## ANSWER KEY – AITS MOCK TEST-02

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HINTS & SOLUTIONS

1. (c) Applying work energy theorem to body
   \[ \Delta KE = \text{work done by forces delivering power } P \]
   \[ = 56 \text{ J} \]
   Ans. 56 J

2. (b) \[ f = mg = 2 \times 10 = 20 \text{ N}. \]

3. (a) \[ a = 2 \text{ m/sec} \]
   \[ \text{F} = 20 \text{ N}. \]

4. (d) \[ S = \frac{u^2}{2\mu g} = \frac{m^2u^2}{2\mu gm^2} = \frac{P^2}{2\mu m^2g} \]

5. (d) Increase in KE = work done
   \[ \frac{1}{2} m v_2^2 - \frac{1}{2} m x \left( \frac{2F_0 x_0}{m} \right) = \frac{1}{2} (2F_0 + F_0) 3x_0 \]
   \[ v_2 = \sqrt{\frac{11F_0x_0}{m}}. \]

6. (d) \[ W = \frac{MgL}{2n^2} = \frac{MgL}{2(3)^2} = \frac{MgL}{18} \quad (n = 3 \text{ given}) \]

7. (c) \[ W_{\text{pseudo}} + W_g + W_T = \Delta K = 0 \]
   \[ ma(\ell \sin \theta) + (-mg(\ell - \ell \cos \theta)) + 0 = 0 \]
   \[ \theta = 2 \tan^{-1} \left( \frac{a}{g} \right) = 60^\circ \]

8. (c) \[ T = \text{tension}, \ W = \text{weight and } F = \text{centrifugal force}. \]

9. (c) Both changes in direction although their magnitudes remains constant.

10. (a) \[ F = - \frac{dU}{dx} = - \frac{d}{dx} (20 + 2x + 4x^2) \]
    \[ F = -2 - 8x \]
    \[ W_F = - \int_{0}^{x} (2 + 8x) \, dx \]
\[
\begin{align*}
= -\int_0^4 2 \, dx - \int_0^8 8x \, dx \\
= -2 [4 - 0] - \frac{8}{2} [16 - 0] \\
= -8 - 64 = -72 \text{ J}
\end{align*}
\]
\[W_{\text{ext}} + W_F = \Delta K = 0\]
\[W_{\text{ext}} = -W_F = (-72) = 72 \text{ J}\]

11. (a)
\[R_{CM} = \frac{m_1 \vec{r}_1 + m_2 \vec{r}_2}{m_1 + m_2}\]
\[R_{CM} = -\frac{(\hat{i} + \hat{j} + \hat{k})}{2}\]

12. (d)
Energy conservation between A and C
\[\sqrt{2gh} = \sqrt{2 \times 10 \times 5} = 10 \text{ m/s}\]

13. (d)
\[e = \frac{V - 10}{30}, \quad V = 25\]

14. (b)
\[I = \frac{m(R_2^2 + R_1^2)}{2} = \frac{m(R^2 + (R/2)^2)}{2} = \frac{5mR^2}{8}\]

15. (c)
\[MR^2\omega = (M + 2m)R^2\omega'\]
\[\omega' = \frac{\omega M}{(M + 2m)}\]

16. (b)
\[\vec{L} = \frac{mV}{\sqrt{2}}\]

17. (b)
\[mg \sin \theta R = \frac{3}{2} mR^2 (\alpha)\]
\[a_{cm} = \frac{2}{3} \, g \sin \theta\]

18. (c)
\[100 = \frac{1}{2} kx^2 \quad \text{[Given]}\]
\[W = \frac{1}{2} k(x_2^2 - x_1^2) = \frac{1}{2} k [(2x)^2 - x^2]\]
\[= 3 \times \left(\frac{1}{2} x^2\right) = 3 \times 100 = 300 \text{ J}\]

19. (a)
\[F = \frac{mv^2}{r}. \text{ If } m \text{ and } v \text{ are constants then } F \propto \frac{1}{r}\]
\[\therefore \quad \frac{F_1}{F_2} = \left(\frac{r_2}{r_1}\right)\]

20. (a)
\[ W = \int_{1}^{5} F \, dx \Rightarrow W = \int_{x=4}^{x=2} (-6x^3) \, dx \]
\[ = -6 \left[ \frac{x^4}{4} \right]_{x=4}^{x=2} = \left( \frac{-3}{2} \right)(-240) = 360 \text{ J} \]

