

**ENGLISH LANGUAGE AND COMPREHENSION**

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

**EXPLANATION:-**

1. (1) Replace 'eat' with 'eating' to have a parallel structure.  
 5. (3) Remove 'young as'. It's superfluous here. 'Perhaps aged ten or eleven' is the correct expression.  
 12. (2) The word could be either 'ingenious' or 'ingenuous'.  
**Ingenious** - having or showing an unusual aptitude for discovering, inventing, or contriving, clever. **Ingenious** - showing innocent or childlike simplicity and candidness  
 20. (4) 'Harangue' is incorrectly spelt here, means- to speak in a loud and angry way

| <b>WORD</b>  | <b>MEANING IN ENGLISH</b>   | <b>MEANING IN HINDI</b>                      |
|--------------|---|--|
| Articulate   | Good at expressing your ideas clearly   | स्पष्ट, अभिव्यक्ति-कुशल                      |
| Assimilate   | To become or allow somebody/something to become part of a country, a social group, etc. | अपनाना                                       |
| Attune       | To bring into harmony   | लय में करना                                  |
| Babble       | To talk enthusiastically or excessively.  | बक-बक करना                                   |
| Censure      | The act of blaming or condemning sternly  | भर्त्सना करना                                |
| Commissure   | A point or line of union or junction especially between two anatomical parts            | संयोजिका                                     |
| Cynosure     | One who is a centre of attraction   | आकर्षण का केन्द्र                            |
| Disrupt      | To interrupt the normal course or unity of  | बाधित करना                                   |
| Drivel       | Talk nonsense.  | बक-बक करना                                   |
| Erudite      | Having or showing great knowledge that is based on careful study, scholarly educated    | विद्वान                                      |
| Estrange     | Cause (someone) to be no longer on friendly terms with someone.                         | फिर से अजनबी हो जाना या मित्रता खत्म कर देना |
| Fallacious   | Based on a false idea; incorrect, wrong   | गलत  |
| Gauche       | Unsophisticated and socially awkward  | भद्दा  |
| Gibberish    | Words that have no meaning or that are impossible to understand                         | अस्पष्ट उच्चारण; अनाप-शनाप                   |
| Holy         | Connected with god or with religion and therefore very special or important             | पवित्र                                       |
| Inchoate     | Just begun and so not fully formed or developed   | अपरिपक्व                                     |
| Inimical     | Harmful   | हानिकारक                                     |
| Innocuous    | Not meant to cause harm or upset somebody   | अहानिकर                                      |
| Invulnerable | Incapable of being wounded, injured, or harmed  | अभेद्य                                       |
| Jargon       | The technical terminology or characteristic idiom of a special activity or group        | उपयुक्त तकनीकी शब्द                          |
| Pious        | Having or showing a deep belief in religion   | धर्मनिष्ठ, धर्मपरायण                         |
| Sacramental  | A christian rite that is recognized as being particularly important and significant     | धर्मविधि                                     |
| Sacrilege    | The violation or profanation of anything sacred or held sacred                          | अपवित्रीकरण                                  |
| Skew         | Neither parallel nor intersecting   | तिरछा  |

**GENERAL INTELLIGENCE & REASONING**

1. (3) (15,13,56) → (15+13) × (15-13)  
 $28 \times 2 = 56$   
 (17,11,168) → (17+11) × (17-11)  
 $28 \times 6 = 168$   
 Similarly,  
 (20,14,204) → (20+14) × (20-14)  
 $= 34 \times 6 = 204$

2. (1)  
 (132)F(624) → 132+624 = 756 shuffle. 657  
 (84)F(321) → 84+321 = 405 shuffle. 504  
 (168)F(27) → 168+27 = 195 shuffle. 591

3. (3)  $O \xrightarrow{+1} P$   
 $Q \xrightarrow{+3} T$   
 Similarly,  $W \xrightarrow{+1} X$   
 $Z \xrightarrow{+3} C$

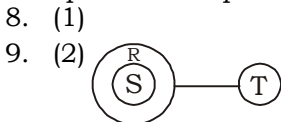
4. (4)  $R \xrightarrow{+1} T$   
 $A \xrightarrow{+1} G$   
 $T \xrightarrow{+1} J$   
 $H \xrightarrow{+2} U$   
 $E \xrightarrow{+2} B$   
 $R \xrightarrow{+2} S$

