Part A: Test of Quantitative Ability

1. The product of two numbers is 1014 and their ratio is 2/3. Then the sum of the numbers is –

   A) 80
   B) 45
   C) 65
   D) 115

2. Arvind can do a piece of work in 20 days, Bhanu in 30 days and Chetan in 60 days. All begin to do it together, but Arvind leaves after 6 days and Bhanu leaves 6 days before the completion of the work. How many days did the work last?

   A) 18
   B) 23
   C) 20
   D) 27

3. Amit purchases 70 kgs apples at Rs. 90/kg and another 30 kgs apples at Rs. 120/kg. What is the average cost/kg?

   A) 95.50/kg
   B) 97.66/kg
   C) 101.00/kg
   D) 99.00/kg

4. After two successive discounts of 10% and 50%, a badminton racket is sold for Rs. 1647. What is the marked price (in Rs.) of the racket?

   A) Rs. 2745
   B) Rs. 3660
   C) Rs. 2999
   D) Rs. 3599

5. What is the simplified value of *1 + tan x tan (x/2)*?
   A) sin x/2
   B) cos x
   C) tan x
   D) sec x

6. The heights of a cylinder, cone and hemisphere are equal. If their radii are in the ratio 1 : 4 : 2, then the ratio of their volumes is-

   A) 16 : 36 : 8
   B) 3 : 16 : 8
   C) 16 : 36 : 18
   D) 3 : 16 : 6

7. How many rectangles can be formed by using 7 horizontal lines and 10 vertical lines?

   A) 945
   B) 1005
   C) 845
   D) 935

8. From a group of 8 women and 10 men, a committee consisting of 5 men and 5 women is to be formed. In how many ways can the committee be formed if one man and one woman refuses to serve together?

   A) 8702
   B) 10704
   C) 9702
   D) not possible

9. A sum is invested for 3 years compounded at 5%, 10% and 20 % respectively. In three years, if the sum amounts to Rs. 2772, then find the sum.

   A) Rs. 2400
   B) Rs. 2800
   C) Rs. 2000
   D) Rs. 1126.65

10. Two vertical poles are 400 m apart and the ratio of their height is 1:2. From the middle point of the line joining their feet, an observer finds the angular elevations of their tops to be complementary. Find the heights of the poles ($\sqrt{2}$=1.41).

   A) 90 m and 180 m
   B) 100 m and 200 m
   C) 141 m and 282 m
   D) 70.5 m and 141 m

11. Two trains, each 150 metres long are moving in opposite directions. They cross each other in 10 seconds. If one is moving twice as fast as the other, the speed of the faster train is

   A) 60 km/hr
   B) 70 km/hr
   C) 72 km/hr
   D) 92 km/hr

12. Two trains are running at 50 km/hr and 20 km/hr respectively in the same direction. If the faster train completely passes a man sitting in the slower train in 6 seconds, the length of the faster train is:

   A) 45 meters
   B) 20 meters
   C) 30 meters
   D) 50 meters

13. Pipe P can fill a tank in 3 hours, pipe Q in 7 hours and pipe R in 21 hours. If all the pipes are open, in how many hours will the tank be filled?

   A) 2 hr 30 min
   B) 2 hr 06 min
   C) 1 hr 54 min
   D) 1 hr 35 min

14. Rohan was 6 times as old as his daughter 6 years ago. After 6 years, Rohan will be thrice as old as his daughter. Find out the present age of Rohan.

A) 44 years
B) 40 years
C) 54 years
D) 52 years

15. The average score of a cricketer for ten matches is 42.5 runs. If the average for the first seven matches is 35, what is the average for the last three matches?

A) 72
B) 45
C) 60
D) 50

Part B: Test of Reasoning Ability

The following questions (16-17) are accompanied by statements. You have to determine which statement(s) is/are sufficient/necessary to answer the questions.

16. How is 'No' coded in the code language?

Statements:
   I.   'Ne Pa Sic Lo' means 'But No None And' and 'Pa Lo Le Ne' means 'If None And But'.
   II.   'Le Se Ne Sic' means 'If No None Will' and 'Le Pi Se Be' means 'Not None If All'.

