Ques 1. ANS (B) Solution:

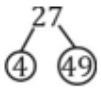
$(13)^2 = 169$

$1 + 6 + 9 = 16$

$(14)^2 = 196$

$1 + 9 + 6 = 16.$

Ques 2. ANS (B) Solution:



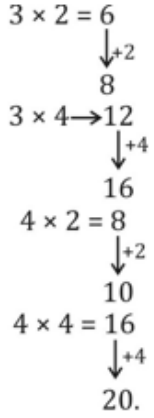
$= 49 - 4$

$= 45.$



$= 25 - 4 = 21.$

Ques 3. ANS (B) Solution:



Ques 4. ANS (C) Solution: Digit sum of all three numbers are equal.

Ques 5. ANS (C) Solution: Mahatma title given by. Ravinder nath tagore. Netaji title given by adolf Hitler.

Ques 6. ANS (B) Solution:

Follow +2, +1, +2 Sequence. → ACDF

Follow –2, –1, –2 Sequence. → ZXWU

Ques 7. ANS (A) Solution:

Ques 8. ANS (C) Solution:

Ques 9. ANS (B) Solution:

Ques 10. ANS (C) Solution:

Ques 11. ANS (C) Solution:

Ques 12. ANS (A) Solution: Cube of odd place numbers and square of even place numbers.

Ques 13. ANS (C) Solution:

Number divisible by 2 are $\frac{100}{2}$ = 50, Numbers divisible by 3 are 33

Numbers divisible by 2 and 3 are $\frac{100}{6}$ = 16

Numbers divisible by 2 or 3 is 50 + 33 – 16 = 67

So, Number of numbers not divisible by 2 or 3 are ⇒ 100 – 67 = 33

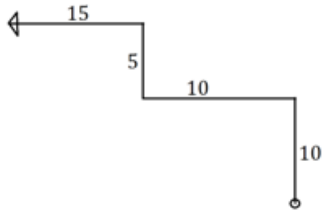
Ques 14. ANS (B) Solution: The pattern for 1st letter and 2nd letter of every term is +1, +2, +3, +4

Ques 15. ANS (A) Solution: The pattern is +2, +2, +2, +2, +2

Ques 16. ANS (D) Solution: +3, +5, +7, +9

Ques 17. ANS (A) Solution: Only inference 'a' follows

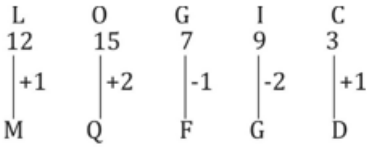
Ques 18. ANS (B) Solution:

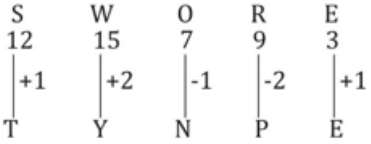


She is facing west

Ques 19. ANS (D) Solution:

Ques 20. ANS (B) Solution:





Ques 21. ANS (D) Solution:

A F C — 1 +6+3 = 10

D C B — 4 +3 +3 = 10

B F B — 2 + 6 + 2 = 10

E B D — 5 + 2 + 4 = 11

Ques 22. ANS (C) Solution:

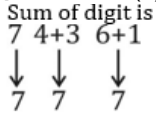
All are in proper directions expect (c) Kerala : South

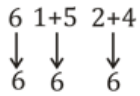
Ques 23. ANS (D) Solution: All are perfect squares except (d)

Ques 24. ANS (C) Solution:

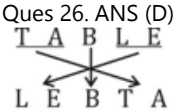
Ques 25. ANS (C) Solution:

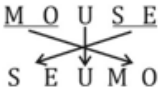
Sum of digit is equal.





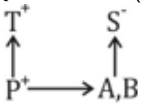
Ques 26. ANS (D) Solution:





Ques 27. ANS (A) Solution:

Ques 28. ANS (D) Solution:

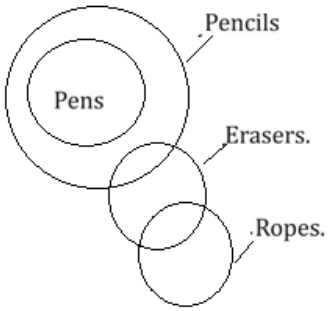


Ques 29. ANS (B) Solution: Father's father → Grand father

Grand-father's grand-daughter → Sister

Sister's-Husband → Brother-in-law.

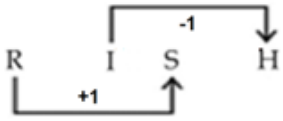
Ques 30. ANS (D) Solution:



Ques 31. ANS (C) Solution:
Ques 32. ANS (B) Solution:
Ques 33. ANS (B) Solution: explanation : As given in the statement, there is different treatment for industrial consumers and domestic consumers. It is because of only that industrial consumers consume more electricity than the domestic users.
Ques 34. ANS (D) Solution:

$$14+16/4-3*5 = 18-15 = 3$$

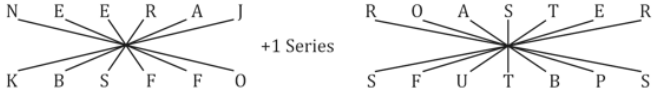
Ques 35. ANS (C) Solution: Opposite faces are 5↔6, 3↔4 and 2↔1.
Ques 36. ANS (D) Solution:
Ques 37. ANS (D) Solution:



All follow this pattern, except option (d).
Ques 38. ANS (D) Solution:
Ques 39. ANS (D) Solution:
Ques 40. ANS (D) Solution:
Ques 41. ANS (D) Solution: P= 2R
P= D+6
P = 12+6 =18
R=P/2 = 9 Years
Ques 42. ANS (B) Solution: abcba/abcba/abcba/abcba
Ques 43. ANS (D) Solution:

The pattern is
$1 \times 2 = 2, 2 \times 3 = 6, 6 \times 4 = 24$
Similarly, $16 \times 2 = 32, 32 \times 3 = 96, 96 \times 4 = 384$