Similarly,

- $S \xrightarrow{+1} A$   
 $A \xrightarrow{+1} V$   
 $F \xrightarrow{+1} G$   
 $E \xrightarrow{+2} G$   
 $T \xrightarrow{+2} B$   
 $Y \xrightarrow{+2} T$

5. (1)  $7 \times 9 + 5 - 8 \div 4 = 42$   
 Interchanging 5 and 9  
 $7 \times 5 + 9 - 8 \div 4 = 42$   
 $35 + 9 - 2 = 42$   
 $35 + 7 = 42$   
 $42 = 42$   
 II.  $9 \times 3 + 5 \div 1 - 4 = 20$   
 Interchanging 5 and 9.  
 $5 \times 3 = 9 \div 1 - 4 = 20$   
 $15 + 9 - 4 = 20$   
 $15 + 5 = 20$   
 $20 = 20$

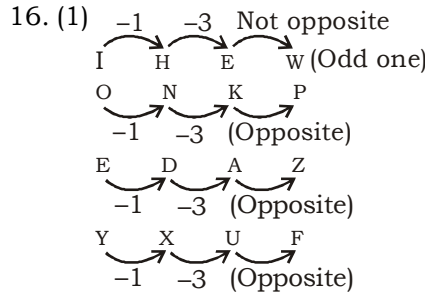
6. (4) Except option 4 all are the multiple of 3.  
 7. (3) First one is a place and the second one is the activity of sports. Then option 3 is incorrect.



10. (2)  
 11. (3)  
 12. (1)  
 13. (3)  
 14. (4) The first one is a place and the second one is a sports activity. An arena is a place where wrestling is done.

A ring is a place where skating is done.

15. (2) 729, 512, 343, 216, 125  
 $(9)^3, (8)^3, (7)^3, (6)^3, (5)^3$



17. (2)  $(T) (A) L E = 7 (2) 3 (4)$   
 $(T) (O) L K = (9) 1 7 (2)$   
 $K I (T) (E) = 1 2 8 3$   
 $S (E) (A) N = (3) 0 6 (4)$

So, code for SON = 069 or 906

18. (4)  
 19. (2)  $391 : 626 \rightarrow 391 \xrightarrow{+235} 626$   
 $426 : 661 \rightarrow 426 \xrightarrow{+235} 661$   
 Similarly,  
 $173 : 408 \rightarrow 173 \xrightarrow{+235} 408$

20. (1)  $p r n j l c / p r n j l c / p r n j l c / p r n j l c$

21. (1)  
 22. (4) Husband ↔ Parkhi — Man  
 |  
 Son

Man on photo is brother in law of parkhi husband

23. (3) 1<sup>st</sup> Superintend  
 2<sup>nd</sup> Superpose  
 3<sup>rd</sup> Super stitian  
 4<sup>th</sup> Super vene  
**5<sup>th</sup> Super Vise**  
 24. (2) Tokyo is the capital of Japan .  
 Similarly, Paris is the capital of france.  
 25. (3) There are only 8 tables that are only car.

**ANSWER KEY**

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**QUANTITATIVE APTITUDE**

1. (4) Let cost price 100  
  
 ATQ,  
 $9 = 36$   
 $1 = 4$   
 $100 = 400$

- ∴ Cost price of the pen is 400  
 2. (3)  $\tan 10^\circ \tan 25^\circ \tan 45^\circ \tan 65^\circ$   
 $= \tan 80^\circ \cot 65^\circ \tan 45^\circ \tan 65^\circ$   
 $= (\cot 80^\circ \times \tan 80^\circ) (\cot 65^\circ \times \tan 65^\circ) \tan 45^\circ$   
 $= 1$

3. (2)  $x^4 + \frac{1}{x^4} = 16$   
 $\Rightarrow x^4 + \frac{1}{x^4} + 2 = 18$   
 $\Rightarrow \left(x^2 + \frac{1}{x^2}\right)^2 = 18$

- $\Rightarrow x^2 + \frac{1}{x^2} = \sqrt{18}$   
 $\Rightarrow x^2 + \frac{1}{x^2} = 3\sqrt{2}$

4. (4) Total cost price of articles A, B, C, D =  $300 + 250 + 150 + 200 = 900$

- ∴ Avg. cost price of articles  
 $A, B, C, D = \frac{900}{4} = J_1 = 225$   
 ∴ Total profit of all articles =  $50 + 25 + 100 + 150 + 75 + 125$   
 $J_2 = 525$   
 ∴  $J_1 : J_2 = 224 : 525$   
 $= 3 : 7$