21. (a) \[
-\frac{100 \times 10 \times 25}{1000} = \frac{-5}{4} = -1.25 \text{ J}
\]

22. (a) \[
m (L - x) + \frac{m}{3} (-x) = 0
\]
\[
mL = \frac{4}{3} mx
\]

23. (b) \[
a_{cm} = \frac{30}{(10+20)} = 1 \text{ ms}^2
\]
\[
S = 0 \times (2) + \frac{1}{2} (1)^2 = 2 \text{ m}
\]

24. (a) \[
\bar{x} = \frac{m_1 x_1 + (-m_2) x_2}{m_1 + (-m_2)}
\]
\[
= \frac{A_1 x_1 + (-A_2) x_2}{A_1 + (-A_2)}
\]
\[
A_1 = \pi (3R)^2, A_2 = \pi R^2
\]
\[
x_1 = 0, x_2 = 2R
\]
\[
\therefore = -R/4
\]

25. (a) At A: \[N_A - mg = \frac{mV^2}{R_A} \]
\[N_A = mg + \frac{mV^2}{R_A} \]

and At B: \[N_B = mg - \frac{mV^2}{R_B} \]

and At C: \[N_C = mg + \frac{mV^2}{R_C} \]

\[R_A < R_C \]
\[\therefore N_A \text{ is greatest among all.} \]

26. (c) \[
(\lambda \pi R^2) \omega^2 \frac{2R}{\pi} = 2T
\]
\[
T = \lambda \omega^2 R^2
\]

27. (c)
\[ \frac{m}{4} 3\hat{i} + \frac{m}{4} 4\hat{j} = \frac{m}{2} (v_1\hat{i} + v_2\hat{j}) \]

\[ v_1 = \frac{3}{2}, v_2 = 2 \]

speed = \[ \frac{5}{2} \] = 2.5 m/s

28. (a)
\[ p = \sqrt{2mk} \]
\[ p' = \sqrt{2mk'} \]
\[ k' = \frac{16}{25} k \]
\[ \therefore p' = \frac{4}{5}p \]
\[ \frac{p - p'}{p} \times 100 = 100 \times \frac{1}{5} = 20\% \]

29. (c)
\[ \bar{V}_{CM} = \frac{m_1 v_1 + m_2 v_2}{m_1 + m_2} \]
\[ = \frac{1(2\hat{i} - 7\hat{j} + 3\hat{k}) + 1(-10\hat{i} + 35\hat{j} - 3\hat{k})}{2} \]

30. (d)
Maximum compression will take place when the blocks move with equal velocity. As no net external horizontal force acts on the system of the two blocks, the total linear momentum will remain constant. If \( V \) is the common speed at maximum compression, we have,
\[ (1 \text{ kg}) (2 \text{ m/s}) = (1 \text{ kg}) V + (1 \text{ kg}) V \]
or, \( V = 1 \text{ m/s}. \)

Initial kinetic energy = \[ \frac{1}{2} (1 \text{ kg}) (2 \text{ m/s})^2 = 2 \text{ J.} \]

Final kinetic energy
\[ \frac{1}{2} \times (1 \text{ kg}) (1 \text{ m/s})^2 + \frac{1}{2} (1 \text{ kg}) (1 \text{ m/s})^2 = 1 \text{ J} \]
The kinetic energy lost is stored as the elastic energy in the spring.

Hence, \[ \frac{1}{2} (50 \text{ N/m}) x^2 = 2J - 1J = 1J \]
or, \( x = 0.2 \text{ m}. \)

31. (c)

Both blocks are constrained to move with same acceleration.
\[ 6 - N = 2a \]
[Newtons II law for 2 kg block]
\[ N - 3 = 1a \]
[Newtons II law for 1 kg block]
\[ \Rightarrow N = 4 \text{ Newton} \]

32. (d)
33. (c) \[ A = \frac{a_1 - a_2}{2} \]

34. (a) \[ a = \frac{P}{M + m} \]
\[ m \times a \cos \beta = mg \sin \beta \]
\[ P = (m + M) \times g \tan \beta \]

35. (d) Minute hand of a clock rotates through an angle of \(2\pi\) in 60 minutes i.e. 3600 sec
\[
\omega = \frac{2\pi}{3600} = \frac{\pi}{1800} \text{ rad/s}
\]