Ques 44. ANS (C) Solution: after identifying the code P-N,R-S,A-T,N-O,K-L.
Ques 45. ANS (D) Solution: after identifying the code R-1,A-8,N-9,S-5,O-3,M-2.
Ques 46. ANS (C) Solution: Opposite faces are 1 and 6, 4 and 2, 3 and 5.
Ques 47. ANS (B) Solution: 4,3,2,1,5
Ques 48. ANS (A) Solution:



Ques 49. ANS (A) Solution:

R	A	C	E	C	A	R
18	1	3	5	3	1	18
+1	+1	+1	+1	+1	+1	+1
19	2	4	6	4	2	19

Ques 50. ANS (D) Solution:

1	2	3	4	5	6	7
A	C	C	O	U	N	T
T	U	C	A	N	O	C
7	5	3	1	6	4	2

Ques 51. ANS (D) Solution: Governor is appointed by the president by warrant under his hand and seal and is accountable for all this actions to the president.
Ques 52. ANS (C) Solution: A zonal council consists of a Union Minister nominated by the President, the Chief Ministers of all the states constituting the zone, two other ministers from each state, two representatives of the union territories, if there is a union territory in the zone. The Union Home Minister is the Chairman of each of these Councils.
Ques 53. ANS (A) Solution: He should be a citizen of India. He should have been a judge of a High Court (or high courts in succession) for five year or He should have been an advocate of a High Court for ten years.
Ques 54. ANS (A) Solution: States Reorganisation Commission consisted of Fazal Ali, K. M. Panikkar and H. N. Kunzru. Some of its recommendations were implemented in the States Reorganisation Act of 1956.
Ques 55. ANS (D) Solution: :In 1983, the Central government appointed a three-member Commission on Centre–state relations under the chairmanship of R S Sarkaria, a retired judge of the Supreme Court.26 The commission was asked to examine and review the working of existing arrangements between the Centre and states in all spheres and recommend appropriate changes and measures.
Ques 56. ANS (A) Solution: There were 16 Navratnas CPSEs - Bharat Electronics Limited, Container Corporation of India Limited, Engineers India Limited, Hindustan Aeronautics Limited, Hindustan Petroleum Corporation Limited, Mahanagar Telephone Nigam Limited, National Aluminium Company Limited, National Buildings, Construction Corporation Limited, NMDC Limited, Neyveli Lignite Corporation Limited, Oil India Limited, Power Finance Corporation Limited, Power Grid Corporation of India Limited, Rashtriya Ispat Nigam Limited Rural Electrification Corporation Limited, Shipping Corporation of India Limited.
Ques 57. ANS (A) Solution: A shift in the demand curve is when a determinant of demand other than price changes. Demand curve will shift forward, when Price of complementary good falls.
Ques 58. ANS (C) Solution: GDP refers to and measures the domestic levels of production in a country. GNP measures the levels of production of all the citizens or corporations from a particular country working or producing in any country. Thus, if exports equal imports then GNP is more than GDP.
Ques 59. ANS (C) Solution: Base Rate is the minimum rate of interest the banks are permitted to charge their customers. The new Base Rate as fixed by RBI is 8.70% to 9.45% p.a.
Ques 60. ANS (C) Solution: The nomadic savages or tribes who lived in the neighbourhood of China were the Hephthalites (the Sanskrit name of which is Hunas). Gupta Empire ruled over a major part of India, after the death of the Gupta emperor, Samudragupta, there was less control of the skandgupta in Western India. During this time, the Hunas armed forces attacked the Gupta dynasty.
Ques 61. ANS (C) Solution: Chittaranjan Das, popularly called Deshbandhu, was a leading Indian politician, a prominent lawyer, an activist of the Indian National Movement and founder-leader of the Swaraj Party in Bengal during British occupation in India
Ques 62. ANS (D) Solution: Glimpses of World History, a book written and published by Jawaharlal Nehru in 1934, is a panoramic sweep of the history of humankind. It is a collection of 196 letters on world history written from various prisons in British India 1930-1933.
Ques 63. ANS (A) Solution: Nagarjuna taught the doctrine of 'Shunyata'.

