

ENGLISH LANGUAGE AND COMPREHENSION

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

EXPLANATION:-

7. (3) Replace 'off' with 'of' 'Dispose of' is the correct phrase , means- to get rid of.
 8. (3) Replace 'come' with 'comes'. Singular subject (This whole plot) takes a singular verb (comes).
 11. (2) 'Grudge' is incorrectly spelt here, means- a strong feeling of anger and dislike for a person
 13. (4) 'Neither of +plural noun+ singular verb' is the correct structure.

WORD	MEANING IN ENGLISH	MEANING IN HINDI
Adhere	To stick firmly to something	संसक्त होना
Avocados	A bright green fruit with a large pit and dark leathery skin.	एक प्रकार का फल
Bandit	A member of an armed group of thieves, who attack travellers	डाकू
Bent	Not straight	झुका हुआ
Buoyant	Happy and confident	प्रसन्नचित्त
Cajole	To persuade a person to do something or give something by being very nice to him/her	खुशामद से उपहार देकर किसी से अपनी बात मनवाना
Carnivorous	Subsisting or feeding on animal tissues	मांसभक्षी
Cartel	A combination of business firms to control world markets and fix prices usually high	उत्पादक संघ
Dandy	A man who gives exaggerated attention to personal appearance	सजा-सँवरा रहने वाला
Disenchant	Cause (someone) to be disappointed.	मोहभंग
Dissuade	To persuade somebody not to do something	किसी को कोई काम करने से) मना करना, रोकना
Dud	Of little or no worth	व्यर्थ
Effervescent	Excited, enthusiastic and full of energy	उत्साहपूर्ण और ऊर्जान्वित
Effuse	To pour out (a liquid)	बहाना
Habitat	The place where a plant or animal naturally or normally lives and grows.	प्राकृतिक आवास
Herbivorous	One who feeds on plants only	शाकाहारी
Heretic	One who is against religion.	विधर्मी
Hypergamy	The action of marrying or forming a sexual relationship with a person of a superior sociological or educational background.	अपने से उच्च वर्ग में शादी
Lunatic	Insane	पागल
Monopoly	Exclusive command or possession	एकाधिकार
Niche	A job, position, etc. That is suitable for you	अनुकूल या उपयुक्त नौकरी, पद आदि
Omnivorous	Feeding on both animal and vegetable substances	सर्व-भक्षक
Parvenu	A person of humble origin who has gained wealth recently.	नौदौलत
Poacher	A person who hunts animals illegally	शिकारी
Sanctum	Private place or room where somebody can go and not be disturbed	एकांत
Vermivorous	Feeding on worms	कृमियों को खा कर जीनेवाला

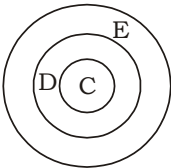
GENERAL INTELLIGENCE & REASONING

- (2) **17-1006** → 1006 - 17 = 989 (odd)
 11-1010 → 1010 - 11 = 999
 21-1020 → 1020 - 21 = 999
 23-1022 → 1022 - 23 = 999
- (2)
- (4)
- (1)
- (4)
- (3)

Father

Suman — Brother — Girl
 ∴ The girl is suman's sister.

- (1) As cow has four leg, Similarly crow has 2 legs.
- (3) As Hygrometer is used for measuring humidity similarly, a seismograph is used for measuring the intensity of earthquake.
- (1) 16
- (1) 169, 196, 225, 256, **289**
 (13)² (14)² (15)² (16)² (17)²
- (4) 8, 6, 50, ⇒ 8×6 ⇒ 48+2 = 50
 24,4,98 ⇒ 24×4 ⇒ 96 + 2 = 98
 Similarly,
 18,6,110 ⇒ 18×6 ⇒ 108+2=110



So, None of the above conclusion follow.

