Ques 1. ANS (C) Solution: Except (c) all follow 1st × 3 + 2 Pattern.

Ques 2. ANS (B) Solution:

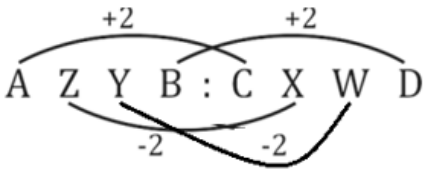
RIVER → ERVRI

Inter change 1st two latter with last two latter.

TRAIN → INATR

Ques 3. ANS (D) Solution: All three use Raw material except teacher.

Ques 4. ANS (A) Solution:



So +2, –2, -2, +2 series.

Ques 5. ANS (B) Solution: Sum of digits. = 2nd no.

Ques 6. ANS (B) Solution:

15 : ?

$1 + 5 = (6)^2$

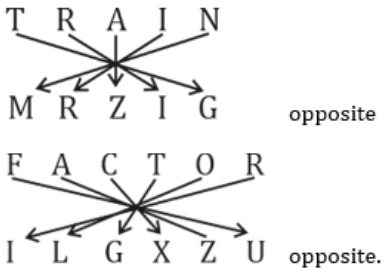
$(6)^2 = 36$

24 : ?

$2 + 4 = 6$

$(6)^2 = 36.$

Ques 7. ANS (B) Solution:



opposite

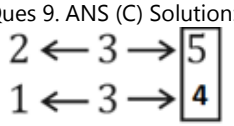
opposite.

Ques 8. ANS (A) Solution:

$(4)^2 + 1 = 17$

$(4^3) + 1 = 65$

Ques 9. ANS (C) Solution:



Ques 10. ANS (D) Solution:

1st no. = (1 + 2) + 2.

So this sequence not follow .(d)

1st no = sum of digit of 2nd +2.

Ques 11. ANS (D) Solution: All three are multiple of17 except 361.

Ques 12. ANS (D) Solution:

Ques 13. ANS (A) Solution:

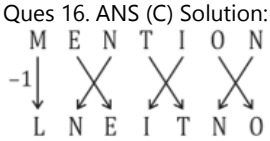


Ques 14. ANS (D) Solution:

. a b c d d / a b c c d / a b b c d / a

Ques 15. ANS (C) Solution: Series multiply by 1.2

Ques 16. ANS (C) Solution:



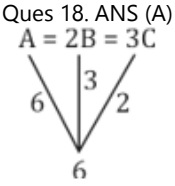


Ques 17. ANS (D) Solution:

$7 \times 2 + 9 = 23$

$2 \times 1 + 6 = 8$

Ques 18. ANS (A) Solution:



11 — 18249

1 — 1659

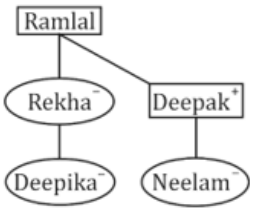
2 — 3318

Ques 19. ANS (B) Solution: First, we saw seed, than it becomes plant, then tree, then wood is cut then table is made.

Ques 20. ANS (A) Solution: City comes under state and state comes under country.

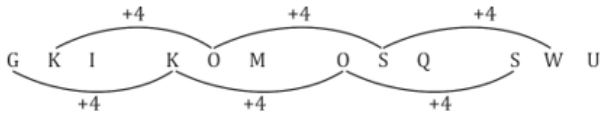
Ques 21. ANS (D) Solution:

Gender of Ramlal is not mention in question statement.

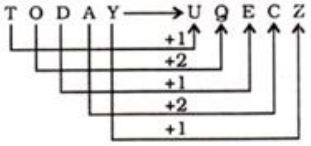


Ques 22. ANS (A) Solution:

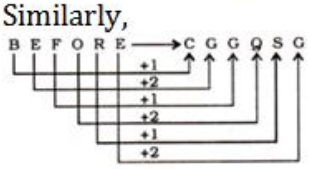
Ques 23. ANS (C) Solution:



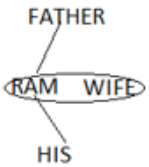
Ques 24. ANS (C) Solution:



Similarly,



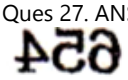
Ques 25. ANS (B) Solution:



Son of Ram's father means Ram himself as he has no brothers and sisters.
Thus, man's mother is wife of Ram.
So, he was looking at the portrait of his son.