5. (4) Cost price : Marked Price  
 100 : 130  
 ↓  
 104

- ATQ,  
 $104 = 5720$   
 $1 = 55$   
 $100 = 5500$   
 ∴ Cost Price of article = 5500

6. (2) Let distance between two parallel sides = h cm

- ∴ Area of trapezium =  $\frac{1}{2} \times$   
 (Sum of parallel sides) × distance between them  
 $= \frac{1}{2} \times 35 \times h$   
 ATQ,  
 $\frac{35h}{2} = 875$   
 $\Rightarrow h = \frac{875 \times 2}{35}$   
 $\Rightarrow h = 50$   
 Distance between two parallel

- sides is 50 cm
7. (4) Total number of male and female teacher in school P  
 $(J_1) = (60+80) = 140$   
 Total male teacher in all schools  
 $= 60+80+70+50+30 = 290$   
 Total female teacher in all schools  
 $= 80+70+20+10+30 = 210$   
 $\therefore$  Difference between male and female teacher  $= 290-210$   
 $J_2 = 80$   
 $\therefore$  The ratio of  $J_1$  and  $J_2 = 140 : 80 = 7 : 4$

8. (1)  $\frac{7 \text{ of } 14 \div 4}{5 \times 4 \div 2} + \frac{6 \div 12 \times 3}{5 \div 25 \times 2} +$   
 $\frac{15 \div 5 \times 6}{5 \times 15 \div 6}$   
 $= \frac{98 \div 4}{5 \times 2} + \frac{\frac{1}{2} \times 3}{\frac{1}{5} \times 2} + \frac{3 \times 6}{5 \times \frac{15}{6}}$   
 $= \frac{24.5}{10} + \frac{3}{2} + \frac{18 \times 6}{75}$   
 $= \frac{24.5}{10} + \frac{3}{2} + \frac{18 \times 6}{75}$   
 $= 2.45 + 3.75 + 1.44 = 7.64$

9. (1) Age ratio =  $\frac{3:4}{7:9} \begin{cases} (7 \times 4) - (3 \times 9) = 1 \\ (9 \times 2) - (7 \times 2) = 4 \end{cases}$   
 $\frac{1}{22} \begin{cases} (7 \times 4) - (3 \times 9) = 1 \\ (9 \times 2) - (7 \times 2) = 4 \end{cases}$   
 $1 = 4$   
 $3 = 12$   
 $4 = 16$   
 After 10 y their ages will be  
 $= (12+10), (16+10) = 22, 26$   
 $\therefore$  Ratio of ages  $= 22 : 26 = 11 : 13$   
 Statement is incorrect  
 Ages after 12 y  $= (12+12), (16+12) = 24, 28 = 6$   
 $\therefore$  Ratio of ages  $= 24 : 28 = 6 : 7$   
 Statement is correct

10. (4) As sum of opposite angles of cyclic quadrilaterals is  $180^\circ$   
 $\angle B + \angle D = 180^\circ$   
 $= x + 10 + 2x + 35 = 180^\circ$   
 $= 3x = 180^\circ - 45^\circ$   
 $= x = \frac{135^\circ}{3}$   
 $= x = 45^\circ$

11. (2) Ratio of income of P and Q =  $250x : 100x = (5x : 2x)$   
 Ratio of expenditure of P and Q =  $180y : 100y = 9y : 5y$   
 Now,

$$5x = \frac{400}{100} \times 5y$$

$$\frac{x}{y} = 4$$

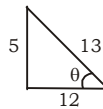
$$x = 4, y = 1$$

$$\therefore \text{Ratio of income} = 20 : 8$$

$$\text{and expenditure} = 9 : 5$$

$$\therefore \text{Ratio of saving} = (20-9) : (8-5) = 11 : 3$$

12. (4)  $\sin \theta = \frac{5}{13}$



Now,  $\frac{\cos^2 \theta - \sin^2 \theta}{2 \cos \theta \sin \theta}$

$$= \frac{\left(\frac{12}{13}\right)^2 - \left(\frac{5}{13}\right)^2}{2 \times \frac{12}{13} \times \frac{5}{13}}$$

$$= \frac{144 - 25}{120} = \frac{119}{120}$$

13. (4) We know,  
 Perimeter = Sum of all 3 sides of triangle  
 $=$  Sum of equal sides + non equal side

$$\therefore \text{Value of non equal side} = 91 - (28 \times 2) \text{ cm} = 91 - 56 \text{ cm} = 35 \text{ cm}$$

