



**MADE EASY**

India's Best Institute for IES, GATE & PSUs

Delhi | Bhopal | Hyderabad | Jaipur | Pune | Bhubaneswar | Kolkata

Web: [www.madeeasy.in](http://www.madeeasy.in) | E-mail: [info@madeeasy.in](mailto:info@madeeasy.in) | Ph: 011-45124612

# GENERAL APTITUDE

## COMPUTER SCIENCE & IT

Date of Test : 14/09/2023

### ANSWER KEY >

- |        |         |         |         |         |
|--------|---------|---------|---------|---------|
| 1. (d) | 7. (c)  | 13. (d) | 19. (a) | 25. (d) |
| 2. (b) | 8. (a)  | 14. (c) | 20. (c) | 26. (b) |
| 3. (d) | 9. (c)  | 15. (b) | 21. (c) | 27. (a) |
| 4. (c) | 10. (a) | 16. (d) | 22. (c) | 28. (d) |
| 5. (b) | 11. (b) | 17. (b) | 23. (c) | 29. (b) |
| 6. (b) | 12. (d) | 18. (c) | 24. (c) | 30. (d) |

## DETAILED EXPLANATIONS

1. (d)

Let the two consecutive even integers be  $2n$  and  $(2n + 2)$ .

$$\begin{aligned}(2n + 2)^2 - 2n^2 &= (2n + 2 + 2n)(2n + 2 - 2n) \\ &= 2(4n + 2) \\ &= 4(2n + 1)\end{aligned}$$

$4(2n + 1)$  is divisible by 4.

The answer is (d).

2. (b)

$$\text{Number of balls} = 6 + 8 = 14$$

$$\text{Number of white balls} = 8$$

$$P(\text{drawing a white ball}) = \frac{8}{14} = \frac{4}{7} = 0.57$$

3. (d)

Each of the numbers except 80 is a prime number.

Hence, 80 is the odd one out.

4. (c)

Suppose first tap alone takes  $x$  hours to empty the tank. Then, second and third taps will take  $(x - 5)$  and  $(x - 9)$  hours respectively to empty the tank.

$$\therefore \frac{1}{x} + \frac{1}{(x-5)} = \frac{1}{(x-9)}$$

$$\Rightarrow \frac{x-5+x}{x(x-5)} = \frac{1}{(x-9)}$$

$$\Rightarrow (2x-5)(x-9) = x(x-5)$$

$$\Rightarrow x^2 - 18x + 45 = 0$$

$$\Rightarrow (x-15)(x-3) = 0$$

$$\Rightarrow x = 15, 3$$

For  $x = 3$ ,  $(x - 5)$  and  $(x - 9)$  will be negative.  $\therefore$  answer is 15 hours.

5. (b)

Given, investment by NRI's 11% are equal to 4000 crore.

$$\therefore \text{Investment by corporate house and FII's} = 33\% + 34\% = 67\%$$

$$\text{Investments by corporate house and FII's } 67\% \text{ are equal to } \frac{4000}{11} \times 67 = 24,363 \text{ crore}$$

6. (b)

The word WORKSPACE contains 9 different letters.

When the vowels (OAE) are always together. They can be supposed to form one letter.

Then, we have to arrange the letters WRKSPC (OAE).

Now, 7 letters can be arranged in  $7! = 5040$  ways.

The vowels (OAE) can be arranged among themselves in  $3! = 6$  ways.

$$\therefore \text{Required no. of ways} = (5040 \times 6) = 30240$$

7. (c)

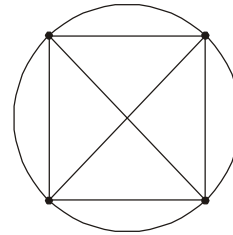
$$\text{Area of circle, } \pi R^2 = 220$$

$$R^2 = 220 \times \frac{7}{22} = 70$$

$$\text{Now, } R = \frac{1}{2} \times \text{diagonal}$$

$$\text{diagonal} = 2R$$

$$\therefore \text{Area of the square} = \frac{1}{2} \times 4R^2 = 2R^2 = 140 \text{ cm}^2$$



8. (a)

The required region is the one which is common to circles X and Z but lies outside circle Y. i.e. T.

9. (c)

Neither ..... nor is correct form, so neither he nor his wife has arrived.

10. (a)

Here, from is the right usage.

11. (b)

A 4 O'clock, the hands of the watch are 20 minute spaces apart.

To be in opposite directions, they must be 30 min spaces apart.

$\therefore$  Minute hand will have to gain 50 minute spaces

55 minute spaces are gained in 60 min

$$50 \text{ minute space are gained in } \left( \frac{60}{55} \times 50 \right) \text{ min or } 54 \frac{6}{11} \text{ min}$$

$$\therefore \text{Required time} = 54 \frac{6}{11} \text{ min past 4}$$

The answer is (b).

