Maths_Quantitative Aptitude Sample Test

1. In a school, the number of female students are F such that 60% < F < 65% of the total number of students in the class. What can be the minimum number of female students in the class?
   1. 5
   2. 8
   3. 17
   4. 31

2. Vessel A contains milk and Vessel B contains water. Initially milk in Vessel A and water in Vessel B is in ratio 2:**3.** 20% of the volume of the Vessel A is poured in Vessel B and then half of the final volume of Vessel B is poured in Vessel A. The process repeated again.

   Find the ratio of water in Vessel A to Vessel B.
   1. 3:7
   2. 7:3
   3. 7:43
   4. 43:7

3. On a certain sum, compound interest obtained after 8 years is Rs 5000 at 20% rate of compound interest. Find the compound interest obtained after 12 years.
   1. 10,638
   2. 10,368
   3. 8,640
   4. 9,260

4. A can build a wall in 20 days, B can build it in 25 days, C can destroy the complete wall in 40 days. They start work on alternate days in such a way that, A start the work, followed by B next day, then by C next day, then A next day and so on. How many days will it take to complete the wall if it's given that once the wall has been made, none of A, B and C work on the wall?
   1. 4**4.**5 days
   2. 45 days
   3. 44 days
   4. 45.5 days

5. The average age of A, B and C is 82 years, the average age of A, B and D is 79 years, the average age of A, C and D is 83 years and the average age of D, B and C is 81 years. Who among the A, B, C and D is the eldest?
   1. A
   2. B
   3. C
   4. 4

Direction for questions 6 and 7: Go through the data set given below and solve the questions based on it.

Following table shows the performance of an all rounder cricketer Dahendra Singh Moni, in the last 5 matches played by him.

Dahendra Singh Moni batted as well as bowled in every match.

Match	Wickets Taken	Runs Scored
M1	4	55
M2	2	42
M3	0	36
M4	1	18
M5	3	29

Rating system being followed by the Cricket Council (CC) is as follows:

   i. For every wicket taken, a player is awarded 5 points.
   ii. For every run scored upto 15 runs, a player is awarded 1 point for each run.
   iii. For every run scored between 16 and 35 (including both limits), a player is awarded 2 points for each run.
   iv. For every run scored between 36 and 50 (including both limits), a player is awarded 3 points for each run
   v. For every run scored above 50, a player is awarded 5 points for each run.

6. AVERAGE (EA) is defined as the ratio of (number of runs scored)/(number of innings in which the batsmen stays not out). If EA of Dahendra Singh Moni is 60, how many times does he get out in the given five innings?
   1. 0
   2. 1
   3. 2
   4. 3

7. Based on the points system given above, in which match does Dahendra Singh Moni earn the minimum points?
   1. Match 1
   2. Match 2
   3. Match 3
   4. Match 4

Direction for questions 8 to 11: Go through the data set given below and solve the questions based on it.

Different types of taxi's are available on the hill station Mussoorie and the per person fare charged for specific kilometres is given below in the table:

Vehicle	10 km	15 km	20 km	30 km	45 km
Sumo	50	54	60	72	92
Qualis	52	54	58	64	86
Innova	62	68	76	88	98
Esteem	60	64	70	84	96
Omni	45	52	58	70	78

As per the table if you want to travel 10 km by Sumo you will pay Rs 50 while for 15 km it will cost you Rs 5**4.**

1

Though if you travel any value between the limiting values given, you would be calculated on pro rata basis. For example, if you travel 16 km by Sumo, following calculation will take place to arrive at the final fare:

For 15 km, Fare = Rs 54

For next 5 km, Rs 6 is to be paid.

Hence, for every km, Rs. **1.**2 (6/5) is to be paid. So for a total of 16 km, you are required to pay = Rs 54 (for 15 km) + Rs **1.**2 (for that 16th km) = Rs 55.2

NOTE: The total fare will be multiplied by the number of persons you are travelling with.

