

**QUANTITATIVE APTITUDE**

1. (3) Total consumption of coal of all countries.  
 $= 132+248+185+245+226+174$   
 $= 1210$

2. (1)  $x^4 + \frac{1}{x^4} = 194$   
 adding 2  
 $\Rightarrow x^4 + \frac{1}{x^4} + 2 = 196$   
 $\Rightarrow \left(x^2 + \frac{1}{x^2}\right) = \sqrt{196}$

$\Rightarrow x^2 + \frac{1}{x^2} = 14$   
 adding 2 again

$x + \frac{1}{x} = \sqrt{16} \Rightarrow x + \frac{1}{x} = 4$

$\Rightarrow x^3 + \frac{1}{x^3} = (4)^3 - 3.4 = 64 - 12 = 52$

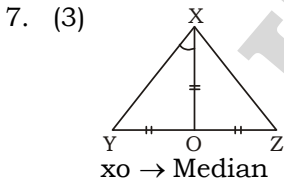
3. (3)  $(5x+8y)(25x^2+64y^2-40xy)$   
 $[\because (A+B)(A^2+B^2-AB) = A^3+B^3]$   
 $= 125x^3+512y^3$

4. (4) ATQ,  
 $\frac{90 \times 200}{0.5} = \frac{400(90+x)}{2.5}$   
 $(90+x) = 90 \times 2.5$   
 $\Rightarrow x = 90 \times 1.5 = 135.0$

5. (4) CP SP  
 1200 1500  
 Profit% =  $\frac{300}{1200} \times 100 = 25\%$

6. (3) ATQ,  $(9435+7593)-2607$   
 $= 17028-2607$   
 $= 14421$

It is divisible by 3



xo :  $\frac{1}{2}$  yz

xo : yz : 1 : 2

xo - yo = oz = 1 : 1 : 1

$\angle xyz = \angle yxo = 30^\circ$

8. (1) LCM of (186.6, 373.2)  
 $= (186.6, 186.6 \times 2)$   
 LCM = 373.2

9. (2) Let, the radius of the wire = r

ATQ,  $\frac{4}{3} \pi \left(\frac{18}{2}\right)^3 = \pi r^2 \times 12$

$\Rightarrow \frac{4}{3} \times 9 \times 9 \times 9 = r^2 \times 12$   
 $\Rightarrow r = 9 \text{ cm}$

10. (1) Increase in length, breadth = 20%, 25% and 30%

We know,

$20\% = \frac{1}{5}, 25\% = \frac{1}{4}, 30\% = \frac{3}{10}$

l = 5 : 6

b = 4 : 5

h = 10 : 7

$\frac{l}{bh} = 40 : 42$

The volume of cuboid increase

$= \frac{2}{40} \times 100\% = 5\%$

11. (1) ATQ,

$24 : 192 :: 27 : x$

$24x = 192 \times 27$

$x = 8 \times 27 = 216$

12. (3) Total average sale in 2018

$\frac{80+75+95+85+75+70}{6}$

$= \frac{480}{6} = 80$

13. (1) Number of students who are passing any exam%

$= \frac{15000}{5000} \times 100 = 27.27$

Passed at least one exam in 2018

$= 100 - 27.27 = 72.73$

Passed at least one exam in 2018

$= 72.73$

14. (3)  $J_1 =$  Average of P and W

$= \frac{13+10}{2}$

$= \frac{23}{2} \%$

$J_2 =$  Average of Q, R, S, V

$= \frac{17+15+3+32}{4} \Rightarrow \frac{67}{4} \%$

$(J_2 - J_1) = \frac{67}{4} - \frac{46}{4} = \frac{21}{4} \%$

Value of  $(J_2 - J_1)$

$= \frac{210000 \times 21}{400} \Rightarrow 11025$

15. (3) ATQ,  $\frac{a\sqrt{3}}{2} = 6\sqrt{3} \text{ am}$

$\Rightarrow a = 12 \text{ am}$

So, Perimeter =  $3 \times 12 = 36 \text{ cm}$

16. (2)  $\cos(30^\circ + \theta) - \sin(60^\circ - \theta)$

Putting  $\theta = 0^\circ$

$\Rightarrow \cos 30^\circ - \sin 60^\circ = \frac{\sqrt{3}}{2} - \frac{\sqrt{3}}{2} = 0$

