comprehensive Quiz for Chapters 1, 2, 3, 4& 5

**Name:**
**No:**

**Multiple Choices**

1. Fermat's principle leads to _____.
    a. Birch's law
    b. Snell's law
    c. Huygen's principle
    d. Omori law
2. The slope of the travel time for each of the P, S and direct arrivals is the _____ ___ of velocity.
    a. Square root
    b. Square
    c. Cube
    d. Inverse
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/
    d. sP
4. Maximum amplitude of particle motion occurs along _____ phase wavefront.
    a. 0 degree
    b. 45 degree
    c. 90 degree
    d. 60 degree

5. _____ doesn't affect seismic moment.
    a. Shear modulus
    b. Slip offset

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c. Bulk modulus
d. Rupture area

**Review Questions - True or False**

6. Poisson's ratio has a value of 0.5 for fluids .
7. A given earthquake has different intensity and different magnitude depending on your location.
8. In a Strike slip fault, the slip of the fault is perpendicular to the strike of the fault.
9. P-wave velocity increases with mafic mineral content and pressure but decreases with temperature.
10. Birch's law gives an exponential relationship between density and seismic velocity.
11. Lithosphere is generally 50-100 km thick.
12. S-wave has maximum velocity in molten rocks.
13. Frictional stress is the product of coefficient of friction and normal stress.

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**Brief Description (not more than 4 lines each for the following)**

14. Seismograph
15. Huygen's principle
16. Write the assumptions used in poissonian model of earthquake occurrence?
17. Compare EQ of magnitude 7 with EQ of magnitude 3 in terms of Amplitude and Energy.
18. Briefly write the desirable properties of earthquake catalogues.
19. What are the causes of reservoir triggered seismicity?