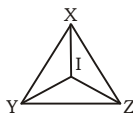
14. (2) Prime numbers between 30 and 50

$$= 31, 37, 41, 43, 47$$

$$\therefore \text{Sum of prime numbers} = 31 + 37 + 41 + 43 + 47 = 199$$

$$\therefore \text{Average} = \frac{199}{5} = 39.8$$

15. (2)  $\angle XYZ = 40^\circ$



$$\angle XYZ = 90^\circ + \frac{\angle XYZ}{2}$$

$$= 90^\circ + \frac{40}{2}$$

$$= 90^\circ + 20^\circ = 110^\circ$$

16. (3) Semi perimeter  $= \frac{9+6+5}{2} \text{ cm} = 10 \text{ cm}$

$$\text{Area} = \sqrt{10(10-9)(10-6)(10-5)} \text{ cm}^2$$

$$= \sqrt{10 \times 1 \times 4 \times 5} \text{ cm}^2 =$$

$$10\sqrt{2} \text{ cm}^2$$

$$\therefore \text{Circumradius} = \frac{a \times b \times c}{4\Delta}$$

$$= \frac{9 \times 6 \times 5}{4 \times 10\sqrt{2}} = \frac{27\sqrt{2}}{8} \text{ cm}$$

17. (3)  $\frac{S \times 1}{x} = \frac{T \times 8 \text{ (days)}}{2x}$

$$\frac{S}{T} = \frac{4}{1}$$

$$\text{Total work} = \text{Total efficiency}$$

$$\times \text{No of days}$$

$$= (4+1) \times 60$$

$$= 5 \times 60 = 300 \text{ unit}$$

$$S \text{ takes days to complete the}$$

$$\text{whole work} = \frac{300}{4} = 75 \text{ days}$$

18. (4)  $\sin \alpha = \frac{1}{2}, \sin \beta = \frac{1}{2}$

$$= \sin \alpha = \sin 30^\circ, \text{ or } \sin \beta = \sin 30^\circ$$

$$= \alpha = 30^\circ, \text{ or } \beta = 30^\circ$$

Now,

$$\cos(\alpha + \beta)$$

$$= \cos(30^\circ + 30^\circ)$$

$$= \cos 60^\circ$$

$$= \frac{1}{2}$$

19. (4)  $a^3 + b^3 + c^3$

$$= (a+b+c) [(a+b+c)^2 - 3(ab+bc+ca)] + 3abc$$

$$= 1[(1)^2 - 3(-1)] + 3 \times (-1)$$

$$= 1 + 3 - 3 = 1$$

20. (4) Percentage of depreciation =

$$20\% = \frac{1}{5}$$

Previous : Present

$$1^{\text{st}} \text{y} \rightarrow 5 : 4$$

$$2^{\text{nd}} \text{y} \rightarrow 5 : 4$$

$$3^{\text{rd}} \text{y} \rightarrow 5 : 4$$

$$\frac{125}{125} : \frac{64}{64}$$

ATQ,  $125 = 20000$

$$1 = 160$$

$$64 = 10240$$

21. (3)  $(a+b)^3 - a^3 - b^3$

$$= a^3 + b^3 - 3ab(a+b) - a^3 - b^3$$

$$= -3ab(a+b)$$

22. (4) ATQ, Let total runs 100%

$$100\% = 400$$

$$1 = 4$$

$$15\% = 60$$

$$5\% = 20$$

$$\therefore \text{Ratio of runs scored by D to scored by + 1} = 60:20 = 3:1$$

23. (2) Value of amount invests in

2015 = 330 lakh  
 Value of amount invests in  
 2019 = 550 lakh  
 $\therefore$  Increase value =  $(550 - 330)$  lakh  
 = 220 lakh

$$\therefore \text{Increase \%} = \frac{220}{330} \times 100$$

$$= \frac{200}{3} = 66.66\%$$

24. (4) Avg. of 8 values is 36  
 $\therefore$  Sum of 8 values is  $(36 \times 8) = 288$   
 New sum of 8 values =  
 $288 - 12 + 25 = 301$