12. (d)

There is an increase in gold reserves during the years 1982-1983, 1984-1985, 1986-1987, 1987-1988 as compared to previous year as shown by bar-graph.

The percentage increase in reserves during these years compared to previous year are:

$$\text{For 1982-1983} = \left[ \frac{(3720 - 2640)}{2640} \times 100 \right] \% = 40.91\%$$

$$\text{For 1984-1985} = \left[ \frac{(3360 - 2520)}{2520} \times 100 \right] \% = 33.33\%$$

$$\text{For 1986-1987} = \left[ \frac{(4320 - 3120)}{3120} \times 100 \right] \% = 38.46\%$$

$$\text{For 1987-1988} = \left[ \frac{(5040 - 4320)}{4320} \times 100 \right] \% = 16.67\%$$

Clearly, the percentage increase over previous year is highest for 1982-1983.

The answer is (d).

13. (d)

$$\begin{aligned} \text{Volume of the large cube} &= (6^3 + 8^3 + 10^3) \\ &= 216 + 512 + 1000 = 1728 \text{ cm}^3 \end{aligned}$$

Let the edge of the large cube be  $x$

$$\text{So, } x^3 = 1728$$

$$\Rightarrow x = 12 \text{ cm}$$

$$\therefore \text{ Required ratio} = \left( \frac{6 \times 12^2}{6 \times (6^2 + 8^2 + 10^2)} \right) = \frac{12^2}{36 + 64 + 100} = \frac{144}{200} = 18 : 25$$

The answer is (d).

14. (c)

'Sundry European powers' in the passage refers to various European governments. 'Extra', 'assorted' and 'random', though close in meaning to 'sundry' do not fit in the sentence.

The correct answer is option (c).

15. (b)

Option (a) : Monsoon is not mentioned in the passage.

Option (c) : The Himalayas and the Thar Desert are not mentioned in the passage.

Option (d) : The passage talks about variation in rainfall and temperature but does not explicitly say that they are dependent on the season.

Option (b) : It best sums up the passage.

The answer is option (b).

16. (d)

By stating that brisk walking does not require commute to a gym, the author stresses the convenience of this form of exercise. The paragraph also states that brisk walking may result in a good workout.

Option (c) is not appropriate. A gym membership can be a good investment for some.

Option (b) is not given in the passage.

Option (a) seems logical but the paragraph does not mention it.

Option (d) is the most appropriate option.

17. (b)

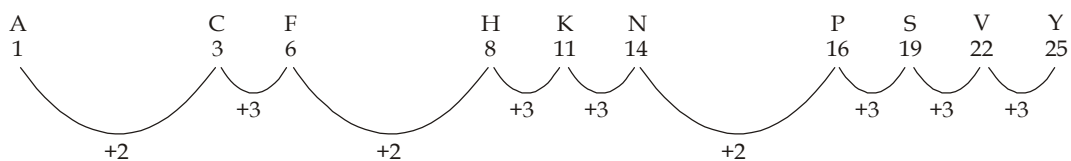
The sentence talks about Ramanujan.

Part D begins with 'although' which generally is placed in the beginning of a sentence.

So, the sentence should be although a great mathematician, Ramanujan was weak in algebra right from his school days.

The correct answer is (b).

18. (c)



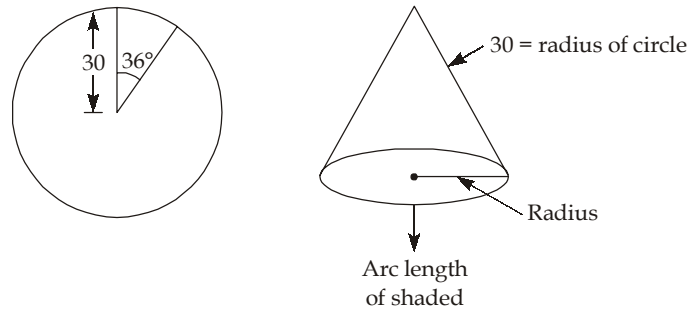
So the required alphabets have to start with P and the common difference in terms is 3.

Hence, PSVY is the answer.

The answer is option (c).

19. (a)

The shade of part of circular sheet is folded to form a cone,



$$2\pi R' = \frac{9}{10} \times 2\pi \times 30$$

$$R' = 27 \text{ cm}$$

$$h = \sqrt{(30)^2 - (27)^2}$$

$$= \sqrt{900 - 729} = \sqrt{171} \text{ cm}$$

$$\text{Required ratio} = \frac{R'}{h} = \frac{27}{\sqrt{171}} = 2.064 \approx 2$$

20. (c)

A and B start at the same time from the same place.

