374 PU M Sc Physics

1 of 100

145 PU_2016_374_E

Given that the Bohr energy of a hydrogen atom is proportional to the reduced mass of the system. Then the ground state energy of the positronium (positron-electron system) is approximately equal to:-

- -13.6 eV
- -6.8 eV
- -27.2 eV
- -3.4 eV

2 of 100

172 PU_2016_374_E

The diameter of nitrogen molecule is 3.2 X 10^{-10} m. The number of molecules at 0 °C and 1 atm. pressure is 2.69 X 10^{25} per m^3. The mean free path for nitrogen molecules is:-

- 0.005786 X 10^{-7} m
- 0.007785 X 10^{-6} m
- 0.001785 X 10^{-5} m
- 0.008175 X 10^{-5} m

3 of 100

211 PU_2016_374_E

If Silicon (Si) is doped with 10^{19} trivalent impurity atoms, the position of the Femi level is:-

- Position of the Femi level is below the Conduction band
- Position of the Femi level is above the Conduction band
- Position of the Femi level is below the Valence band
- Position of the Femi level is above the Valence band

4 of 100

204 PU_2016_374_E

Cube roots of unity are:-

- $i, \frac{1 \pm i\sqrt{3}}{2}$
- $i, \frac{-1 \pm i\sqrt{3}}{2}$
- $1, \frac{-1 \pm i\sqrt{3}}{2}$
- $1, \frac{1 \pm i\sqrt{3}}{2}$

5 of 100
217 PU_2016_374_E
Clipper circuit can be used for:-

- Removing and Shifting part of a signal
- Shifting part of a signal
- Removing and Shifting the complete signal
- Removing part of a signal

6 of 100
164 PU_2016_374_E
Viscosity of a gas is directly proportional to:-

- Temperature
- Density of gas
- T^2
- $T^{1/2}$

7 of 100
114 PU_2016_374_E
With the rise of temperature, the velocity of sound:-

- remains the same
- is independent of temperature
- decreases
- increases

8 of 100
218 PU_2016_374_E
What are biasing conditions for transistor to be an amplifier:-

- Emitter junction should be reverse bias and collector junction should be forward bias
- Both the emitter and collector junctions should be reverse bias
- Both the emitter and collector junctions should be forward bias
- Emitter junction should be forward bias and collector junction should be reverse bias

9 of 100
108 PU_2016_374_E
A mass M is moving with a constant velocity parallel to x-axis. Its angular momentum with respect to origin is:-

- zero
- Increasing
- constant
- Decreasing

10 of 100

117 PU_2016_374_E

The distance between two successive nodes is:-

- 2 λ
- λ
- λ/2
- λ/4

11 of 100

107 PU_2016_374_E

If the distance between two masses is doubles, gravitational attraction between them is:-

- reduced to quarter
- Tripled
- reduced to half
- Doubled

12 of 100

206 PU_2016_374_E

If $F(t) = t^{-1/2}$, then Laplace transform of $F(t)$ is:-

- $\frac{\pi}{s^{3/2}}$
- $\sqrt{\frac{s}{\pi}}$
- $\sqrt{\frac{\pi}{s}}$
- s

13 of 100

146 PU_2016_374_E

Which of the following conditions would lead to non-stationary interference pattern:-

- Sources have slightly different frequencies
- Sources have different amplitudes
- Sources are partially coherent
- Sources have different polarizations

14 of 100

212 PU_2016_374_E

In p-n junction rectifier, the observed small reverse current at 300 K is due to:-

- Doping of pentavalent and trivalent impurity atoms
- Doping of pentavalent impurity atoms
- Doping of trivalent impurity atoms
- Increase of temperature above 0 K

15 of 100

191 PU_2016_374_E

If u=f(x, y) then with usual notations, $u_{xy}=u_{yx}$ if:-

- u_x is continuous
- u, u_x, u_y are continuous
- u_y is continuous
- u is continuous

16 of 100

216 PU_2016_374_E

What is the working principle of light emitting diode:-

- light emitting diode works under forward bias with radiative transition
- light emitting diode works under reverse bias with non-radiative transition
- light emitting diode works under forward bias with non-radiative transition
- light emitting diode works under reverse bias with radiative transition

17 of 100

133 PU_2016_374_E

Given that Ψ(x,t) is the wave function of a quantum mechanical particle, α is an arbitrary complex constant and A is the expectation value of a physical quantity. Which of following is the expectationvalue of the same physical quantity when the new wave function α Ψ (x,t) is used instead of Ψ (x,t)?