Alternatively:-

$\cos(30^\circ + \theta) - \sin(60^\circ - \theta)$

$= \cos 30^\circ \cos \theta - \sin 30^\circ \sin \theta - \sin 60^\circ \cos \theta + \cos 60^\circ \sin \theta$

$= \frac{\sqrt{3}}{2} \cos \theta - \frac{1}{2} \sin \theta -$

$\frac{\sqrt{3}}{2} \cos \theta + \frac{1}{2} \sin \theta = 0$

17. (1) Distance traveled in 5 sec. by A

$= 34 \times 5 = 170 \text{ m}$

Ratio of speed = Ratio of distance

$\Rightarrow 44 : 34$

$\Rightarrow 22 : 17$



5 unit = 170

1 unit = 34m

Distance traveled by B =

$22 \times 34 = 748 \text{ meters.}$

18. (2) Average of seven multiples of 17

$= \frac{17(1+2+3+4+5+6+7)}{7}$

$= \frac{17 \times 28}{7} \Rightarrow 68$

19. (1)  $5(\sin^4 \theta + \cos^4 \theta) + 3(\sin^6 \theta + \cos^6 \theta) + 19 \sin^2 \theta \cos^2 \theta$

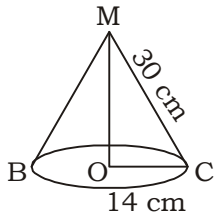
Putting  $\theta = 45^\circ$

$5(\sin^4 45^\circ + \cos^4 45^\circ) + 3(\sin^6 45^\circ + \cos^6 45^\circ) + 19 \sin^2 45^\circ \cos^2 45^\circ$

$= 5\left(\frac{1}{4} + \frac{1}{4}\right) + 3\left(\frac{1}{8} + \frac{1}{8}\right) + 19 \times \frac{1}{2} \times \frac{1}{2}$

$= \frac{5}{2} + \frac{3}{4} + \frac{19}{4} = \frac{10+3+19}{4} = \frac{32}{4} = 8$

20. (4)



Total surface area =

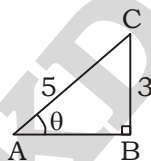
$$\begin{aligned} & \pi r^2 + \pi r l \\ &= \pi r(l+r) \\ &= \frac{22}{7} \times 14 \times (30+14) \\ &= \frac{22 \times 14 \times 44}{7} = 44 \times 44 = 1936 \text{ cm}^2 \end{aligned}$$

21. (4) Each installment = 100%  
Rate in 5 years = 10%  
5 installment = 500%  
Interest =  $(0+10+20+30+40) = 100\%$   
Amount 600% = 9600  
100% = Rs. 1600

22. (1)  $\sqrt{36x^2 - 108x + 81}$   
 $= \sqrt{(6x)^2 - 2 \times 6 \times 9x + (9)^2}$   
 $= \sqrt{(6x - 9)^2}$   
 $= 6x - 9$

23. (3)  $\frac{\tan 45^\circ - \tan 15^\circ}{1 + \tan 45^\circ \tan 15^\circ}$   
 $\therefore \tan(A-B) = \frac{\tan A - \tan B}{1 + \tan A \tan B}$   
 $= \tan(45^\circ - 15^\circ)$   
 $= \tan 30^\circ = \frac{1}{\sqrt{3}}$

24. (4)  $\sin \theta = \frac{3}{5}$ ,



$AB = \sqrt{25 - 9}$   
 $AB = 4$

$\tan \theta = \frac{BC}{AB} = \frac{3}{4}$

25. (1)  $MP = 100$ ,

Dis. 10% =  $\frac{1}{10}$ , Profit = 8% =  $\frac{2}{25}$

Ankit	: SP	: CP
10	: 9	: 9
27	: 27	: 25
<u>270</u>	<u>: 243</u>	<u>: 225</u>
30	: 27	: 25

