**1. Ans.(c):**
**Sol.** Contemporary antonym is Historic Similarly Ancient antonym is Modern.

**2. Ans.(a):**
**Sol.** Project Loon is a pet project of search engine giant Google for providing Internet access to rural and remote areas using high-altitude helium-filled.

**3. Ans.(b):**
**Sol.** GSAT-15 is an Indian communication satellite similar to GSAT-10 to augment the capacity of transponders to provide more bandwidth for Direct-to-Home television and VSAT services. It was successfully launched on 10 November 2015. GSAT-6 Launch date 27 August 2015, GSAT-16 Launch date 7 December 2014, IRNSS-1E Launch date 20 January 2016.

**4. Ans.(c):**
**Sol.** HCF = 4
Two other factors of LCM are 5 and 7
Number = 4 × 5= 20 and 4 × 7 = 28

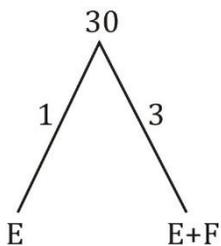**5. Ans.(b):**
**Sol.** Kohima is the hilly capital of India's north eastern border state of Nagaland.

**6. Ans.(a):**
**Sol.** E + F = 10 days
E = 30



F = 3 – 1 = 2 efficiency F alone can do the work in $\frac{30}{2}$ = 15 days

**7. Ans.(b):**
**Sol.** Swaraj Party, Indian political party established in late 1922– early 1923 by Motilal Nehru and Chitta Ranjan Das.

**8. Ans.(a):**
**Sol.** $2 \cos \left(\theta - \frac{\pi}{2}\right) + 3 \sin \left(\theta + \frac{\pi}{2}\right) - (3 \sin\theta + 2\cos\theta)$
$= 2\sin\theta + 3\cos\theta - 3 \sin\theta - 2 \cos\theta = \cos\theta - \sin\theta$

**9. Ans.(b):**
**Sol.** Banaras Hindu University (BHU) founded by Freedom fighter Pt Madan Mohan Malviya has turned 100 years on 13th February 2016. BHU was founded as important seat of higher education in 1916.

**10. Ans.(a):**
**Sol.** Porcelain is a ceramic material made by heating materials, generally including kaolin, in a kiln to temperatures between 1,200 and 1,400 °C. Porcelain is bad conductor of electricity .

**11. Ans.(c):**
**Sol.** Both conclusion follow

**12. Ans.(c):**
**Sol.** S Completes all the work in 2 days T, completes all the work in 4 days Both of them can complete the work in $\frac{1}{2} + \frac{1}{4} = \frac{3}{4}$
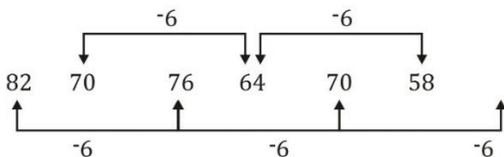
$= \frac{4}{3} days = 1.33\ days$

**13. Ans.(d):**
**Sol.** ICT Stands for "Information and Communication Technologies." ICT refers to technologies that provide access to information through telecommunications. It is similar to Information Technology (IT), but focuses primarily on communication technologies.

**14. Ans.(d):**
**Sol.** $\frac{3.6}{6.9} = \frac{11.4}{x}$

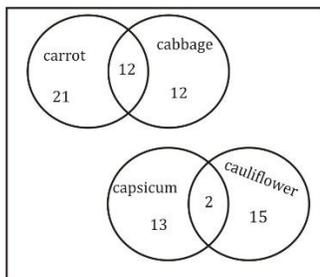x $= \frac{11.4\ \times 6.9}{3.6} = 21.9$ (approx.)