- $A / (\alpha \alpha^*)$
- α A
- A
- $\alpha \alpha^* A$

18 of 100

120 PU_2016_374_E

When a star is approaches the earth, the lines are shifted towards the end of:-

- yellow
- green
- blue
- red

19 of 100

173 PU_2016_374_E
A Carnot's engine has an efficiency of 30 % when the temperature of the sink is 27 °C. What must be the change in temperature of the source to make its efficiency 50%:-

- 428. 57 K
- 300 K
- 128.57 K
- 171.43 K

20 of 100

200 PU_2016_374_E

The independent solutions of the equation: $\frac{d^2y}{dx^2} - 3\frac{dy}{dx} + 2y = 0$ are:-

- exp(2x) and exp(x)
- 1/x and x^2
- sin(2x) and cos(x)
- exp (2x) and exp(-x)

21 of 100

110 PU_2016_374_E
Bernoulli's principle is based on the law of conservation of:-

- mass
- both mass and momentum
- energy
- momentum

22 of 100

176 PU_2016_374_E
Consider the following processes: The temperatures of two identical gases are increased from the same initial temperature to the same final temperature. Reversible processes are used in both cases. For gas A, the process is carried out at constant volume while for gas B it is carried out at constant pressure. The change in entropy is:

- same for A and B
- greater for B
- greater for A only if the initial temperature is high
- greater for A

23 of 100

102 PU_2016_374_E
A moving body is covering the distance directly proportional to the square of the time. The acceleration of the body is:-

- Increasing

- zero
- constant
- Decreasing

24 of 100

126 PU_2016_374_E

A circular r_0 disc of radius moves, with respect to an observer, at relativistic speed along the direction of a diameter of the circle. To the observer, the disc would now appear to be:-

- an ellipse with semi-major axis $b = r_0$
- a circle of radius 0 $r < r_0$
- a circle of radius 0 $r > r_0$
- an ellipse with semi-major axis $a = r_0$

25 of 100

193 PU_2016_374_E

The set of positive even numbers, with usual multiplication forms:-

- an infinite group
- only a monoid
- a finite group
- only a semi group

26 of 100

185 PU_2016_374_E

The value of the integral $I = \frac{1}{2\pi i}\oint \frac{e^z}{z-2}\,dz$, where C is the circle $|z| = 3$ is:-

- e^{-2}
- e^2
- $-e^2 / 2$
- $e^2 / 2$

27 of 100

177 PU_2016_374_E

If A is a singular matrix, then A adj(A):-

- is an orthogonal matrix
- is a zero matrix
- is a scalar matrix
- is an identity matrix

28 of 100

205 PU_2016_374_E

Name the following differential equation $\frac{d^2y}{dx^2} - 2x\frac{dy}{dx} + 2\lambda y = 0$, where λ is a constant:-

- Laguerre Differential Equation
- Lagendre's differential equation
- Bessel's differential equation
- Hermite's differential equation

29 of 100

112 PU_2016_374_E

A pendulum of length L supporting mass M swings back and forth with period T . If the mass is doubled, the new period of the pendulum is:-

- $\sqrt{2}T$
- 2T
- $\sqrt{T}$
- T

30 of 100

118 PU_2016_374_E

Two tuning forks A and B vibrating simultaneously produces 15 beats. Frequency of B is 512 Hz. If one arm of A is fixed(filed), then the no. of beats increases. Frequency of A will be:-

- 507
- 502
- 522
- 517

31 of 100

132 PU_2016_374_E

Which of the following functions obey the time-dependent Schrödinger equation for a free particle?

- $\exp(i\vec{k}\cdot\vec{r} - i\omega t)$
- $\sin(\vec{k}\cdot\vec{r} - \omega t)$
- $\cos(\vec{k}\cdot\vec{r} - \omega t)$
- $\exp(\vec{k}\cdot\vec{r} - \omega t)$

32 of 100

140 PU_2016_374_E

A wave function of a quantum mechanical particle obeys the property Ψ (-x) = ± Ψ (x). If the particle can move from x = -∞ to x = +∞ , then the expectation value of the position of the particle is equal to:-

- ± ∞

- 0
- ± 1
- ∞

33 of 100

127 PU_2016_374_E

Given that the mass and size of a hypothetical particle can be measured only when it is in motion. This particle is assumed to be born with an imaginary rest mass. Which one of the following is NOT true about this particle?