- (1) 52%38%84 = 174
 and 16% 12%95 = 123
 ⇒ 52 + 38 + 84 = 174
 ⇒ 16 + 12 + 95 = 123
 Similarly, 44% 28% 7
 ⇒ 44 + 28 + 7 = 79
- (2)
- (1) In equation 1 if we interchange + and ×, we have
 5 + 12 - 15 × 20 ÷ m 30

$$= 5 + 12 - 15 \times \frac{20}{30}$$

$$= 5 + 12 - 10 = 7$$

In equation 2, if we interchange + and ×, we have

$$51 \div 17 + 9 \times 10 - 8$$

$$= 3 + 9 \times 10 - 8$$

$$= 3 + 90 - 8 = 85$$

So, 1 and 2 both are correct

16. (4) $\begin{matrix} F & C & Y & B \\ 6 & 3 & 25 & 2 \\ -3 & -4 & \text{oppo} & \end{matrix}$ $\begin{matrix} Z & W & S & H \\ 26 & 23 & 19 & 8 \\ -3 & -4 & \text{oppo} & \end{matrix}$

$\begin{matrix} G & D & A & Z \\ 7 & 4 & 1 & 26 \\ -3 & -3 & \text{oppo} & \end{matrix}$ $\begin{matrix} P & M & I & R \\ 16 & 13 & 9 & 18 \\ -3 & -4 & \text{oppo} & \end{matrix}$

17. (4) $\begin{matrix} H & U & M & A & N \\ +2 & +4 & +6 & +8 & +10 \\ J & Y & S & I & X \end{matrix}$

Similarly,
 $\begin{matrix} I & M & A & G & E \\ +2 & +4 & +6 & +8 & +10 \\ K & Q & G & O & O \end{matrix}$

- (3)
- (3) 15:1728 ⇒ (15-3) ⇒ (12)³ = 1728
 11:512 ⇒ (11-3) ⇒ (8)³ = 512
 Similarly,
 12 : ? ⇒ 12 - 3 ⇒ (9)³ = 729
- (2) $\begin{matrix} M & O & C & K = 9 & 3 & 2 & 6 \\ M & I & N & K = 2 & 5 & 3 & 8 \\ L & U & N & E = 5 & 0 & 4 & 1 \\ L & O & U & T = 6 & 7 & 1 & 4 \end{matrix}$

So, ONM = 653

- (2)
- (4) $\begin{matrix} R & +4 & V & +4 & 7 & +4 & D & +4 & H \\ C & -6 & W & -6 & Q & -6 & K & -6 & E \\ M & +8 & U & +8 & C & +8 & K & +8 & S \\ G & -10 & W & -10 & M & -10 & C & -10 & S \end{matrix}$
- (2) 4. Admirable
 5. Adorable
 1. Advantage
 2. Advice
 3. Advise
- (4) 36-1266 ⇒ 36×36=1296 ≠ 1266
 42-1764 ⇒ 42×42 = 1764
 38 - 1444 ⇒ 38×38 = 1444
 44 - 1936 ⇒ 44×44 = 1936

25. (1) $\begin{matrix} G & T \\ +1 & \downarrow & +2 \\ H & V \end{matrix}$

Similarly, $\begin{matrix} H & U \\ +1 & \downarrow & +2 \\ I & W \end{matrix}$

GENERAL INTELLIGENCE

- (2) 2. (2) 3. (4) 4. (1) 5. (4)
- (3) 7. (1) 8. (3) 9. (4) 10. (1)
- (4) 12.(2) 13. (1) 14.(2) 15. (1)
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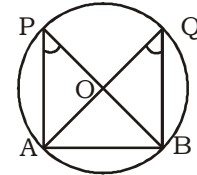
QUANTITATIVE APTITUDE

- (4) $\sin\theta - \cos\theta = 0$
 $\sin\theta = \cos\theta$
 $\sin\theta = \sin(90 - \theta)$
 $\theta = 90 - \theta$

$\theta = 45^\circ$
 Now,
 $\sin^2\theta + \tan^2\theta$

$$= \left(\frac{1}{\sqrt{2}}\right)^2 + (1)^2 \Rightarrow \frac{3}{2}$$

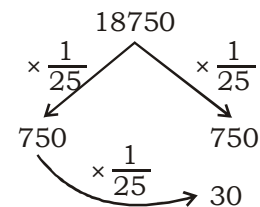
- (4) $(a - b)^3 - a^3 + b^3$
 $= a^3 - b^3 - 3ab(a - b) - a^3 + b^3$
 $= -3ab(a - b)$
- (4) $\angle AQB = \angle APB$



