NMC CBT Nurse

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Practice Questions

Try all 30 first, then check the answer key at the back.

1. The prescriber orders 2000 ml of IV fluid to be infused over 16 hours. What hourly rate should be programmed?

A. 110 ml/hr
B. 120 ml/hr
C. 125 ml/hr
D. 130 ml/hr

2. What volume in millilitres is equal to 3.5 litres?

A. 2500 ml
B. 3000 ml
C. 3250 ml
D. 3500 ml

3. A physician orders 2000 ml of fluid to be given over a 20-hour period. What flow rate, in ml per hour, is required?

A. 90 ml/hr
B. 95 ml/hr
C. 100 ml/hr
D. 105 ml/hr

4. An IV prescription calls for 400 ml to be given over 4 hours. What should the hourly infusion rate be?

A. 80 ml/hr
B. 90 ml/hr
C. 100 ml/hr
D. 110 ml/hr

5. A syrup has a concentration of 20 mg in every 5 ml. What volume must be given to deliver a 40 mg dose?

A. 5 ml
B. 10 ml
C. 15 ml
D. 20 ml

6. Recorded outputs for a patient are: 400 ml urine, 250 ml from a drain, and 100 ml of vomit. What is the total fluid output?

A. 700 ml
B. 725 ml
C. 750 ml
D. 775 ml

7. A dose of 250 mg is required and each tablet contains 125 mg. How many tablets must be given?

A. 1 tablet
B. 2 tablets
C. 3 tablets
D. 4 tablets

8. A patient is prescribed 1.2 g of a drug. Each vial holds 600 mg. How many vials are necessary to give the full dose?

A. 1 vial
B. 2 vials
C. 3 vials
D. 4 vials

9. A patient received 400 ml via IV infusion, drank 100 ml of tea, and consumed 200 ml of water. What is the total fluid intake?

A. 650 ml
B. 675 ml
C. 700 ml
D. 725 ml

10. The prescription is for 90 mg and the vial concentration is 30 mg per ml. What volume should be prepared?

A. 2 ml
B. 3 ml
C. 4 ml
D. 5 ml

11. A 20 kg child has been prescribed 5 mg/kg of medication. Calculate the total dose required.

A. 50 mg
B. 75 mg
C. 100 mg
D. 125 mg

12. A child with a body weight of 25 kg is prescribed 4 mg/kg. What is the correct total dose?

A. 80 mg
B. 90 mg
C. 100 mg
D. 110 mg

13. The prescription calls for 500 mg and each ml of the ampoule contains 250 mg. How many ml should be administered?

A. 1 ml
B. 2 ml
C. 3 ml
D. 4 ml

14. A liquid medication has a concentration of 50 mg in every 5 ml. What volume in ml is required to deliver a 100 mg dose?

A. 5 ml
B. 10 ml
C. 15 ml
D. 20 ml

15. An injection solution contains 300 mg per ml. The prescribed adult dose is 600 mg. What volume is required?

A. 1 ml
B. 2 ml
C. 3 ml
D. 4 ml

16. A patient requires 1500 ml of intravenous fluid administered over 12 hours. What should the hourly infusion rate be?

A. 100 ml/hr
B. 110 ml/hr
C. 120 ml/hr
D. 125 ml/hr

17. An infant weighing 12 kg is prescribed a medication at 6 mg/kg. What total dose is needed?

A. 60 mg
B. 66 mg
C. 70 mg
D. 72 mg

18. An adult patient weighs 55 kg and requires a drug at 12 mg/kg. What is the total dose to administer?

A. 600 mg
B. 650 mg
C. 660 mg
D. 700 mg

19. A paediatric suspension is labelled 75 mg per 5 ml. A child is prescribed 150 mg. What volume should be measured out?