- The particle can travel only at speed greater than that of light.
- Its observable mass increases as its speed decreases.
- The energy of the particle decreases as its speed increases.
- The energy of the particle increases as its mass decreases.

34 of 100

134 PU_2016_374_E

Physical quantities in quantum mechanics are represented by Hermitian matrices because:-

- they are square matrices.
- their diagonal elements are real.
- their eigenvalues are real.
- their determinants are real.

35 of 100

139 PU_2016_374_E

In a hydrogen atom, the energy of the second excited state is equal to:-

- -1.51 eV
- -3.4 eV
- -13.6 eV
- -6.8 eV

36 of 100

111 PU_2016_374_E

Meniscus of mercury in capillary is:-

- convex
- plane
- cylindrical
- concave

37 of 100

105 PU_2016_374_E

A canon after firing recoils due to:-

- Newton's first law of motion
- Newton's second law of motion
- Newton's third law of motion
- Backward thrust of gases produced

38 of 100

101 PU_2016_374_E

The vectors A and B are such that A + B = A - B , then the angle between the vectors will be:-

- 180°
- 0°
- 60°
- 90°

39 of 100

192 PU_2016_374_E

The order and degree of the differential equation are $\frac{d^2y}{dx^2} = \left[4 + \left(\frac{dy}{dx}\right)^2\right]^{3/4}$:-

- 2,1
- 2,4
- 4,2
- 1,2

40 of 100

122 PU_2016_374_E

If the distance between the sounding body and the observer is doubled, then the intensity of sound becomes:-

- 1/4
- 1/8
- 1/10
- 1/2

41 of 100

167 PU_2016_374_E

In a cyclic process the change in internal energy is:-

- can not be determined
- equal to area of cycle
- infinity
- zero

42 of 100

104 PU_2016_374_E

A particle P moving in a circle of radius r with a uniform speed u. C is the center of the circle and AB is a diameter, the angular velocity of P about A and C are in the ratio:-

- 1 : 4
- 4 : 1
- 2 : 1
- 1 : 2

43 of 100

128 PU_2016_374_E

A particle at rest with respect to a laboratory frame is represented in a Minknowski's space-time corresponding to the laboratory frame by:-

- a straight line parallel to time-axis.
- a straight line at 45° to the time-axis.
- a point.
- a hyperbola with its vertex at the origin.

44 of 100

159 PU_2016_374_E

Light source of power 1W with wavelength of 500nm will emit:-

- 6.0×10^{18} photons per second
- 3.0×10^{18} photons per second
- 6.0×10^{15} photons per second
- 3.0×10^{15} photons per second

45 of 100

155 PU_2016_374_E

Find the distance between two points having a phase difference of 2p for a wave of frequency 1600 Hz travelling with velocity of 400m/s:-

- 0.5 m
- 4.0 m
- 0.25 m
- 2.0 m

46 of 100

203 PU_2016_374_E

If F(t) = 1, then Laplace transform of F(t) is:-

- 1/s
- 0

- does not exist
- s

47 of 100

135 PU_2016_374_E

Physical quantities in quantum mechanics are represented by matrices because:-

- the product of two matrices in general do not give the same result when the order of matrices is reversed.
- the matrix elements of an operator are all the possible values that the physical quantity can have.
- the observable value of a physical quantity is the average of the matrix elements.
- the matrix elements are the probabilities of a particular value of the physical quantity can have

48 of 100

214 PU_2016_374_E

What are the required important parameters to design Zener diode:-

- Low doping concentration of p type and n type of impurity atoms, absorption of heat and forward bias
- High doping concentration of p type and n type of impurity atoms, dissipation of heat and reverse bias
- Low doping concentration of p type and n type of impurity atoms, absorption of heat and reverse bias
- High doping concentration of p type and n type of impurity atoms, dissipation of heat and forward bias

49 of 100

153 PU_2016_374_E

Fringe visibility of interference fringes produced by two interacting light sources does not depends on the:-

- Linewdith of the sources
- Distance between the sources if they are emitting plane waves
- Intensity of the light sources
- Polarization of the light sources