Ques 26. ANS (B) Solution: Three cubes each in the column I and column II from the left are not seen. Similarly, two cubes each in column III and IV are not seen.
Total number of unseen cubes
= 3 + 3 + 2 + 2 = 10

Ques 27. ANS (B) Solution:



Ques 28. ANS (A) Solution:

(1)

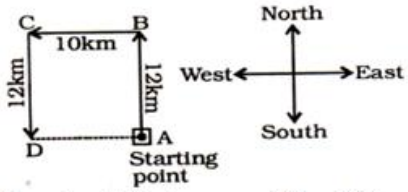
1	2	3	4		3	2	1	4
N	E	W	S	→	W	E	N	S

Similarly,

1	2	3	4		3	2	1	4
M	A	T	E	→	T	A	M	E

Ques 29. ANS (C) Solution:
REASON ➔ 5
Number of Letters - 1
BELIEVED ➔ 8 – 1 = 7
Similarly,
GOVERNMENT ➔ 10 – 1 = 9

Ques 30. ANS (D) Solution:



Required distance = AD = 10 km

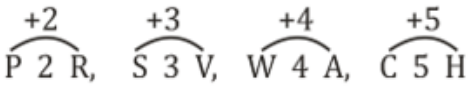
Ques 31. ANS (D) Solution:
Ques 32. ANS (B) Solution:
Ques 33. ANS (C) Solution:
Ques 34. ANS (C) Solution:
Ques 35. ANS (B) Solution:
Ques 36. ANS (B) Solution:
Ques 37. ANS (D) Solution:
Ques 38. ANS (B) Solution:
Ques 39. ANS (C) Solution:
Ques 40. ANS (D) Solution:
Ques 41. ANS (B) Solution:
$(1 + 4 + 3)^2 = 64$
Similarly
$(1 + 5 + 3)^2 = 81.$

Ques 42. ANS (B) Solution:
$(17)^2 = 289$
$(31)^2 = 961.$

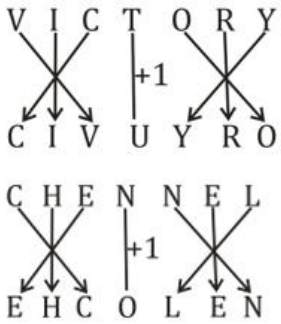
Ques 43. ANS (C) Solution: bbc, bbc, series follow.

Ques 44. ANS (D) Solution:
3 + 7 → 10
10 + 7 → 17
10 + 17 → 27
27 + 17 → 44

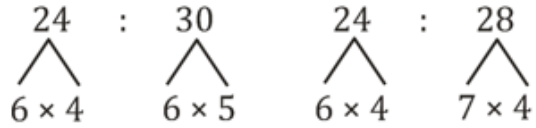
Ques 45. ANS (C) Solution:



Ques 46. ANS (D) Solution:

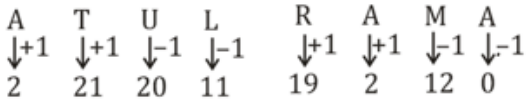


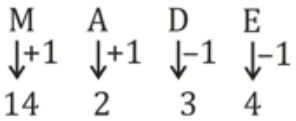
Ques 47. ANS (B) Solution:



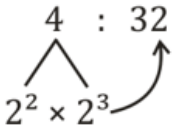
Ques 48. ANS (B) Solution: 12 ÷ 6 – 6 + 3 × 3 = 5

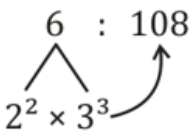
Ques 49. ANS (C) Solution:





Ques 50. ANS (D) Solution:





Ques 51. ANS (D) Solution: Anand Math is a Bengali novel, written by Bankim Chandra Chatterjee and published in 1882. Set in the background of the Sanyasi Rebellion in the late 18th century.

Ques 52. ANS (B) Solution: It was started by Ishwar Chandra Vidyasagar.

Ques 53. ANS (A) Solution: Dalhousie annexed Awadh on the pretext of misgovernance in 1856.

Ques 54. ANS (C) Solution: Vijaya Vittala temple is located at Hampi, the capital of Vijayanagar kingdom during the reign of Krishnadev Raya.

