megaleap
Comprehensive MCA Entrance Coaching

iSANMACS INDIA

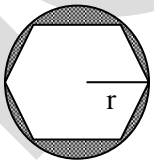
➤ 309 & 313 PRATAP CHAMBERS, GURUDWARA ROAD, KAROL BAGH, DELHI - 110005 PH.: 28757911, 28757630, 32917966

➤ SAI SANMACS PLAZA, PLOT NO. - 6A, COMMUNITY CENTER, DDA, SECTOR - 8, ROHINI, DELHI - 110085 PH.: 32458354, 32522575

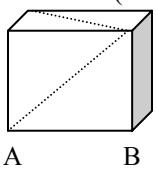
e-mail : info@sanmacs.com website: www.sanmacs.com

Rewarding Career **Test Code: MTNCL – I** **Questions: 25** **Max. Time: 1 Hr.**

1. If the ratio of work done by X+1 men in X-2 days to the work done by X+2 men in X+1 days is 3:5, Find X?
   (a) 8 (b) 6 (c) 14 (d) 12
2. Due to phenomena called refraction, the sun is visible before it appears on horizon because rays get bended in air. If the bended rays form an angle of 10 degree, what would be increase in daytime?
   (a) 30 minutes (b) 3 hours
   (c) 2 hours 40 minutes (d) 1 hour 20 min
3. Two pipes A and B fill a tank of water in 12 and 16 minutes respectively. They both are opened together but B is closed after some time. What is the time at which B is closed if the tank gets filled in 10 min?
   (a) 6 min (b) 160 sec (c) 2 1/3 min (d) none
4. What is the total surface area of a regular tetrahedron where one edge is 10 cm long?
   (a) $100\sqrt{2}\ \text{cm}^2$ (b) $225.3\ \text{m}^2$
   (c) $173.2\ \text{cm}^2$ (d) $432.4\ \text{cm}^2$
5. A boat's crew consists of 10 men, 3 of whom can only row on one side and 2 only on the other side. Find the number of ways in which the crew can be arranged?
   (a) 2320 (b) 1260 (c) 5040 (d) 1440
6. A particular sugar solution has 3:7 concentration by volume. If the sugar starts sedimenting at the rate of 1 mg/sec, how much time will it take the ratio to turn to 1:5 in a liter of solution? (Density of sugar = 2 mg/cc)
   (a) $26\frac{2}{3}$ s (b) 10 s
   (c) $11\frac{1}{9}$ s (d) $6\frac{2}{3}$ s
7. If $\log_b a^n = \log_a b$. Which of the following must be true?
   (a) $b = \sqrt{a}$ (b) $b = a\sqrt{n}$
   (c) $b = a^2$ (d) None
8. What is the area of the shaded portion in the diagram below, Given area of outer circle is A?



   (a) $A - (3\sqrt{3}/2)r^2$ (b) $A - 3.r^2$
   (c) $A - r^2/2$ (d) $A - r^2$
9. What is the surface area of the figure left after the cube is cut as shown below? (AB = a)



   (a) $(9/2)a^2 + \sqrt{3}a^2$ (b) $9a^2 + \sqrt{3}a^2$
   (c) $\sqrt{3}(\sqrt{3}+1)a^2/2$ (d) $9a^2 + \sqrt{3}a^2/2$
10. Which of the following is false?
    (a) Orthocentre of an acute angled triangle lies inside the triangle.
    (b) Orthocentre of a right-angled triangle is one of the three vertices.
    (c) Medians of an equilateral triangle bisect the altitudes.
    (d) Two rectangles having same area may not be congruent.
11. Distance between two stations A and B is 230 km. Two motorcyclist starts simultaneously from A and B in opposite directions and the distance between them after 4 hours is 50 kms. Speed of each of them in km/hr is
    (a) 40, 30 (b) 27, 17 (c) 50, 40 (d) None
12. A grocer decreases the cost of rice by 10%. But also cheats on his weights by 15%. What is his profit/loss over the previous bargain?

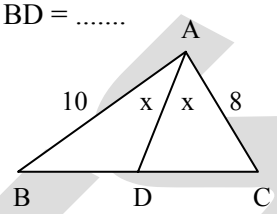
(a) 5.88% profit (b) 6.12% loss
(c) 6.12% profit (d) 4.11% loss

13. How much time after 3 o'clock, will the angle between the hour and minute hands be at 35° with each other for the first time?
(a) 10 10/11 min (b) 15 min
(c) 10 min (d) 10.5 min

Directions (Q.14 – Q.16): Seven digits are chosen from among 0, 1, 2, ..., 9 and each is represented by a different letter in the subtraction problem below)

S	L	I	D	E
– D	E	A	N	
3	6	5	1	

14. What digit does S represent?
(a) 0 (b) 1 (c) 2 (d) 3
15. What digit does N represent?
(a) 0 (b) 1 (c) 2 (d) 3
16. What digit does E represent?
(a) 0 (b) 1 (c) 2 (d) 3
17. A square sheet is converted into a cylinder by rolling it along its length. The ratio of base radius to the height of cylinder is
(a) 2π (b) $1/2\pi$ (c) $\sqrt{\pi}$ (d) $2\sqrt{\pi}$
18. A batsman scores a century in only 6's and 4's. In how many ways can he do this?
(a) 36 (b) 10 (c) 8 (d) 6
19. Two husband and their wives have to cross a river on a boat that holds only two persons. How many trips are required so that wife is never left with the husband of another woman unless her own husband is present?
(a) 4 (b) 2 (c) 3 (d) 5
20. The length of the minute hand of a wall clock is 14 cm. What is the area covered by it in 20 minutes?
(a) $200\,cm^2$ (b) $600\,cm^2$
(c) $88\,cm^2$ (d) $205.33\,cm^2$
21. If BC = 9 cm then BD = ...



(a) 5 (b) 4 (c) 3 (d) 6
22. The nth term of the series $3, \sqrt{3}, 1, ..$ is 1/243 then n is
(a) 12 (b) 13 (c) 14 (d) 15

Directions (Q. 23 – Q. 24): Select the word closest in meaning to the given phrase.)

23. An avid fan or enthusiast.
(a) Connoisseur (b) Polymath
(c) Paragon (d) Buff
24. Lacking firmness or resilience.
(a) Flop (b) Irrelevant
(c) Flaccid (d) Resolvable
25. A lead cylinder with radius 3 cm and height 12 cm is melted, and all the lead so obtained mould into a ball and a cube having volumes in the ratio 1:2. What is the radius of the ball?
(a) 3cm (b) 4cm (c) 3.5cm (d) $3\sqrt{3}$ cm