**15. Ans.(c):**
**Sol.**



70 – 6 = 64
**16. Ans.(c):**
**Sol.** Cabbage = 12
Cauliflower = 15
Carrot = 21
Capsicum = 13
Capsicum + Cauliflower = 2
Carrot + cabbage = 12

Total students who likes Carrot = 21 +12 =33
Total student who likes Cauliflower = 2 + 15 = 17
Difference = 33 – 17 = 16 Students

**17. Ans.(d):**
**Sol.** Students who like cabbage = 24 Student who don't like cabbage = 75 – 24 = 51
$= \frac{51}{75} \times 100 = 68\%$

**18. Ans.(b):**
**Sol.** Only one vegetable = 21 + 12 + 13 + 15 = 61

**19. Ans.(a):**
**Sol.** Sri Lanka's Kumar Sangakkara became the first player to score four successive centuries in World cup cricket.

**20. Ans.(a):**
**Sol.** Speed of car x = 12 km/h = $\frac{12 \times 5}{18}$ m/sec
Speed of car y = 16 km/hr = $\frac{16 \times 5}{18}$ m/sec
Difference after 3 minutes
= 180 sec = $\left(\frac{16 \times 5}{18} - \frac{12 \times 5}{18}\right)$180m = 200m

**21. Ans.(c):**
**Sol.** Consolation is related to grief similarly Sedative is related to Pain .

**22. Ans.(c):**
**Sol.** Length = L , New length = $\frac{5}{4}L$
Breadth = B , New Breadth = $\frac{5}{4}B$
New area = $\frac{5}{4} \times \frac{5}{4} L \times B = \frac{25}{16} LB$
Old area = LB
Difference = $\frac{9}{16}$LB

**23. Ans.(b):**
**Sol.** Sonar is a technique that uses sound propagation to navigate, communicate with or detect objects on or under the surface of the water, such as other vessels. Sonar is developed around World War II .

**24. Ans.(c):**
**Sol.** He had admitted to testing positive to dope test.

**25. Ans.(d):**
**Sol.** The digestive system starts with the mouth and includes the esophagus, stomach, small and large intestines, and anus. From beginning to end, the adult digestive system is about 30 feet, or 9 meters, long, according to the American Society of Gastrointestinal Endoscopy.

**26. Ans.(d):**
**Sol.** sulphur is not alkaline.

**27. Ans.(b):**
**Sol.** Total age of parents = 30 × 2 = 60 years
Total age of two children = 8 × 2 = 16 years
Total age of the Family = 76 years
Average = $\frac{76}{4}$ = 19 years

**28. Ans.(b):**
**Sol.** Only Conclusion II follow

**29. Ans.(c):**
**Sol.** $\frac{470}{600} \times 100$ = 78.33%

**30. Ans.(d):**
**Sol.** Discount = 35% = $\frac{7}{20}$
SP = 13
MP = 20
13 → 26000 Rs
20 → 40,000 Rs
15% discount = $\frac{3}{20}$
**SP → 17**
MP → 20 → Rs 40,000
**SP = Rs.** 34,000

**31. Ans.(d):**
**Sol.** 25 – 18 ÷ 3 + 7 × 3 = 40

**32. Ans.(c):**
**Sol.** Speed = $\frac{Distance}{time}$ = $\frac{1\ km}{10} \times 60$ = 6 km/hr

**33. Ans.(c):**

**34. Ans.(c):**
**Sol.** $500 \left[1 + \frac{10}{100}\right]^2 + 500 \left(1 + \frac{10}{100}\right)$ = Maturity at the end of the 2$^{nd}$ year
= $\frac{500 \times 121}{100} + \frac{500 \times 11}{10}$ = 605 + 550 = 1155 Rs

**35. Ans.(c):**
**Sol.** Diphtheria causes a thick covering in the back of the throat. It can lead to difficulty breathing, heart failure, paralysis, and even death.

**36. Ans.(d):**
**Sol.** god is great = cp an bo          … (i)
Great help done = er cp fs          … (ii)
He is great = bo cp dq          … (iii)
From (i) and (ii) great = cp

From (i) and (3) is = bo
⇒ god = an and he = dq
He is god = an bo dq

**37. Ans.(c):**
**Sol.** The euro is the sole currency of 19 EU member states: Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain.