$$\therefore \text{New avg.} = \frac{301}{8} = 37.625$$

25. (2) Circumference of wheel =  
 $2 \times \pi \times r$  unit

$$= 2 \times \frac{22}{7} \times \frac{7}{2} \text{ cm} = 22 \text{ cm}$$

$$\therefore \text{Distance cover by cyclist} =$$

$$= \left( \frac{5}{4} \times 36.3 \right) \text{ km} = 45.375 \text{ km}$$

$$\therefore \text{No. of revolution} = \frac{45375 \times 10^2}{22}$$

$$= 206250$$

### ANSWER KEY

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

### GENERAL AWARENESS

1. (1) The rabi crops are sown around mid-November, preferably after the monsoon rains are over, and harvesting begins in April / May. The crops are grown either with rainwater that has percolated into the ground or using irrigation. Good rain in winter spoils the rabi crops but is good for kharif crops. The major rabi crop in India is wheat, wheat, barley, peas, gram and mustard. Southern and southeastern states are important for the production of kharif crops like rice, maize, jowar, bajra, moong, urad, cotton, jute
2. (3)  
 3. (3)  
 4. (2)  
 5. (1) Cobalt-60 is used in treatment of cancer. The iodine-131 isotope of iodine helps in the treatment of goiter.

Arsenic-74, an isotope of arsenic, is used for determining the presence of a tumor.

Sodium-24 is used for the detection of blood clots.

6. (3) There are 13 major seaports in India. One of the largest natural ports in India is the Mumbai Port Trust (formerly known as Bombay Port Trust).

7. (1) Best Picture - Shershaah  
 Best Direction - Vishnuvardhan (Shershaah)  
 Best Actor - Vicky Kaushal (Sardar Udham)  
 Best Actress - Kriti Sanon (Mimi)

Best Supporting Actor - Pankaj Tripathi  
 Best Supporting Actress - Sai Tamhankar

8. (3) Punita Arora was the first woman in the Indian Armed Forces to be promoted to a Three-star rank. She held the ranks of Lieutenant General in the Indian Army. Divya Ajith Kumar is the first woman to be conferred by the Army with the Sword of Honour, a prize given to the best cadet.

9. (4) 10. (4)

11. (4) 12. (2)

13. (3) An Arithmetic logic unit (ALU) is a combinational digital circuit that performs arithmetic and bitwise operations on integer binary numbers.

14. (1) Hereditary diseases, also known as inherited diseases or genetic disorders, are defined and categorised as being a set of genetic diseases that are caused by changes in one's genetic material (DNA). These diseases are then transmitted from generation to generation, or in other words, they are inherited from parents to their children. Chronic diseases are defined broadly as conditions that last 1 year or more and require ongoing medical attention or limit activities of daily living or both.

15. (2) The Insurance Regulatory and Development Authority of India (IRDAI) was set up in the year 1999. It is a statutory body that regulates and develops the insurance industry in India. The IRDAI is responsible for issuing licenses to insurance companies, setting guidelines for their operations, and protecting the interests of policyholders. Headquarters - Hyderabad  
 Chairperson - Debasish Panda

16. (3) Umiam Lake is an artificial lake, originally a dam in Meghalaya. Bhimtal lake is in Uttarakhand.

17. (3) 1G - Advanced Mobile Phone System (AMPS)

2G - Global System for Mobile Communications (GSM)

3G - TDMA and CDMA

18. (4)

19. (1) The ICC World Test Championship started on 1 August 2019 with the first Test of the 2019 Ashes series, and finished with the Final at the Rose Bowl, Southampton in June 2021.

Runners-up - India

Most runs - M a r n u s Labuschagne

Most wickets - Ravichandran Ashwin.

The final of 2021-23 will be played between Australia and India, at The Oval, London.

20. (2) Kapil Dev - "Straight from the Heart"

Sourav Ganguly - A Century Is Not Enough". It was co-authored by Gautam Bhattacharya and published in 2018.

21. (2) The Citizenship act has been amended six times in 1986, 1992, 2003, 2005, 2015, and 2019.

1986 amendment: The constitutional provision and the original Citizenship Act that gave citizenship on the principle of jus soli to everyone born in India.

2003 amendment: The amendment made the above condition more stringent, keeping in view infiltration from Bangladesh. 2005 amendment: Only citizens can apply for the information under this Act. Right to Information Act confers the right not to all persons, but only on Citizens.

2015 amendment: It provides for citizenship by birth, descent, registration, naturalization, and by incorporation of territory. In addition, it provides for renunciation and termination of citizenship under certain circumstances.

22. (2) 23. (1)

24. (3) 25. (1)

### ANSWER KEY

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