



# Adda 247 Publications

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### S1. Ans.(c)

**Sol.** The 18th Asian Games came to a close, with India achieving its best-ever medal haul of 69 and equaling its best gold medal haul of 15 after 67 years. In the final few medal events on the 14th day, India added four medals to its kitty, two Gold, a silver and a bronze.

### S2. Ans.(a)

**Sol.** Zurab Pololikashvili is Secretary-General of the World Tourism Organization (UNWTO). UNWTO's membership includes 158 countries, 6 Associate Members and over 500 Affiliate Members. UNWTO Headquarters in Madrid, Spain.

### S3. Ans.(b)

**Sol.** The 4th BIMSTEC Summit has been successfully concluded in Kathmandu, the capital of Nepal. The leaders of all seven member states including Prime Minister Narendra Modi underscored the importance of robust institutional arrangements to effectively steering the process of regional cooperation under BIMSTEC. The Prime Minister of Nepal K.P. Sharma Oli presented draft Kathmandu declaration which was unanimously adopted by the all member states. Sri Lanka has become the new chair of the BIMSTEC.

### S4. Ans.(d)

**Sol.** INS Sahyadri entered the Port of Darwin, Australia to participate in Exercise KAKADU 2018. Exercise KAKADU, which started in 1993, is the premier multilateral regional maritime engagement exercise hosted by the Royal Australian Navy (RAN) and supported by the Royal Australian Air Force (RAAF).

### S5. Ans.(c)

**Sol.** The third edition of World's Biggest Open Innovation Model - Smart India Hackathon 2019 - was launched by the Union Minister for Human Resource Development, Prakash Javadekar in New Delhi. MHRD, AICTE, Persistent Systems and i4c have joined hands to make a hat trick with their highly popular and innovative Smart India Hackathon initiative (SIH).

### S6. Ans.(d)

**Sol.** The Indian Space Research Organisation (ISRO) will outsource the production of the Polar Satellite Launch Vehicles (PSLVs) and Small Satellite Launch Vehicles (SSLVs) to private Industries. The Indian Space agency Chairman K Sivan informed that private industries will play a major role in capacity building.



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**S7. Ans.(b)**

**Sol.** The government of India and the Asian Development Bank (ADB) signed a \$375 million loan agreement to contribute to double farming incomes in Madhya Pradesh by expanding irrigation networks and system efficiency.

**S8. Ans.(a)**

**Sol.** The National Sports Day is celebrated on 29th August every year to mark the birthday of legendary hockey player Dhyan Chand.

**S9. Ans.(b)**

**Sol.** World number three PV Sindhu lost to world number one Tai Tzu-ying (Taiwan) in the women's singles final to bag India's first-ever silver medal in badminton at Asian Games.

**S10. Ans.(d)**

**Sol.** The G20 Digital Economy Ministerial Meeting was held in Salta, Argentina. It took place as part of Sherpa Track for 2018 G20 Leaders' Summit, which is to be hosted by Argentina by end of 2018. The theme of the meeting was 'Building consensus for fair and sustainable development'.

**S11. Ans.(c)**

**Sol.** India's latest frontline warship INS Trikand has reached Sri Lanka in a goodwill visit. Sri Lanka Navy ceremonially welcomed the state-of-the-art warship in accordance with naval traditions.

**S12. Ans.(d)**

**Sol.** The Union Cabinet chaired by Prime Minister Narendra Modi has approved renaming of Agartala Airport, Tripura as Maharaja Bir Bikram Manikya Kishore Airport, Agartala.

**S13. Ans.(c)**

**Sol.** Exercise 'Maitree' is a joint military exercise between Indian Army and Royal Thai Army which is running on in Thailand. It is a platoon level exercise which comprises of infantry component.

**S14. Ans.(c)**

**Sol.** Rashtriya Uchchar Shiksha Abhiyan (RUSA) is a Centrally Sponsored Scheme (CSS), launched in 2013 aims at providing strategic funding to eligible state higher educational institutions.

**S15. Ans.(d)**

**Sol.** The world's first-ever thermal battery plant was unveiled in Andhra Pradesh by the state's Chief Minister N Chandrababu Naidu. Manufactured by the Bharat Energy Storage Technology Private Limited (BEST), the first-of-its-kind batteries will aim to boost renewable sources of energy production and reduce the dependence on non-renewable fossil fuel-based energy generation.

