MODULE SIX: COMPLEX CALCULATIONS

ASSESSMENT TWO: Complex Medication Administration

Write down the correct answer for each of the following computations. Try to complete this exercise in 20 minutes. Avoid using a calculator unless this is permitted at your place of learning.

1   Melissa is to have 1.5 grams of drug A/day, to be given 4/24. Stock available is 125 mg

scored tablets. The number of tablets/dose that should be given is

a   1/2 tablet

b   1 tablet

c   1 1/2 tablets

d   2 tablets

2   Suzie is to have 0.25 mg of drug B per day, to be given 6/24. Stock available is 62.5 mcg

tablets. For a single dose she should receive

a   4 tablets

b   3 tablets

c   2 tablets

d   1 tablet

3   Mr Wilkinson is to have 75 mg of drug C. Stock in the ward is 100 mg/2 ml. The volume of

drug C required for this order is

a   2 ml

b   1.75 ml

c   1.5 ml

d   1.25 ml

4   Mrs Cook is to have 7500 units of drug D. Stock in the ward is 5000 units/0.2 ml. The

        volume required for this order is

a   0.1 ml

b   0.3 ml

c   0.5 ml

d   0.7 ml

5   Tommy, who weighs 15 kg, is to have 20 mg/kg/day of drug E. This medication is to be

        given 8/24. Stock is 125 mg/5 ml. For a single dose you should pour

a   1 ml

b   2 ml

c   3 ml

d   4 ml

6   Claire is to have 1 gram of drug F per m^2 of BSA per day, to be given in two equally

        divided doses. Claire's BSA is 0.6 m^2 and drug F is available as a mixture of 125 mg/5 ml.

        The volume of drug F required for a single dose is

a   6 ml

b   8 ml

c   10 ml

d   12 ml

7   Chris is to have 800 mg of drug G which is available as 1 gram of powder in a 10 ml vial.

        When reconstituted, drug G will displace 0.7 ml of fluid. The amount of sterile fluid

        required to reconstitute drug G to a concentration of 200 mg/1 ml is

a   10 ml

b   9.3 ml

c   5 ml

d   4.3 ml

8   Drug H is to be reconstituted to a concentration of 250 mg/ml. Drug H is also available as

        1 gram of powder and will displace 1 ml of fluid on reconstitution. The volume of sterile

        fluid required for this order is

a   3 ml

b   4 ml

c   9 ml

d   10 ml

9   Nellie has an intravenous infusion in which 90 ml remain in the bag. This infusion is

        dripping at the rate of 45 drops minute via a drop factor of 20 drops/ml. The number of

        minutes that this infusion will take to complete is

a   40 minutes

b   45 minutes

c   50 minutes

d   55 minutes

10   James has 50 ml of intravenous fluid left in the 0.5 L bag. This fluid is dripping at 40

        drops/minute via a micro-dropper. Time taken to complete this infusion will be

a   100 minutes

b   75 minutes

c   50 minutes

d   25 minutes

11   Susan is receiving an infusion at the rate of 2 ml/minute via a line with a drop factor of 20

        drops/ml. The number of drops/minute that would deliver 2 ml are

a   30

b   40

c   50

d   60

12   Mary's infusion is dripping at the rate of 45 drops/minute, via a micro-dropper. The volume per hour that Mary is receiving from this infusion is

a   45 ml

b   50 ml

c   55 ml

d   60 ml

13   8 ml of medication has been added to 42 ml of fluid in the burette on Ron's infusion line. The drop factor for this line is 20 drops/ml. This medicated solution is to infuse over 15 minutes so the rate of flow in drops/minute should be

a   52

b   62

c   67

d   70

14   Olive has a medicated infusion of 60 ml which is to complete in 40 minutes. The drop factor for this line is 20 drops/ml. The number of drops/minute should be

a   20

b   30

c   40

d   50

15   Mrs Rome has a medicated infusion with 60 mg of drug J in 60 ml of fluid. This solution is to infuse at the rate of 2.5 ml/hour, after commencing with a bolus dose of 5 mg over 4 minutes. The ml/hour required for this bolus dose is

a   75

b   60

c   45

d   30

16   Mr Lennard has a medicated infusion with 450 mg of drug K in 100 ml of fluid. This solution is delivering 4 ml/hour. A bolus dose of 18 mg is to be given over a 3-minute period. The ml/hour required for this bolus dose is

a   100

b   80

c   60

d   50

17   Jason, who weighs 60 kg, has been ordered 150 mg/kg of drug L, to be given intravenously over a 30-minute period. Stock in the department is a 20% solution of drug L in a 250 ml bag of fluid. The volume/hour required for this 30-minute order is

a   90 ml

b   60 ml

c   45 ml

d   30 ml

18   Mr Tate, who weighs 80 kg, is to have 200 mg/kg of drug M, to be given intravenously over 45 minutes. Stock on hand is a 10% solution in 250 ml. The volume/hour required for this 45-minute order is

a   160 ml

b   213.3 ml

c   240 ml

d   240.5 ml

19   Clive, who weighs 75 kg, has been ordered drug N at the rate of 3 mcg/kg/minute. The

        prepared solution contains 50 mg of drug N in 250 ml of fluid. The volume/hour required

        for this order is

a   52.5 ml

b   67.5 ml

c   75.5 ml

d   82.5 ml

20   Elizabeth is to receive an infusion of 1250 units of drug P/hour. Prepared stock is 25 000

        units in a 500 ml solution. The ml/hour required for this order would be

a   15

b   20

c   25

d   30

ANSWERS

1	d
2	d
3	c
4	b
5	d
6	d
7	d
8	a
9	a
10	b
11	b
12	a
13	c
14	b
15	a
16	b
17	a
18	b
19	b
20	c