**Physics SENIOR QUIZ-26 questions-2012**

74. Given that the speed of light in air is 300 000m/s. calculate the time in minutes for light to reach earth from the sun 150,000,000 away.

Ans 8.33 minutes

75. What term is used to describe a phenomenon where same spherical mirrors do not focus parallel rays of light to a sharp point, but instead, the point is blurred?

Ans spherical aberration

76. What is the ratio of the focal length of any spherical mirror to the radius of its curvature?

Ans 2:1

77. Calculate the focal length of a lens with lens power +17 D

Ans 0.06m or 6.0 cm

78. What are the units of the lens power?

Ans dioptres

79. what is used to describe a region of minimum particle density in a longitudinal wave?

Ans rarefaction

81. what are the units used for measuring radiation in radioisotopes?

Ans bacquerel

82. What kind of waves has a characteristic feature of propagating in such a way that they are parallel to each other?

Ans electromagnetic waves

83. A football fan throws a particle with a force of 50N onto a prayer. If the particle acts for 0.1 seconds on the prayer. Find the impulse of the force?

Ans 5 N

84. The power of the engine of a car is 7KW. What would be the miximum speed of the car on the level against resistance of 250N?

Ans 28m/s

85. In what type of collision do particles separate after a perfect?

Collision?

Ans inelastic collision

86. What name is given to the type of flow where a fluid does not flow smoothly?

Ans turbulent flow

87. Name the physical property which varies with temperature and which is made use of in a mercury in glass

Ans expansion

88. What formula can be used to calculate the energy of a single photon ?

Ans E = h v

89. The measure of the average kinetic energy of the particles of a substance is called?

Ans temperature

90. The oldest possible temperature called absolute zero occurs at what temperature?

Ans 0 K or – 273 C

91. The equation P V = n R T is called the ideal gas equation. What is the value of R in J/mole/K

Ans 8.31J/mol/K

92. Current of 60 uA is equivalent to a temperature difference of 100 C . Therefore a current of 42 u A indicates a temperature difference of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Ans 70 C or 343K

93. In 10 seconds, 20 waves of wavelength 0.02 are produced in a slinky spring. What is the speed of these waves?

Ans 0.04m/s

94. A rifle of mass 3 Kg fires a bullet of mass 0.025Kg at 100m/s. what is the kinetic energies of the rifle and bullet

Ans 1.04 seconds

95. Find the gravitational intensity at a point 1000m above mean sea level. Take R = 6400km and g 9.81m/s

Ans 9.807 m/s

96. What is the smallest total resistance which can be obtained using only a 6 ohm and a 12 ohm resistor?

Ans 4 ohm

97. A lift is accelerating upwards at 2.0 m/s if the mass of the lift is 400kg, what is the tension in the cable pulling it up?

Ans 48,000N

98. Find the wavelength of a cricket ball of mass 0.15 Kg moving at 30 m/s

Ans 1.49 x 10-34m

99. What is the real depth of a swimming pool if the apparent depth is 1.2m?(refractive index if water 1.33)

Ans 1.6 m

100. What electronic component which may be used to store electrical energy in a time – delay circuit

Ans capacitor