Ques 64. ANS (A) Solution: Bal Gangadhar Tilak, born as Keshav Gangadhar Tilak, was an Indian nationalist, teacher, social reformer, lawyer and an independence activist. He was the first leader of the Indian Independence Movement. He has been described as being Radical in politics but Conservative in social issues.
Ques 65. ANS (A) Solution: Australia, United States of America and Bangladesh has written constitution while on the other hand United Kingdom doesn't have a written constitution
Ques 66. ANS (A) Solution: Sambhaji was the second ruler of the Maratha Kingdom. He was the eldest son of Shivaji, the founder of Maratha Empire. In 1689, Sambhaji was captured, tortured and executed by the Mughals emperor Aurangzeb.
Ques 67. ANS (A) Solution: Spring tides occur when the sun and moon are directly in line with the earth and their gravitational pulls reinforce each other.
Ques 68. ANS (A) Solution: Corals are mainly found in the tropical oceans. Corals need clean sediment free water. A coral polyp has a sac like body and an opening encircled by stinging tentacles called cnidae. The coral polyp uses calcium carbonate from seawater to build itself a hard skeleton and it is this limestone skeleton that protects the soft coral polyp.
Ques 69. ANS (D) Solution: Indravati National Park is located in the Bastar region. The park is situated at the distance of 97.4 km Bastar.
Ques 70. ANS (A) Solution: Andaman and Nicobar have 9 national parks; Assam has 6, Arunachal Pradesh and Maghalaya both have 2 each.
Ques 71. ANS (C) Solution: Lake Victoria acts as the international boundary between Tanzania and Uganda. It is the largest lake in Africa and second widest fresh water body in the world.
Ques 72. ANS (B) Solution: Bering strait divides Alaska and Russia.
Ques 73. ANS (B) Solution: Tropic of Cancer comes across Jharkhand and Ranchi is nearest of it.
Ques 74. ANS (D) Solution: Zoji La is a high mountain pass in the Himalayas in the Indian union territory of Ladakh. Shipki La is a mountain pass and border post on the India-Tibet border in Himachal Pradesh. Nathu La is a mountain pass in the Himalayas in East Sikkim district.
Ques 75. ANS (D) Solution: Sundari tree is found in Sundarban area of West Bengal. Sundarban is a largest wetland area in the world. Sundarban got its name itself due to abundance of 'Sundari' tree in this area.
Ques 76. ANS (B) Solution: Ex-situ conservation is the preservation of components of biological diversity outside their natural habitats.
Ques 77. ANS (B) Solution:
Ques 78. ANS (C) Solution: A vertebrate is an animal with a spinal cord surrounded by cartilage or bone. The word comes from vertebrae, the bones that make up the spine. Animals that are not vertebrates are called invertebrates. Vertebrates include birds, fish, amphibians, reptiles, and mammals. Snail is not a vertebrate.
Ques 79. ANS (D) Solution: Vinegar is a liquid that is produced from the fermentation of ethanol into acetic acid. The fermentation is carried out by bacteria. Vinegar consists of acetic acid (CH3COOH), water and trace amounts of other chemicals, which may include flavorings.
Ques 80. ANS (C) Solution: The thymus gland, located behind your sternum and between your lungs, is only active until puberty. After puberty, the thymus starts to slowly shrink and become replaced by fat.
Ques 81. ANS (B) Solution:
Ques 82. ANS (B) Solution: Khadi and Village Industries Commission (KVIC) inaugurated the first silk processing plant at Surendranagar in Gujarat.
Ques 83. ANS (A) Solution:
Ques 84. ANS (C) Solution:
Ques 85. ANS (D) Solution: Red blood cells are formed in the red bone marrow of bones. Stem cells in the red bone marrow called hemocytoblasts give rise to all of the formed elements in blood. If a hemocytoblast commits to becoming a cell called a proerythroblast, it will develop into a new red blood cell.
Ques 86. ANS (C) Solution: The Jawara dance is a renowned folk dance of the central Indian state of Madhya Pradesh. The people of Bundelkhand region particularly, perform this art form. It is also known as the Harvest Dance.
Ques 87. ANS (D) Solution:
Ques 88. ANS (A) Solution: Georg Ohm, in full Georg Simon Ohm was German physicist who discovered the ohm's law.
Ques 89. ANS (B) Solution: Chikankari is a delicate art of Lucknow crafting intricate shadow and designer type of embroidery which was usually performed on the white yarn initially or colorless muslin cloths which are called as tanzeb.
Ques 90. ANS (C) Solution: Zeeman effect,in physics and astronomy, the splitting of a spectral line into two or more components of slightly different frequency when the light source is placed in a magnetic field. It was first observed in 1896 by the Dutch physicist Pieter Zeeman as a broadening of the yellow D-lines of sodium in a flame held between strong magnetic poles.
Ques 91. ANS (D) Solution:
हर साल पूरे भारत में 14 नवंबर को बाल दिवस मनाया जाता है. यह भारत के पहले प्रधान मंत्री जवाहरलाल नेहरू की जयंती के उपलक्ष्य में मनाया जाता है. यह दिवस पंडित नेहरू के सम्मान में मनाया जाता है. इस वर्ष के बाल दिवस की थीम, 'हर बच्चे के लिए, हर अधिकार' (For every child, every right), दुनिया भर में हर बच्चे के अधिकारों को बनाए रखने की प्रतिबद्धता को रेखांकित करती है. Every year Children's Day is celebrated on 14 November all over India. It is celebrated to commemorate the birth anniversary of the first Prime Minister of India, Jawaharlal Nehru. This day is celebrated in honor of Pandit Nehru. The theme of this year's Children's Day, 'For every child, every right', underlines the commitment to upholding the rights of every child around the world.
Ques 92. ANS (B) Solution:
भारतीय रेलवे की "वन स्टेशन वन प्रोडक्ट" पहल अब देशभर के 1,037 स्टेशनों पर चालू है. यह पहल स्थानीय लोगों को स्वदेशी उत्पाद बेचने के लिए विशिष्ट रूप से डिज़ाइन किया गया है. यह योजना नेशनल इंस्टीट्यूट ऑफ डिजाइन, अहमदाबाद द्वारा डिजाइन की गई है. योजना का पायलट प्रोजेक्ट 25 मार्च 2022 को शुरू किया गया था. Indian Railways' "One Station One Product" initiative is now operational at 1,037 stations across the country. This initiative is specifically designed to sell indigenous products to the local people. This scheme has been designed by the National Institute of Design, Ahmedabad. The pilot project of the scheme was started on 25 March 2022.
Ques 93. ANS (A) Solution:
Ques 94. ANS (A) Solution:
पूर्व भारतीय कप्तान डायना एडुल्जी पहली भारतीय महिला क्रिकेटर बन गईं जिन्हें अंतरराष्ट्रीय क्रिकेट परिषद (ICC) ने अपने हाल ऑफ फेम में शामिल किया है. उनके साथ भारत के पूर्व सलामी बल्लेबाज वीरेंद्र सहवाग और श्रीलंका के अरविंद डिसिल्वा को भी हाल ऑफ फेम में शामिल किया गया है. डायना ने 1976 से 1993 के बीच भारत के लिए 54 मैच खेले और 100 से अधिक विकेट हासिल किये थे. Former Indian captain Diana Edulji became the first Indian woman cricketer to be inducted by the International Cricket Council (ICC) in its Hall of Fame. Along with him, former Indian opener Virender Sehwag and Sri Lankan Aravind de Silva have also

been included in the Hall of Fame. Diana played 54 matches for India between 1976 and 1993 and took more than 100 wickets.