A) I alone is sufficient while II alone is not sufficient
B) II alone is sufficient while I alone is not sufficient
C) Either I or II is sufficient
D) Neither I nor II is sufficient

17. Who among Siddhartha, Nikunj, Vipul and Mukul is the youngest?

Statements:

I.   Vipul is younger than Mukul but older than Siddhartha and Nikunj.
II.   Mukul is the oldest.
III.   Siddhartha is older than Nikunj.

A) Only I is sufficient
B) Only I and II is sufficient
C) Only II and III is sufficient
D) Only I and III is sufficient

The following questions (18-19) are accompanied by a group of statements. You have to determine which of the conclusion/s is/are true.

17. Statements:

Bananas are Apples.
All Apples are Oranges.
All Oranges are Mangoes

Conclusion:

I. All Apples are Mangoes
II. All Oranges are Bananas
III. All Bananas are Mangoes
IV. All Mangoes are Apples

A) Only I and II follow
B) Only I and III follow
C) Only II and III follow
D) All follow

18. Statements:

Most Cell phones are Calculators.
No Calculator is a Camera.
All Cameras are Cell phones.

Conclusion:

I. Some Calculators are Cell phones.
II. All Cell phones are Cameras
III. No Camera is a Calculator
IV. Some Cameras are Calculators

A) Only I follows
B) Only I and II follow
C) Only I and III follow
D) Only II follows

In the following questions (20-21) a statement is given followed by two courses of action numbered I and II. You have to consider the statement and the following course of actions, and decide which of the course of actions needs to be followed and choose your answer accordingly.

20. **Statement:** There is an increase in the number of requests for berths in many of the long distance trains during the current festive season.

Courses of Action:

I. The railways should increase the number of trains running between these stations.
II. The people should be advised to make their travel plan after the holiday season.

A) Only I follows
B) Only II follows
C) Either I or II follows
D) Neither I nor II follows

21. **Statement:** Several cases of Dengue have been reported after the rains.

Courses of Action:

I. Pesticides should be properly sprayed on a regular basis.
II. Using various means of media, people should be informed about the methods to be adopted for prevention from these seasonal diseases.

A) Only I follows
B) Only II follows
C) Either I or II follows
D) Both I and II follow

In the following questions (22-23) an assertion is given followed by a reason. You have to consider the assertion and the reason, and decide which of the options is correct.

22. **Assertion (A):** Blood is red in colour due to haemoglobin.
   Reason (R): Haemoglobin is a red pigment.

A) Both A and R are true and R is the correct explanation of A.
B) Both A and R are true but R is NOT the correct explanation of A.
C) A is true but R is false.
D) A is false but R is true.

23. **Assertion (A):** Chopped fruits and vegetables should not   be kept in the open for long.
   Reason (R): The nourishment is reduced.

A) Both A and R are true and R is the correct explanation of A.
B) Both A and R are true but R is NOT the correct explanation of A.
C) A is true but R is false.
D) A is false but R is true.

24. Green Revolution is related to Plants in the same way as Silver Revolution is related to......

A) Poultry
B) Rubber
C) Milk
D) Forest

25. In a certain code, a number 13479 is written as AQFJL and 5268 is written as DMPN. How is 396824 written in that code?

A) QLPNKJ
B) QLPNMF
C) QLPMNF
D) QLPNDF

26. A + B means A is the brother of B; A - B means A is the mother of B and A * B means A is the sister of B. Which of the following means M is the maternal uncle of R, (Given that K is the mother of R)?

A) M + K + R
B) M - R + K
C) M + K - R
D) M + K * R

27. If Reena says, "Sunita`s father Aman is the only son of my father-in-law Rampal", then how is Indu, who is the sister of Sunita, related to Rampal?

A) Niece
B) Daughter
C) Daughter-in-law
D) None of these

28. Ravi is not wearing white and Ajay is not wearing blue. Ravi and Sohan wear different colours. Sachin alone wears red. What is Sohan's colour, if all four of them are wearing different colours?

A) Red
B) Blue
C) White
D) Can't say

29. Select the odd one out

A) cornea
B) retina
C) pupil
D) vision

30. 2, 30, 130, 350, 738, ?

A) 1342
B) 1150
C) 1320
D) 987