

GUPTA CLASSES

A Premier Institute for MCA/MBA Entrance

6, Utsav Complex, Shivaji Road Meerut

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Nimcet Special

1. If $x = 3 + 2\sqrt{2}$, then the value of $(\sqrt{x} - (1/\sqrt{x}))$ is :

- (a) 1 (b) 2 (c) $2\sqrt{2}$ (d) $3\sqrt{3}$

2. If $a^x = b^y = c^z$ and $b^2 = ac$, then y equals :

- (a) $xz / x + z$ (b) $xz / 2(x - z)$
(c) $xz / 2(z - x)$ (d) $2xz / (x + z)$

3. If $2^x = 3^y = 6^{-z}$, then $((1/x) + (1/y) + (1/z))$ is equal to :

- (a) 0 (b) 1 (c) $3/2$ (d) $-(1/2)$

4. If $2^x = 4^y = 8^z$ and $((1/2x) + (1/4y) + (1/6z)) = 24/7$, then the value of z is :

- (a) $7/16$ (b) $7/32$ (c) **$7/48$** (d) $7/64$

5. If $x = 5 + 2\sqrt{6}$, then $((x - 1) / \sqrt{x})$ is equal to :

- (a) $\sqrt{2}$ (b) **$2\sqrt{2}$** (c) $\sqrt{3}$ (d) $2\sqrt{3}$

6. Two numbers A and B are such that the sum of 5% of A and 4% of B is two-third of the sum of 6% of A and 8% of B. Find the ratio of A : B.

- (a) 2 : 3 (b) 1 : 1 (c) 3 : 4 (d) **4 : 3**

7. When 15% is lost in grinding wheat, a country can export 30 lakh tons of wheat. On the other hand, if 10% is lost in grinding, it can export 40 lakh tons of wheat. The production of wheat in the country is :

- (a) 20 lakh tons (b) 80 lakh tons
(c) **200 lakh tons** (d) 800 lakh tons

8. In an election between two candidates, one got 55% of the total valid votes, 20% of the votes were invalid. In the total number of votes was 7500, the number of valid votes that the other candidate got, was :

- (a) **2700** (b) 2900 (c) 3000 (d) 3100

9. An article is sold at a certain price. By selling it at $2/3$ of that price one loses 10%. Find the gain percent at original price.

- (a) **35%** (b) 40% (c) 45% (d) none

10. A man sold two flats for Rs. 6,75,958 each. On one he gains 16% while on the other he loses 16%. How much does he gain or lose in the whole transaction ?

- (a) 3.45% (b) **2.56%** (c) 4.54% (d) none

11. A man bought a horse and a carriage for Rs. 3000. He sold the horse at a gain of 20% and the carriage at a loss of 10%, there by gaining 2% on the whole. Find the cost of the horse.

- (a) 1300 (b) 1400 (c) **1200** (d) none

12. Seats for Mathematics, Physics and Biology in a school are in the ratio 5 : 7 : 8. There is a proposal to increase these seats by 40% 50% and 75% respectively. What will be the ratio of increased seats ?

- (a) **2 : 3 : 4** (b) 6 : 7 : 8
(c) 6 : 8 : 9 (d) none

13. An amount of Rs. 2430 is divided among A, B and C such that if their shares be reduced by Rs. 5, Rs. 10 and Rs. 15 respectively, the remainders shall be in the ratio of 3 : 4 : 5. Then B's share was :

- (a) Rs. 605 (b) Rs. 790 (c) Rs. 800 (d) **Rs. 810**

14. 60 kg of an alloy A is mixed with 100 kg of alloy B. If alloy A has lead and tin in the ratio 3 : 2 and alloy B has tin and copper in the ratio 1 : 4, then the amount of tin in the new alloy is :

- (a) 36 kg (b) **44 kg** (c) 53 kg (d) 80 kg

15. A, B, C subscribe rs. 50,000 for a business. A subscribes Rs. 4000 more than B and B Rs. 5000 more than C. Out of a total profit of Rs. 35,000, A receives :

- (a) Rs. 8400 (b) Rs. 11,900
(c) Rs. 13,600 (d) **Rs. 14,700**

16. A, B, C started a business with their investments in the ratio 1 : 3 : 5. After 4 months investments. The ratio of their profits at the end of the year is :

- (a) 4 : 3 : 5 (b) **5 : 6 : 10**
(c) 6 : 5 : 10 (d) 10 : 5 : 6

17. A and B entered into partnership with capitals in the ratio 4 : 5. After 3 months, A withdrew $1/4$ of his capital and B withdraw $1/5$ of his capital. The gain at the end of 10 months was Rs. 760. A's share in this profit is :

- (a) **Rs. 330** (b) Rs. 360 (c) Rs. 380 (d) Rs. 430

18. A certain number of men can finish a piece of work in 100 days. If, there were 10 men less, it would take 10 days more for the work to be finished. How many men were there originally ?

