23GET276 Question Bank for IA 2

1. A coin is tossed once. What is the probability of getting a head?
2. A bag contains 5 red balls and 3 blue balls. A ball is drawn at random. What is the probability that it is red?
3. A box contains 6 red, 5 blue, and 4 green balls. If two balls are drawn randomly, what is the probability that both are red?
4. A die is rolled once. What is the probability of getting an even number?
5. A bag contains 7 red balls, 5 blue balls, and 8 green balls. What is the probability of drawing a green ball?
6. A bag contains 3 red balls, 4 blue balls, and 5 green balls. Two balls are drawn randomly. What is the probability that one is red and the other is blue?
7. A box contains 4 red, 5 blue, and 6 green balls. If two balls are drawn randomly, what is the probability that both are blue?
8. A die is rolled twice. What is the probability that the sum of the numbers obtained is at least 10?
9. A die is rolled twice. What is the probability that the sum of the two numbers is greater than 9?
10. A die is rolled twice. What is the probability that the sum of the two numbers is exactly 5?
11. A fair die is rolled twice. What is the probability that the sum of the numbers obtained is at most 4?
12. A coin is tossed twice. What is the probability of getting at least one tail?
13. A die is rolled once. What is the probability that the number obtained is greater than 4?
14. A number is chosen at random from 1 to 50. What is the probability that it is a multiple of 5?
15. A die is rolled twice. What is the probability that the sum of the numbers is less than 5?
16. A coin is tossed three times. What is the probability of getting exactly two heads?
17. The perimeter of a rectangle is 36 cm. If its length is 10 cm, find its breadth.
18. The total surface area of a cube is 96 cm^2. What is the length of one side?
19. The length, breadth, and height of a cuboid are 5 cm, 4 cm, and 3 cm, respectively. Find its total surface area.
20. The length, breadth, and height of a cuboid are 8 cm, 6 cm, and 4 cm, respectively. Find its total surface area.
21. A cylindrical tank has a radius of 7 cm and height of 10 cm. Find its volume. (Take $\pi = 22/7$)

22. The perimeter of a square is 48 cm. Find the length of one side.
23. The sum of three consecutive integers is 72. What is the middle number?
24. The length, breadth, and height of a cuboid are 12 cm, 8 cm, and 5 cm, respectively. Find its volume.
25. A cylinder has a radius of 6 cm and a height of 14 cm. Find its surface area. (Take π = 3.14)
26. A cylindrical tank has a radius of 5 cm and a height of 12 cm. Find its volume.
27. The sum of two consecutive even numbers is 94. Find the numbers.
28. A number is chosen at random from 1 to 50. What is the probability that it is a multiple of 5?
29. The perimeter of a rectangle is 60 cm. If its length is 20 cm, what is its breadth?
30. If the input is "45 32 67 21 89", which number will be in the second position after arranging in ascending order?
31. If the word arrangement follows the pattern "Apple Banana Cherry Date" → "Date Cherry Banana Apple", what is the output for "Mango Orange Pineapple Grapes"?
32. If A > B = C ≥ D, which of the following is definitely true?
33. If A ≥ B > C = D, which of the following is definitely true?
34. If P ≥ Q > R ≤ S, which of the following is definitely false?
35. If P > Q ≥ R = S, which of the following is definitely false?
36. If A is taller than B and B is taller than C, which of the following is definitely true?
37. Find X: (1) If X is a prime Number. (2) X is greater than 10 and less than 20.
38. Find Y: (1) Y is a perfect square. (2) Y is an even number.
39. If the input is "92 57 41 78 63" and the output follows a pattern where the largest number is placed first and the smallest last, what will be the second step?
40. If the word arrangement follows "Mango Banana Apple Cherry" → "Cherry Apple Banana Mango", what is the correct transformation for "Orange Grape Pineapple Watermelon"?
41. If A ≥ B > C = D, which of the following is definitely true?
42. If the input is "54 67 23 89 41" and the output pattern places the largest number first and the smallest last, what will be the second step?
43. If the input is "71 45 89 23 56" and the output follows a pattern where the largest number is placed first and the smallest last, what will be the second step?
44. If the input is "93 45 67 22 54", what number will be in the fourth position after arranging in descending order?
45. If the word arrangement follows "Cherry Grape Mango Orange" → "Orange Mango Grape Cherry", what is the correct output for "Banana Apple Pineapple Kiwi"?

46. If the word arrangement follows "Mango Banana Apple Cherry" → "Cherry Apple Banana Mango", what is the correct transformation for "Orange Grape Pineapple Watermelon"?

47. If the word arrangement follows "Apple Mango Cherry Banana" → "Banana Cherry Mango Apple", what is the correct transformation for "Pineapple Grape Orange Pear"?

48. If the word arrangement follows "Peach Orange Apple Mango" → "Mango Apple Orange Peach", what is the correct output for "Lemon Cherry Banana Kiwi"?

49. Statement: "The government should increase the tax on luxury items."
    Argument 1: Yes, it will generate more revenue.
    Argument 2: No, it will affect economic growth.

50. Statement: "Use hand sanitizers to prevent infections."
    Assumption:
    A. People want to prevent infections.
    B. Hand sanitizers are effective against infections.

51. Statement: "Smoking causes lung cancer."
    Conclusion:
    A. All smokers get lung cancer.
    B. Avoiding smoking reduces the risk of lung cancer.

52. Statement: "Should working hours be reduced to six hours a day?"
    Argument 1: Yes, it will increase productivity.
    Argument 2: No, it will reduce total output.

53. Statement: "Increasing petrol prices will lead to a reduction in traffic congestion."
    Conclusion:
    A. People will use public transport more.
    B. People will not buy cars.

54. A cube is painted on all sides and then cut into 64 smaller cubes. How many cubes will have exactly three sides painted?
55. A cube has 6 faces. If two opposite faces are removed, how many faces remain?

56. A cube is painted on all six faces and then cut into 125 smaller cubes. How many cubes will have exactly two sides painted?

57. A cube is divided into 27 smaller cubes. How many of them have at least one face unpainted?

58. A cube is painted on all six faces and then cut into 64 smaller cubes. How many cubes will have at least one face painted?

59. A cube is painted on all sides and cut into 216 smaller cubes. How many cubes will have no side painted?

60. If A is B's father, B is C's sister, and C is D's brother, then how is D related to A?

61. If A is the mother of B, and B is the brother of C, how is C related to A?

62. If P is the son of Q and Q is the daughter of R, how is R related to P?

63. 12 men can complete a task in 15 days. How many days will 18 men take to complete the same work?
64. If 5 men can complete a task in 18 days, how many days will 9 men take to complete the same task?
65. If 8 workers can complete a task in 12 days, how many workers are needed to complete the task in 6 days?
66. If 10 men can complete a task in 20 days, how many men will be needed to complete the same task in 8 days?
67. Statement: "Should there be a ban on plastic bags?"
    Argument:
    Yes, it will reduce pollution.
    No, it will affect businesses.
68. Statement: "Should school hours be reduced?"
    Argument:
    Yes, it will help students manage stress.
    No, it will affect learning outcomes.
69. Statement: "Should the government invest more in public transport?"
    Argument:
    Yes, it will reduce traffic congestion.
    No, it will lead to misuse of funds.