Ques 55. ANS (B) Solution: William Hawkins visited the court of Jahangir and received a farman which allowed East India Company to set up their first factory at Surat in 1613.
Ques 56. ANS (B) Solution: Two expert committees were established under former RBI Governor M. Narasimhan in 1991 and 1998 to look into all aspects of the financial system in India. The report of this committee had comprehensive recommendations for financial sector reforms including the banking sector and capital markets.
Ques 57. ANS (D) Solution: Floating rate bonds have variable interest rate and protect investors against a rise in interest rates (which have an inverse relationship with bond prices). They also carry lower yields than fixed notes of the same maturity.
Ques 58. ANS (B) Solution: The indirect taxes like VAT etc are paid by everyone if they buy any product irrespective of financial conditions. Direct taxing is considered the most progressive taxing mechanisms because they justify the income levels of the people.
Ques 59. ANS (B) Solution:
महाराष्ट्र सरकार ने दिग्गज उद्योगपति और टाटा संस के मानद चेयरमैन रतन टाटा को पहला 'उद्योग रत्न अवॉर्ड देने का फैसला किया है। विशिष्ट लोगों को दिए जाने वाले महाराष्ट्र भूषण पुरस्कार की तरह ही राज्य सरकार ने रतन टाटा को उद्योग रत्न पुरस्कार देने का फैसला किया है। रतन टाटा को भारत के दो सबसे बढ़े नागरिक पुरस्कारों, 2008 में पद्म विभूषण और 2000 में पद्म भूषण से भी सम्मानित किया गया है। रतन टाटा को ऑस्ट्रेलिया के हाईएस्ट सिविल ऑनर 'ऑर्डर ऑफ ऑस्ट्रेलिया' अवॉर्ड से सम्मानित किया गया था। उद्योग रत्न' पुरस्कार एक राज्य-स्तरीय पुरस्कार है जो महाराष्ट्र के औद्योगिक क्षेत्र में उत्कृष्ट योगदान देने वाले व्यक्तियों को दिया जाता है।
Ques 60. ANS (A) Solution: A self-regulatory organization (SRO) is a non-governmental organization that has the power to create and enforce industry regulations and standards. The priority is to protect investors through the establishment of rules that promote ethics and equality.
Ques 61. ANS (C) Solution: Article 32 i.e. Right to Constitutional remedies makes the Supreme Court Custodian of Constitution of India.
Ques 62. ANS (B) Solution: The 44th amendment of the constitution took place in 1978 and article 359 was amended and it provided that article 20 &21 could not be suspended even during declaration of emergency.
Ques 63. ANS (D) Solution: There are two types of bill- a. Government bill-Minister introduces it in the Parliament. b. Private bill-Any Member of Parliament other than a minister can introduce it.
Ques 64. ANS (B) Solution: Third Schedule-This schedule lists the various forms of oath for holders of various constitutional offices.
Ques 65. ANS (B) Solution: Scientists have developed the world's first artificial intelligence politician that can answer a person's queries regarding local issues such as policies around housing, education and immigration. The virtual politician, called SAM, was created by Nick Gerritsen, a 49-year-old entrepreneur in New Zealand. The AI politician is constantly learning to respond to people through Facebook Messenger as well as a survey on its homepage.
Ques 66. ANS (A) Solution: Snow forms when tiny ice crystals in clouds stick together to become snowflakes. If enough crystals stick together, they'll become heavy enough to fall to the ground. Snowflakes that descend through moist air that is slightly warmer than 0 °C will melt around the edges and stick together to produce big flakes.
Ques 67. ANS (C) Solution: The general distribution of winds throughout the lower atmosphere is known as planetary winds. These are of three types: Trade winds, Westerlies, Polar Easterlies.
Ques 68. ANS (C) Solution: The hill range that separates the State of Manipur from the State of Nagaland is known as Barail Hills.
Ques 69. ANS (A) Solution: The Narmada originates in eastern Madhya Pradesh (India) and flows west across the state, through a narrow valley between the Vindhya Range and spurs of the Satpura Range.
Ques 70. ANS (C) Solution: Amravati, Bhavani, Hemavati and Kabini are tributaries of Kavery. The Kavery rises from the Brahmagiri hills in the Coorg district at 1,341 m above sea level and drain the Maysore plateau before flowing into the plain.
Ques 71. ANS (D) Solution: Namdapha National Park is located in Arunachal Pradesh. The climate of this area varies from tropical to subtropical, temperate and arctic. It is tropical and subtropical in southern regions and arctic type found in northern part of the park.
Ques 72. ANS (A) Solution: The tropical moist deciduous forests are found in Sahyadris, the north-eastern parts of the peninsula and along the foothills of the Himalayas. Teak and sal are found in these forests.
Ques 73. ANS (C) Solution: Periyar National Park and Wildlife Sanctuary is a protected area in the districts of Idukki and Pathanamthitta in Kerala. Kanha National Park is one of the tiger reserves of India and the largest national park of Madhya Pradesh. The Sariska Tiger Reserve is an Indian national park located in the Alwar district of Rajasthan. Dachigam National Park is located in Jammu and Kashmir.
Ques 74. ANS (C) Solution: Saliva contains the enzyme amylase, also called ptyalin, which is capable of breaking down starch into simpler sugars such as maltose and dextrin that can be further broken down in the small intestine.
Ques 75. ANS (C) Solution: Estrogen and progesterone control and stimulate the growth of Mammary gland.
Ques 76. ANS (A) Solution: The pleural membrane is thin, moist, slippery and has two layers. The outer, or parietal, pleura lines the inside of the rib cage and the diaphragm while the inner, visceral or pulmonary, layer covers the lungs.
Ques 77. ANS (D) Solution: Ornithology is the scientific study of birds.
Ques 78. ANS (C) Solution: Most liquids that conduct electricity are solutions of acids, bases and salts.
Ques 79. ANS (C) Solution: Activated Charcoal is used to remove colouring matter from pure substances by adsorption.
Ques 80. ANS (D) Solution: The meaning of the word hydrophilic does water love. Thus, a substance which readily forms colloidal solution in contact with water is called hydrophilic colloid.
Ques 81. ANS (A) Solution: The phenomenon of raising outer edge of the curved road above the inner edge is to provide necessary centripetal force to the vehicles to take a safer turn and the curved road is called Banking of Roads.
Ques 82. ANS (D) Solution: Pascal's principle states that "a change in the pressure of an enclosed incompressible fluid is conveyed undiminished to every part of the fluid and to the surfaces of its container." For every 10m depth the pressure on the diver increases by 1 atm so at a depth of 10 meters under water, pressure is twice the atmospheric pressure at sea level. Thus, during Scuba diving players must have the knowledge of Pascal's law.
Ques 83. ANS (B) Solution: Least distance of distinct vision is defined as the minimum distance between the eye lens and the object to form a clear image. For a healthy human eye, the least distance of distinct vision is 25 cm, however it varies with age.