8. Kavi Ma'am travelled a distance of 12 km by Esteem and paid Rs X as the fare. For the same Rs X, how much distance (approximately in km) she could have travelled by Omni?
   1. 23
   2. 24
   3. 26
   4. 28

9. What is the average vehicle fare for 19 km by all types of vehicle mentioned above?
   1. Rs 6**2.**20
   2. Rs 6**3.**20
   3. Rs 6**4.**20
   4. Rs 65.20

10. Nikhil wants to travel 225 km and he wants to do it by travelling equal distance by each vehicle, how much should he spend?
    1. Rs 450
    2. Rs 550
    3. Rs 400
    4. Rs 500

11. Which of the following are false? (Assuming a distance of 30 km to be travelled)
    (i) It is cheaper to travel by Innova than by Esteem.
    (ii) Omni is the cheapest taxi available for the given distance.
    (iii) Average fare for a 30 km journey is Rs 75.60
    1. only (i)
    2. only (iii)
    3. only (ii)
    4. both (i) and (ii)

12. In a referendum about three action points, 78% of the people were in against of at least one of the action points. 50% of the people were against action point 1st, 30% against action point 2nd and 20% against action point 3rd. If 5% of people were against all the three action points, what percentage of people were against more than one of the three action points?
    1. 10
    2. 12
    3. 17
    4. 22

Direction for questions 13 and 14: Go through the information given below and solve the questions based on it. Cities X and Y are in different zones. X is located 4200 km East of Y. The table below describes the schedule of an airline operating non-stop flights between X and Y. All the times indicated are local and on the same day.

Departure	Arrival

City	Time	City	Time
X	7:00 am	X	3:30 pm
Y	4:30 pm	Y	9:00 pm

Assuming that plane is flying at the same speed in the both directions. However, the effective speed is influenced by a steady wind blowing from East to West at the rate of 50 km/ph.

13. What is the total difference between city X and Y?
    1. $\frac{1}{2}$ hr
    2. $1\frac{1}{2}$ hr
    3. 1 hr
    4. $\frac{3}{4}$ hr

14. What is the flying speed of the plane in Km/hr?
    1. 700 kmph
    2. 850 kmph
    3. 650 kmph
    4. 450 kmph

15. A number N is divisible by 6 but not divisible by **4.** Which of the following will not be an integer?
    1. N/3
    2. N/2
    3. N/6
    4. N/12

16. A candidate took five papers in an examination, where the full marks were the same for each paper. His marks in these papers were in the proportion of 5:6:7:8:9. In all papers together, the candidate obtained 55% of the total marks. Then, the number of papers in which he got more than 50% of marks?
    1. 1
    2. 2
    3. 3
    4. 4

17. 45% of the employee of an organization is men and 60% of the men are officers. If 60% of the total employee of the company is officer, what fraction of the women employed by the company are not officers?
    1. 2/5
   2. 3/5
    3. 1/2
    4. 3/4

Direction for questions 18 to 20: Go through the data set given below and solve the questions based on it.

In the five countries listed below, information with regard to mode of powering railway engines is provided. Railway engines can be powered only by one of the three modes-Natural Gas, Diesel or Electricity. A single railway engine will use only one of the three modes mentioned for whole of its life. Assume that all the data and questions given below pertain to the same time period.

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Number of Engines powered by Diesel
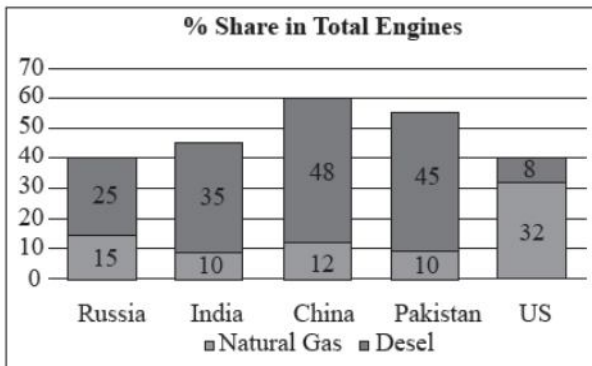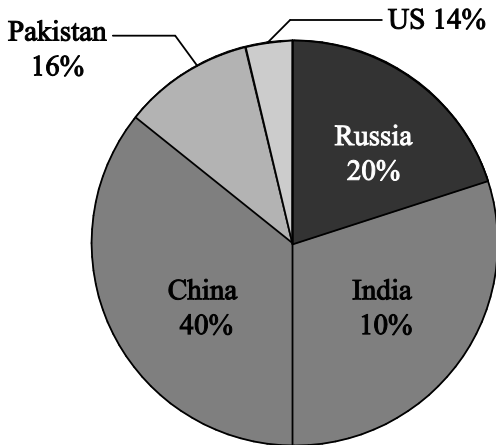
Also given that the total number of engines powered by diesel in the given five countries above = 7030 (as given in the pie chart)