50 of 100

215 PU_2016_374_E

What are reasons to get the constant Zener voltage (Vz), even if there is a change in the line voltage (Vin):-

- High doping concentration of p type and n type of impurity atoms and reverse bias
- Low doping concentration of p type and n type of impurity atoms and dissipation of heat
- Low doping concentration of p type and n type of impurity atoms and forward bias
- High doping concentration of p type and n type of impurity atoms and dissipation of heat

51 of 100

116 PU_2016_374_E

Energy is not carried by:-

- Stationary waves
- Transverse progressive waves
- Longitudinal progressive waves
- Electromagnetic waves

52 of 100

165 PU_2016_374_E

Which of the following function is path independent:-

- Internal energy
- Heat
- Temperature
- Work

53 of 100

213 PU_2016_374_E

Using the second approximation, calculate the output voltage and current, through the 10 Kilo Ohms load, for the diode circuit having input voltage (Vin) 15V and the voltage drop across the diode is 0.7V:-

- Output voltage = 13.3V and Output current = 1.34 mA
- Output voltage = 12.3V and Output current = 1.13 mA
- Output voltage = 14.3V and Output current = 1.43 mA
- Output voltage = 11.3V and Output current = 1.23 mA

54 of 100

119 PU_2016_374_E

For an open organ pipe of length l, the wavelength of the fundamental node is:-

- l/4
- 2l
- l
- l/2

55 of 100

219 PU_2016_374_E

What are orders of size of emitter, base and collector for a transistor design:-

- Emitter should be moderate size, base should be smallest size and collector should be largest size
- Emitter should be largest size, base should be smallest size and collector should be moderate size
- Emitter should be largest size, base should be moderate size and collector should be smallest size
- Emitter should be moderate size, base should be moderate size and collector should be largest size

56 of 100

109 PU_2016_374_E
A spiral spring is stretched by a weight attached to it, the strain is:-

- tensile
- bulk
- elastic
- shear

57 of 100

166 PU_2016_374_E
A monoatomic ideal gas initially at 17 °C is suddenly compressed to one eighth of its original volume. The temperature after compression is:-

- 887 °C
- 136 °C
- 17 °C
- None of above

58 of 100

100 PU_2016_374_E
If the sum of all the forces acting on a moving object is zero, the object will:-

- slow down and stop
- continue moving with constant velocity
- accelerate uniformly
- decelerate uniformly

59 of 100

113 PU_2016_374_E
The period of a simple pendulum is doubled when its:-

- length is doubled
- length and mass is doubled
- mass is doubled,
- length is made four times

60 of 100

103 PU_2016_374_E
An elevator P moving vertically up with an acceleration a, then the force exerted on the floor by a passenger of mass M travelling in the elevator is:-

- Mg
- M(g-a)
- Ma
- M(g+a)

61 of 100

252 PU_2016_374_M

A non-conducting solid sphere of radius R has a total charge Q with uniform charge distribution. The potential difference between the center of the sphere to its surface is:-

- Inversely propotional to R^2
- Inversely propotional to R^3
- Inversely propotional to R
- A constant, independent of R

62 of 100

237 PU_2016_374_M

A microscope has an objective of 3.8cm focal length and an eyepiece of 5 cm focal length. If the distance between the lenses is 16.4 cm, the magnification of the microscope is:-

- -11.6
- -21.5
- -10
- -33.2

63 of 100

223 PU_2016_374_M

Common collector transistor amplifier has the following properties:-

- Unit voltage gain, same phase and high in put impedance
- Low voltage gain, reverse phase and low in put impedance
- Unit voltage gain, reverse phase and low in put impedance
- High voltage gain, same phase and high in put impedance

64 of 100

220 PU_2016_374_M

What are orders of impurity doping level of emitter, base and collector for a transistor design:-

- Emitter should be largest, base should be smallest and collector should be moderate
- Emitter should be moderate, base should be moderate and collector should be largest
- Emitter should be largest, base should be moderate and collector should be smallest
- Emitter should be moderate, base should be smallest and collector should be largest

65 of 100

227 PU_2016_374_M

Astable multivibrator generates:-

- Sine wave
- Triangle wave
- Saw-tooth wave

- Square wave

66 of 100

231 PU_2016_374_M

Operational amplifier has the following properties:-

- Low band width, high voltage gain, high in put high impedance and high output impedance
- High band width, low voltage gain, high in put high impedance and high output impedance
- High band width, high voltage gain, high in put high impedance and low output impedance
- High band width, high voltage gain, low in put high impedance and high output impedance

67 of 100

246 PU_2016_374_M

In a certain region, there are a uniform electric field $\vec{E}$ and a uniform magnetic field $\vec{B}$ both directed along the z-axis. A particle of charge Q and mass m enters in this field region at time $t = 0$ with initial velocity v_o along the x-axis. Then, the electron will perform a _____ motion in the _____ plane with its acceleration in _____ direction.