$30R = 100$

$25R = \frac{250}{3} \Rightarrow 83.33$

Alternatively:-

$$\left[ \frac{MP}{CP} = \frac{100+P}{100-D} \right]$$

$$\Rightarrow \frac{100}{CP} = \frac{108}{90}$$

$$\Rightarrow CP = \frac{100 \times 90}{108} = \frac{250}{3}$$

$$\Rightarrow CP = 83.33$$

1. (3) 2. (1) 3. (3) 4. (4) 5. (4)  
 6. (3) 7. (3) 8. (1) 9. (2) 10. (1)  
 11. (1) 12. (3) 13. (1) 14. (3) 15. (3)  
 16. (2) 17. (1) 18. (2) 19. (1) 20. (4)  
 21. (4) 22. (1) 23. (3) 24. (4) 25. (1)

**GENERAL AWARENESS**

1. (4) Rishabh Pant Brand Ambassador of Uttarakhand State.  
 Saina Nehwal Brand Ambassador of Edelweiss group, Flipkart, Sahara, Indian Overseas Bank, Iodex.  
 2. (2) The motion of object in which the object travels in straight line is called uniform motion.  
 Decrease in speed as the body moves away from the starting point is called Deceleration motion.

3. (4) Ordinary Bill - Article 107 and 108  
 Money Bill - Article 110  
 Financial Bill - Article 117  
 Constitutional- Article 368  
 Amendment Bill

Ordinary Bill	Money Bill
Introduced either in Lok Sabha or Rajya Sabha	Only in Rajya Sabha
Without the recommendation of President	Only on the recommendation of President
Rajya Sabha has power to reject or amend the Bill	Rajya Sabha cannot reject the Bill

4. (4) The Union Minister of Agriculture (Narendra Singh

Tomar) serves as ICAR President. It was established on 16 July, 1929. Its Motto is Agrisearch with a human touch. Its director is Himanshu Pathak.

5. (4) Ustad Bismillah Khan Award is given to outstanding artists under the age of 40 who have demonstrated talents in the field of music, dance and drama. Award winners receive a prize of Rs.25,000.

6. (1) 7. (4)  
 8. (3) **Ruler Temple**  
 Aditya I - Naveswara  
 Rajendra I - Gangaikonda  
 Raja Raja - Brihadisvara  
 9. (3) Length of Durand Line is 2670 km.

10. (4) The Phase-I programme of 'Sagar Parikrama' has been organised in Gujarat, started on 5<sup>th</sup> March, 2022 from Mandvi and ended on 6<sup>th</sup> March, 2022 at Porbandar. Its aims to facilitate interaction with fishermen, demonstrating solidarity with all fisher folk as a spirit of Atamnirbhar Bharat and protection of Marine system etc.  
 The Phase-II started on 22<sup>nd</sup> Sep. from Nangrol and ended on 25<sup>th</sup> Sep. 2022 Umargam (Gujrat).

11. (3) 2022, ICC U-19 World Cup was held in the West-Indies. It was 14<sup>th</sup> edition. India won its 5<sup>th</sup> title and England was at 2<sup>nd</sup> position. Dewald Brevis was awarded with player of the series award. In 2024, it will be held in Sri Lanka.

12. (3) Warren Hastings became the first Governor General of Bengal in 1773. First Governor General of British India was William Bentick. Charter Act of 1833 made the Governor General of Bengal as the Governor General of India.

13. (1) If the budget receipt is more than the budget expenditure, then the budget is called surplus.

Balanced budget - A condition in a financial planning where the total revenues are equivalent or greater than the total expenditure.

14. (4) Swami Vivekananda - Raja Yoga, Karma Yoga, Inspired talks, Meditation and its Methods.

Dayananda Saraswati - Value of Values, Satya Prakash, Freedom in Relationship Exploring Vedanta, Public Talks, etc.

Keshab Chandra Sen - Discourses and Writing, The Future Church, Diary in England, etc.

Raja Ram Mohan Roy - India Before Alexander, Vedic Physics, An Alternative Time Line of India.

15. (3)

16. (3)

17. (4) Director of Bajirao Mastani is Sanjay Leela Bhansali.

Birju Maharaj Choreographed Madhuri Dixit in song 'Kahe Chhed Mohe' in movie Devdas. Saroj Khan - Barso (Guru), Dola Re Dola (Devdas), Choli ke Peeche (Khalnayak), etc.