A. 5 ml
B. 10 ml
C. 15 ml
D. 20 ml

20. A patient receives 400 ml of intravenous fluid and drinks 150 ml of water. Calculate the combined fluid intake.

A. 500 ml
B. 525 ml
C. 550 ml
D. 575 ml

21. The prescribed dose is 300 mg and the available strength is 150 mg per tablet. How many tablets must be given?

A. 1 tablet
B. 2 tablets
C. 3 tablets
D. 4 tablets

22. A patient has consumed 200 ml of water and 150 ml of juice. What is their combined fluid intake?

A. 250 ml
B. 300 ml
C. 350 ml
D. 400 ml

23. A patient's fluid output includes 400 ml of urine and 150 ml of vomit. What is the total recorded output?

A. 450 ml
B. 500 ml
C. 550 ml
D. 600 ml

24. The prescribed infusion volume is 2100 ml to be administered over 21 hours. Calculate the required hourly flow rate.

A. 90 ml/hr
B. 95 ml/hr
C. 100 ml/hr
D. 105 ml/hr

25. A patient's output over a shift included 300 ml of urine, 150 ml of stool, and 50 ml of vomit. What is the total output?

A. 450 ml
B. 475 ml
C. 500 ml
D. 525 ml

26. A neonate is to receive 40 mg of a drug available as a 20 mg/ml solution. What volume should be administered?

A. 1 ml
B. 2 ml
C. 3 ml
D. 4 ml

27. You need to administer 600 ml of IV fluid over 6 hours. What flow rate should you set in ml per hour?

A. 90 ml/hr
B. 95 ml/hr
C. 100 ml/hr
D. 105 ml/hr

28. 500 ml of IV fluid must be administered to a patient within 5 hours. What should the infusion rate be?

A. 90 ml/hr
B. 95 ml/hr
C. 100 ml/hr
D. 105 ml/hr

29. The prescriber orders 500 ml of IV fluid to run over a 4-hour period. What infusion rate should be programmed?

A. 100 ml/hr
B. 110 ml/hr
C. 120 ml/hr
D. 125 ml/hr

30. A patient produces 700 ml of urine and loses 300 ml through an IV site. What is the total output?

A. 900 ml
B. 950 ml
C. 1000 ml
D. 1050 ml

Answer Key & Explanations

1. C — 125 ml/hr
Dividing 2000 ml by 16 hours gives a rate of 125 ml/hr. Why the other options are incorrect: • 110 ml/hr: 110 ml/hr would infuse only 1760 ml in 16 hours, 240 ml short of the target. • 120 ml/hr: 120 ml/hr delivers 1920 ml — still 80 ml below the prescribed volume. • 130 ml/hr: 130 ml/hr totals 2080 ml, slightly above the prescribed dose. • 140 ml/hr: 140 ml/hr gives 2240 ml, well above what was ordered.

2. D — 3500 ml
Applying the factor of 1000 ml per litre: 3.5 × 1000 = 3500 ml. Why the other options are incorrect: • 2500 ml: 2500 ml corresponds to 2.5 litres, not 3.5 litres. • 3000 ml: 3000 ml equals 3 litres, falling short of 3.5 litres. • 3250 ml: 3250 ml equates to 3.25 litres, slightly under the required 3.5 litres. • 4000 ml: 4000 ml equals 4 litres, which overshoots 3.5 litres.

3. C — 100 ml/hr
2000 ml divided by 20 hours equals a flow rate of 100 ml/hr. Why the other options are incorrect: • 90 ml/hr: Running at 90 ml/hr would yield only 1800 ml over 20 hours, falling 200 ml short of the order. • 95 ml/hr: At 95 ml/hr, the total infused would be 1900 ml, still 100 ml below the prescribed volume. • 105 ml/hr: A rate of 105 ml/hr would deliver 2100 ml, which exceeds the prescribed amount. • 110 ml/hr: At 110 ml/hr, the patient would receive 2200 ml, significantly above what was ordered.

4. C — 100 ml/hr
400 ml divided by 4 hours equals 100 ml/hr. Why the other options are incorrect: • 80 ml/hr: At 80 ml/hr, only 320 ml would be infused over 4 hours, well below the prescribed volume. • 90 ml/hr: A rate of 90 ml/hr would deliver 360 ml in 4 hours, short of the required 400 ml. • 110 ml/hr: At 110 ml/hr, the total delivered would be 440 ml, slightly over the ordered amount. • 120 ml/hr: A rate of 120 ml/hr would infuse 480 ml over 4 hours, significantly exceeding the prescription.