**S16. Ans.(b)**

**Sol.** It was a mixed day for India on Day two of the 18th Asian Games in Indonesia. A dominating Bajrang Punia opened India's gold medal account by defeating Japan's Daichi Takatani in the final of Men's Freestyle 65 kg. category

**S17. Ans.(d)**

**Sol.** The National Green Tribunal formed a monitoring committee on the cleaning of the Yamuna River. The tribunal headed by National Green Tribunal (NGT) Chairperson A K Goel directed the committee to develop an action plan on the same and submit it by September 2018 and submit a detailed report on the issue by December 31, 2018.

**S18. Ans.(c)**

**Sol.** The Vice President of India and the President of Indian Council of World Affairs (ICWA), M. Venkaiah Naidu has appointed Dr. T.C.A. Raghavan as the Director General, ex officio Member-Secretary of the Council, ICWA.

**S19. Ans.(d)**

**Sol.** Madhya Pradesh Chief Minister Shivraj Singh Chauhan inaugurated state-run power giant National Thermal Power Corporation Limited (NTPC) 250 MW Solar Power Plant in Mandsaur. According to NTPC, this project has been set up mainly on non-agricultural land and generation of electricity has been achieved without affecting the natural eco-system with zero carbon emission at an investment of about Rs 1,500 crore.

**S20. Ans.(c)**

**Sol.** National Bank for Agriculture and Rural Development (NABARD) has completed 36 years of service to the nation and celebrated the 37th Foundation Day on 12th July. A national seminar on 'Collectivisation and Market linkages: Farmers Producers Organizations' was organized in Mumbai.

**S21. Ans.(c)**

**S22. Ans.(a)**

**S23. Ans.(b)**

**S24. Ans.(a)**

**S25. Ans.(a)**

**S26. Ans.(c)**

**S27. Ans.(c)**

**S28. Ans.(b)**

**S29. Ans.(b)**

**S30. Ans.(a)**

**S31. Ans.(d)**

**S32. Ans.(b)**

**Sol.** Fire-fighting clothes are made from asbestos.

**S33. Ans.(c)**

**Sol.** The main source of naphthalene is coal tar.

**S34. Ans.(a)**

**Sol.** Boron can be used to absorb neutrons to control the chain reaction during nuclear fission. Cadmium is also used to absorb neutrons to control the chain reaction.

**S35. Ans.(b)**

**Sol.** Pyrometer is an instrument for measuring high temperatures, especially in furnaces and kilns.

**S36. Ans.(d)**

**Sol.** Distillation is a process that can be used to separate a pure liquid from a mixture of liquids. It is commonly used to separate ethanol - the alcohol in alcoholic drinks - from water. It works when the liquids have different boiling points. The boiling points of alcohol and water are 78.37°C and 100°C.

**S37. Ans.(d)**

**Sol.** The neon gas is used in discharge lamps, tubes and in fluorescent bulbs.

**S38. Ans.(a)**

**Sol.** A soap bubble is a very thin sheet of water sandwiched between two layers of soap molecules. Light is reflected from both the inner and outer surface of the soap bubble. The resulting colors are a combination of the colors that do not undergo destructive interference and their degrees of constructive interference. Blue-green colors dominate in thicker films and yellow hues in thinner films.

**S39. Ans.(d)**

**Sol.** The mirage is caused by the total internal reflection of light at layers of air of different densities. In Desert areas, the successive upper layer is denser than those below there. A ray of light coming from a distant object, like the top of a tree gets refracted from a denser to a rarer medium. Consequently, the refracted ray bends away from the normal until at a particular layer, the light incident ray suffers total internal reflection and enters the eyes of the observer. It appears as if an inverted image of the tree.

**S40. Ans.(d)**

**Sol.** Holography is a technique of producing a three-dimensional image of an object.

**S41. Ans.(c)**

**Sol.** The lens used in CD player emits ultraviolet laser beams.

**S42. Ans.(c)**

**Sol.** The inverted image formed on the retina is carried to the brain by the optic nerve in the form of electrical signals.



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BILINGUAL

**S43. Ans.(b)**

**Sol.** Myopia is the term used to define being shortsighted. It can be corrected by using concave lens.

**S44. Ans.(b)**

**Sol.** Gene mapping is the method used for determining the location of gene and relative distances between genes on a chromosome.

**S45. Ans.(a)**

**Sol.** Milk contains a protein casein. This protein gives milk its characteristic the white color. The curd forms because of the chemical reaction between lactic acid bacteria and casein.