Ques 95. ANS (B) Solution:

भारतीय स्काइडाइवर शीतल महाजन ने दुनिया की सबसे ऊंची चोटी माउंट एवरेस्ट के सामने 21,500 फीट की ऊंचाई से हेलीकॉप्टर से छलांग लगाकर स्काईडाइव करने वाली पहली महिला बन गयी है. जिसके बाद वह 17,444 फीट की ऊंचाई पर 'कालापत्थर' चोटी पर उतरी. वह एक प्रसिद्ध भारतीय स्काइडाइवर हैं, जिनके पास कई स्काइडाइविंग रिकॉर्ड हैं और 2001 में चौथे सर्वोच्च नागरिक पुरस्कार, पद्म श्री से भी सम्मानित किया गया था. Indian skydiver Sheetal Mahajan has become the first woman to skydive by jumping from a helicopter from a height of 21,500 feet in front of Mount Everest, the world's highest peak. After which she landed on 'Kalapathar' peak at a height of 17,444 feet. He is a renowned Indian skydiver who holds several skydiving records and was also awarded the fourth highest civilian award, the Padma Shri, in 2001.

Ques 96. ANS (B) Solution: Photosynthesis in plants converts solar energy into chemical energy using electrons and protons from water. The process of photosynthesis in plants involves a series of steps and reactions that use solar energy, water, and carbon dioxide to produce organic compounds and oxygen.

Ques 97. ANS (D) Solution: Khari Baoli is a street in Delhi, India known for its wholesale grocery and Asia's largest wholesale spice market selling all kinds of spices, nuts, herbs and food products like rice and tea.

Ques 98. ANS (A) Solution:

Acceleration due to gravity on earth g= G ME/r^2

Let another planet acceleration due to gravity g'=G2ME/r^2

Hence, g'/g=(G2M_E r^2)/G$M_E r^2$

g'/g=2

g'=2g.

Ques 99. ANS (A) Solution: Acceleration is the rate of change of velocity of an object with respect to time.

Ques 100. ANS (D) Solution: Nylon is a high strength fibre. It is used for making fishing nets, ropes, parachutes and type cords, for making fabrics in textile industry, Crinkled nylon fibres are used for making elastic hosiery. It is used as plastic for making machine parts. It is also blended with wool to increase the strength.

Ques 101. ANS (C) Solution:

Let the cost price of the pen be Rs x

ATQ

$69\frac{4}{9}\%$ of $y = x \times \frac{5}{6}$

$\frac{25y}{36} = \frac{5}{6}x$

$\frac{y}{x} = \frac{6}{5}$

Let y be 6a and x be 5a.

New SP=85% of $y = \frac{17}{20}y = 5.1a$

Profit% $= \frac{5.1a-5a}{5a} \times 100 = 2\%$

Ques 102. ANS (A) Solution:

Area covered by the roller in a revolution= CSA of the roller = $2\pi rh = 2 \times \frac{22}{7} \times \frac{126}{2} \times 40 = 1.584 m^2$

Area covered by the roller in 25 revolutions= $25 \times 1.584 = 39.6\ m^2$

Ques 103. ANS (A) Solution:

Let the capacity of the tank be 30 units (lcm of 30 and 15)

Ratio of efficiency of A to that of B=5:4

Efficiency of pipe C= 1 units/hr

Efficiency of (A+B+C) = 2 units/hr

Efficiency of pipe (A+B) = 3 units/hr

Required time $= \frac{30}{3 \times \frac{4}{9}} = 22.5\ hr$

Ques 104. ANS (B) Solution:

Required quadratic equation=$(x-3)(x+2)=x^2-x-6=0$

On comparing with the given equation,

$a_1=1$ and $a_2=6$

$(a_2^2-a_1^2)/2.5a_2 = \frac{36-1}{2.5 \times 6} = \frac{7}{3} = 2\frac{1}{3}$

Ques 105. ANS (C) Solution:

we add 3 to the equation and subtract 3 from the expression

$=3a^3-9a^2+9a+3b+3b^2+b^3+3-3$

$=3a^3-9a^2+9a-3+ b^3+3b^2+3b+1+2$

$=3(a^3-3a^2+3a-1)+(b^3+3b^2+3b+1)+2$

$=3(a-1)^3+(b+1)^3+2=(-2+1)^3+2=1$

Ques 106. ANS (A) Solution:

When, a+b+c=0 then $a^3+b^3+c^3-3abc=0$

Here, x+y+2=0, so, $x^3+y^3+8-3xy=0$

$x^3+y^3+7-3xy= x^3+y^3+7-3xy+1-1= x^3+y^3+8-3xy-1= -1$

Ques 107. ANS (B) Solution:

Required difference $= \frac{56+48+54+60+58}{5} - \frac{50+45+40+36+48}{5} = 55.2 - 43.8 = 11.4$

Ques 108. ANS (D) Solution:

Let the number of conical toys and that of cylindrical toys be 4x and x respectively.

ATQ

$\frac{4}{3}\pi r^3 = 4x(\frac{1}{3}\pi x 3.5^2 x 6) + x(\pi x 3.5^2 x 6)$

x=9

required difference=3x=27

Ques 109. ANS (A) Solution:

Let the 1st and 3rd numbers be a and b respectively

⇒ (a +b)/2 – (a+ 25 + b)/3 =5

⇒ a+b=80

Ques 110. ANS (B) Solution:

∵ 6 boys = 9 girls

∴ 2 boys = 3 girls

∴ 3 boys + 3 girls = $(3 + 3 \times \frac{2}{3})$ boys = 5 boys

∴ $M_1D_1 = M_2D_6$

$= 6 \times 15 = 5 \times D_2$

D_2= 18 days

Ques 111. ANS (D) Solution:

$2\ kmph = \left(2 \times \frac{5}{18}\right) m/sec$

$= \frac{5}{9}\ m/sec$ & $4\ kmph = \frac{10}{9}\ m/sec$

Let the length of the train be x metres & its speed by y m/sec

Then, $\frac{x}{\left(y - \frac{5}{9}\right)} = 9$ and $\frac{x}{\left(y - \frac{10}{9}\right)} = 10$

∴ 9y - 5 = x and 10 (9y - 10) = 9x

∴ 9y - x = 5 and 90y - 9x = 100

On solving we get x = 50.