5. B — 10 ml
Since 5 ml carries 20 mg, doubling both quantities gives 10 ml for 40 mg. Why the other options are incorrect: • 5 ml: 5 ml delivers only 20 mg, half of the 40 mg required. • 15 ml: 15 ml would deliver 60 mg, exceeding the prescribed dose. • 20 ml: 20 ml would deliver 80 mg, double the dose needed. • 25 ml: 25 ml would deliver 100 mg, more than twice the required amount.

6. C — 750 ml
All outputs summed: 400 + 250 + 100 = 750 ml total output. Why the other options are incorrect: • 700 ml: 700 ml is 50 ml less than the correct total. • 725 ml: 725 ml falls 25 ml short of the correct figure. • 775 ml: 775 ml adds an extra 25 ml that is not accounted for. • 800 ml: 800 ml overstates the correct output by 50 ml.

7. B — 2 tablets
Two 125 mg tablets add up to exactly the required 250 mg dose. Why the other options are incorrect: • 1 tablet: A single tablet delivers only 125 mg, half of the required dose. • 3 tablets: Three tablets yield 375 mg, which is above the prescribed amount. • 4 tablets: Four tablets provide 500 mg, twice the dose required. • 5

tablets: Five tablets total 625 mg, substantially more than needed.

8. B — 2 vials
1.2 g equals 1200 mg. Two vials at 600 mg each combine to give exactly 1200 mg. Why the other options are incorrect: • 1 vial: One vial provides only 600 mg, which is half the 1.2 g required. • 3 vials: Three vials provide 1800 mg, significantly more than prescribed. • 4 vials: Four vials provide 2400 mg, double the prescribed dose. • 5 vials: Five vials provide 3000 mg, which would be dangerously excessive.

9. C — 700 ml
Total intake: 400 + 100 + 200 = 700 ml. Why the other options are incorrect: • 650 ml: 650 ml is incorrect — this is 50 ml short of the correct total. • 675 ml: 675 ml is incorrect — it is 25 ml below the actual total. • 725 ml: 725 ml is incorrect — it is 25 ml more than the correct total. • 750 ml: 750 ml is incorrect — it overstates the total by 50 ml.

10. B — 3 ml
90 mg ÷ 30 mg/ml = 3 ml, delivering precisely the prescribed dose. Why the other options are incorrect: • 2 ml: 2 ml at 30 mg/ml gives only 60 mg — 30 mg short of what is required. • 4 ml: 4 ml delivers 120 mg, which is 30 mg more than the 90 mg ordered. • 5 ml: 5 ml would give 150 mg — 60 mg above the prescribed amount. • 6 ml: 6 ml contains 180 mg, which is double the required 90 mg.

11. C — 100 mg
Multiplying the child's weight by the prescribed dose: 20 kg × 5 mg/kg = 100 mg. Why the other options are incorrect: • 50 mg: 50 mg would represent only 2.5 mg/kg, which is half the required dose. • 75 mg: 75 mg corresponds to 3.75 mg/kg, falling short of the prescribed amount. • 125 mg: 125 mg equates to 6.25 mg/kg, exceeding the prescribed dose. • 150 mg: 150 mg equals 7.5 mg/kg, which is well above what was prescribed.

12. C — 100 mg
25 kg × 4 mg/kg = 100 mg is the correct total. Why the other options are incorrect: • 80 mg: 80 mg corresponds to 3.2 mg/kg, below the prescribed dose. • 90 mg: 90 mg gives 3.6 mg/kg, still insufficient. • 110 mg: 110 mg equates to 4.4 mg/kg, slightly over the prescribed amount. • 120 mg: 120 mg represents 4.8 mg/kg, exceeding the intended dose.

13. B — 2 ml
500 mg ÷ 250 mg/ml = 2 ml, which supplies the full prescribed dose. Why the other options are incorrect: • 1 ml: 1 ml provides 250 mg — only half the 500 mg that is required. • 3 ml: 3 ml would deliver 750 mg, exceeding the prescription by 250 mg. • 4 ml: 4 ml contains 1000 mg — double what was prescribed. • 5 ml: 5 ml gives 1250 mg, which is more than twice the required dose.