Ques 84. ANS (B) Solution: C. Rajagopalachari organized a march from Trichinopoly to Vedaranniyam on the Tanjore coast to break the salt law in April 1930.
Ques 85. ANS (B) Solution: Annie Besant was the first woman President of Indian National Congress. She presided over the 1917 Calcutta session of the Indian National Congress. Badruddin Tyabji was the "First Muslim" to become the "President of Indian National Congress".
Ques 86. ANS (B) Solution: Bamber Dance is a folk dance performed in Tamil Nadu.
Ques 87. ANS (C) Solution: Singhi Chham, also known as Kanchendzonga Dance, is a folk dance native to Sikkim.
Ques 88. ANS (B) Solution: Acharya Vinoba Bhave was the first Indian to win this prestigious award.
Ques 89. ANS (D) Solution: Rabindranath Tagore was the first Indian to get a Nobel Prize in 1913, and in his area of expertise - Literature.
Ques 90. ANS (B) Solution: Talcher Thermal Power station is located in Talcher sub-division of Angul district in the Indian state of Odisha.
Ques 91. ANS (D) Solution: Korba Super Thermal Power Plant is located at Jamnipali in Korba district in the Indian state of Chhattisgarh.
Ques 92. ANS (C) Solution: Karaga is a folk dance of Karnataka which originated as a ritual dedicated to Draupadi as known in these parts as Droupthamma.
Ques 93. ANS (D) Solution: Kathakali is the most well-known dance drama from the south Indian state of Kerala. The word Kathakali literally means "Story-Play".
Ques 94. ANS (D) Solution:
Ques 95. ANS (C) Solution:
Ques 96. ANS (D) Solution: Uttar Pradesh Chief Minister Yogi Adityanath launched 'Bal Shramik Vidya Yojana' for child labourers who are 8-18 years old, through video conference. The launch is in line with the 'World Day Against Child Labour'(June 12, 2020).
Ques 97. ANS (C) Solution: PSB Indian Overseas Bank nominated by Govt. for collection of donations for PM-CARES (Prime Minister's Citizen Assistance and Relief in Emergency Situations Fund) Fund.
Ques 98. ANS (C) Solution:
एशियाई विकास बैंक ने भूटान की तकनीकी और व्यावसायिक शिक्षा और प्रशिक्षण (TVET) प्रणाली में सुधार के लिए 30 मिलियन अमेरिकी डॉलर के ऋण को मंजूरी दी है। इस परियोजना का उद्देश्य नई इमारतों, कार्यशालाओं और छात्रावासों का निर्माण करके भूटान के युवाओं के कौशल और रोजगार क्षमता को बढ़ाना है। The Asian Development Bank has approved a US$30 million loan to improve Bhutan's technical and vocational education and training (TVET) system. The project aims to enhance the skills and employability of Bhutan's youth by constructing new buildings, workshops and hostels.
Ques 99. ANS (C) Solution:
केंद्रीय कपड़ा मंत्री पीयूष गोयल ने तमिलनाडु के कोयंबटूर में साउथ इंडियन मिल्स एसोसिएशन परिसर में स्वतंत्र भारत के पहले वित्त मंत्री आर.के षनमुगम चेट्टी की प्रतिमा का अनावरण किया। इस अवसर पर केंद्रीय रेल और कपड़ा राज्यमंत्री दर्शना वी. झारदोश, कोयंबटूर दक्षिण की विधायक वनाथी श्रीनिवासन और एसोसिएशन के वरिष्ठ अधिकारी भी उपस्थित थे। कार्यक्रम की शुरुआत करते हुए, भारत के ऐतिहासिक आख्यान में एक महत्वपूर्ण व्यक्ति और दक्षिण भारतीय पंचायत एसोसिएशन के एक महत्वपूर्ण प्रशासक आरके शनमुगम चेट्टी को श्रद्धांजलि अर्पित करने वाली एक प्रतिमा का अनावरण किया गया। Union Textiles Minister Piyush Goyal met independent India 's first Finance Minister R. at the South Indian Mills Association premises in Coimbatore , Tamil Nadu . Statue of K Shanmugam Chetty unveiled . On this occasion , Union Minister of State for Railways and Textiles Darshana V. Jhardosh, Coimbatore SouthMLA Vanathi Srinivasan and senior officials of the association were also present . Inaugurating the programme , a statue paying tribute to RK Shanmugam Chetty , an important figure in the historical narrative of India and an important administrator of the South Indian Panchayat Association , was unveiled .Unveiled .
Ques 100. ANS (B) Solution:
Ques 101. ANS (C) Solution:

$$\text{Total marks}=100+150+100+70+80=500$$
$$\text{Asim's marks}=75+95++55+45+60=330$$
$$\%\text{marks}=\frac{330}{500}\times 100=66\%$$