∴ Length of the train is 50 m.

Ques 112. ANS (B) Solution:

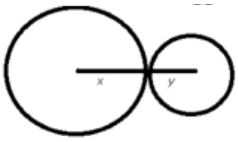
required average $= \frac{80+150+120+100+120}{5} = \frac{570}{5} = 114$

Ques 113. ANS (A) Solution:

required ratio $= \frac{150+120+100+120}{570} = \frac{490}{570} = 49:57$

Ques 114. ANS (D) Solution:

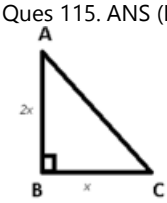
Let the radius of bigger circle be x cm and that of smaller circle be y cm



Now, x+y=16 cm.....(i)
And, $\pi x^2+\pi y^2=146\pi$
$x^2+y^2=146$.....(ii)
from (i) and (ii),
we have, x=11 and y=5 cm

required difference in circumference= $2\pi x11-2\pi x5=12\pi$ cm

Ques 115. ANS (D) Solution:



In ΔABC, AC=$\sqrt{AB^2+BC^2}$
AC=$\sqrt{5}$x
BD=$\frac{AB\times BC}{AC}=\frac{2x}{\sqrt{5}}$
Now,

$$\frac{AD\times CD}{BD^2}=\frac{\left(\frac{AB^2}{AC}\right)\times\left(\frac{BC^2}{AC}\right)}{BD^2}=1$$

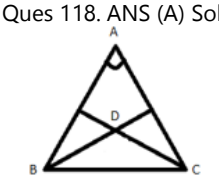
Ques 116. ANS (B) Solution:
Let capital invested by C be Rs 25x
Then amount invested by A=20x and by B=18x
Ratio of profit share

A		B		C
20x×6+30x×6	:	18x×6+30x×6	:	25x×6+30x×6
50	:	48	:	55

Profit share of B=$\frac{27540}{153}\times 48 = Rs\ 8640$

Ques 117. ANS (C) Solution:
Given six digits number x67yy9 is divisible by 11
i.e. $x+7+y=6+y+9$
x=8
now the given number is also divisible by 9
so, sum of its digits must be divisible by 9
i.e. $x+6+7+2y+9=(x+22+2y)$
$(x+22+2y)$ will be divisible by 9 only when x+2y=5 or 14
On putting value of x=8, y=3
{(x-y) ÷y}={(8-3) ÷3}=$\frac{5}{3}$

Ques 118. ANS (A) Solution:



Let ∠ABC be 2x and ∠ACB be 2y.
∠DBC=x, ∠DCB=y
$2x+2y=180^0-22^0=158^0$
$x+y=79^0$
$\angle BDC=180^0-(\angle DBC+\angle DCB)=180^0-(79^0)=101^0$

Ques 119. ANS (C) Solution:
$\frac{3}{13}$ of P = (40% of Q)-70.....(i)
And, P=(100-2.5)% of Q
P= 97.5% of Q
P=$\frac{39}{40}Q$.....(ii)
From (i) and (ii),
$\frac{3}{13}$ of $\frac{39}{40}Q$=(40% of Q)-70

Q=400.....(iii)
From(iii) and (ii)
P=$\frac{39}{40}\times 400 = 390$

Ques 120. ANS (C) Solution:
The pattern is
+1,×3,+1,×3,+1,×3,+1,.....
so, ,issing term = 67×3=201.

Ques 121. ANS (A) Solution:
$56.7\div 0.9+84\ of\ 49\div 2058-84\%\ of\ 25-40\div 80\times 4$
$=63+4116\div 2058-\frac{84}{100}\times 25-2$
=63+2-21-2=42

Ques 122. ANS (C) Solution:
Required difference=$\frac{(40+46+54)-(36+44+60)}{(36+44+60)}\times 100 = 0\%$

Ques 123. ANS (A) Solution:
Required ratio=$\frac{46+44}{52+48}=\frac{90}{100}=9:10$

Ques 124. ANS (B) Solution:
Let the sum be Rs P and the rate of interest be r% per annum.
ATQ

$$\frac{Pr\times 2}{100}=600$$

$Pr = 30000\ldots\ldots\ldots\ldots(i)$
And $P(r/100)^2$=660-600
$Pr(r/10000)=60$.....(ii)
From (i) and (ii)
r=20%

Ques 125. ANS (D) Solution:
Distance covered by bike in one hour excluding stoppage=80 km
And distance covered by bike in one hour including stoppage= 72 km
so, due to stoppage it covers 80-72=8 km less
stoppage time=$\frac{8}{80}\times 60 = 6\ min$

Ques 126. ANS (B) Solution:
Cumulative interest for the first year=$5+5+\frac{25}{100}=10.25\%$
Interest in 1st year= $12000\times\frac{10.25}{100}=$ Rs. 1230
Interest in 2nd year= $(12000+1230)\times\frac{10}{100}=$ Rs. 1323
Total Interest = 1230+1323=Rs 2553

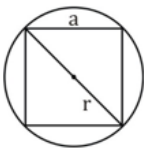
Ques 127. ANS (A) Solution:
Let the speed of boat in still water be 5x km/hr
Then speed of boat in downstream= 8x km/hr
Speed of boat in upstream = 5x – (8x-5x) = 2x km/hr
ATQ

$$\frac{20}{8x}+\frac{20}{2x}=\frac{25}{3}$$

$x = 1.5$
Required time=$\frac{15}{5\times 1.5}=2\ hrs.$

Ques 128. ANS (D) Solution:

Let side of square be a cm and radius of circle be r cm.



