ABO Questions:

1. **An individual with type A blood will have which ABO antibodies present?**

2. **An individual with type B blood will have which ABO antibodies present?**

3. **An individual with type O blood will have which ABO antibodies present?**

4. **An individual with type AB blood will have which ABO antibodies present?**

5. **Describe the process of performing a forward grouping**

6. **Describe the process of performing a reverse grouping**

7. **The forward grouping is detecting patient _____.**

8. **The reverse grouping is detecting patient _____.**

9. **What are the frequencies of the different blood types?**

10. **Are ABO antibodies natural or immune antibodies?**

11. **Are ABO antibodies usually IgM or IgG?**

12. **At which temperature to ABO antibodies react best?**

13. **Can ABO antibodies cause hemolytic transfusion reactions and hemolytic disease of the fetus and newborn?**

14. **Describe the strength of ABO antibodies throughout life.**

15. **If an individual is type A, what possible genotypes could they have inherited?**

16. **Which gene in the ABO blood group system is an amorph and which gene in the Hh blood group system is an amorph?**

17. **The ABO and H genes produce what kinds of enzymes and what do these enzymes do?**

18. **Describe the difference between type 1 precursors and type 2 precursors.**

19. **For an individual to be group O, what genes must they have inherited?**

20. **Which enzyme does the H gene produce?**

21. **What is an immunodominant sugar?**

22. **What is the immunodominant sugar for group O?**

23. **Which antigen must be present on the precursor chain before A or B can attach?**

24. **For an individual to be group A, what genes must they inherit?**

25. **Which enzyme does the A gene produce?**

26. **What is the immunodominant sugar for group A?**

27. **For an individual to be group B, what genes must they inherit?**

28. **Which enzyme does the B gene produce?**

29. **What is the immunodominant sugar for group B?**

30. **For an individual to be group AB, what genes must they inherit?**
31. **Which ABO enzyme produces the highest concentration of transferase and therefore converts the most H substance?**

32. **Which blood types have the least amount of H substance?**

33. **Which blood types have the most amount of H substance?**

34. **Which blood type is most likely to make an autoanti-H and why?**

35. **Which blood type is the universal donor and universal recipient for red cell transfusion?**

36. **Which blood type is the universal donor and universal recipient for plasma transfusion?**

37. **What enzyme does the secretor gene produce and what does this enzyme do?**

38. **If a person is a secretor, what antigens can be found in their secretions?**

39. **What percentage of the population is a nonsecretor?**

40. **What percentage of the type A population is A1?**

41. **What are the differences between type A1 and type A2?**

42. **What is the Anti-A1 lectin made from?**

43. **What is the Anti-H lectin made from?**

44. **How will an A1 individual react with Anti-A1?**

45. **How will an A2 individual react with Anti-A1?**
46. **What are common characteristics of a weak subgroup of A that can help identify them?**

47. **How is the antibody anti-A,B different from the other ABO antibodies?**

48. **What will happen if an individual inherits hh instead of Hh or HH?**

49. **If an individual inherits hh and AA, what will their blood type appear to be?**

50. **What antibodies does a Bombay individual create?**

51. **If an individual has inherited the Bombay phenotype, what reactions would you expect when testing their plasma with screening cells?**

52. **If an individual with the Bombay phenotype needs a transfusion, what type of red cells should be given?**

53. **How does para-Bombay type differ from the Bombay phenotype?**