**S46. Ans.(c)**

**Sol.** LCM of 3, 4, 2  $\rightarrow$  12

$$\sqrt[3]{7} \Rightarrow (7)^{1/3} = (7)^{4/12} = (2401)^{1/12}$$

$$\sqrt[4]{13} = (13)^{1/4} = (13)^{3/12} = (2197)^{1/12}$$

$$\sqrt{5} = (5)^{1/2} = (5)^{6/12} = (390625)^{1/12}$$

Smallest number =  $\sqrt[4]{13}$

**S47. Ans.(b)**

**Sol.**

$$x - \frac{1}{x} = 3$$

Cubing both sides

$$x^3 - \frac{1}{x^3} - 3\left(x - \frac{1}{x}\right) = 27$$

$$x^3 - \frac{1}{x^3} - 3 \times 3 = 27$$

$$x^3 - \frac{1}{x^3} = 27 + 9 = 36$$

**S48. Ans.(c)**

**Sol.** Let number  $\rightarrow$  x

$$x - 15 = \frac{80}{100} \times x$$

$$x - \frac{4}{5}x = 15$$

$$x = 75$$

$$40\% \text{ of } x = \frac{2}{5} \times 75 = 30$$



**S49. Ans.(c)****Sol.** Total candidates = 1800

$$\text{Failed Boys} = \frac{40}{100} \times 1000 = 400$$

$$\text{Failed Girls} = \frac{50}{100} \times 800 = 400$$

$$\begin{aligned} \text{Failed \%} &= \frac{400 + 400}{1800} \times 100 = \frac{800}{18} \\ &= 44.4\% \end{aligned}$$

**S50. Ans.(d)****Sol.** Using shortcut loss % =  $\frac{x^2}{100}$ 

$$= \frac{(20)^2}{100} = 4\%$$

**S51. Ans.(b)****Sol.**

	C.P		S.P
I	100	loss $2\frac{1}{2}\%$	97.5
II	100	gain $7\frac{1}{2}\%$	107.5

$$(107.5 - 97.5)r \rightarrow 100 \text{ Rs.}$$

$$10r \rightarrow 100 \text{ Rs.}$$

$$1r \rightarrow 10 \text{ Rs.}$$

$$\text{C.P} = 1000 \text{ Rs.}$$

$$\begin{aligned} \text{S.P to gain } 12\frac{1}{2}\% &= 1000 \times \frac{112.5}{100} \\ &= 1125 \text{ Rs.} \end{aligned}$$

**S52. Ans.(c)****Sol.**  $\tan \theta - \cot \theta = 0$ 

$$\tan \theta = \cot \theta$$

$$\frac{\sin \theta}{\cos \theta} = \frac{\cos \theta}{\sin \theta}$$

$$\sin^2 \theta = \cos^2 \theta$$

$$\theta = 45^\circ (\because \sin 45^\circ = \cos 45^\circ)$$

$$\sin \theta + \cos \theta = \sin 45^\circ + \cos 45^\circ$$

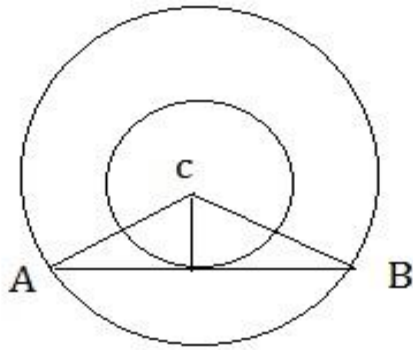
$$= \frac{1}{\sqrt{2}} + \frac{1}{\sqrt{2}}$$

$$= \frac{2}{\sqrt{2}} = \sqrt{2}$$



S53. Ans.(b)

Sol.



$$r_1 = \sqrt{3} + 1 \text{ cm}$$

$$r_2 = \sqrt{3} - 1 \text{ cm}$$

$$AO^2 = r_1^2 - r_2^2$$

$$= (\sqrt{3} + 1)^2 - (\sqrt{3} - 1)^2$$

$$= 3 + 1 + 2\sqrt{3} - 3 - 1 + 2\sqrt{3} = 4\sqrt{3}$$

$$AO^2 = 4\sqrt{3}$$

$$AO = 2\sqrt[4]{3}$$

$$AB = 2 \times AO = 4\sqrt[4]{3}$$

S54. Ans.(d)

