1.Age of Ravi is 5 times of his son, after 15 years the ratio of age of Ravi and son is 13:5, find the age of Ravi after 10 years?(E)

1.50 years 2.60 years

3.90 years 4.78 years

5.68 years

1.(2) Let the age of son be x years

Age of Ravi will be 5x years

According to the question,

$$(x + 15) / (5x + 15) = 5 / 13$$

$$\Rightarrow$$
 13x + 195 = 25x + 75

$$\Rightarrow$$
 12x = 120

$$\Rightarrow$$
 x = 10

∴ present age of Ravi = 5 × 10 = 50 year

After ten years it will be 60 year.

2. Mohan lend Rs 10000 to Sohan on simple rate of interest at 10 percent per annum. In how much time amount become 4 times?(M)

1.10 years 2.5 years

3.30 years 4.8 years

5.12 years

$$2.(3)30000 = \frac{10000 \times 10 \times T}{100}$$

T=30 year

3. If a train running at a speed of 60 km/h crosses trees which are each 50 m away, then how many trees will it cross in 5 hours?(E)

1.4500 2.4800

3.3700 4.3600

5.6000

3.(5) Speed of train = 60 km/h

Distance covered in 5 hours =  $60 \times 5 = 300 \text{ km} = 300000 \text{ m}$ 

Distance between two trees = 50 m

- : No. of tree crossed = 300000/50 = 6000
- 4. A boat covers 90 km upstream distance in 9 hours, the speed of the water is 6 km / hr. What is speed of boat?(E)
- 1.40 km/hr 2.20 km/hr
- 3.30 km/hr 4.16 km/hr
- 5.25 km/hr
- 4.(4) Let the speed of boat be x km / hr

Speed of the boat upstream = 90 / 9 km / hr = 10 km / hr

$$\Rightarrow$$
 x - 6 = 10

 $\Rightarrow$  x = 16 km/hr

∴ Speed of boat is 16 km/hr

- 5. A, B and C stared a business with investment of Rs. 10000, Rs. 12000, and Rs. 14000, in the 1st year profit is Rs. 9000. What is A's share in the profit?(M)
- 1.Rs 2500 2.Rs 2650
- 3.Rs 2800 4.Rs 2720
- 5. None of these
- 6.(1) The amount invested by A, B and C are respectively Rs. 10000, Rs. 12000, and Rs. 14000

Ratio in the investment = 10000 : 12000 : 14000 = 5 : 6 : 7

Share of B in the profit =  $\frac{5}{18} \times 9000 = 2500$ 

- ∴ A's profit share in the profit is Rs. 2500.
- 6. A is thrice as good a workman as B and therefore is able to finish a job in 40 days less than Working together time, then they can complete the work together in?
- 1.15 2.12
- 3.10 4.8
- 5. None of these
- 6.(1) efficiencies of A and B is 3x and 1x respectively.

And ratio of number of days taken by A and B is 1x and 3x respectively.

 $ATQ_{x}(3x-1x)=40$ 

X=20 so number of days taken by A and B to complete the work is 20 and 60.

Let the total number of unit of work is 60.(LCM of 20 and 60)

Days taken by them to complete the work together=60/4=15 days

# 7. Compound interest on certain sum after 2 years is Rs. 1000 and Rs. 1200 for third year. What is rate of interest?(E)

- 1.10% 2.15%
- 3.20% 4.18%
- 5.25%
- 7.(3) Interest of second year = Rs. 1000

Interest for third year = Rs. 1200

Interest on 1000 for one year = Rs. 200

Rate of interest =  $(200 / 1000) \times 100 = 20\%$ 

- ∴ rate of interest is 20%
- 8. A boat goes 16 km downstream and comes back in 3 hrs. Find the speed of the stream if the speed of the boat in still water is 12km/hr.?(E)
- 1. 4 km/hr
- 2. 2 km/hr
- 3. 3 km/hr 4. 5km/hr
- 5. 6km/hr
- 8.(1)Let the speed of boat is x km/hr.

$$ATQ_{\frac{16}{12+x}} + \frac{16}{12-x} = 3$$

X=4 km/hr

Directions(9-13):-What should come in place of the question mark '?' in the following number series?(M)

9.6, 9, 15, 27, ?, 99

- 1.51 2.54
- 3.50 4.49
- 5.52
- 9.(1)The series follows the following pattern:

$$9 + 6 = 15$$

$$15 + 12 = 27$$

$$27 + 24 = 51$$

### 10. 1296, 324, 81, 27, 9, ?, 2.25

# 10.(3) The series follows the following pattern:

$$1296 \div 4 = 324$$

$$324 \div 4 = 81$$

$$81 \div 3 = 27$$

$$27 \div 3 = 9$$

$$4.5 \div 2 = 2.25$$

### 11. 102, 107, 114, 123, ?, 147

### 11.(2)The series follows the following pattern:

$$102 + 5 = 107$$

$$114 + 9 = 123$$

### ∴ The missing term in the series is 134.

### 12. 150, ?, 161, 176, 200, 235

- 5.153
- 12.(5) The pattern followed by the series is

$$150 + (2^2 - 1) = 153$$

$$153 + (3^2 - 1) = 161$$

$$161 + (4^2 - 1) = 176$$

$$176 + (5^2 - 1) = 200$$

$$200 + (6^2 - 1) = 235$$

- 13. 17, 53, 78, 94, ?, 107
- 1.99 2.101
- 3.100 4.97
- 5.103
- 13.(5)The series follows the following pattern:

$$17 + 6^2 = 53$$

$$53 + 5^2 = 78$$

$$78 + 4^2 = 94$$

$$94 + 3^2 = 103$$

$$103 + 2^2 = 107$$

### DIRECTION (14.-18):- What will come in place of question mark '?' in the following question?(M)

- 14. 1987 + 23% of 1500 = ? + 21% of (300+400)
- (1)2275

(2) 2180

(3) 2185

(4) 2075

- (5) 2285
- **14.(3)**1987 + 345 = x + 147

$$x = 2185$$

- **15**.  $(2^4 \times 5^{12} \times 10^{6.8} \times 5^{0.2} \times 2^{0.2} \times 4^6) \times \frac{1}{16} = 10^?$
- (1) 10

(2)17

(3) 15

- (4) 19
- (5) None of these
- 15.(4)

$$(2^4 \times 5^{12} \times 10^{6.8} \times 5^{0.2} \times 2^{0.2} \times 4^6) \times \frac{1}{16} = 10^?$$

$$5^{12} \times 10^{6.8} \times 5^{0.2} \times 2^{0.2} \times 4^6 = 10^{x}$$

$$5^{12+0.2} \times 10^{6.8} \times 2^{0.2} \times (2^2)^6 = 10^{x}$$

$$5^{12.2} \times 10^{6.8} \times 2^{12.2} = 10^{x}$$

$$10^{19} = 10^{x}$$

$$x = 19$$

**16**. 
$$(1568 + 244) \div ? = 770 - 566$$

(5) None of these

**16.(5)**
$$(1568 + 244) \div ? = 770 - 566$$

$$\frac{1812}{x}$$
= 204

$$x = 8.8$$

17. 
$$\{(35)^2 + (45)^2 - (40)^2\} \times \frac{1}{5} = ?$$

(5) None of these

17.(3)

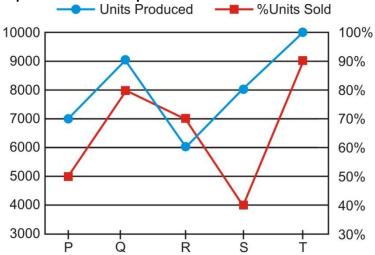
$$1/5*(1225 + 2025 - 1600) = x$$

$$x = 330$$

(5) None of these

Directions (19-23): Study the below mentioned line chart carefully and answer the following questions.

Line chart shows the units produced (in units) and units sold (in %) by 5 different companies in a given year.(m)



Note:- 1.Total units produced =units sold +units unsold

2. Percentage of unit sold = 
$$\frac{\textit{Units sold}}{\textit{Total Units produced}} \times 100$$

### 19. Total unsold units of P and T is what percent of sold units of S?(Approx.)

5.150

19.(3) 
$$\frac{3500+1000}{3200} \times 100$$

=140%(Approx.)

| COMPANY | TOTAL | SOLD | UNSOLD |
|---------|-------|------|--------|
| Р       | 7000  | 3500 | 3500   |
| Q       | 9000  | 7200 | 1800   |
| R       | 6000  | 4200 | 1800   |
| S       | 8000  | 3200 | 4800   |
| Т       | 10000 | 9000 | 1000   |

# 20. What will be the average of unsold unit by all companies together?

#### 5. None of these

20.(4) Required average= 
$$\frac{3500+1800+1800+4800+1000}{5} = \frac{12900}{5}$$

| 21. Selling price of an unit sold by company-R & company-Q is Rs.20 and Rs.30 respectively. 12% and |
|---|
| 30% of units sold by company-R & company-Q respectively are returned by the customers. Then, find   |
| the difference between total revenue of company-R& company-Q.                                       |

1.72840 2.77280

3.75413 4.78480

5.77616

21.(2) Total revenue of company-R=20\*4200\*88/100=73920

Total revenue of company-Q=30\*7200\*70/100=151200

Difference =151200-73920=77280

22.If units sold by company-U is 200% of the unsold units of company-Q & S together and ratio of sold units to unsold units of company-U is 12:11. Then, find total units produced by company-U.

1.26100 2.25160

3.24140 4.25250

5.None of these

22.(5)Total unsold units of Q and S=1800+4800=6600

Total sold units of U=6600+6600=13200

12 units======13200

23 units=====25300

### 23. Minimum number of units sold by which company?

- 1. P 2. Q
- 3. R 4. S

5. T

23.(4) it is clear from line graph S sold minimum number of units.