Side of the square= a $=\frac{112}{4}=28\ cm$
Area of square= 784 cm^2
Diagonal of the square= $\sqrt{2}$a cm=$28\sqrt{2}$ cm
Radius of the circle = r $=\frac{Diagonal\ of\ the\ square}{2}=14\sqrt{2}$ cm
Area of the circle =$\pi r^2=\frac{22}{7}\times 14\times 14\times 2=1232\ cm^2$
Area of the remaining circular portion= 1232-784= 448 cm^2=0.0448 m^2

Ques 129. ANS (B) Solution:
Let volume of cylinder and that of cone be V_1 & V_2 respectively
Then, $\frac{V_1}{V_2}=\frac{5}{3}$
Let height of cylinder and that of cone be (x+ 3) cm and x cm respectively
$\frac{\pi(x+3)\times 7\times 7}{\frac{1}{3}\times\pi\times x\times 10.5\times 10.5}=\frac{5}{3}$
$11.25x-9x=27$
x = 12 cm=0.12 m

Ques 130. ANS (C) Solution:
Let Y be 5 then X=3 and Z=6
X + Y + Z = 140 × 3 = 420
X = $420\times\frac{3}{14}=90$
Y = $420\times\frac{5}{14}=150$
Z = $420\times\frac{6}{14}=180$
After increment
X= 90 × 1.5 = 135
Y= 150× 1.2 = 180
New total= $140\times 3\times\frac{5}{4}=525$
New value of R = 525 − (135 + 180) = 210
Required percentage = $\frac{210-180}{180}\times 100=16\frac{2}{3}\%$

Ques 131. ANS (A) Solution:
Required revenue=$(80+120)\times 100\times 0.8+(150+120+100)\times 100=Rs\ 53{,}000$

Ques 132. ANS (A) Solution:
$6x-x^2=-91$
$x^2-6x-91=0$
x=13 or -7
Now, $\frac{x^3-x^2+x}{x+144}=\frac{2197-169+13}{13+144}=\frac{2041}{157}=13$

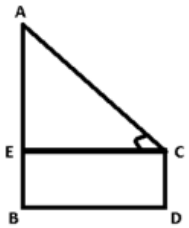
Ques 133. ANS (D) Solution:
$$\frac{\cos 5\theta+\cos 3\theta}{\sin 5\theta-sin3\theta}=\frac{2cos4\theta\ cos\theta}{2cos4\theta\ sin\theta}=1$$
$cot\theta=1$
$\theta=45°$
Then, $\cos 45°=\frac{1}{\sqrt{2}}$

Ques 134. ANS (D) Solution:
∠ORP=∠OPR= 30^0 (OP=OR= radius)
∠ORQ=∠OQR=50^0 (OQ=OR= radius)
∠POR =180^0-60^0=120^0
∠QOR=180^0-100^0=80^0
∠POQ=∠POR-∠QOR=40^0
So, $\angle PSQ=\frac{1}{2}\angle POQ=20^0$

Ques 135. ANS (B) Solution:
Time taken by C alone to do this work = 30 days
Let the total work be 960 units (Common multiple of 24, 30 and 48)
Efficiency of (A+C) = 40 units/day
Efficiency of (A+B) = 20 units/day
Efficiency of C=32 units/day
Efficiency of B=20-(40-32) = 12 units/days
Required time=$\frac{5}{8}\times\frac{960}{12}=50\ days$

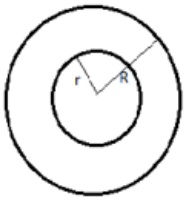
Ques 136. ANS (A) Solution:
$\pi r^2=9856\ cm^2$
$r^2=9856\times\frac{7}{22}=3136$
r=56 cm
Now, $2\pi rh=31680$
$2\times\frac{22}{7}\times 56\times h=31680$
h=90 cm=0.9 m

Ques 137. ANS (C) Solution:



Here, CD=1.5 m
BD=EC=$3\sqrt{3}$ m
AB=10.5 m
AE=10.5-1.5=9 m
In triangle AEC
$\tan\theta=\frac{AE}{EC}=\frac{9}{3\sqrt{3}}=\sqrt{3}=\tan 60^0$
$\theta=60^0$

Ques 138. ANS (B) Solution:
Let the radius of bigger and smaller circle be R cm and r cm respectively.



ATQ
$\pi R^2-\pi r^2=16\pi$
$R^2-r^2=16$
(R+r)(R-r)=16
Here, R+r=8 and R-r=2 are satisfying the above equation only.
R=5, r=3

Ques 139. ANS (D) Solution:
Largest altitude will be on the smallest side.
Let the largest altitude be l cm
area of trapezium=$20\times 6=8\times l$
$l=\frac{20\times 6}{8}=15$ cm

Ques 140. ANS (B) Solution:
Average number of corona positive patients in AP and Gujarat = $\frac{14+18}{2}=16\%$
Required % = $\frac{24-16}{16}\times 100=50\%$

Ques 141. ANS (A) Solution:
$$\text{Required difference}=\frac{(24+14)-(21+16)}{100}\times 360°=3.6°$$

Ques 142. ANS (B) Solution:

Total distance covered=520 km

Time taken to cover 25% of the distance=$\frac{520}{52}\times\frac{1}{4}=2.5\ hr$

Time taken to cover half of the remaining distance=$\frac{520\times0.75\times\frac{1}{2}}{78}=2.5\ hr$

Remaining distance=195 km

Remaining time=3 hr

Required speed=$\frac{195}{3}=65\ km/h$

Ques 143. ANS (D) Solution:

Total number of corona positive patients in Gujarat = $\frac{14}{100}\times7200=1008$

Let number of male corona positive patients be 100 x

Then, female patients = $75x$

100x + 75x = 1008

$\Rightarrow x=\frac{1008}{175}=5.76$

Number of female patients = 75×5.76=432

Ques 144. ANS (B) Solution:

Profit on using a weight of 5.4 kg instead of 6kg=$\frac{6-5.4}{5.4}\times100=11\frac{1}{9}\%$