Given, destination is 120 km.

Therefore, B cover this distance in 2 hours, and in 2 hours A covers 60 km.

When two vehicles cross each other distance covered by A is  $x$  km.

Before crossing each other in same time A covers  $(x - 60)$  km and B covers  $(120 - x)$  km

$$\therefore \frac{x - 60}{30} = \frac{120 - x}{60}$$

$$2x - 120 = 120 - x$$

$$3x = 240$$

$$x = 80 \text{ km}$$

21. (c)

Given, price of a bottle of cold drink is Rs. 10.

A person has Rs. 1000.

$\therefore$  He buys 100 bottles more.

Now, he has 119 empty bottles.

Given, one bottle of cold drink can be bought by returning 10 empty bottles.

$\therefore$  He buys 11 bottles more.

Now, he has 20 empty bottles. So he buys 2 bottles more.

Hence, finally he has 2 empty bottles.

22. (c)

Let the side of original square be 'a' and diagonal of second square = a.

So the side of the second square =  $\frac{a}{\sqrt{2}}$

And the side of next square formed would be  $\frac{a}{\sqrt{2}} \times \frac{1}{\sqrt{2}} = \frac{a}{2}$

Sum of area of all squares formed indefinitely

$$= a^2 + \left(\frac{a}{\sqrt{2}}\right)^2 + \left(\frac{a}{2}\right)^2 + \dots$$

$$= \frac{a^2}{1 - \frac{1}{2}} = \frac{(8)^2}{1 - \frac{1}{2}} = 128 \text{ cm}^2$$

23. (c)

24. (c)

If S is niece of T, i.e., T is brother of father of S, which is shown in option (c).

T + M × S - K :

S - K means S is sister of K.

M × S means M is father of S.

T + M means T is brother of M, T is brother of father of S, hence S is niece of T.

So, option (c) is correct.

25. (d)

Given word : "PRECIOUS"

After rearrangement OQFBJPVR

In alphabetic order from left to right BFJOPQVRV

Thus, P is fourth from the right end.

26. (b)

After comparing we get

the capital → veru, miti

in → dic

Hence, for crowd code is sik.

27. (a)

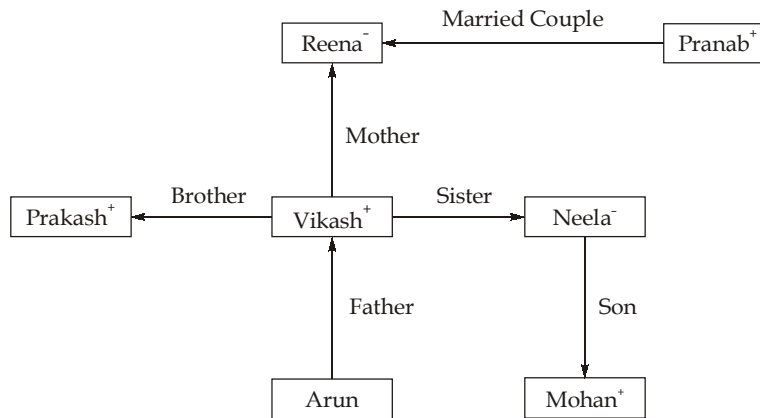
**Numismatics:** Hobby of collection of coins.

**Philately:** Collection of postage stamps.

**Philanthropist:** A person who seeks to promote the welfare of others.

**Cartophily:** Hobby of collection of cigarette cards.

28. (d)  
The possible relationship diagram is shown below.



From the above diagram it can be observed that Vikash’s wife is daughter-in-law of Reena.

29. (b)

$$P = \frac{3}{2} \times \frac{4}{3} \times \frac{5}{4} \times \frac{6}{5} \times \dots \times \frac{99}{98} \times \frac{100}{99} = \frac{100}{2} = 50$$

$$Q = \frac{1}{2} \times \frac{2}{3} \times \frac{3}{4} \times \dots \times \frac{98}{99} \times \frac{99}{100} = \frac{1}{100}$$

$$\frac{P}{Q} = 5000$$

30. (d)  
'd' i.e. 34

$$N = 126! - 125! = (125!) \times (126 - 1) = 125 \times 125!$$

The number of zeros at the end of  $N$  is dependent on the number of times '5' comes in the expansion of  $125!$  which is equal to INTEGER value of  $\frac{125}{5} + \frac{25}{5} + \frac{5}{5} = 25 + 5 + 1 = 31$  PLUS 3 more 5's since  $125 = 5^3$  which gives total number of 5's as  $31 + 3 = 34$  which is the number of Zeros at the end of  $N$ .