18. What is the number of engines in India that are powered by electricity?
1. 3300
2. 2700
3. 6000
4. Cannot be determined

19. If the number of engines in Russia accounts for 5% of the total number of engines in the world, then what percentage of the total engines in the world are powered by diesel?
1. 110,000
2. 27,500
3. 14100
4. Cannot be determined

20. Amongst the five countries, what is the average percentage of engines that are powered by electricity?
1. 52.4%
2. 47.6%
3. 55.8%
4. 44.2%

21. The division of the 13th term of an A.P. by the 3rd term yields 3 as quotient and remainder zero. The

division of the 18th term by the 7th term yields 2 as quotient and 8 as a remainder. What is the common difference?
1. 4
2. 6
3. 1
4. 7

22. Pipe A can fill a tank in 20 minutes. Pipe B, whose diameter is half as that of Pipe A starts filling the tank when it is half full. How long will it take for the tank to overflow, if Pipe A started filling an empty tank?
1. 12 minutes
2. 14 minutes
3. 15 minutes
4. 18 minutes

23. A given three digit number when subtracted from other three digit number which is obtained by reversing the digits of the given three digit number (hundredth place digit should be non-zero), the resultant so obtained is 396. How many such three digit numbers are possible?
1. 10
2. 25
3. 50
4. 6

24. The rate of a reaction is directly proportional to the square of the concentration of A and inversely proportional to concentration of B. If B increases by 100%, which of the following is closest to the % change in concentration of A required to keep the rate unchanged?
1. 100% decrease
2. 50% decrease
3. 40% decrease
4. 40% increase

25. x and y are positive integers, what is remainder when $3^{4y+2} + x$ is divided by 10?
Statement A: y = 2
Statement B: x = 1
1. Question can be uniquely answered by using statement A alone but not by statement B alone.
2. Question can be uniquely answered by using statement B alone but not by statement A alone.
3. Question can be uniquely answered by using either of the statements alone.
4. Question can be uniquely answered by using both the statements together, and not be using any statement alone.

26. If the number of ways in which n distinct things can be distributed among n persons so that at least one person does not get anything is 232. Find n.
1. 3
2. 4
3. 5
4. 6

27. A three-digit number xyz is written as another three digit number zyx made by interchanging the hundreds place digit and unit digit. Which of the following number will always divide the difference of these two numbers?

i. 3   ii. 9
iii. 11   iv. 17
1. (i), and (ii) but not (iii)
2. (ii) and (iii) but not (iv)
3. (iii) and (iv) but not (i)
4. All four

28. Which of the following is smallest?
1. $5^{1/2}$ 2. $6^{1/3}$
3. $8^{1/4}$ 4. $12^{1/6}$

29. 8 years ago, the ages of the members of a joint family of 8 people added up to 220 years. Three years later, one member died at the age of 50 years and a child was born during the same year. After another two years, one more member died, again at 50 and a child was born during the same year. The current average age of this joint family is nearest to?
1. 24 years   2. 23 years
3. 21 years   4. 25 years

Direction for questions 30 to 32: Go through the table given below and solve the questions based on it.
Following table and line chart gives the FDI inflows (USD million) in India for the six years from 2000–2005 for six different countries, its percentage share in the total inflows of India in that particular year and percentage of total outflows from that country in that particular year across the globe.