- (a) 75 (b) 82 (c) 100 (d) **110**

19. 15 men take 21 days of 8 hours each to do a piece of work. How many days of 6 hours each would 21 women take, if 3 women do as much work as 2 men ?

- (a) 18 (b) 20 (c) 25 (d) **30**

20. If 2 men or 6 boys can do a piece of work in 14 days; 3 men and 8 boys can do the same in 11 days. Then, 8 men and 6 boys can do three times the amount of this work in :

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(a) 18 days (b) **21 days** (c) 24 days (d) 30 days

21. A is twice as good a workman as B and together they finish a piece of work in 18 days. In how many days will A alone finish the work ?

(a) **27 days** (b) 29 days (c) 25 days (d) none

22. A and B undertake to do a piece of work for Rs. 600. A alone can do it in 6 days while B alone can do it in 8 days. With the help of C, they finish it in 3 days. Find the share of C ?

(a) Rs. 80 (b) **Rs. 75** (c) Rs. 70 (d) none

23. 45 men can complete a work in 16 days. Six days after they started working, 30 more men joined them. How many days will they now take to complete the remaining work ?

(a) 5 days (b) 7 days (c) **6 days** (d) none

24. A man covered a certain a certain at some speed. Had he moved 3 kmph faster, he would have taken 40 minutes less. if he had moved 2 kmph slower, he would have taken 40 minutes more. The distance (in km) is :

(a) 35 (b) 36 $\frac{2}{3}$ (c) 37 $\frac{1}{2}$ (d) **40**

25. Two men start together to walk to a certain destination, one at 3 kmph and another at 3.75 kmph. The latter arrives half an hour before the former. The distance is :

(a) **6 km** (b) 7.5 km (c) 8 km (d) 9.5 km

26. A train overtakes two persons who are walking in the same direction in which the train is going, at the rate of 2 kmph and 4 kmph and passes them completely in 9 and 10 seconds respectively. The length of the train is :

(a) 45 m (b) **50 m** (c) 54 m (d) 72 m

27. A train 150 m long passes a km stone in 15 seconds and another train of the same length traveling in opposite direction in 8 seconds. The speed of the second train is :

(a) 60 km / hr (b) 66 km / hr
(c) 72 km / hr (d) **99 km / hr**

28. A persons takes a loan of Rs. 200at 5% simple interest . he returns Rs. 100 at the end of 1 year. In order to clear his dues at the end of 2 years. he would pay :

(a) Rs. 105 (b) Rs. 110
(c) **Rs. 115** (d) Rs. 115.50

29. A sum of Rs. 2600 is lent out in two parts in such a way that the interest on one part at 10% for 5 years is

equal to that on another at 9% for 6 years. The sum lent out at 10% is :

(a) Rs. 1150 (b) Rs. 1250
(c) **Rs. 1350** (d) Rs. 1450

30. The difference between two parallel sides of a trapezium is 4 cm. The perpendicular distance between them is 19 cm. If the area of the trapezium is 475 cm^2 , find the lengths of the parallel sides.

(a) **27, 23 cm** (b) 24, 28 cm
(c) 26, 27 cm (d) none

31. The area of a circular field is 13.86 hectares. Find the cost of fencing it at the rate of Rs. 4.40 per metre.
(a) Rs. 4038 (b) **Rs. 5808** (c) Rs. 5403 (d) none

32. Find the ratio of the areas of the incircle and circumcircle of a square.

(a) 3 : 2 (b) 2 : 4 (c) **1 : 2** (d) none

33. If the radius of a circle is decreased by 50%, find the percentage decrease in its area.

(a) **75%** (b) 80% (c) 70% (d) none

34. A takes twice as much time as B or thrice as much time to finish a piece of work, Working together, they can finish the work in 2 days. B can do the work alone in :

(a) 4 days (b) **6 days** (c) 8 days (d) 12 days

35. A and B can do a work in 8 days, B and C can do the same work in 12 days, A, B and C together can finish it in 6 days. A and C together will do it in :

(a) 4 days (b) 6 days (c) **8 days** (d) 12 days

36. I walk a certain distance and ride back taking a total time of 37 minutes, I could walk both ways in 55 minutes. How long would it take me to ride both ways ?

(a) **19 min** (b) 17 min (c) 18 min (d) none

37. One of the two buses completes a journey of 300 km in $7 \frac{1}{2}$ hours and the other a journey of 450 km in 9 hours. The ratio of their average speeds is :

(a) 2 : 3 (b) 3 : 4 (c) **4 : 5** (d) 8 : 9

38. A rectangular parking space is marked out by painting three of its sides. If the length of the unpainted side is 9 feet, and the sum of the lengths of the painted sides is 37 feet, then what is the area of the parking space in square feet ?

(a) 46 (b) 81 (c) **126** (d) 252

39. The ratio between the length and the breadth of a rectangular park is 3 : 2. if a man cycling along the boundary of the park at the speed of 12 km / hr completes one round in 8 minutes, then the area of the park (in sq. m) is :

(a) 15360 (b) **153600** (c) 30720 (d) 307200