**38. Ans.(d):**
**Sol.** New mean = 35 + 2 = 37

**39. Ans.(b):**
**Sol.** Gunpowder, also known as black powder to distinguish it from modern smokeless powder, is the earliest known chemical explosive. It consists of a mixture of sulfur (S), charcoal (C), and potassium nitrate (saltpeter, $KNO_3$).

**40. Ans.(c):**
**Sol.** (27 + 15 – 2) ÷ 10 = 4

**41. Ans.(c):**
**Sol.** The significant features of Indus Valley civilization are personal cleanliness, town planning, construction of burnt-brick houses, ceramics, casting, forging of metals, manufacturing of cotton and woolen textiles.

**42. Ans.(c):**
**Sol.** ARC = $ @ *
HIT = # & %
CHAIR = *#$ & @

**43. Ans.(a):**
**Sol.** health care is wealth = 1372          ... (i)
Health needs care = 417          ... (ii)
He needs wealth= 463          ... (iii)
He is wealth = ?
From (i) and (2)
Health/care = 1/7
From (2) and (3) needs = 4
is/wealth = 3/2
from (i) and (3)
wealth = 3
is = 2
he = 6
he is wealth = 326

**44. Ans.(b):**
**Sol.** Atq,
l – b = 6m                                ... (i)
2(l + b) = 64 m                      ... (ii)
From (i) and (2)
l = 19, $b_1$ = 13
area = 19 × 13 = 247 m$^2$

**45. Ans.(d):**
**Sol.** S = Price/kg of Suger , r = price /kg of rice 12 kg sugar = 6 kg rice
2 kg sugar = 1 kg rice
2S = r
10 kg Sugar + 8 kg rice = Rs 1040
10 s + 8 × 2s = 1040
26s = 1040
S = 40 Rs/kg

**46. Ans.(d):**
**Sol.** +4, +4, +4, +4 series ONPM

**47. Ans.(c):**
**Sol.** Pointing to himself
    Father
      ↓
Son [Having on sibling]

**48. Ans.(b):**
**Sol.** 6 × 108 = 12 × x
x = 54

**49. Ans.(a):**
**Sol.** 9876 + 5431 – 5553 = x
x = 9754

**50. Ans.(a):**
**Sol.**
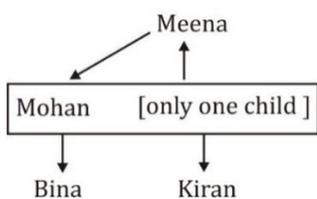


**51. Ans.(d):**
**Sol.** NGT- National Green Tribunal .

**52. Ans.(d):**
**Sol.** code = 6 2 41          ... (1)
Made = 5 3 4 6          ... (2)
Come = 3 1 2 4          ... (3)
to       = 27          ... (4)
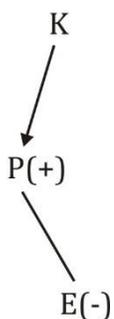0 = 2
e = 4
c = 1
d = 6
m = 3
dome = 6/2/3/4

**53. Ans.(c):**
**Sol.** United States won the most gold medals.

**54. Ans.(b):**
**Sol.** In 1858, British Crown rule was established in India, ending a century of control by the East India Company.