- Elliptical , xy-plane, z-axis
- Circular , xy-plane, z-axis
- Circular , yz-plane, x-axis
- Circular , xz-plane, y-axis

68 of 100

234 PU_2016_374_M

Fraunhoffer diffraction due to 2 parallel slit having slit width of 0.25mm with 0.5mm separation distance having the following missing order:-

- 2, 4, 6, 8.
- 1, 2, 3, 4
- There are no missing orders
- 3,6,9,12

69 of 100

254 PU_2016_374_M

Two interfering beams with parallel electric fields are given by

$E_1 = 2\cos(\vec{k}.\vec{r} - \omega t + \pi/3)$ kV/m and $E_2 = 2\cos(\vec{k}.\vec{r} - \omega t + \pi/3)$ kV/m.

The interference term at a point where their path difference is zero is

- 33.2kW/m^2
- 1.28kW/m^2
- 5.3kW/m^2

- 2.56kW/m^2

70 of 100

247 PU_2016_374_M

A metallic ring of cross sectional area A with mean radius R having a relative permeability μ_r is uniformly wound with N turns of wire. If an uniform current I passes through the wire, then, the average magnetization M in the ring is

- $\frac{NI}{\pi R^2}(\mu_r\mu_o)$
- $\frac{NI\mu_r}{2\pi R}$
- $\frac{NI}{2\pi R}(\mu_r - 1)$
- $\frac{NI}{2\pi R}$

71 of 100

259 PU_2016_374_M

The SI Unit of capacitance is equivalent to:-

- J / C
- C / J
- C^2 / J
- V / C

72 of 100

224 PU_2016_374_M

Common base transistor amplifier has the following properties:-

- High voltage gain, low in put impedance and high output impedance
- High voltage gain, high in put impedance and high output impedance
- High voltage gain, high in put impedance and low output impedance
- low voltage gain, High in put impedance and high output impedance

73 of 100

229 PU_2016_374_M

Output (Y) of the two in puts (A & B) of AND gate:-

- Y = A /B
- Y = A +B
- Y = A.B
- Y = A -B

74 of 100
258 PU_2016_374_M

SI unit of electric flux density $\vec{E}$ is :-

- Ampere/m
- Ampere/m^2
- C/m^2
- N / C

75 of 100
225 PU_2016_374_M
Field effect transistor (FET) amplifier has the following properties:-

- Unipolar, high noisy, good thermal stability and high in put impedance
- Unipolar, high noisy, bad thermal stability and low in put impedance
- Unipolar, less noisy, good thermal stability and high in put impedance
- Unipolar, less noisy, bad thermal stability and high in put impedance

76 of 100
230 PU_2016_374_M
Differential amplifier has the following properties:-

- It attenuates the differential inputs and amplifies the common mode signals
- It amplifies the differential inputs and also the common mode signals
- It amplifies the differential inputs and attenuates the common mode signals
- It attenuates the differential inputs and also the common mode signals

77 of 100
226 PU_2016_374_M
Phase shift oscillator generates:-

- Square wave
- Saw-tooth wave
- Triangle wave
- Sine wave

78 of 100
222 PU_2016_374_M
Common emitter transistor amplifier has the following properties:-

- Unit voltage gain, same phase and high in put impedance
- Low voltage gain, reverse phase and low in put impedance
- High voltage gain, reverse phase and medium in put impedance

- High voltage gain, same phase and high in put impedance

79 of 100

255 PU_2016_374_M

If an electric field $|\vec{E}|$ is applied to an atom, it gets polarized with polarization $|\vec{P}|$. The relation between P and E is

- $P = \varepsilon_o \varepsilon_r E$
- $P = \varepsilon_o (\varepsilon_r - 1) E^2$
- $P = \frac{1}{4\pi\varepsilon_o} E$
- $P = \varepsilon_o (\varepsilon_r - 1) E$