36. (b) \[ J = mv - mu \]
Work done \[ = \frac{1}{2}mv^2 - \frac{1}{2}mu^2 \]
\[ = \frac{1}{2}m(v^2 - u^2) \]
\[ = \frac{1}{2}m(v + u)(v - u) = \frac{J}{2}(v + u) \]

37. (b) \[ mg \cos \theta = \frac{mv^2}{R} \]
\[ mgR(1 - \cos \theta) = \frac{1}{2}mv^2 \]
\[ \cos \theta = \frac{2}{3} \]

38. (c) work done \( w = -kxy = -ka^2 \)

39. (b)
40. (c)

\[ \frac{I}{I'} = \frac{\frac{2}{5}MR^2}{\frac{2}{3}MR^2} = \frac{3}{5} \]

41. (c)

In nonuniform circular motion, particle's kinetic energy changes with time. By work energy theorem, net work done on the particle is non zero. In uniform circular motion, total force on the particle is centripetal in nature.

42. (c)

Only in uniform circular motion force must be directed perpendicular to the velocity all the time. However in non-uniform circular motion, force will always not be perpendicular to velocity. Hence statement-1 is false.

43. (c)

Net work done by kinetic friction on a block is not always completely converted to heat and hence is false.

44. (b)

45. (c)

If the lift is retarding while it moves upward, the man shall feel lesser weight as compared to when lift was at rest. Hence statement1 is false and statement 2 is true.

### Chemistry

46. (a)

\[ PM = dRT \]

Gaseous oxide \[ 2 \times M = dRT \] ....(i)

Nitreogen \[ 5 \times 28 = dRT \] ....(ii)

From Eqns. (i) and (ii)

\[ 2 \times M = 5 \times 28 \]

\[ M = 70 \text{ g} \]

47. (c)

Intermolecular force of liquid decreases with increase in temperature hence viscosity of liquid also decreases. However, some exceptions are there like liquid proteins and liquid sulphur.

48. (a)

According to Gay-Lussac’s pressure law:

\[ P \propto T \text{ (At constant volume and definite mass of gas)} \]

49. (c)

At high altitude, atmosphere pressure decreases therefore boiling point of water also decreases hence cooking of food takes longer time, without using pressure cooker.

50. (d)

The gas with greater critical temperature involves stronger intermolecular forces hence liquefies first.

\[ \frac{T_c}{K} = \text{Decreasing tendency liquefaction} \]

\[ \begin{align*}
O_2 & : 1543 \\
N_2 & : 126 \\
H_2 & : 33.2 \\
He & : 5.3 \\
\end{align*} \]

51. (c)

Both volume and pressure are constant as the vessel is open.

i.e., \[ n_1RT_1 = n_2RT_2 \]

or \[ \frac{n_1}{n_2} = \frac{T_2}{T_1} \]
If \( n_1 = 1, n_2 = 1 - \frac{3}{5} = \frac{2}{5} \)

So \( \frac{5}{2} = \frac{T_1}{300} \)

Or \( T_2 = 750 \, \text{K} = 477^\circ \text{C} \)

52. (c)
53. (a)
54. (c)

When water freezes, the heat is transferred from system to the surroundings, thus entropy of system decreases but entropy of surrounding increases.

55. (c)

(i) \( \text{C(graphite)} + O_2(g) \rightarrow CO_2(g); \Delta H = x \, \text{kJ mol}^{-1} \)

(ii) \( \text{C(graphite)} + \frac{1}{2}O_2(g) \rightarrow CO(g); \Delta H = y \, \text{kJ mol}^{-1} \)

(iii) \( \text{CO(g)} + \frac{1}{2}O_2(g) \rightarrow CO_2(g); \Delta H = z \, \text{kJ mol}^{-1} \)

Equations (i) can be obtained by adding (ii) and (iii) hence \( x = y + z \).

56. (c)

Heat of formation of a compound may be positive or negative, e.g.,

\( \text{C(s)} + O_2(g) \rightarrow CO_2(g); \Delta H^\circ = -3935 \, \text{kJ mol}^{-1} \)

\( \text{N}_2(g) + \frac{1}{2}O_2(g) \rightarrow \text{N}_2 \, \text{O(g)}; \Delta H^\circ = +92 \, \text{kJ mol}^{-1} \)

57. (c)

Information shadow:

\( \Delta H = 40 \times 10^3 \, \text{J mol}^{-1} \)

\( \Delta S = 2000 \, \text{JK}^{-1} \, \text{mol}^{-1} \)

Problem solving strategy:

A reaction is spontaneous, when \( \Delta G = -\text{ve} \)

\( \therefore (\Delta H - T\Delta S) < 0 \)

Or \( T > \frac{\Delta H}{\Delta S} \)

Working it out:

\( T > \frac{400 \times 10^3}{2000} \)

\( T > 200 \, \text{K} \)

Reaction will be spontaneous above 200 K

58. (c)

Specific heat is independent of volume hence it will remain constant if volume of gas is reduced to half.

59. (b)

In the reaction:

\( \text{N}_2(g) + 3H_2(g) \rightleftharpoons 2\text{NH}_3(g) \)

\( \Delta n_g = 2 - 4 = -2 \)

\( \therefore \Delta H = \Delta E + \Delta n_g RT = \Delta E - 2RT \)

60. (a)

Temperature rise during neutralisation will be same; it is independent of the volume, provided ratio of moles are the same.

61. (c)
62. (d) 

63. (b) 
Elements in their natural standard state has zero heat of formation. 

64. (d) 
The given reaction is: 
\[
\frac{1}{2} X_2 + \frac{3}{2} Y_2 \rightarrow XY_3 
\]

\[
\Delta S = S_{XY_3} - \left[ \frac{1}{2} S_{X_2} + \frac{3}{2} S_{Y_2} \right] 
\]

\[
= 50 - \left[ \frac{1}{2} \times 60 + \frac{3}{2} \times 40 \right] 
\]

\[
= -40 \text{JK}^{-1} \text{mol}^{-1} 
\]

We know, 
\[
\Delta G = \Delta H - T\Delta S 
\]

At equilibrium, \(\Delta G = 0\) 
\[
\therefore \ 0 = \Delta H - T\Delta S 
\]

\[
T = \frac{\Delta H}{\Delta S} = \frac{-30 \times 1000}{-40} = 750 \text{K} 
\]

\[
\therefore \ \text{Reaction will be equilibrium at 750 K} 
\]

65. (c) 
66. (d) 
67. (a) 
68. (a) 
\[
\text{NO(g)} \rightleftharpoons \frac{1}{2} \text{N}_2(g) + \frac{1}{2} \text{O}_2(g) \ \quad \left( K_1 = \frac{1}{K_{1/2}} \right) 
\]

\[
\text{NO}_2(g) \rightleftharpoons \text{NO(g)} + \frac{1}{2} \text{O}_2(g) \ \quad \left( K_2 = \frac{1}{K_{1/2}} \right) 
\]

\[
\text{NO}_2(g) \rightleftharpoons \frac{1}{2} \text{N}_2(g) + \text{O}_2(g) \quad \quad K = K_1 K_2 = \left[ \frac{1}{K_{1/2} K_{1/2}} \right]^{1/2} 
\]

69. (d) 
\[
\Delta H = E_f - E_b 
\]

\[-38 = 20 - E_b \]

Where \(E_b = \) Activation energy of backward reaction 
\(E_f = \) Activation energy of forward reaction. 

70. (a) 
Equilibrium constant is independent of catalyst. 

71. (a) 
72. (a) 
\[
\left[ \text{H}^+ \right] = \left( 10^{-pH} \right) 
\]

\[
= \frac{10^{-2}}{10^{-8}} = 10,000 
\]

73. (c) 
For weak monobasic acid: 
\[
\left[ \text{H}^+ \right] = \sqrt{K_a} 
\]
\[ [H^+] = 10^{-\text{pH}} \]
\[ = 10^{-3} \text{ M} \]
\[ \therefore \text{ from equation (i)} \]
\[ 10^{-3} = \sqrt{0.1 \times K_a} \]
\[ K_a = 10^{-5} \]

74. (b) It is a ternary electrolyte.
\[ \therefore K_{sp} = 4s^3 \]
\[ 4 \times 10^{-12} = 4s^3 \]
\[ S = 10^{-4} \text{ M} \]
\[ M^{2+} = 10^{-4} \text{ M} \]

75. (d)

76. (c)
\[ M_1V_1 = M_2V_2 \]
\[ 10^{-6} \times 1 = M_2 \times 100 \]
\[ M_2(\text{NaOH}) = 10^{-18} \text{ M} \]
\[ [\text{OH}^-] = [10^{-3}]_{\text{NaOH}} + [10^{-8}]_{\text{water}} \]
\[ = 11 \times 10^{-8} \text{ M} \]
\[ \text{pOH} = -\log(11 \times 10^{-8}) \]
\[ = 6.9586 \]
\[ \text{pH} = 14 - 6.9586 \]
\[ = 7.0414 \]

77. (b)

78. (c) At equilibrium two opposite processes proceed with the same rate.