**55. Ans.(b):**
**Sol.**



K
↓
P(+)
↘
E(-)

**56. Ans.(c):**
**Sol.** 40 kg of basmati rice at Rs 125 /kg
60 kg of rice at Rs 150 /kg
Total CP = 40 × 125 + 60 × 150 = [5000 +9000] Rs = [14000] Rs
Per kg CP = $\frac{14000}{100}$ = 140 $Rs/kg$
At 20% Profit = $\frac{1}{5}$
6 → SP
5 → CP
5 → 140
6 → $\left[\frac{140}{5} \times 6\right]$ Rs = 168 Rs

**57. Ans.(b):**
**Sol.** New Mean = $\frac{25 \times 40 - 25 + 50}{25}$ = 41

**58. Ans.(c):**
**Sol.**

```
29)1265(43
    116
    ‾‾‾‾
    105
     87
    ‾‾‾
     18
```

**59. Ans.(b):**
**Sol.** The National Aeronautics and Space Administration is an independent agency of the USA. The agency's administration is located at NASA Headquarters in Washington, DC.

**60. Ans.(c):**
**Sol.** Arrow : Bow : : Bullet : Rifle

**61. Ans.(c):**
**Sol.** Knowledge and wisdom are complementary to each other

**62. Ans.(b):**
**Sol.** India accounts for 2.4 percent of the world surface area and sustains the needs of 17 percent of human and 18 percent livestock population."

**63. Ans.(c):**
**Sol.** a + 2b = 55        ... (1)
a – 2b = –13        ... (2)
adding both we ged
2a = 42
a = 21
b = 17

**64. Ans.(d):**
**Sol.** Discount = 10% = $\left[\frac{10-1}{10} = \frac{SP}{MP}\right]$

SP → 9 → 3600
MP → 10 → 4000
Discount 15% = $\frac{3}{20}$ ⇒ $\frac{SP}{MP} = \frac{17}{20}$
MP → 20 → 4000
SP → 17 → 3400

**65. Ans.(c):**
**Sol.** Supercomputer PARAM 8000 (made by the Centre for Development of Advanced Computing (C-DAC)) was launched on July 1, 1991 is considered India's first supercomputer.

**66. Ans.(b):**
**Sol.** Bangladesh shares its border with India and Myanmar.

**67. Ans.(b):**
**Sol.** A → GOLD
B → STOVE
C → BRONZE
D → SILVER

**68. Ans.(b):**
**Sol.** Sum : Star is different than that of other

**69. Ans.(b):**
**Sol.** NSAT-3D is a meteorological, data relay and satellite aided search and rescue satellite developed by the Indian Space Research Organisation and was launched successfully on 26 July 2013 using an Ariane 5 ECA launch vehicle from French Guiana.

**70. Ans.(a):**
**Sol.** Authenticating the user is verification of log in name and password.

**71. Ans.(d):**
**Sol.** A, B, C are properties of a triangle D is a property of Right angled triangle

**72. Ans.(b):**
**Sol.** $99 \times 99 = (100 - 1)^2 = 10000 - 200 + 1 = 9801$

**73. Ans.(d):**
**Sol.** cot 52° = b
Cot (90 – 38)° = b
Tan 38 = b

**74. Ans.(d):**
**Sol.** Electromagnetic radiation includes gamma-rays, X-rays, ultraviolet radiation, visible light, infrared radiation, microwaves and radio waves.

**75. Ans.(b):**
**Sol.** Only conclusion II follows become in statement 1 and 2 there is no mention of justice

**76. Ans.(b):**
**Sol.** A compiler is a special program that processes statements written in a particular programming language and turns them into machine language or "code" that a computer's processor uses. It is neither hardware nor software.

**77. Ans.(b):**
**Sol.** The Tashkent Declaration was a peace agreement between India and Pakistan signed on 10 January 1966 that resolved the Indo-Pakistani War of 1965.