Ques 102. ANS (C) Solution:

$$\text{Maths}=\frac{90}{100}\times 100=90\%>80\%$$
$$\text{Science}=\frac{110}{150}\times 100=73.33\%<80\%$$
$$\text{Hindi}=\frac{80}{100}\times 100=80\%$$
$$\text{Computer}=\frac{65}{70}\times 100=92.85\%>80\%$$
$$\text{English}=\frac{70}{80}\times 100=87.5\%>80\%$$

Ques 103. ANS (D) Solution:

$$\%\text{ of marks scored by Aslam in Computer}=\frac{52}{70}\times 100=74.28\%$$
$$\%\text{ of marks scored in English}=\frac{53}{80}\times 100=66.25\%$$
$$\text{Ratio}=\frac{74.28\%}{66.25\%}=1.1212:1$$

Ques 104. ANS (B) Solution:
Since, gain $=33\frac{1}{3}\%=\frac{100}{3}\%$, it means that for the cost of every 3 goods the selling price would be 4x.
So, 4x=5600;
x=1400;
Cost price=3x= Rs 4200
Ques 105. ANS (C) Solution:

$$\text{Mean proportion of 14.4\&4.9}=\sqrt{14.4\times 4.9}=8.4$$
$$\text{Third proportion of 2\&4}=\frac{4\times 4}{2}=8$$
$$\text{Ratio}=8.4/8=21/20$$

Ques 106. ANS (B) Solution:
Efficiency ratio= 3:4:5

$$\text{Work ratio}=\frac{1}{3}:\frac{1}{4}:\frac{1}{5}=20:15:12$$

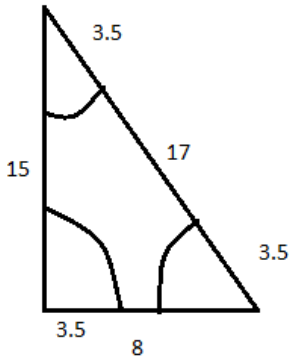
So, total work = 20x+15x+12x=47x=94 days
x=2days
C's work=12x=24 days
50% of C's work=0.5x24=12days
Ques 107. ANS (A) Solution:

$$\tan 4\alpha=\cot\left(\frac{960}{32}\right)=\cot 30^\circ=\tan 60^\circ;$$
$$4\alpha=60;\ \alpha=15^\circ;$$
$$\text{Cos } 3x15^\circ=\cos 45^\circ=\frac{1}{\sqrt{2}}$$

Ques 108. ANS (B) Solution:

$$\text{Successive discount}=100\text{-}100\times\left(\frac{100-20}{100}\times\frac{100-25}{100}\times\frac{100-25}{100}\right)=55\%$$

Ques 109. ANS (D) Solution:



Required area(A)= area of triangle-area of circle;
$A = \frac{(bh-\pi r^2)}{2}$; here b=8cm, h=15cm,r=3.5cm
Putting the above value in the given equation,
we get A=40.75cm^2

Ques 110. ANS (D) Solution:

Total student=45; number of boys
=0.8×45=36; number of girls=0.2×45=9
Average marks of class=$\frac{36\times50+45\times9}{45} = 49$

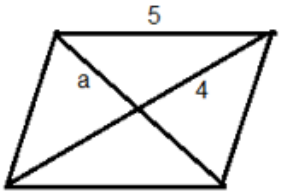
Ques 111. ANS (D) Solution:

$4\frac{1}{2} - [2\frac{1}{2} - \{\frac{6}{5} - (\frac{3}{5} + \frac{6}{10} - \frac{4}{8})\}]$
$4\frac{1}{2} - \left[2\frac{1}{2} - \left\{\frac{6}{5} - \left(\frac{6}{5} - \frac{4}{8}\right)\right\}\right]$
$4\frac{1}{2} - [2\frac{1}{2} - \frac{4}{8}] = 2\frac{1}{2}$

Ques 112. ANS (A) Solution:

$x - \frac{1}{x} = 5$
$x^3 - \frac{1}{x^8} = (x - \frac{1}{x})^3 + 3(x - \frac{1}{x}) = 5^3 + 15 = 140$

Ques 113. ANS (B) Solution:



So, a=$\sqrt{5^2 - 4^2} = 3cm$
Area=2x($\frac{1}{2} \times 8 \times 3$)=24cm^2

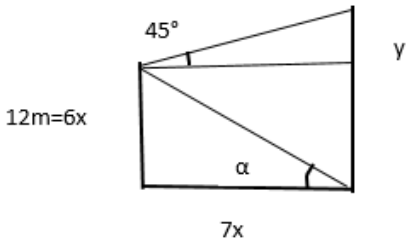
Ques 114. ANS (B) Solution:

Let the 20th number=x
So, 19th number=x+1
18th number=x+1-7=x-6
$\frac{9\times60 + 8\times45 + (x-6) + (x+1) + x}{20} = 50$
Or, 3x-5=1000-540-360
Or, x=35
Average of 18th and 20th number
=$\frac{x-6+x}{2}$=(x-3)=(35-3)=32