Both are the same due circumference angle.
 ∴ $\angle APB = 60^\circ$

- (2) 7A425B
 To divide the above number by 36, It should be divisible by 4 and 9 separately.
 Rule for divisible by 4 → Last 2 digit must be divisible by 4.
 ∴ For B = 2 last 2 digit is divisible by 4.
 Rule for divisible by 9 → Sum of digit must be divisible by 9.
 $7 + A + 4 + 2 + 5 + 2 = 20 + A$
 For = A = 7, Sum is divisible by 9.
 ∴ Difference of A and B = 7 - 2 = 5
- (1) Let, sum is P
 $SI = \frac{P \times R \times T}{100}$
 $4500 = P \times \frac{6}{100} \times 4$
 $P = 4500 \times \frac{100}{24}$
 $P = 18750$
 R = Rate of interest
 T = time.
 For compound interest:-
 Interest rate = 4% = $\frac{1}{25}$

Interest rate = 4% = $\frac{1}{25}$



∴ Interest = 750 + 750 + 30 = 1530

6. (3) Sum of age of 14 friends = (14×14) years
 = 196 years
 After adding 15th friend
 Sum of age = $15 \times 14 = 210$ years
 \therefore Age of 15th friend = $210 - 196 = 14$ years.

7. (4) Let, Length = $5x$ m
 \therefore Breadth = $3x$ m
 Area = $(5x \times 3x) \text{ m}^2$
 = $15x^2 \text{ m}^2$
 ATQ,
 $15x^2 = 60$
 $x^2 = 4$
 $x = 2$
 \therefore Length = $5 \times 2 = 10$ cm
 Breadth = $3 \times 2 = 6$ cm
 \therefore Difference = $10 - 6 \text{ m} = 4 \text{ m}$

8. (2) On factorization of 840,
 $840 = 2^3 \times 3^1 \times 5^1 \times 7^1$
 Now number of factors \Rightarrow
 $(\text{Power} + 1) \times (\text{Power} + 1) \times$
 $(\text{Power} + 1) \times (\text{Power} + 1)$
 $\Rightarrow (3+1) \times (1+1) \times (1+1) \times (1+1)$
 $\Rightarrow 32$
 Therefore, number of factors
 except 1 and itself are = $32 - 2$
 = 30

9. (1) Highest marks obtained by
 Arpit = 60
 Lowest marks obtained by
 Herry = 35
 \therefore Difference = $60 - 35 = 25$

10. (2)
 Ratio of Time \rightarrow Ram : Mohan
 $8 : 4$
 $2 : 1$
 \therefore Ratio of speed = $1 : 2$

ATQ, $1 \equiv 10$
 $2 \equiv 20$
 \therefore Speed of Mohan is 20km/hr
 statement is correct.
 Statement - II
 Sum of their speed = $(20 + 10)$
 km/hr = 30 km/hr
 Statement is correct.

11. (4) Let, cost price of a trouser
 = 100
 \therefore Marked price of trouser =
 400
 To gain profit of 64%, selling
 price = $(100 + 64) = 164$
 \therefore Discount = $(400 - 164) = 236$
 \therefore Discount% = $\frac{236}{400} \times 100 = 59\%$

(3) Let, number is 100%
 Equivalent decrease values of
 25% and 40% = $(25+40) -$
 $\frac{25 \times 40}{100} = (65 - 10)\%$
 = 55%
 Again,
 Equivalent decrease values of
 55% and 20%.
 = $55\% + 20\% - \frac{55 \times 20}{100}$
 = $75\% - 11\% = 64\%$
 After decreasing number
 becomes $(100 - 64)\% = 36\%$
 ATQ, $36\% \equiv 32904$
 $100\% \equiv 91400$
 \therefore Number is 91,400

(2) CP : SP
 A 10 : $11 \times 3 = 33$
 B 4 : $3 \times 11 = 33$
 [As SP for both of them is
 same]
 \therefore Ratio of cost price of both
 A and B = $30 : 44$
 = $14 : 22$

(2) Ratio of investments of X,
 Y, Z = 4000 : 6000 : 8000
 $4 : 6 : 8$
 Ratio of time of X : Y : Z = 3 : 2
 : 4
 \therefore Ratio of profit = $4 \times 3 : 6 \times 2$
 : 4×8
 = $12 : 12 : 32$
 $3 : 3 : 8 = 14$

ATQ,
 $14 \equiv 56000$
 $1 \equiv 4000$
 \therefore Share of profit of y = 4000×3
 = 12000