**78. Ans.(c):**
**Sol.** Let the age of youngest be x
Atq,
X + x + 4 + x + 8 + x + 12 = 48
4x = 24
x = 6

**79. Ans.(b):**
**Sol.** $x \times y = 24$ ; $2xy = 48$ ... (1)
$x^2 \times y^2 = 52$ ... (2)
adding (1) and (2) we get
$52 + 48 = x^2 + y^2 + 2xy$
$(x + y)^2 = 100$
$x + y = 10$

**80. Ans.(b):**
**Sol.** Ratio of two numbers = 3 : 1
3x + 1x = 72
x = 18
difference = 2x = 2 × 18 = 36

**81. Ans.(a):**
**Sol.**

|        | Teaching | Law | Banking | Cooking |
|--------|----------|-----|---------|---------|
| Red    | X        | X   | X       | P       |
| Blue   | X        | S   | X       | X       |
| White  | X        | X   | Q       | X       |
| Yellow | R        | X   | X       | X       |

**82. Ans.(b):**
**Sol.** Q is a banker

**83. Ans.(d):**
**Sol.** Cannot be determined.

**84. Ans.(d):**
**Sol.** The Mahanadi River is a river of eastern India. The Mahanadi rises in the Satpura Range of central India, and flows east to the Bay of Bengal. The Mahanadi drains most of the state of Chhattisgarh and much of Orissa.

**85. Ans.(a):**
**Sol.** Chinese President Xi Jinping visited india in 2015.

**86. Ans.(c):**
**Sol.** Sunil – Jagdish
[60 + 55 + 60 + 59 + 61] – [35 + 41 + 39 + 30 + 45] = 25 + 14 + 21 + 29 + 16 = 105

**87. Ans.(b):**
**Sol.**

|         | History | Geography | Total |
|---------|---------|-----------|-------|
| Shyam   | 51      | 65        | 116   |
| Sunil   | 59      | 61        | 120   |
| Jagdish | 30      | 45        | 75    |
| Rakesh  | 57      | 62        | 119   |

**88. Ans.(b):**
**Sol.**

|         | Total Marks | Average Marks |
|---------|-------------|---------------|
| Shyam   | 260         | 52            |
| Sunil   | 295         | 59            |
| Jagdish | 190         | 38            |
| Rajesh  | 275         | 55            |
| Average | $= \dfrac{\text{Total Marks}}{\text{Total no.of Subjects}}$ | |

Sunil has the highest

**89. Ans.(c):**
**Sol.** Khajuraho Group of Monuments found in Madhya Pradesh.

**90. Ans.(d):**
**Sol.** Stainless steel is an iron alloy with added elements such as chromium, nickel, silicon, manganese, nitrogen and carbon.

**91. Ans.(d):**
**Sol.** Human respiration releases Carbon dioxide

**92. Ans.(d):**
**Sol.** The Statue of Liberty is a colossal neoclassical sculpture on Liberty Island in New York Harbor in New York, in the United States.

**93. Ans.(c):**
**Sol.** The Paris Agreement came out of the COP21, the 21st Conference of Parties of the UNFCCC (United Nations Framework Convention on Climate Change), held in Paris from November 30th to December 12th, 2015. The agreement was adopted on December 12th, 2015.

**94. Ans.(a):**
**Sol.** Colour blindness is a usually a genetic (hereditary) condition (you are born with it). Red/green and blue colour blindness is usually passed down from your parents. The gene which is responsible for the condition is carried on the X chromosome and this is the reason why many more men are affected than women.

**95. Ans.(c):**
**Sol.** The normal force is equal to your apparent weight. So, you actually feel a little heavier than usual when the elevator accelerates upward, and lighter than usual when the acceleration is down. But Person weight will not change.

**96. Ans.(c):**
**Sol.** An upper house is also known as Rajya Sabha.

**97. Ans.(b):**
**Sol.** Rabbit is not an antivirus software.

**98. Ans.(c):**
**Sol.** The West Indies has won the 2016 ICC Under-19 Cricket World Cup title by defeating three time champion India in Mirpur, Bangladesh.

**99. Ans.(c):**
**Sol.** $\frac{1 + 9 + 7 + 3 + 5 + 5 + 6 + 4 + 2 + 8}{10} = \frac{50}{10} = 5$

**100. Ans.(d):**
**Sol.** let sum = x
x = $\frac{x \times R \times 10}{100}$
R = 10%