80 of 100

228 PU_2016_374_M

Output (Y) of the two in puts (A & B) of OR gate:-

- Y = A +B
- Y = A.B
- Y = A -B
- Y = A /B

81 of 100

294 PU_2016_374_D

A mobile phone has a mass of 100g. Find its weight if g is 10 N kg^{-1} :-

- 1000 N
- 0 N
- 1 N
- 90 N

82 of 100

299 PU_2016_374_D

A very small current flow in a reverse biased condition is due to:-

- Zero charge carrier
- Majority charge carrier
- Minority charge carrier
- Both majority and minority carriers

83 of 100

298 PU_2016_374_D

Color of light emitted by LED depends on:-

- its reverse bias
- forward current
- its forward bias
- semiconductor material

84 of 100

297 PU_2016_374_D

Two inputs A and B of NAND gate has 0 output when:-

- A = 0, B = 1
- A = 1, B = 1
- A = 0, B = 0
- A = 1, B = 0

85 of 100

268 PU_2016_374_D

The Hall effect in a conducting strip is due to the motion of charge carriers_____.

- perpendicular to the direction of applied magnetic field but parallel to the direction of the current.
- along the direction of the applied magnetic field
- perpendicular to the direction of both applied current and the magnetic field.
- along the direction of the applied current.

86 of 100

284 PU_2016_374_D

Which instrument is used to measure pressure of liquids or gases?

- Manometer
- Multimeter
- Barometer
- Thermometer

87 of 100

293 PU_2016_374_D

Heat applied to a piece of metal will cause:-

- increase in its mass
- increase in its internal energy
- increase in its volume
- increase in its density

88 of 100

281 PU_2016_374_D

A drop of liquid (surface tension=75 dyne/cm) of diameter 2.8mm breaks into 125 identical drops. The change in energy is nearly:-

- 19 erg
- Zero
- 74 erg
- 46 erg

89 of 100

289 PU_2016_374_D

In gases, diffusion occurs because molecules of gases:-

- move in random motion
- attract each other
- that are present in a higher concentration exert a higher pressure
- repel each other

90 of 100

291 PU_2016_374_D

If car tires are hot, pressure of gas molecules in them would be:-

- same as before heating
- may be low or high
- high
- low

91 of 100

265 PU_2016_374_D

The ratio between the thermal and electrical conductivities of all metals is _____.

- proportional to square of the temperature
- a constant at all temperature
- inversely proportional to temperature.
- proportional to temperature.

92 of 100

292 PU_2016_374_D

Random motion of smoke or gas particles in air is termed as:-

- Bruneian motion
- Brownian motion
- Blackian motion
- Randomium motion

93 of 100

286 PU_2016_374_D
The presence of impurities in a substance:-

- raises its melting point
- lowers its boiling point
- raises its boiling point
- lowers its melting point

94 of 100

285 PU_2016_374_D
When net force acting on a droplet becomes zero its constant speed is known as:-

- Terminal velocity
- Friction
- Gravity
- Viscosity

95 of 100

296 PU_2016_374_D
The thickness of base of a transistor is:-

- 10^{-3} m
- 10^{-4} m
- 10^{-6}m
- 10^{-5}m

96 of 100

290 PU_2016_374_D
Three states of matter depend on:-

- potential energy
- biomass
- temperature
- force

97 of 100

272 PU_2016_374_D
Shear stress produces a change in:-

- Angle of shear
- Deforming force
- Deforming torque
- Shape

98 of 100

295 PU_2016_374_D
The superposition theorem is used when the electric circuit contains which of the following?

- Active elements
- Single voltage source
- Number of voltage sources
- Reactive elements

99 of 100

274 PU_2016_374_D
A copper wire and steel wire of same diameter and length connected end to end and fore is applied, which stretches their combined length by 1 cm. The wire will have:-

- Different strain and same strain
- Different stress and strain
- Same stress and different strain
- Same stress and strain

100 of 100

264 PU_2016_374_D
A water molecule is called polar because:-

- The electrons tend to clump together more near oxygen than near hydrogen.
- The electrons tend to clump together more near hydrogen than near oxygen.
- The hydrogen and oxygen atoms from a triangle
- The electrons clump together equally near hydrogen and oxygen.