Sol. Let x be the average weight of 12 crew members

$$\frac{S_{12}}{12} = x$$

$$S_{11} + 55 = 12x$$

$$S_{11} = 12x - 55$$

$$\frac{S_{11} + \text{New Member}}{12} = x + \frac{1}{3}$$

$$12x - 55 + \text{New member} = 12x + \frac{12}{3}$$

$$\text{New Member} = 4 + 55$$

$$= 59 \text{ kg}$$

S55. Ans.(a)

Sol. Six consecutive numbers  $\rightarrow x + 5, x + 4, x + 3, x + 2, x + 1, x$

$$\frac{x + 5 + x + 4 + x + 3 + x + 2 + x + 1}{5} = 30$$

$$5x + 15 = 150$$

$$x = \frac{135}{5} = 27$$

$$\text{Last numbers} = 27 + 5 = 32$$

$$\text{Difference} = 32 - 27 = 5$$



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STAGE -II

• 10 FULL-LENGTH MOCKS ( PART A)

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**S56. Ans.(b)****Sol.** Father : Son = 5 : 2

Father → 5x

Son → 2x

$$5x \times 2x = 1000$$

$$10x^2 = 1000$$

$$x^2 = 100$$

$$x = 10$$

$$\text{Father's Age} = 5 \times 10 = 50$$

$$\text{Father's Age after 10 years} = 50 + 10 = 60 \text{ years}$$

**S57. Ans.(c)****Sol.** Ratio of Ages → 5 : 6

After 2 years → 7 : 8

 $(7 - 5)r$  or  $(6 - 8)r \rightarrow 2$  years $2r \rightarrow 2$  years $1r \rightarrow 1$  years

Ages of Boys → 5 &amp; 6

Ratio after 12 years

$$= \frac{12 + 5}{12 + 6} = \frac{17}{18}$$

**S58. Ans.(b)****Sol.** Time of B → 7 months

Investment of B → x

Time of C → 5 months

Investment of C → y

Profit's Ratio →  $14000 \times 12 : 7x : 5y$ 

$$\Rightarrow 168000 : 7x : 5y$$

Given Profit's Ratio → 4 : 3 : 2

Profit of A = 4x

$$4x = 168000$$

$$x = 42000$$

Profit of C =  $2 \times 42000$ 

$$= 84000 \text{ Rs.}$$

$$\text{Capital of C} = \frac{84000}{5} = 16800 \text{ Rs.}$$

**S59. Ans.(c)**

**Sol.** Investment's Ratio  $\rightarrow \frac{1}{2} : \frac{1}{3} : \frac{1}{5}$

$$\Rightarrow 15 : 10 : 6$$

$$\text{Investment of A} = 15x \times 4 + 30x \times 8 = 60x + 240x \\ = 300x$$

$$\text{Investment of B} = 10x \times 6 + 5x \times 6 = 60x + 30x \\ = 90x$$

$$\text{Investment of C} = 6x \times 12 = 72x$$

$$\text{Profits Ratio} \Rightarrow 300x : 90x : 72x$$

$$\Rightarrow 100 : 30 : 24$$

$$\Rightarrow 50 : 15 : 12$$

$$(50 + 15 + 12)r \rightarrow 34650 \text{ Rs.}$$

$$77r \rightarrow 34650$$

$$1r \rightarrow 450$$

$$\text{Share of A} = 50 \times 450 = 22500 \text{ Rs.}$$

$$\text{Share of B} = 450 \times 15 = 6750 \text{ Rs.}$$

$$\text{Share of C} = 450 \times 12 = 5400 \text{ Rs.}$$

**S60. Ans.(a)**

**Sol.** ATQ,

$$P + \frac{P \times 8 \times T}{100} = 2320$$

$$P + \frac{P \times 5 \times T}{100} = 2200$$

$$\frac{1 + \frac{2T}{25}}{1 + \frac{T}{20}} = \frac{2320}{2200}$$

$$\frac{25 + 2T}{20 + T} \times \frac{20}{25} = \frac{116}{110}$$

$$\frac{25 + 2T}{20 + T} \times \frac{4}{5} = \frac{116}{110}$$

$$\frac{25 + 2T}{20 + T} = \frac{29}{22}$$

$$25 \times 22 + 44T = 580 + 29T$$

$$550 + 44T = 580 + 29T$$

$$15T = 30$$

$$T = 2 \text{ years}$$



**S61. Ans.(c)****Sol.** Using formula

$$\frac{n_1 - 1}{T_1} = \frac{n_2 - 1}{T_2}$$

$$\frac{2 - 1}{7} = \frac{4 - 1}{T_2}$$

$$\frac{1}{7} = \frac{3}{T_2}$$

$$T_2 = 21 \text{ years}$$

**S62. Ans.(a)****Sol.** Rate  $\Rightarrow 10\% = 1/10$ Let principal  $\Rightarrow (10)^4 \Rightarrow 10000$ 

Interest 1<sup>st</sup> year =  $\frac{10000}{10} = 1000$

Interest 2<sup>nd</sup> year =  $\frac{10000}{10} + \frac{1000}{10} = 1000 + 100 = 1100$

