Pharmaceutical Sciences

1. Match the following.
   Cause 1. due to a difference in the drug's color and the remaining granular mixture

Problems in manufacturing tablets	Causes
A. Cracking	1. Due to a difference between the drug's colour and of the rest of the granular mixture
B. Mottling	2. Excessive binding
C. Capping	3. Due to rapid expansion of tablets
D. Chipping	4. Due to air entrapment in the granular material

   a. A-3, B-1, C-4, D-2
   b. A-1, B-3, C-2, D-4
   c. A-1, B-2, C-4, D-3
   d. A-4, B-3, C-1, D-2

2. What is the molar extinction coefficient of a 1/2 M solution following Beer Lambert's law, whose absorbance when calculated through a path length of 5 cm is found to be 0.18?

   a. $0.04765\ (mol/dm^{-3})^{-1}\ cm^{-1}$
   b. $0.4765\ (mol/dm^{-3})^{-1}\ cm^{-1}$
   c. $0.075\ (mol/dm^{-3})^{-1}\ cm^{-1}$
   d. $0.75\ (dm^{-3}\ /mol)^{-1}\ cm^{-1}$

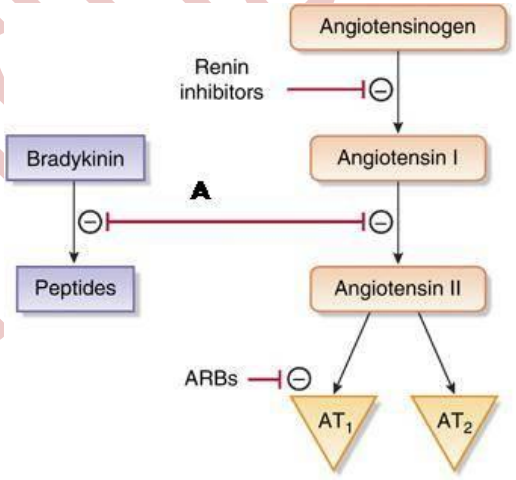
3. Assertion: Apraclonidine is used in treating chronic glaucoma.
   Reason: It decreases aqueous humor production that lowers the high pressure associated with glaucoma.

   a. A
   b. B
   c. C
   d. D
   e. E

4. 8 fl.oz of 5% solution is equivalent to _____.

   a. 68.7 grains in 6 fl.oz
   b. 86.7 grains in 5 fl.oz
   c. 87 grains in 4 fl.oz
   d. 86 grains in 3 fl.oz

5. Identify molecule "A" in the given image that displays the renin-angiotensin system.



   a. Benazepril
   b. Guanfacine
   c. Atenolol
   d. Any of the above

6. How is bio-availability enhanced in spironolactone?
   1. By micronization
   2. By altering pH
   3. By molecular encapsulation
   4. By using surfactants

   a. Only 1
   b. Only 3
   c. Both 1 and 4
   d. Both 2 and 3
   e. All- 1, 2, 3 and 4

7. For the Assertion (A) and Reason (R) given below, choose the correct alternative from the following

   A. Both 'A' and 'R' are true and R is the correct explanation of A.
   B. Both 'A' and 'R' are true and 'R' is not the correct explanation of A.
   C. 'A' is true but 'R' is false.
   D. 'A' is false but 'R' is true.
   E. Both are false.

   Assertion: Warfarin has a low volume of distribution.

   Reason: Warfarin binds to lipids that causes lowering of volume of distribution.

   a. A
   b. B
   c. C
   d. D
   e. E

   In which of the following reduced forms is nitrogen released at the end of Kjeldahl method?

   a. Ammonia
   b. Ammonium nitrate
   c. Ammonium sulfate
   d. Nitrous oxide

8. State whether the following statements are true or false
    i. When amplified DNA products need to be separated on slab-gels, polyacrylamide gels (PAGs) are preferred as matrix.
    ii. Polyacrylamide gels (PAGs) are a type of agarose gels.
    iii. The covalent bonding of the acrylamide and bis-acrylamide in Polyacrylamide gels (PAGs) produce a molecular sieving gel.

    a. TTT
    b. TFF
    c. TFT
    d. FFT
    e. FFF