18. (2)

19. (3) Vishnu Prayag -

Alaknanda + Dauli Ganga

Nand Prayag - Alaknanda + Mandakini

Karan Prayag -

Alaknanda + Pindar Ganga

Rudra Prayag -

Alaknanda + Bhagirathi

20. (2) Free hit - one arm raised slightly above the shoulder level to right or left.

Penalty stroke - one arm raised vertically above the head and the other pointing to the penalty stroke spot.

Goal - Both arms pointed firmly towards the centre spot.

21. (3) Vinayak Godse - CEO of Data Security Council of India.

Sandeep Bakshi - CEO of ICICI Bank

22. (3)

23. (1)

**Capital**

Kosala - Ayodhya  
Magadha - Rajgraha, Patliputra

Anga - Champapari and Malini

Matsya - Viratnagari

24. (2)

25. (3) Article 5 to 11 under Part-II describes the Citizenship.

The Citizenship Act, 1955 provided for commonwealth citizenship. It was repealed by the Citizenship Amendment Act, 2003.

1. (4) 2. (2) 3. (4) 4. (4) 5. (4)

6. (1) 7. (4) 8. (3) 9. (3) 10. (4)

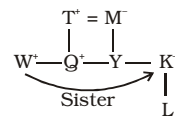
11. (3) 12. (3) 13. (1) 14. (4) 15. (3)

16. (3) 17. (4) 18. (2) 19. (3) 20. (2)

21. (3) 22. (3) 23. (1) 24. (2) 25. (3)

**GENERAL INTELLIGENCE & REASONING**

1. (1) W # Q @ T & Y @ M % K % L



2. (1)

PEPPER Place Value → 16+5++16+  
16+5+18 = 76

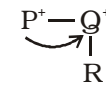
CUCUMBER Place Value → 3+21+3+21  
+13+2+5+18 = 86

CAULIFLOWER Place Value → 3+1+21  
+12+9+6+12+15+23+5+18  
= 125

3. (4)

4. (1)

By hit and trial method  
 $P \times Q - R$



Q is brother of P.

5. (4)

By hit and trial method.

$$6 + 20 \div 12 \times 7 - 11 = 70$$

Interchanging + and ÷  
⇒  $6 \div 20 + 12 \times 7 - 11 = 70$

$$\Rightarrow \frac{3}{10} + 84 - 11 = 70 \text{ (incorrect equation)}$$

$$\Rightarrow \frac{3}{10} + 73 = 70$$

$$\Rightarrow \frac{3 + 730}{10} = 70 \Rightarrow \frac{733}{10} = 70$$

⇒ 73.3 = 70 is not correct.

6. (2)

$$(4)^3 + 4 \times 5 = 84$$

$$(11)^3 + 11 \times 12 = 1463$$

$$(13)^2 + 13 \times 14 = 2379$$

7. (1)

The order of words in a dictionary is.

6. Eccentric

4. Edacious

2. Edifice

5. Effeminate

3. Effleurage

1. Effluent

7. Effulgent

8. (3)

X D N C

↓-2 ↓+3 ↓+1 ↓+2

V G O E

↓-2 ↓+3 ↓+1 ↓+2

T J P G

↓-2 ↓+3 ↓+1 ↓+2

R M Q I

↓-2 ↓+3 ↓+1 ↓+2

P P R K

9. (4)

$$3 \overset{+10}{13} \overset{+5}{18}$$

$$29 \overset{+10}{39} \overset{+5}{44}$$

$$16 \overset{+10}{26} \overset{+5}{31}$$

10. (1)

$$7, 21, 63, 189, 567, \boxed{1701}$$

$$\times 3 \quad \times 3 \quad \times 3 \quad \times 3 \quad \times 3$$

11. (1)

N T R Q

↓-7 ↓-5 ↓-9 ↓-11

G O I F

↓-7 ↓-5 ↓-9 ↓-11  
 Z J Z U  
 ↓-7 ↓-5 ↓-9 ↓-11  
 S E Q J  
 ↓-7 ↓-5 ↓-9 ↓-11

**L Z H Y**

- 12.(1) By hit and trial method  
 $5 \times 2 - 8 + 9 \div 1 = 20$   
 Interchanging 5 and 8  
 $\Rightarrow 8 \times 2 - 5 + 9 \div 1 = 20$   
 $\Rightarrow 16 - 5 + 9 = 20$   
 $\Rightarrow 20 = 20$