Interest 3<sup>rd</sup> year =  $\frac{10000}{10} + \frac{1000}{10} + \frac{1100}{10} = 1000 + 100 + 110 = 1210$

Interest 4<sup>th</sup> year =  $\frac{10000}{10} + \frac{1000}{10} + \frac{1100}{10} + \frac{1210}{10} = 1000 + 100 + 110 + 121 = 1331$

Total C.I =  $1000 + 1100 + 1210 + 1331 = 4641$

S.I. =  $\frac{10000 \times 10 \times 4}{100} = 4000 \text{ Rs.}$

Difference S.I - C.I =  $4641 - 4000 = 641$

$10000r \rightarrow 32000$

$1r \rightarrow 3.2 \text{ Rs.}$

$641r \rightarrow 641 \times 3.2$

$\Rightarrow 2051.20 \text{ Rs.}$

**S63. Ans.(b)****Sol.**

$$A \rightarrow \begin{matrix} 20 & 3 \\ & 60 \end{matrix}$$

$$B \rightarrow \begin{matrix} 15 & 4 \end{matrix}$$

6 days' work of A + B =  $(3 + 4) \times 6 = 7 \times 6 = 42$

Remaining work =  $60 - 42 = 18$

Let Efficiency of C  $\rightarrow x$ 

$4 \times 3 + x \times 4 = 18$

$4x = 18 - 12$


$4x = 6$

$x = 1.5$

C alone will take =  $\frac{60}{1.5}$

$= 4 \times 10 = 40 \text{ days}$




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BILINGUAL

**S64. Ans.(d)**

**Sol.**  $(4M + 6W) \times 8 = (3M + 7W) \times 10$

$$32M + 48W = 30M + 70W$$

$$2M = 22W$$

$$1M = 11W$$

$$4M + 6W = 44W + 6W = 50W$$

ATQ,

$$50W \times 8 \text{ days} = 10W \times x \text{ days}$$

$$x = 40 \text{ days}$$

**S65. Ans.(b)**

**Sol.**  $A = 12 \text{ days}$

$$B = \frac{160}{100} \times A$$

$$B = \frac{8}{5}A$$

$$B : A \text{ (Efficiency)} = 8 : 5$$

$$B : A \text{ (Time)} = 5 : 8$$

$$8r \rightarrow 12 \text{ days}$$

$$1r \rightarrow \frac{3}{2} \text{ days}$$

$$5r \rightarrow \frac{15}{2} \text{ days}$$

$$\Rightarrow 7\frac{1}{2} \text{ days}$$



**S66. Ans.(c)**

**Sol.**  $\pi r^2 = 9\pi$

$$r = 3 \text{ cm}$$

$$\text{Side of square} = 3 \times 2 = 6 \text{ cm}$$

$$\text{Area of square} = (6)^2 = 36 \text{ cm}^2$$

**S67. Ans.(c)**

**Sol.**

$$\frac{1}{2} \times 8 \times \text{height} = \pi(8)^2$$

$$\text{Height} = 16\pi$$

**S68. Ans.(b)**

**Sol.** Speed's Ratio  $\rightarrow x : \frac{3x}{4}$

$$\Rightarrow 4 : 3$$

$$\text{Times Ratio} \left( \propto \frac{1}{\text{speed}} \right) \Rightarrow 3 : 4$$

$$1r \rightarrow 20 \text{ minutes}$$

$$\text{Usual time} = 3r = 3 \times 20 = 60 \text{ minutes}$$



S77. Ans.(d)

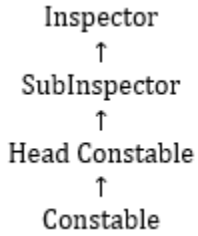
Sol. Sum of digits of 7284 is odd.

S78. Ans.(b)

Sol. 19 is odd no.

S79. Ans.(c)

Sol.



S80. Ans.(c)

Sol.

