Memory Based Paper for SSC CHSL Tier 1
Quantitative Ability

1.A tank is normally filled in 10 hrs but it takes 2 hrs longer to fill because of a leak in its bottom. If the cistern is full, in how many hours will the leak empty it?
(A) 50 hrs
(B) 60 hrs
(C) 70 hrs
(D) 80 hrs

2. If sin2 α + sin2 ß = 2, then the value of cos$\frac{\alpha+\beta}{2}$ is –
(A) 1
(B) −1
(C) 0
(D) 0.5

3.If tanθ . tan 2θ = 1, then the value of sin2 2θ . tan2 2θ is equal to –
(A) 3/4
(B) 10/3
(C) 3 3/4
(D) 3

4.By selling an article at 3/4th of the marked price, there is a gain of 25%. The ratio of the marked price and the cost price is –
(A) 5 : 3
(B) 3 : 5
(C) 3 : 4
(D) 4 : 3

5.250 men can finish a work in 20 days working 5 hours a day. To finish the work within 10 days working 8 hours a day, the minimum number of men required is –
(A) 310
(B) 300
(C) 313
(D) 312

6.A and B earn in the ratio 2 : 1. They spend in the ratio 5 : 3 and save in the ratio 4 : 1. If the total monthly savings of both A and B are 5000, the monthly income of B is –

(A) 7000
(B) 14000
(C) 5000
(D) 10000

7. In an examination, the average marks were found to be 50. For deducting marks due to computational errors, the average marks of 100 candidates were changed from 80 to 50, hence the net average marks came down to 40. The total number of candidates, who appeared in the examination, was –
(A) 200
(B) 400
(C) 300
(D) 150

8. A and B are two alloys of gold and copper prepared by mixing metals in the ratio 7 : 2 and 7 : 11 respectively. If equal quantities of the alloys are melted to form a third alloy C, the ratio of gold and copper in C will be–
(A) 5 : 7
(B) 5 : 9
(C) 7 : 5
(D) 9 : 5

10. Walking at 3 km/hour, Pintu reaches his school 5 minute late. If he walks at 4 km/h he will be 5 minute early. The distance of Pintu's school from his house is –
(A) 1 $^1/2$ km
(B) 2 km
(C) 2$^1/2$ km
(D) 5 km

11. From a cliff 120 m above the shore of the sea, the angle of depression of a ship is 60°. Find the distance from the ship to a point on the shore directly below the observer.
(A) 40√2 m
(B) 40√3 m
(C) 33√3 m
(D) 50√3 m

12. On reducing the entry fee by 25% in a circus show, the number of viewers increased by 30%. The percent increase or decrease in the income from the entry fee is
(A) 2.5% increase
(B) 0.5% decline
(C) 2.5% decline
(D) 3% increase

13. Nitin bought some oranges ` 40 a dozen and an equal number at ` 30 a dozen. He sold them at ` 45 a dozen and made a profit of ` 480. The number of dozen of oranges, he bought, was –
(A) 48
(B) 60
(C) 72
(D) 84

14. If $a^2 + b^2 + c^2 = 2(a - b - c) - 3$, then the value of $(a - b + c)$ is –
(A) −1
(B) 3
(C) 1
(D) −2

15. A cylinder and a cone have equal radii of their bases and equal heights. If their curved surface areas in the ratio 8 : 5, the ratio of their radius and height is –
(A) 1 : 2
(B) 1 : 3
(C) 2 : 3
(D) 3 : 4

16. Two circles with centres A and B of radii 3 cm and 4 cm respectively intersect at two points C and D such that AC and BC are tangents to the two circles. Find the length of the common chord CD.
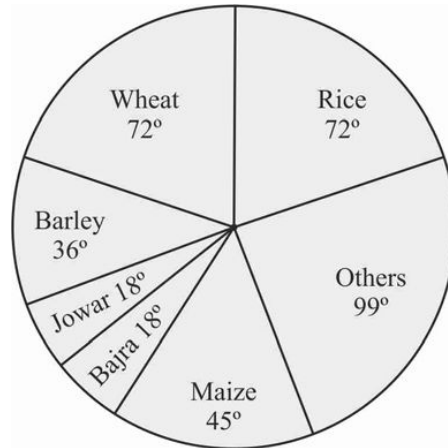(A) 4.2 cm
(B) 8.4 cm
(C) 2.4 cm
(D) 4.8 cm

17. A rectangular tank is 45 m long and 26 m broad. Water flows into it through a pipe whose cross-section is 13 cm2, at the rate of 9 km/hour. How much will the level of the water rise in the tank in 15 min?
(A) 0.0016 m
(B) 0.0020 m
(C) 0.0025 m
(D) 0.0018 m

18. A boat goes 8 kms an hour in still water, but takes twice as much time in going the same distance against the current. The speed of current is-
(A) 2 km/hr
(B) 4 km/hr
(C) 3 km/hr
(D) 5 km/hr

Directions (19-22): The pie-chart provided below gives the distribution of land (in a village) under various food crops. Study the pie-chart carefully and answer the questions.

19. If the total area under Bajra was three hundred acres, then the total area (in hundred acres) under Rice and Barely together is −

(A) 18
(B) 12
(C) 15
(D) 20

20. The combination of three crops which contribute to more than 50% of the total area under food crops is −

(A) Wheat, Rice and Maize
(B) Wheat, Rice and Jowar
(C) Wheat, Rice and Bajra
(D) Rice, Barely and Maize

21. The ratio of the land used for Rice and Barely is −

(A) 3 : 1
(B) 1 : 2
(C) 2 : 1
(D) 3 : 2

22. If 10% of the land reserved for Rice be distributed to Wheat and Barley in the ratio 2 : 1, then the angle corresponding to Wheat in the new pie-chart will be −

(A) 38.4°
(B) 76.8°
(C) 75.6°
(D) 45.5°