14. B — 10 ml
Since 5 ml contains 50 mg, doubling both gives 10 ml for a 100 mg dose. Why the other options are incorrect: • 5 ml: 5 ml delivers only 50 mg, which is half of the required dose. • 15 ml: 15 ml would deliver 150 mg, exceeding the required amount. • 20 ml: 20 ml equates to 200 mg, twice the prescribed dose. • 25 ml: 25 ml equates to 250 mg, far more than what is needed.

15. B — 2 ml
At 300 mg per ml, 2 ml provides the prescribed 600 mg. Why the other options are incorrect: • 1 ml: 1 ml delivers only 300 mg, half the required dose. • 3 ml: 3 ml delivers 900 mg, exceeding the prescribed dose by half. • 4 ml: 4 ml delivers 1200 mg, twice the dose prescribed. • 5 ml: 5 ml delivers 1500 mg, far in excess of

the prescribed amount.

16. C — 120 ml/hr
1500 ml divided by 12 hours equals 125 ml/hr. Why the other options are incorrect: • 100 ml/hr: 100 ml/hr would infuse only 1200 ml over 12 hours, leaving a 300 ml deficit. • 110 ml/hr: 110 ml/hr totals 1320 ml — still 180 ml below the prescribed volume. • 125 ml/hr: 130 ml/hr delivers 1560 ml, slightly more than was ordered. • 130 ml/hr: 140 ml/hr totals 1680 ml, substantially above the prescribed dose.

17. D — 72 mg
12 kg × 6 mg/kg = 72 mg is the correct total dose. Why the other options are incorrect: • 60 mg: 60 mg equates to 5 mg/kg, below the required dose. • 66 mg: 66 mg equates to 5.5 mg/kg, under the target. • 70 mg: 70 mg equates to approximately 5.8 mg/kg, just short of the required amount. • 80 mg: 80 mg equates to approximately 6.7 mg/kg, which exceeds the prescribed dose.

18. C — 660 mg
55 kg × 12 mg/kg = 660 mg is the correct total dose. Why the other options are incorrect: • 600 mg: 600 mg equates to approximately 10.9 mg/kg, below the prescribed dose. • 650 mg: 650 mg equates to approximately 11.8 mg/kg, slightly under the target. • 700 mg: 700 mg equates to approximately 12.7 mg/kg, above the prescribed dose. • 720 mg: 720 mg equates to approximately 13.1 mg/kg, which is too high.

19. B — 10 ml
Each 5 ml delivers 75 mg, so 10 ml delivers the required 150 mg. Why the other options are incorrect: • 5 ml: 5 ml provides only 75 mg, half the prescribed dose. • 15 ml: 15 ml provides 225 mg, which is 75 mg over the required amount. • 20 ml: 20 ml provides 300 mg, twice the prescribed dose. • 25 ml: 25 ml provides 375 mg, far in excess of what was prescribed.

20. C — 550 ml
Adding both volumes: 400 ml + 150 ml gives a total intake of 550 ml. Why the other options are incorrect: • 500 ml: 500 ml is incorrect; it underestimates by 50 ml. • 525 ml: 525 ml falls 25 ml short of the correct total. • 575 ml: 575 ml overstates the total by 25 ml. • 600 ml: 600 ml exceeds the correct figure by 50 ml.

21. B — 2 tablets
300 mg divided by 150 mg per tablet gives exactly 2 tablets. Why the other options are incorrect: • 1 tablet: One tablet supplies only 150 mg, which is half the required dose. • 3 tablets: Three tablets deliver 450 mg, exceeding the prescription by 150 mg. • 4 tablets: Four tablets total 600 mg — double the amount prescribed. • 5 tablets: Five tablets give 750 mg, significantly more than the ordered dose.

22. C — 350 ml
200 ml + 150 ml = 350 ml total fluid intake. Why the other options are incorrect: • 250 ml: 250 ml omits 100 ml from the total, leaving part of the intake uncounted. • 300 ml: 300 ml is 50 ml short of the correct total. • 400 ml: 400 ml overstates the intake by 50 ml. • 450 ml: 450 ml is 100 ml more than the actual combined intake.