13.(2)

- 14.(1) From fig (i) and (ii)

$2 \begin{matrix} \nearrow 4-5 \\ \searrow 3-6 \end{matrix}$

$2 \leftrightarrow 1$

$4 \leftrightarrow 3$

$5 \leftrightarrow 6$

15.(2)

- 16.(1) Health is wealth  
 ↓ ↓ ↓ (Number of letters)  
 6 2 6

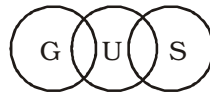
Exercise regularly  
 ↓ ↓ (Number of letters)  
 8 9

Bring good food  
 ↓ ↓ ↓ (Number of letters)  
 6 4 4

Balanced diet is key  
 ↓ ↓ ↓ ↓ (No. of letters)  
 8 4 2 3

Note: Counting of alphabet

- 17.(3) The possible venn diagram is



Neither conclusion follows.

18.(2)  $18^2 + 5 = 329$

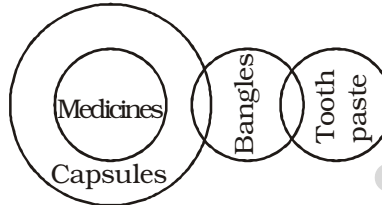
$16^2 + 5 = 261 \neq 263$

$14^2 + 5 = 201$

$12^2 + 5 = 149$

(Wrong Question)

- 19.(2) The possible venn diagram is



None of the conclusion follows.

20.(3)

- 21.(1) Opposit-1

U V D

+1

Opposit-1

J K Z

+1

Opposit-1

P Q I

+1

Opposit-1

E F T

+1

22.(1)  $[(34-12)+(4 \times 3)] \div (12+5) \times 5$

$\Rightarrow [(22+12) \div 17] \times 5$

$\Rightarrow [34 \div 17] \times 5 = 10$

- 23.(3) Kite is shaped like a diamond. Similarly, A ball

is round.

- 24.(1) Money plant is a climber. Similarly, Rose is a shrub.

25.(4)  $\left(\frac{15}{3}\right)^3 = 125$

$\left(\frac{27}{3}\right)^3 = 729$

$\left(\frac{36}{3}\right)^3 = 1728$

1. (1) 2. (1) 3. (4) 4. (1) 5. (4)  
 6. (2) 7. (1) 8. (3) 9. (4) 10. (1)  
 11. (1) 12. (1) 13. (2) 14. (1) 15. (2)  
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 21. (1) 22. (1) 23. (3) 24. (1) 25. (4)

**ENGLISH LANGUAGE AND COMPREHENSION**

4. (1) remove "very" as very does not come with comparative degree.  
 5. (1) "become a burning questions" is right substitute. It means very important and critical at the moment.  
 8. (3) indifference is singular here, so it will take a singular verb. "Indifference was well noticed" is the correct expression.  
 14. (2) Pay (one) a compliment means to give one a piece of praise (प्रशंसा करना)  
 18. (1) Admire ( $V_3$ ) cannot take adverb 'very'. 'very much' can come here.

1. (1) 2. (2) 3. (3) 4. (1) 5. (1)  
 6. (1) 7. (3) 8. (3) 9. (4) 10. (3)  
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 16. (2) 17. (2) 18. (1) 19. (3) 20. (3)  
 21. (1) 22. (4) 23. (3) 24. (2) 25. (3)

**Words**

Obnoxious

Loquacious

Sabbatical

Vivid

**Meaning in English**

Extremely unpleasant, especially in a way that offends people.

Having a tendency to talk a lot, garrulous

An extended period of leave from a person's usual pursuits.

clear, detailed

**Meaning in Hindi**

बहुत बुरा लगने वाला;

घृणित, घिनौना

बातूनी, गप्पी, वाचाल

विश्राम काल, लंबी छुट्टी

स्पष्ट