Overall profit% =$\left(11\frac{1}{9}+20+\frac{\frac{100}{9}\times20}{100}\right)=33\frac{1}{3}\%$

Ques 145. ANS (D) Solution: Smallest number of five digits=10000

LCM of 6,8,12,15 and 30= 120

On dividing 10000 by 120, we get the remainder 40

So, the required five digits number= 10000+(120+2-40)=10082

Ques 146. ANS (C) Solution:

10^2 of 2.5 × [4 −$5\frac{5}{6}$ of $2\frac{1}{7}$ +{2 × (4^2 ÷ 4) ÷ 2 ÷ ½} + 9] of $\frac{3}{5}$

=250×[4-$\frac{35}{6}\times\frac{15}{7}$+{2x4x1/2x2}+9] of $\frac{3}{5}$

=250x[4-$\frac{25}{3}$+17] of $\frac{3}{5}$

=250x$\frac{38}{3}$x$\frac{3}{5}$=1900

Ques 147. ANS (A) Solution:

X=3-$\frac{3+\sqrt{5}}{4}-\frac{1}{3+\sqrt{5}}$

=3-$\frac{3+\sqrt{5}}{4}-\left[\frac{1}{3+\sqrt{5}}\times\frac{3-\sqrt{5}}{3-\sqrt{5}}\right]$

=$\frac{12-3-\sqrt{5}}{4}-\frac{3-\sqrt{5}}{4}$

=$\frac{6}{4}=\frac{3}{2}$

Required %=$\frac{\frac{5}{2}-\frac{3}{2}}{\frac{3}{2}}\times100=66\frac{2}{3}\%$

Ques 148. ANS (B) Solution:

Let the marked price be Rs 100x

Equivalent discount of three successive discounts of 10%, 10% and 5%=$100-100\times0.9\times0.9\times0.95=23.05\%$

Equivalent discount of two successive discount of 15% and 10%=$15+10-\frac{15\times10}{100}=23.5\%$

ATQ

$100x\times\frac{23.5-23.05}{100}=90$

$x=200$

MRP=Rs 20000

Ques 149. ANS (B) Solution:

$\frac{50-2\times[x+8\div(0.8\times0.2)-13]\div9}{2\times[3\ of\ 4\div5]+1.2}=6\frac{2}{3}$

=$\frac{50-2\times[x+50-13]\div9}{6}=6\frac{2}{3}$

=$\frac{50-2\times[x+37]\div9}{6}=6\frac{2}{3}$

$=50-2\times[x+37]\div9=40$

$=2\times[x+37]\div9=10$

$=x+37=45$

=x=8

Ques 150. ANS (A) Solution:

Required ratio = $\frac{18+7+14+21}{24+16}=\frac{60}{40}=\frac{3}{2}$

Ques 151. ANS (C) Solution: Replace 'left' with 'had left' because when two actions happen in the past, it is necessary to show which action happened earlier than the other. If the later action happened only after the completion of first action then the earlier action is expressed in past perfect tense and the later action in simple past.

Ques 152. ANS (A) Solution: Replace 'is' with 'am' because when the subject of the verb is a relative pronoun (who), the verb agrees with the Antecedent of the relative pronoun. A noun/pronoun which comes before a relative pronoun is called Antecedent. Here, 'I' is the Antecedent of who (Rel. Pro.) so with 'I' 'am' is used.

Ques 153. ANS (A) Solution: Replace 'is' with 'are' because police is a collective noun which takes plural helping verb

Ques 154. ANS (A) Solution: Replace 'I am" with 'me is' because preposition is followed by objective case and thus the verb will be used accordingly. Here 'but' is a preposition so objective case 'me' will follow and also verb 'is'.

Ques 155. ANS (D) Solution:

Ques 156. ANS (B) Solution: Correct phrase to use here is reached for (someone or something), it means literally, to extend one's hand in the direction of someone or something, especially in order to grasp onto them or it.

Ques 157. ANS (A) Solution: Correct term to use here is 'norm' it means an accepted standard or a way of behaving or doing things that most people agree with.

Ques 158. ANS (B) Solution: Offend is a verb, we need an adjective to qualify the noun 'driver'. Thus the correct word to use here is 'offending'.

Ques 159. ANS (C) Solution: Subscribe to something means to pay an amount of money regularly in order to receive or use something.

Ques 160. ANS (D) Solution: The beginning sound of the word 'MP' is a vowel sound, thus the correct article to use here is 'an'

Ques 161. ANS (B) Solution:

Refer to the last paragraph of the passage given above which states, "central bank to ensure that the discipline in the system does not slacken. The bond market does not allow any leeway to borrowers in repayment, and there is no reason why bank loans should be any different. The RBI should study the judgment closely, and quickly reframe its guidelines so that they are within the framework of the powers available to it under the law. Else, the good work done in debt resolution in the last one year will be undone.

" Therefore, we can conclude that statements (ii) and (iii) are correct as per the passage given above whereas statement (i) is incorrect. Hence, option (b) is the most suitable answer choice.

Ques 162. ANS (D) Solution: Refer to the first paragraph of the passage given above which states, "The circular had forced banks to recognise defaults by large borrowers with dues of over ₹2,000 crore within a day after an instalment fell due; and if not resolved within six months after that, they had no choice but to refer these accounts for resolution under the Insolvency and Bankruptcy Code." Therefore, we can conclude that all three statements (i), (ii) and (iii) are correct as per the information given in passage above. Hence, option (e) is the correct answer choice.

Ques 163. ANS (B) Solution: **Resolution**' means 'the action of solving a problem or contentious matter' and ' **rectification'** means 'the action of putting something right; correction'. Since they are synonymous with each other; option (b) is the most suitable answer choice.

Vacillation means the inability to decide between different opinions or actions; indecision.