3, 6, 9, 36, 41, 246

$3 \times 2 = 6$

$6 + 3 = 9$

$9 \times 4 = 36$

$36 + 5 = 41$

$41 \times 6 = 246$



Adda 247  
Test Series

**SSC TIER-II / MAINS  
PREMIUM PACKAGE**

*Useful for CGL | CPO | MTS | CHSL | GD*

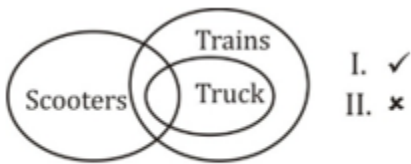
**60 Total Tests**

✓ 50 CGL Mocks    ✓ 10 CPO Mocks

**BILINGUAL**

S81. Ans.(a)

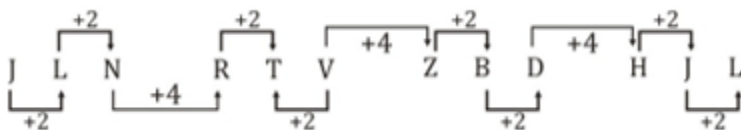
Sol.



Conclusion I follows.

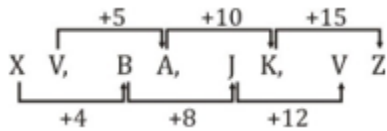
S82. Ans.(b)

Sol.



S83. Ans.(c)

Sol.



S84. Ans.(d)

Sol.

Yesterday Today  $\xrightarrow{+10\text{th}}$  Saturday  
↓ ↓  
Tuesday Wednesday

S85. Ans.(d)

Sol.

- i. collaborate
- ↑
- iv. combination
- ↑
- ii. constant
- ↑
- iii. Correspondence



S86. Ans.(c)

Sol.

^@&%^!

S87. Ans.(d)

Sol.

13 13<sup>2</sup> 31<sup>2</sup>  
15 15<sup>2</sup> 51<sup>2</sup>  
12 12<sup>2</sup> 21<sup>2</sup>  
15<sup>2</sup> = 225

S88. Ans.(a)

Sol.

$\Rightarrow 153 \div 17 \times 6 - 9 + 18$   
 $\Rightarrow 9 \times 6 - 9 + 18$   
 $\Rightarrow 54 - 9 + 18$   
 $\Rightarrow 72 - 9$   
 $\Rightarrow 63$

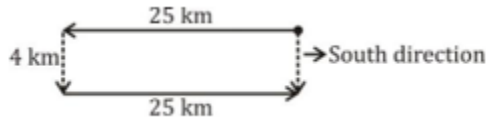
S89. Ans.(a)

Sol.

d e f / d e e f / d e e e f

S90. Ans.(c)

Sol.

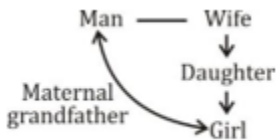


S91. Ans.(d)

Sol. 13, 11, 30, 41

S92. Ans.(c)

Sol.



S93. Ans.(d)

S94. Ans.(a)

S95. Ans.(c)

S96. Ans.(c)

Sol. As Microphone makes sound louder similarly Microscope makes the object magnified.

S97. Ans.(c)

Sol. Z - 8 → R

R + 7 → Y

Y - 8 → Q

K - 8 → C

C + 7 → J

J - 8 → B

P + 7 → W

W - 8 → O

O + 7 → V

E + 7 → L

L - 8 → D

D + 7 → K



S98. Ans.(a)

Sol.

W  $\xrightarrow{-1}$  H  
I  $\xrightarrow{-1}$  V

D  $\xrightarrow{-1}$  C

E  $\xrightarrow{-1}$  E

L  $\xrightarrow{-1}$  X  
Y  $\xrightarrow{-1}$  K

F  $\xrightarrow{-1}$  Q  
R  $\xrightarrow{-1}$  E

I  $\xrightarrow{-1}$  H

N  $\xrightarrow{-1}$  M

G  $\xrightarrow{-1}$  D  
E  $\xrightarrow{-1}$  F

S99. Ans.(c)

Sol. As on melting, liquid is formed, similarly on freezing **solid** is formed.

S100. Ans.(b)

Sol.  $24 \rightarrow 2 \times 4 \Rightarrow 8$

$32 \rightarrow 3 \times 2 \Rightarrow 6$



Adda 247  
Test Series

**CRACKER SERIES**

**RRB Group 'D' 2018**  
Based on Latest Pattern

**10 TOTAL TESTS**

- ✓ 7 Full-Length Mocks
- ✓ 3 RRB ALP Memory-Based

Bilingual