Ques 115. ANS (C) Solution:

$\frac{1}{A} + \frac{1}{B} + \frac{1}{C} = \frac{1}{8} + \frac{1}{10} + \frac{1}{-12} = \frac{17}{120}$
Total time taken to fill the tank=$\frac{120}{17}$ hrs
Let x hours required for filling the remaining part of the tank,
$4(\frac{1}{A} + \frac{1}{B} + \frac{1}{C}) + x\left(\frac{1}{B} + \frac{1}{c}\right) = 1$
$\frac{4\times17}{120} + x\left(\frac{1}{10} + \frac{1}{-12}\right) = 1$
x=26hrs

Ques 116. ANS (D) Solution:

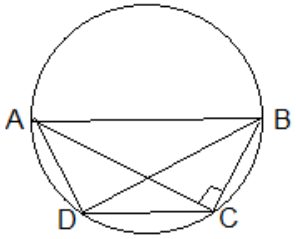


If,6x=12m;
x=2m;
7x=7x2=14m
Height of tower=y+12m=14tan45°+12=26m

Ques 117. ANS (C) Solution:

$(a^3+b^3) = (a+b)\{(a-b)^2+ab\}$
$5616 = 27\{(a-b)^2+ab\}$
$(a-b)^2+ab = 5616/27 = 208$

Ques 118. ANS (B) Solution:



$\angle ABC + \angle ADC = 180°$
$\angle ABC = 180° - 145° = 35°$
$\angle BAC = 180° - (35° - 90°) = 55°$

Ques 119. ANS (C) Solution:

failed in mathematics=100- passed in
mathematics=100-45=55%
failed in English =58%
failed in any one subject=55+58-32=81%
passed in both subject=100-81=19%

Ques 120. ANS (C) Solution:

$8\frac{4}{6} + \left[2\frac{2}{3} + \left\{3\frac{1}{4}\left(\frac{5}{3} + \frac{1}{4}\right)\right\}\right]$
$8\frac{4}{6} + \left[2\frac{2}{3} + \left\{3\frac{1}{4}\left(\frac{23}{12}\right)\right\}\right]$
$8\frac{4}{6} + \left[2\frac{2}{3} + \frac{299}{48}\right]$
$8\frac{4}{6} + \left[2\frac{2}{3} + \frac{299}{48}\right]$
$8\frac{4}{6} + \left[\frac{427}{48}\right] = \frac{281}{16}$

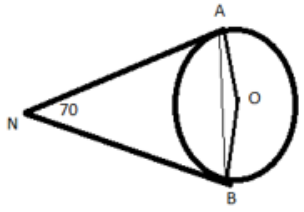
Ques 121. ANS (A) Solution:

Let the speed of train C be x kmph
Speed of B relative to C = (120 - x)
$= \left[(120 - x) \times \frac{5}{18}\right]$ m/sec
$= \left[\frac{600 - 5x}{18}\right]$ m/sec
Distance covered = (100 + 200) m = 300 m.
$\therefore \frac{300}{\left(\frac{600 - 5x}{18}\right)} = 120 \Rightarrow 5400$
$= 120(600 - 5x) \Rightarrow x = 111.$

Ques 122. ANS (C) Solution:
Since, 84x37y6 is divisible by 72(72 is multiple of 9 and 8)
7y6 should be divisible by 8
Y=3 or Y=7, for minimum value we take y=3,
Since the given no is multiple of 9,
So, (8+x+7+6)-(4+3+y)=multiple of 9
(8+x+7+6)-(4+3+3)=11+x=multiple of 9
So, x should be 7
ATQ,
$x^2+y^2-xy=7^2+3^2-7*3=37$

Ques 123. ANS (A) Solution:
We know that,
$a^3+b^3+c^3-3abc=(a+b+c)(a^2+b^2+c^2-ab-bc-ac)$
if, $a^3+b^3+c^3=3abc$
it means, $(a+b+c)=0$
$(4\alpha+5)^3+(3\alpha+6)^3+(\alpha-9)^3=(4\alpha+5)(\alpha+2)(9\alpha-81),$
$(4\alpha+5)^3+(3\alpha+6)^3+(\alpha-9)^3=3(4\alpha+5)(3\alpha+6)(\alpha-9),$
So, $4\alpha+5+3\alpha+6+\alpha-9=0$
$\alpha = -0.25$

Ques 124. ANS (B) Solution:



$\angle AOB = 180° - 70° = 110°$
$\angle OAB = \frac{180° - 110°}{2} = 35°$

Ques 125. ANS (D) Solution:
since, $\sin 60° = \cos 30°$
And, $\cos^2 60° + \cos^2 30 = 1$
So, $\frac{\tan^2 60°}{1 - \cot^2 60°} = \frac{3}{1 - \frac{1}{8}} = \frac{9}{2}$

Ques 126. ANS (C) Solution:
Volume is proportional to (radius^2 x height)
Let r=radius
H=height
V=volume
New radius=2.3r, New height=0.7H
New volume=2.3^2 x 0.7=3.703V
%increase in volume=$\frac{3.703V - V}{V} \times 100 = 270.3\%$