Swither means be uncertain as to which course of action to choose.
Havering means vacillating or indecisive behaviour.
Ques 164. ANS (D) Solution: Refer to the first line of the 1st paragraph of the passage given above, "The Supreme Court order quashing a circular issued by the RBI on resolution of bad loans is a setback to the evolving process for debt resolution." We can infer from the given line that option (d) is incorrect. Hence, option (d) is the correct answer.
Ques 165. ANS (D) Solution: From the last line of the third paragraph, "By taking a hard line and refusing to heed representations, the RBI may only have harmed its own well-intentioned move", we can infer that the statement given in option (c) is incorrect. Also, the third paragraph mentions, "It is true that the circular failed to take into account the peculiarities of specific industries or borrowers and came up with a one-size-fits-all approach. It is also true that not all borrowers were deliberate defaulters, and sectors such as power were laid low by externalities beyond the control of borrowers." Therefore, both (a) and (b) are correct. Hence, option (d) is the correct answer.
Ques 166. ANS (D) Solution:
Ques 167. ANS (C) Solution:
Ques 168. ANS (B) Solution:
Ques 169. ANS (A) Solution:
Ques 170. ANS (D) Solution: Take stock (of something) means to examine a situation carefully.
Ques 171. ANS (D) Solution: **Peripatetic**: travelling from place to place, in particular working or based in various places for relatively short periods.
Nomadic: living the life of nomad, wandering.
Spire: a tall, pointed structure on top of a building, especially on top of a church tower.
Ques 172. ANS (A) Solution: **Synchronicity** means the happening by chance of two or more related or similar events at the same time
Conformity means behaviour in accordance with socially accepted conventions.
Altercation means a loud argument or disagreement.
Vendetta means a strong desire to harm a person or group, often because of political reasons or feelings of hate.
Ques 173. ANS (D) Solution: **Accolade** means an award or privilege granted as a special honour or as an acknowledgement of merit
Distinction means excellence that sets someone or something apart from others.
Bungle means to do something wrong, in a careless or stupid way.
Ques 174. ANS (B) Solution: **Redemption** means the action of saving or being saved from sin, error, or evil
Atonement means reparation or expiation for sin.
Retribution means punishment inflicted on someone as vengeance for a wrong or criminal act.
Forfeit means lose or be deprived of (property or a right or privilege) as a penalty for wrongdoing
Ques 175. ANS (A) Solution: Haste means excessive speed or urgency of movement or action; hurry.
Ques 176. ANS (C) Solution: Thug means a violent person, especially a criminal and constable means a police officer.
Ques 177. ANS (D) Solution: Humble means having or showing a modest or low estimate of one's importance and Pretentious means attempting to impress by affecting greater importance or merit than is actually possessed.
Ques 178. ANS (C) Solution: Grumble means complain about something in a bad-tempered way and compliment means a polite expression of praise or admiration.
Ques 179. ANS (D) Solution: Therapeutic means relating to the healing of disease and inimical means tending to obstruct or harm
Ques 180. ANS (C) Solution: Perpetuate means make (something) continue indefinitely and cease means come or bring to an end.
Ques 181. ANS (C) Solution: Schemata: a representation of a plan or theory in the form of an outline or model.
Speedier: done or occurring quickly.
Unionist: Unionism in Ireland is a political ideology that favours the continuation of some form of political union between the islands of Ireland and Great Britain.
Deceased: the recently dead person in question.
Ques 182. ANS (C) Solution: Adhesive: able to stick fast to a surface or object; sticky.
Priggish: self-righteously moralistic and superior.
Serenely: in a calm, peaceful, and untroubled manner.
Ques 183. ANS (D) Solution: Pyroxene means any of a large class of rock-forming silicate minerals, generally containing calcium, magnesium, and iron and typically occurring as prismatic crystals.
Ques 184. ANS (A) Solution: Humanoid: having an appearance or character resembling that of a human.
Spilling: cause or allow (liquid) to flow over the edge of its container, especially unintentionally.
Emigrate: leave one's own country in order to settle permanently in another.
Referent: the thing in the world that a word or phrase denotes or stands for.
Ques 185. ANS (B) Solution: Culpable: deserving blame.
Revolver: a pistol with revolving chambers enabling several shots to be fired without reloading.
Vegetate: live or spend a period of time in a dull, inactive, unchallenging way.
Rhythmic: having or relating to rhythm.
Ques 186. ANS (D) Solution: Totem: a natural object or animal that is believed by a particular society to have spiritual significance and that is adopted by it as an emblem.
Ques 187. ANS (C) Solution: Decamp: leave a place suddenly or secretly.
Ques 188. ANS (A) Solution: Etiquette: the customary code of polite behaviour in society or among members of a particular profession or group.
Frizette: a curly or frizzed fringe, often an artificial hairpiece, worn by women on the forehead.
Epaulette: a piece of ornamental material on the shoulder of a garment, esp a military uniform.
Fossette: a small depression.
Ques 189. ANS (B) Solution: Corpulence: something more than average fatness.
Exigency: an urgent need or demand.
Exultancy: triumphantly happy.
Ques 190. ANS (B) Solution: Arbitrary: based on random choice or personal whim, rather than any reason or system.
Auxiliary: providing supplementary or additional help and support.
Allegory: a story, poem, or picture that can be interpreted to reveal a hidden meaning, typically a moral or political one.
Ambulatory: Relating to or adapted for walking.
Ques 191. ANS (A) Solution: Paper tiger is something, such as an enemy or foreign country, that seems very strong and dangerous but is really weak and not harmful.
Ques 192. ANS (B) Solution: Lily-livered means not brave.
Ques 193. ANS (B) Solution: Eat like a bird means to always eat a small amount of food.
Ques 194. ANS (C) Solution: Dog days means the hottest days of the summer

Ques 195. ANS (A) Solution: Banana republic a small country, especially in South and Central America, that is poor, corrupt, and badly ruled.
Ques 196. ANS (C) Solution:
Ques 197. ANS (B) Solution:
Ques 198. ANS (A) Solution: Truce means an agreement between enemies or opponents to stop fighting or arguing for a certain time.
Ques 199. ANS (D) Solution:
Ques 200. ANS (C) Solution: