

Final answer of Exercises sheet on solutions

عند حل مسائل درجات الغليان و التجمد استخراج الثوابت للمذيب من الجدول صفحة 46

Atomic mass: C = 12, O = 16, H= 1, N = 14, Na = 23, Cl = 35.5, Ca = 40

- (1) Based on the rule “likes dissolve likes”, (a), (d) will be miscible with water because they are polar as water, however, (b), (c) will not.
- (2) Same as above, (a), (b), (e), (f) are soluble in water.
- (3) $m_2 = 2.81 \times 10^{-4} \text{ mol L}^{-1}$.
- (4) $P(\text{soln}) = 23.36 \text{ torr}$.
- (5) $m_2 = 7.25 \times 10^{-3} \text{ g/100 mL water}$.
- (6) $P(\text{soln}) = 163.57 \text{ mmHg}$. تم حساب ضغط المحلول فقط و تجاهلنا المطلوب المسألة لأنه ملغى
- (7) B.P of sugar solution = $102.98 \text{ }^\circ\text{C}$. افتراض كثافة الماء = 1
- (8) F.P of an antifreeze mixture = $-16.7 \text{ }^\circ\text{C}$.
- (9) F.P of the solution = $-119.51 \text{ }^\circ\text{C}$.
- (10) B.P of the solution = $100.12 \text{ }^\circ\text{C}$.
- (11) Percentage of the HNO_2 dissociation = 53.25% .
- (12) (a) 0.244 (b) 17.95 mol/Kg (c) $109.16 \text{ }^\circ\text{C}$. استخدم الكثافات من مسألة رقم (8)
- (13) $P(\text{soln}) = 22.78 \text{ mmHg}$.
- (14) The molar mass of Z = 125 g/mol .
- (15) The freezing point of the solution = $- 2.14 \text{ }^\circ\text{C}$.
- (16) The freezing point of the solution = $- 0.21 \text{ }^\circ\text{C}$.
- (17) $\pi = 3.9 \text{ atm}$.
- (18) Mass of glucose = 54 g .
- (19) $\pi = 18.84 \text{ atm}$.