Ques 127. ANS (C) Solution:
Let income of B=100
So, income of A=132
%decrease in the income of B
$= \frac{|100-132|}{132} \times 100 = 24.24\%$

Ques 128. ANS (C) Solution:
Ratio of two positive number =7:6
Let the numbers are 7x and 6x
Product of 7x and 6x=6048
7x×6x=6048
$x^2=144$
x=12
Mean=$\frac{7x+6x}{2} = \frac{13x}{2} = \frac{13+12}{2} = 78$

Ques 129. ANS (A) Solution:
For hemisphere, radius=height=120cm=1.2m (given)
Curved surface area= $2\pi r^2 = 2 \times \pi \times 1.2^2 = 9.051 m^2$

Ques 130. ANS (C) Solution:
Man×day=constant
ATQ, 0.5(24×64)=M×32
M=24 people

Ques 131. ANS (D) Solution:
Let the speed of stream=x km/h
$\frac{18}{12 + x} + \frac{18}{12 - x} = 4$
$\frac{2 \times 18 \times 12}{12^2 - x^2} = 4$
$x = 6\ km/h$

Ques 132. ANS (D) Solution:
Since he counts 96 electric posts which is 60m apart,
Total distance=(96-1)×60m=95×60m
Time =1 min=60sec
Speed=$\frac{95+60}{60} \times \frac{18}{5} = 342\ km/h$

Ques 133. ANS (D) Solution:
Since he has to earn 10% profit, so total selling price
=1.1×9360= Rs.10296
Let x be the rate of remaining pulse (per kg)
So, 10296=120×0.8×70+120×0.2× x
x=Rs 149/kg

Ques 134. ANS (D) Solution:
Simple Interest=$\frac{P \times r \times t}{100}$
Where, P= principal amount=Rs.67400(given)
r= rate of interest
t= time in year=(14/12)year given
SI= simple interest=Rs.4718
$4718 = \frac{67400 \times r \times 14}{100 \times 12}$
r= 6%

Ques 135. ANS (A) Solution:
CI= $1200(1 + \frac{20}{100})^2 - 1200$=Rs.528

Ques 136. ANS (A) Solution:

Total student=1200
50% of the number of students whose favorite subject is Quant=0.5×0.48×1200=288
Girl:boys=7:5
12x=288
x=288/12=24
number of girl who uninstalled the TokTik app =7x=7×24=168

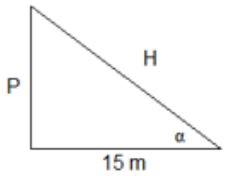
Ques 137. ANS (D) Solution:
Since, reasoning : english=30:10=3:1
So, amount spent on the students whose favorite subject is English=18000000/3=6000000

Ques 138. ANS (D) Solution:
total number of student whose favorite subject is Quant=0.48×1200=576
total number of student whose favorite subject is Reasoning=0.3×1200=360
Required %=$\frac{576}{360}$×100=160%

Ques 139. ANS (C) Solution:
total number of students whose favorite subject is G.S.=0.12×1200=144
boys : girl=5:1
6x=144
x=24
total number of girls=x=24

Ques 140. ANS (A) Solution:
Total length of cuboid(L)=7*7=49cm
Total breadth of cuboid(B)= 7cm
Total height of cuboid(H)=7cm
Total surface area=2(LB+BH+HL)
$= 2(49 \times 7 + 7 \times 7 + 7 \times 49) = 1470\text{cm}^2$

Ques 141. ANS (C) Solution:



If Sinα=$\frac{4}{5}$,P:H=4:5;
P=4x,H=5x;
B=$\sqrt{(5x)^2 - (4x)^2}$ =3x
But, B=3x=15; x=5
so, P=4x=20cm

Ques 142. ANS (C) Solution:
Let the original price= Rs 1/kg; consumption=100kg;
total amount=1×100=100
So, New price=Rs 0.80/kg;
Since there is no change in expenditure,
New price×new consumption=100;
New consumption=100/0.8=125kg;
%increase in consumption= $\frac{125-100}{100} \times 100 = \frac{100}{4}\%$

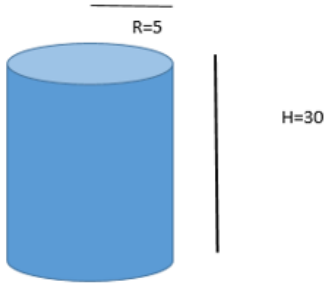
Ques 143. ANS (B) Solution:
Average sales of SONY =$\frac{4.3+2.4+2}{3} = 2.9lakh$
Average sales of NOKIA= $\frac{3.5+1.9+3}{3} = 2.8lakh$
Difference=2.9-2.8=0.1 lakh=10 thousand units.