(3) Total number of refrigerator
 produced by E, F, G = $500 +$
 $470 + 460 = 1430$
 Total number of refrigerator
 produce by H, I, J = $440 + 420$
 $+ 450 = 1310$
 \therefore Difference between their
 production = $1430 - 1310$
 = 120

(3) Total value of stock = $25 \times$
 $15000 + 80 \times 16000 + 54 \times$
 $5500 + 41 \times 27000 + 64 \times$
 24000
 = 7268000
 = 72.68 Lakh

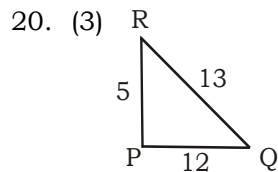
(3) $\sec 3A = \text{cosec}(A - 72^\circ)$
 $\sec 3A = \sec(90^\circ - A + 72^\circ)$
 $3A = 90^\circ - A + 72^\circ$
 $A = \frac{162^\circ}{4}$
 $A = 40.5^\circ$

(2) We know,
 $\text{No. taps}_1 \times \text{Hour}_1 = \text{Number}$
 $\text{taps}_2 \times \text{Hour}_2$
 = $15 \times 36 = \text{No. taps}_2 \times 60$

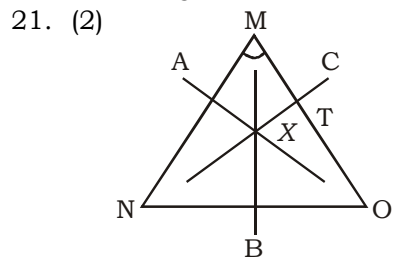
$$\text{No. taps}_2 = \frac{15 \times 36}{60}$$

$\text{No. taps}_2 = 9$
 9 taps will be required to fill
 the tank.

(4) $(299)^2 = (300-1)^2$
 $(300)^2 - (2 \times 300 \times 1) + (1)^2$
 = $90000 - 6000 + 1$
 = $90001 - 600 + 1$
 = $90001 - 600$
 = 89401



$$\cos Q = \frac{12}{13}$$



$$\angle NMO = 55^\circ$$

$$\therefore \angle NXO = 2 \times 55^\circ = 110^\circ$$

(4) $\left(k - \frac{1}{k}\right) \left(k^2 + \frac{1}{k^2}\right) \left(k^4 + \frac{1}{k^4}\right)$
 $\left(k^8 + \frac{1}{k^8}\right) \left(k^{16} + \frac{1}{k^{16}}\right)$

$$\frac{\left(\frac{1}{k} - \frac{1}{k}\right) \left(k^2 + \frac{1}{k^2}\right) \left(k^4 + \frac{1}{k^4}\right) \left(k^8 + \frac{1}{k^8}\right) \left(k^{16} + \frac{1}{k^{16}}\right)}{k + \frac{1}{k}}$$

$$\frac{\left(k^2 - \frac{1}{k^2}\right) \left(k^2 + \frac{1}{k^2}\right) \left(k^4 + \frac{1}{k^4}\right) \left(k^8 + \frac{1}{k^8}\right) \left(k^{16} + \frac{1}{k^{16}}\right)}{k + \frac{1}{k}}$$

$$\frac{\left(k^4 - \frac{1}{k^4}\right) \left(k^8 + \frac{1}{k^8}\right) \left(k^4 + \frac{1}{k^4}\right) \left(k^{16} + \frac{1}{k^{16}}\right)}{k + \frac{1}{k}}$$

$$= \frac{\left(k^8 + \frac{1}{k^8}\right) \left(k^8 - \frac{1}{k^8}\right) \left(k^{16} + \frac{1}{k^{16}}\right)}{k + \frac{1}{k}}$$

$$= \frac{\left(k^{16} - \frac{1}{k^{16}}\right)\left(k^{16} + \frac{1}{k^{16}}\right)}{k - \frac{1}{k}}$$

$$= \frac{k^{32} - \frac{1}{k^{32}}}{k + \frac{1}{k}}$$

23. (2) Let, radius of circle = r cm
Circumference = $2\pi r$ cm

ATQ,
 $2\pi r = 58\pi$
 $r = 29$

Half of length of chord = 21
 \therefore Distance from centre

$$= \sqrt{(29)^2 - (21)^2} \text{ cm}$$

$$= 20 \text{ cm}$$

24. (4) The chord of length 40 cm is subtended 90° at the circumference of a circle. Then, the chord is the diameter.

