



# Aakash

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Corporate Office : Aakash Tower, 8, Pusa Road, New Delhi-110005

Ph.:011-47623456

## Aakash National Talent Hunt Exam 2021

### Sample Paper

(Class VII Studying Moving to Class VIII)

### ANSWERS

- |                            |                                  |
|----------------------------|----------------------------------|
| 1. (4)                     | 19. (1, 3)                       |
| 2. (2)                     | 20. (2)                          |
| 3. (3)                     | 21. A(Q), B(R), C(P, S), D(P)    |
| 4. (3)                     | 22. (4)                          |
| 5. (1, 2, 4)               | 23. (1)                          |
| 6. (3)                     | 24. (2)                          |
| 7. A(S), B(R), C(P), D(Q)  | 25. (3)                          |
| 8. (2)                     | 26. (1, 2, 4)                    |
| 9. (4)                     | 27. (3)                          |
| 10. (4)                    | 28. A(R, S), B(R, S), C(P), D(Q) |
| 11. (2)                    | 29. (1)                          |
| 12. (1, 2, 4)              | 30. (3)                          |
| 13. (1)                    | 31. (4)                          |
| 14. A(R), B(S), C(Q), D(P) | 32. (2)                          |
| 15. (4)                    | 33. (1)                          |
| 16. (1)                    | 34. (2, 4)                       |
| 17. (1)                    | 35. (1, 3)                       |
| 18. (3)                    |                                  |



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#### HINTS & SOLUTIONS

#### PHYSICS

1. Answer (4)

The pulse of a normal healthy adult at rest, beats 72 times in 1 minute.

Therefore, in 1 hour =  $72 \times 60$   
= 4320

$$\Rightarrow 2t = \frac{x}{10}$$

Now,

$$\text{Average speed} = \frac{x}{\frac{x}{10} + \frac{x}{10}}$$

$$= 5 \text{ m/s}$$

2. Answer (2)

The temperature of a body is measured by a device called thermometer.

3. Answer (3)

Let the total distance covered by the moving object is  $x$ .

$$\text{Time taken to cover 1st half distance} = \frac{x}{2 \times 5}$$

$$= \frac{x}{10}$$

Again

For 2<sup>nd</sup> half distance

$$4 \times t + 6 \times t = \frac{x}{2}$$

4. Answer (3)

Warm air rises up, therefore air at 35°C will rise the highest.

5. Answer (1, 2, 4)

6. Answer (3)

It is easier to drink hot tea from a porcelain mug because porcelain is a poor conductor of heat.

7. Answer A(S), B(R), C(P), D(Q)

Temperature – Celsius

Speed – Meter/second

Distance – Meter

Time – Second



24. Answer (2)

Let CP of the watch be  $x$

$$\text{Sum of SP's} = \frac{6x}{5} + \frac{13x}{10} = \frac{25x}{10}$$

$$\Rightarrow 2.5x = 8000$$

$$\Rightarrow x = 3200$$

25. Answer (3)

Let the numbers be  $x, y, z$

$$x + y + z = 150$$

$$y - z = 2$$

$$y = 2 + z$$

$$52 + 2 + z + z = 150$$

$$z = 48, y = 50, x = 52$$

$$x \cdot y \cdot z = 124800$$

26. Answer (1, 2, 4)

$$\angle x = a, \angle y = 3a, \angle z = 4a$$

$$a + 3a = 240^\circ - 4a$$

$$\Rightarrow a = 30^\circ$$

$$\angle x = 30^\circ, \angle y = 90^\circ, \angle z = 120^\circ$$

27. Answer (3)

**A :** Let the number be  $x$

$$x - 53 = 95 - x$$

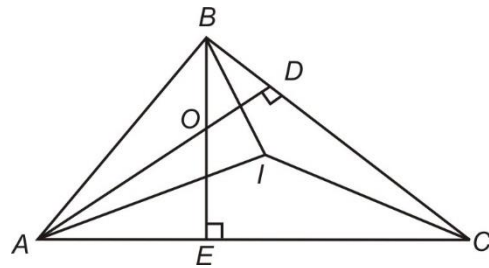
$$\Rightarrow x = 74$$

$$\therefore (-7 \times -9) + 11 = 74 \text{ Assertion is true}$$

$$R : 2x = 95 - 53$$

$$x = \frac{42}{2} = 21 \text{ Reason is False}$$

28. Answer A(R, S), B(R, S), C(P), D(Q)



(A)  $\angle ACB = 16^\circ$

$$\angle OBI = \frac{80^\circ - 16^\circ}{2} = 32^\circ$$

(B)  $\angle CBI = 180^\circ - [\angle BEC + \angle ECB + \angle EBI]$   
 $= 42^\circ$

$$\angle CBI - 10^\circ = 42^\circ - 10^\circ$$

$$= 32^\circ$$

(C)  $\angle ACI = \frac{16^\circ}{2}$   
 $= 8^\circ$

(D)  $\angle AIC = 180^\circ - [\angle IAC + \angle ICA]$   
 $= 180^\circ - (8^\circ + 40^\circ)$   
 $= 132^\circ$

**MENTAL ABILITY**

29. Answer (1)

By observation

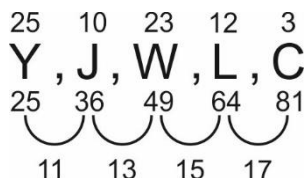
30. Answer (3)

$$+ \rightarrow \times, - \rightarrow + \text{ and } \div \rightarrow -$$

$$7 + 7 - 7 \div 7 = ?$$

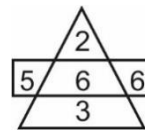
$$7 \times 7 + 7 - 7 = 49$$

31. Answer (4)



Letter at difference of odd number.

32. Answer (2)



$$(5 - 3) + (6 - 2) = 6$$

$$(5 - 1) + (9 - 2) = 11$$

33. Answer (1)

$$\text{Net turn} = (270^\circ - 135^\circ) \text{ Anti-clockwise}$$

34. Answer (2, 4)

$$(4 + 2)^3 = 3 \times 4 + (2 - 3) = 11$$

$$(6 + 5)^2 = 2 \times 6 + (5 - 2) = 15$$

35. Answer (1, 3)

$$12288 \div 4 = 3072, 3072 \div 4 = 768$$

$$15120 \div 7 = 2160, 2160 \div 6 = 360$$

$$768 \div 4 = 192, 192 \div 4 = 48, 48 \div 4 = 12$$

$$360 \div 5 = 72, 72 \div 4 = 18, 18 \div 3 = 6$$

$$6 \div 2 = 3 \text{ (Odd number)}$$

$$12 \div 4 = 3 \text{ (Odd number)}$$



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**Edition: 2021-22**

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