23. C — 550 ml
400 ml + 150 ml = 550 ml total output. Why the other options are incorrect: • 450 ml: 450 ml does not account for 100 ml of the total output. • 500 ml: 500 ml is 50 ml short, missing part of the vomit volume. • 600 ml: 600 ml includes an extra 50 ml that was not recorded. • 650 ml: 650 ml is 100 ml higher than the correct output figure.

24. C — 100 ml/hr
Dividing 2100 ml by 21 hours gives a rate of 100 ml/hr. Why the other options are incorrect: • 90 ml/hr: At 90 ml/hr, only 1890 ml would be delivered across 21 hours, falling short of the required volume. • 95 ml/hr: Running at 95 ml/hr would yield 1995 ml, which does not reach the prescribed 2100 ml. • 105 ml/hr: 105 ml/hr would result in 2205 ml being infused, exceeding the prescribed volume. • 110 ml/hr: At 110 ml/hr, the total would reach 2310 ml, significantly more than required.

25. C — 500 ml
Total output: 300 + 150 + 50 = 500 ml. Why the other options are incorrect: • 450 ml: 450 ml is incorrect — this total is 50 ml lower than the correct figure. • 475 ml: 475 ml is incorrect — it underestimates the total by 25 ml. • 525 ml: 525 ml is incorrect — it adds 25 ml beyond the correct total. • 550 ml: 550 ml is incorrect — it is 50 ml above the actual output total.

26. B — 2 ml
40 mg divided by 20 mg/ml gives 2 ml, which contains the exact dose required for this neonate. Why the other options are incorrect: • 1 ml: 1 ml contains only 20 mg, providing just half the prescribed dose. • 3 ml: 3 ml contains 60 mg, which exceeds the required dose by 20 mg. • 4 ml: 4 ml contains 80 mg, double the neonate's prescribed dose. • 5 ml: 5 ml contains 100 mg, more than twice the required amount.

27. C — 100 ml/hr
600 ml over 6 hours equals 100 ml/hr. Why the other options are incorrect: • 90 ml/hr: A rate of 90 ml/hr would only deliver 540 ml in 6 hours, which is insufficient. • 95 ml/hr: At 95 ml/hr, the infusion would total 570 ml, short of the required 600 ml. • 105 ml/hr: At 105 ml/hr, the patient would receive 630 ml, more than prescribed. • 110 ml/hr: A rate of 110 ml/hr would infuse 660 ml, exceeding the ordered volume.

28. C — 100 ml/hr
Dividing 500 ml by 5 hours gives 100 ml/hr. Why the other options are incorrect: • 90 ml/hr: 90 ml/hr would deliver only 450 ml in 5 hours, 50 ml short of the prescribed dose. • 95 ml/hr: 95 ml/hr totals 475 ml — still under the required 500 ml. • 105 ml/hr: 105 ml/hr delivers 525 ml, which exceeds the prescribed amount. • 110 ml/hr: 110 ml/hr infuses 550 ml, 50 ml more than was prescribed.

29. C — 120 ml/hr
500 ml divided by 4 hours equals 125 ml/hr. Why the other options are incorrect: • 100 ml/hr: At 100 ml/hr the infusion would take 5 hours to complete, not 4. • 110 ml/hr: 110 ml/hr delivers only 440 ml across 4 hours, short of the target volume. • 120 ml/hr: 120 ml/hr gives 480 ml in 4 hours, still 20 ml under what was prescribed. • 130 ml/hr: 130 ml/hr delivers 520 ml, which is more than the ordered amount.

30. C — 1000 ml
700 ml + 300 ml = 1000 ml total fluid output. Why the other options are incorrect: • 900 ml: 900 ml is 100 ml short of the correct total. • 950 ml: 950 ml understates the output by 50 ml. • 1050 ml: 1050 ml is 50 ml above the correct total. • 1100 ml: 1100 ml exceeds the correct output by 100 ml.

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