79. (d) In the reaction:
\[ \text{NH}_4\text{Cl(s)} \rightleftharpoons \text{NH}_3(g) + \text{HCl(g)} \]
\[ \Delta n_g = \text{Number of gaseous moles of products} - \text{Number of gaseous moles of reactants.} \]
\[ = 2 - 0 = 2 \]

80. (a)
\[ \text{H}_2\text{S} \rightleftharpoons \text{H}^+ + \text{HS}^- \]
\[ K_{a_1} = \frac{[\text{H}^+][\text{HS}^-]}{[\text{H}_2\text{S}]} \]
\[ \text{HS}^- \rightleftharpoons \text{H}^+ + \text{S}^{2-} \]
\[ K_{a_2} = \frac{[\text{H}^+][\text{S}^{2-}]}{[\text{HS}^-]} \]
\[ \text{H}_2\text{S} \rightleftharpoons 2\text{H}^+ + \text{S}^{2-} \]
\[ K_{a_3} = \frac{[\text{H}^+][\text{S}^{2-}]}{[\text{H}_2\text{S}]} \]
\[ K_{a_1} = K_{a_2} \times K_{a_3} \]

81. (b) Surface tension of a liquid decreases with increase in temperature because the intermolecular force of liquids decreases.

82. (b) \[ \Delta G < 0 \] (for spontaneous process)
\[ \Delta G > 0 \] (for non-spontaneous process)
\[ \Delta G = 0 \] (for reversible process at equilibrium)

83. (b)
For base buffer:

\[ 14 - \text{pH} = pK_b + \log \frac{[\text{NH}_4\text{Cl}]}{[\text{NH}_4\text{OH}]} \]

\[ 14 - 9.25 = pK_b + \log \frac{[0.1]}{[0.1]} \]

\[ pK_b = 4.75 \]

90. (d)

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**BOTANY**

91. (A) Page No. 29, Para 3, XI NCERT

92. (B) Diagram is of *Dictyota* belong to Phaeophyceae, Page No. 33

93. (C) Protonema produced in Mosses, *Marchantia* is not a moss

94. (C) Page No. 36, Para 6

95. (B) Page No. 36, Para 6

96. (D) II- The nucellus is protected by envelopes and composite structure is called ovule.

97. (A) The main plant body of bryophyte is Gomophyte.

98. (B) Page No. 42, Para 3

99. (A) Only II is correct

100. (D) Arhar, Lupin, Gram, Pea, Sunhemp, Moong belongs to fabaceae family and have marginal placentation.

101. (A) Page 72, 73 and 74

102. (A) Onion-shows bulb as stem modification.

103. (C) Pineapple, mulberry and fig are examples of fruit developed from on inflorescence.

104. (A) Page No. 79, Corolla

105. (C) Gametophyte of Gymnosperm is smaller and have non-motile gametes.

106. (A) Page No. 80, Solanaceae floral formula

107. (A) Page No. 72, Para 4

108. (D) Page No. 73, Para 1

109. (D) Page No. 34, Fig. 3.2(a)

110. (A) Page No. 38, Para 3

111. (B) Page No. 80, Solanaceae

112. (D) Sweet potato and Turnip are modifications of root for storage

113. (B) I and IV are incorrect

114. (D) *Selaginella* and *Salvinia* shows heterosporus condition essential for seed habit.

115. (A) Page No. 34, Fig. 3.2(a) *Marchantia*

116. (D) Bean shows vexillary aestivation

117. (A) Androecium of china roseis monoadalphous

118. (C) Page No. 34, 37

119. (B) Page No. 74 and 84

120. (D) In plant like mint a slender lateral branch arises from the base of the main axis called sucker. (Page No. 69)

121. (A) *Equisetum* is a pteridophyte
122. (C) Page No. 77, Para 2
123. (C) Syconus (Fig) develops from hypanthodium inflorescence.
124. (C) Page No. 97, Para 2
125. (B) Cypsela is a dry indehiscent single seeded fruit.
126. (C) Mesocarp is fibrous in coconut.
127. (A) Moss sporophyte is photosynthetic.
128. (B) Page No. 77, Para 2
129. (A) Tetradynamous condition is having four long and two short stamens as in cruciferous flowers.
130. (D) Epiphyllous condition is an attachment of stamen to tepals.
131. (A) Page No. 67
132. (D)
133. (C) Page No. 76, Para 4
134. (C) Page No. 73, Para 1
135. (B) Page No. 34

ZOONOLOGY

136. **Gastric caeca**: (Enteric caeca or Hepatic caecae) are finger like outgrowths found in anterior or posterior ends of midgut (at junction of foregut and midgut). This structure increases the functional area of midgut and shelter symbiotic bacteria in some insects.

137. The excretory system of Periplaneta helps in eliminating the nitrogenous wastes from the body in the form of uric acid. So periplaneta is called a uricotelic animal. The structures associated with excretory function are: Malpighian tubules, Fat bodies, Uricose glands, Nephrocytes and Cuticle.

139. White fibrocartilage consists of a mixture of white fibrous tissue and cartilaginous tissue in various proportions. It owes its flexibility and toughness to the former of these constituents, and its elasticity to the latter. It is the only type of cartilage that contains type I collagen in addition to the normal type II.

Fibrocartilage is found in the pubic symphysis, the anulus fibrosus of intervertebral discs. It is also present at the tendon bone interface, where there is a transition from soft tendon to uncalcified then calcified fibrocartilage before becoming bone.

140. Almost all epithelia have a good nerve supply which enable them to sense changes in the environment and convey the information to the brain for suitable action.

141. Tympanic membrane is a membrane forming part of the organ of hearing, which vibrates in response to sound waves. In humans and other higher vertebrates it forms the eardrum, between the outer and middle ear.

142. Endothermal animals are those which are warm blooded animals who maintain constant body temperature.

144. The anamniotes are an informal group comprising the fishes and the amphibians, the so-called "lower vertebrates", which lay their eggs in water. They are distinguished from the amniotes, the "higher vertebrates" (reptiles, birds and mammals), which lay their eggs on land or retain the fertilized egg within the mother. Amniotes are a clade of tetrapod vertebrates comprising the reptiles, birds and mammals that lay their eggs on land or retain the fertilized egg within the mother.

145. Nucleic acids are polymers that consist of nucleotide residues. Each nucleotide is put together from three building blocks: phosphoric acid, a monosaccharide and an organic base.

148. Stomodaeum and proctodaeum arc ectodermal in origin, so they are internally lined by chitin and stomodeaum valve in the gut of cockroach prevents the entry of food from midgut into gizzard.

151. Alpha amino acids are called so because amino group as well as carboxyl group are attached to alpha carbon.

154. Cellulose is derived from D-glucose units, which condense through β(1→4)-Glycosidic bonds. This linkage motif contrasts with that for α(1→4)-Glycosidic bonds present in starch, glycogen, and other carbohydrates. Cellulose
is a straight chain polymer: unlike starch, no coiling or branching occurs, and the molecule adopts an extended and rather stiff rod-like conformation, aided by the equatorial conformation of the glucose residues.

160. Leukocyte extravasation, less commonly called diapedesis, is the movement of leukocytes out of the circulatory system and towards the site of tissue damage or infection. This process forms part of the innate immune response, involving the recruitment of non-specific leukocytes.

164. Secondary metabolites examples are Hyoscyamine, present in *Datura stramonium* Atropine, present in *Atropa belladonna*, Deadly nightshade, Cocaine, present in *Erythroxylon coca* the Coca plant, Scopolamine-present in the *Solanaceae* (nightshade) plant family, Codeine and Morphine-present in *Papaver somniferum* (the opium poppy), Tetrodotoxin, a microbial product in Fugu and some salamanders, Vincristine & Vinblastine, mitotic inhibitors found in the Rosy Periwinkle.

170. Carbonic anhydrase is an enzyme that assists rapid inter-conversion of carbon dioxide and water into carbonic acid, protons and bicarbonate ions. This enzyme was first identified in 1933, in red blood cells of cows. Since then, it has been found to be abundant in all mammalian tissues, plants, algae and bacteria. This ancient enzyme has three distinct classes (called alpha, beta and gamma carbonic anhydrase). Members of these different classes share very little sequence or structural similarity, yet they all perform the same function and require a zinc ion at the active site.


180. Loose connective tissue is a category of connective tissue which includes areolar tissue, reticular tissue, and adipose tissue. Fibres & fibroblasts are compactly packed in Dense connective tissue.