Year	Country	FDI inflows in India	% of total inflows of India	% of total outflows of that country
2000	Mauritius	20103	44%	56%
2001	US	4070	12%	3%
2002	UK	3460	6%	9%
2003	Singapore	2694	4%	3%
2004	Netherlands	2435	9%	14%
2005	Japan	3856	11%	5%

30. UK's total outflow in 2002 is what percentage of India's total inflow of 2002?
1. 66.66%   2. 33.33%
3. 133.33%   4. 166.66%

31. For how many years, India's total FDI inflow in any particular year is more than the FDI outflow of the country given in that particular year?
1. 0   2. 1
3. 2   4. 3

32. In the year 2006, India stops FDI inflows from Mauritius and it is observed that for each of the remaining five countries, increase in FDI outflow to India in 2006 is exactly equal to the 1/5th of Mauritius's FDI outflow in 2000. For which country the percentage increase in the FDI outflow is maximum over the data given for that country?
1. US   2. UK
3. Netherlands   4. Singapore

33. Sterling Silver is 92.5% pure silver. In what ratio should pure silver and sterling silver be mixed to obtain a 94% Silver alloy?
1. 1:4   2. 4:1
3. 1:3   4. 3:1

34. At a Business seminar, chairman addressed the audience for an hour. 20% of the audience heard the entire talk and 10% slept through the entire talk. Half of the remainder heard only 1/3rd of the talk and the remaining audience heard 2/3rd of the talk. The average number of minutes of the talk heard by the audience are:
1. 30   2. 45
3. 24   4. 33

Direction for questions 35 to 37: Read the following instructions and solve the questions based on it.
Choose A, If the question can be answered by one of the statements alone and not by the other.
Choose B, If the question can be answered by using either statement alone.
Choose C, If the question can be answered by using both the statements together, but cannot be using either statement alone.
Choose D, If the question cannot be answered even by using both the statements together.

35. Is $x > 2$?
Statement A: < 7
Statement B: $x^2 - 4x = 0$

36. Is $x > y$?
Statement A: $3x + 5y = 11$ where x and y are integers
Statement B: $x^5 > y^5$

37. If both m and n are positive integers less than 100 and greater than 10, is the sum $m + n$ a multiple of 11?
Statement A: $m - n$ is a multiple of 22
Statement B: The tens digit and the units digit of m are the same; the tens digit and the units digit of n are the same

38. `180 is divided among 66 boys and girls of a class. The sum of the boy's share and girl's share are in ratio 5:4 but their individual shares are 3:2 respectively. The number of boys in the class is

1. 36	**2.** 30
3. 5	**4.** 40

39. If the sum of five consecutive positive integers is A, then the sum of the next five consecutive integers in terms of A is

1. $A + 1$	**2.** $A + 5$
3. $A + 25$	**4.** $2A$

40. There were 500 seats in PVR placed in similar rows. After the reconstruction of the hall the total number of seats became 450. The number of rows was reduced by 5 but each row contained 5 seats more than earlier. What is the total number of rows and total numbers of seats in a row initially in the hall respectively?

1. 30 and 15	**2.** 25 and 20
3. 20 and 25	**4.** 50 and 10
5. None of these	

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ANSWERS

1.	(1)	**2.**	(2)	**3.**	(2)	**4.**	(3)	**5.**	(3)
6.	(3)	**7.**	(4)	**8.**	(1)	**9.**	(2)	**10.**	(1)
11.	(4)	**12.**	(3)	**13.**	(2)	**14.**	(3)	**15.**	(4)
16.	(3)	**17.**	(1)	**18.**	(1)	**19.**	(4)	**20.**	(1)
21.	(1)	**22.**	(4)	**23.**	(3)	**24.**	(4)	**25.**	(2)
26.	(2)	**27.**	(2)	**28.**	(4)	**29.**	(2)	**30.**	(1)
31.	(4)	**32.**	(3)	**33.**	(1)	**34.**	(4)	**35.**	(4)
36.	(2)	**37.**	(1)	**38.**	(2)	**39.**	(3)	**40.**	(2)