$$\therefore \text{Length of radius} = \frac{40}{2} \text{ cm}$$

$$= 20 \text{ cm}$$

25. (2) Total male teachers = 240 + 320 + 280 + 200 + 120 = 1160
Total female teachers = 320 + 280 + 80 + 40 + 120 = 840
 \therefore Difference (L_1) = 1160 - 840 = 320

Total number of male and female teachers in school H (L_2) = 120 + 120 = 240

$$\therefore \frac{L_1}{L_2} = \frac{320}{240} = 1.33$$

ANSWER KEY

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

GENERAL AWARENESS

- 1.(1) Bangladesh and India share a 4,096-kilometre-long international border, the fifth-longest land border in the world, including 262 km in Assam, 856 km in Tripura, 318 km in Mizoram, 443 km in Meghalaya, and 2,217 km in West Bengal. China and India share a 3488 kilometre-long international border, including 1597 km in Jammu and Kashmir, 1126 km in Arunachal Pradesh, 345 km in Uttarakhand, 220 km in Sikkim, and 200 km in Himachal Pradesh. India and Pakistan include

1,222 Km in Jammu and Kashmir, 1,170 Km in Rajasthan, 506 Km in Gujarat and 425 Km in Punjab.

2.(3) Kalpana Chawla (17 March 1962 - 1 February 2003) first flew on Space Shuttle Columbia in 1997. Her second flight was on STS-107, the final flight of Columbia, in 2003. Chawla was one of the seven crew members who died in the Space Shuttle Columbia disaster.

3.(1) **Article 52** - There shall be a President of India

Article 60 - prescribes the Oath or affirmation by the President.

Article 377 - Provisions as to Comptroller and Auditor-General of India.

4.(4) **300A** - Persons not to be deprived of property save by authority of law.

303 - Restrictions on the legislative powers of the Union and of the States with regard to trade and commerce.

304 - Restrictions on trade, commerce and intercourse among States.

5.(3) Hookworm, Roundworm are the example of nematodes.

6.(1)

7.(4) Eight cheetahs, five females and three males will be brought to Gwalior from Namibia.

8.(3) 9.(1)

10.(3)

11.(4) **Project Hirak** of Border Road Organisation (BRO) was assigned work on NH-16 from Km 199 (Chennur in Andhra Pradesh) to Km 492 (Sosanpal in Chhattisgarh), a total length of 293 Kms.

The One kilometre long Ujh bridge is located in Kathua district of Jammu & Kashmir. The 617 Metre long Basantar bridge is located in Samba district of Jammu & Kashmir. Both these bridges have been constructed by Border Roads Organisation (BRO) under **Project Sampark**.

Gaganyaan is an Indian crewed orbital spacecraft intended to be the formative spacecraft of the Indian Human Spaceflight Programme.

12.(1) Pandit shivkumar was awarded the Sangeet Natak Akademi Award in 1986, the Padma Shri in 1991 and Padma Bhushan in 2001.

Hari Prasad Chaurasia was awarded with Padma Bhushan in 1992 and Padma Vibhushan in 2000.

Zakir Hussain was awarded the Padma Shri in 1988, and the Padma Bhushan in 2002.

13.(3) **Cash Reserve Ratio (CRR)** is a specified minimum fraction of the total deposits of customers, which commercial banks have to hold as reserves either in cash or as deposits with the central bank.

Capital Adequacy Ratio (CAR) is the ratio of a bank's capital in relation to its risk weighted assets and current liabilities.

14.(2) Manjra is the tributary of Godavari river.

15.(2)

16.(2) $S_N = N(N-1)/2$

S_N is number of wires.

N is numbers of nodes.

17.(3)

18.(4) Raja Raj Chola I got the Brihadeshwara temple built at Thanjavur. The temple is a part of the UNESCO World Heritage Site known as the "Great Living Chola Temples". It is a Hindu temple dedicated to Shiva located on the South Bank of the Cauvery river.

19.(4) Chandragupta Maurya - (324/321- 297 B.C.)

Bindusara - (297 - 272 B.C.)

Asoka - (268 - 232 B.C.)

20.(4) 21.(4)

22.(4) 23.(4)

24.(3) Swachh Toycathon aims to explore solutions for use of waste in the creation or manufacturing of toys.

Minister of Housing and Urban Affairs - Hardeep Singh Puri

25.(4)

ANSWER KEY

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