Ques 144. ANS (C) Solution:
Total no of phone by SAMSUNG in 2019=4.4 lakh
Profit per phone= Rs.981
Total profit=4.4×981= Rs.4316.4 lakh

Ques 145. ANS (D) Solution:
phone sales by SONY in year 2018=4.3 lakh
phone sales by NOKIA in year 2019=1.9 lakh
ratio=$\frac{4.3}{1.9} = \frac{2.263}{1}$

Ques 146. ANS (B) Solution:
And, cos∝= $-\frac{1}{2} = cos120°$
So, α=120°
If $\theta+\propto=\frac{5}{6}\pi = 150$
or, $\theta = 30°$
so, sin2θ=sin60°=$\frac{\sqrt{3}}{2}$

Ques 147. ANS (B) Solution:



Total surface area=$2\pi RH + 2\pi R^2$
$= 2\pi\times5\times30+2\times\pi\times5^2=1099.55\text{cm}^2$

Now, cylinder is bisected into two similar half of equal radius 5cm and height 15cm



New total surface area =$2\times (2\pi Rh + 2\pi R^2)$
$= 2\times (2\times\pi\times5\times15+2\times\pi\times5^2)=1256.63\text{cm}^2$
% increase in area=$\frac{1256.63-1099.55}{1099.55} \times 100 = 14.28\%$

Ques 148. ANS (D) Solution:
x^2-5x+1=0
x^2+1=5x
$x+\frac{1}{x} = 5$
so, $x^2+\frac{1}{x^2} = 23$
and, $x^3+\frac{1}{x^3} = 110$
ATQ,
$X^5+\frac{1}{X^5} = \left(x^2 + \frac{1}{x^2}\right) \times \left(x^3 + \frac{1}{x^3}\right) - \left(x + \frac{1}{x}\right)$
$= 23 \times 110 - 5 = 2525$

Ques 149. ANS (A) Solution:
Nearest perfect square is 28^2=784
ATQ, difference=784-756=28

Ques 150. ANS (B) Solution:

Since, 25% of a number is 8
100% of that number is 8×4=32
175% of 32=56

Ques 151. ANS (C) Solution: Remove preposition 'into' after verb 'pervade'.
No preposition is placed after the following verbs when these verbs are used in active voice.
Comprise, investigate, enter, order, describe, concern, pervade etc.
Ques 152. ANS (D) Solution: No error
Ques 153. ANS (B) Solution: Use 'aimed at providing' in place of 'aimed to provide' as aim will take appropriate preposition 'at' with it. And after prepositions, the use of Gerund (V1+ing) is must.
Hence 'aimed at providing' is the correct usage.
Ques 154. ANS (B) Solution: Replace 'are' with 'were'. The beginning of the sentence is in 'Past Indefinite Tense' which implies the usage of 'Past Participle form of Verb' in the sentence.
Ques 155. ANS (A) Solution:
Replace 'or' with 'if'. '
Seldom if ever' and 'seldom or never' are the correct phrases. Moreover, the sense of the sentence justifies the usage of 'seldom if ever' not 'seldom or never'.
Ques 156. ANS (B) Solution:
We use "did/had" after "no sooner" as inverse structure is used in sentences beginning with No Sooner, Hardly, Scarcely.
Hence "No sooner did/had…than" is the correct structure.
Ques 157. ANS (B) Solution: The structure of closed conditional is:
If + Sub+ had + v3, Sub + would have + V3.
Thus, according to this structure "had" should be used before "studied" thus option B is correct.
Ques 158. ANS (D) Solution: No improvement.
Ques 159. ANS (B) Solution: "Hardly" is a negative verb and with negative word "anything" should be used.
Ques 160. ANS (B) Solution:
Do away with means: to remove it completely.
It is wishful thinking you can improve the situation by (doing away with) such people.
Ques 161. ANS (D) Solution:
Ques 162. ANS (B) Solution:
Ques 163. ANS (B) Solution:
Ques 164. ANS (D) Solution:
Ques 165. ANS (C) Solution:
Ques 166. ANS (A) Solution: Option A fits in the context.
Ques 167. ANS (B) Solution: Option B fits in the context.
Ques 168. ANS (C) Solution:
Sequential: forming or following in a logical order or sequence.
Hence Option C is the correct choice.
Ques 169. ANS (D) Solution:
Plural subject 'We' will take Plural verb 'go'. Also 'Present Indefinite Tense' is required.
Hence Option D is the correct choice.
Ques 170. ANS (A) Solution: Option A fits in the context.
Ques 171. ANS (C) Solution: Pummel: to strike repeatedly.
Whip: to take, pull, snatch, jerk, or otherwise move very quickly and forcefully.
Hence option C is the correct synonym.
Ques 172. ANS (B) Solution: Inimical: adverse in tendency or effect; unfavorable.
Harmful: causing or capable of causing damage or harm.
Hence option B is the correct synonym.
Ques 173. ANS (B) Solution: Spruce: neat in dress and appearance.
Elegant: graceful and stylish in appearance or manner.
Scruffy: shabby and untidy or dirty.
Ragged: (of cloth or clothes) old and torn.
Hence option B is the correct synonym.
Ques 174. ANS (C) Solution: Perdition: complete and utter ruin.
Downfall: something that causes the destruction.
Hence option C is the correct synonym.
Ques 175. ANS (B) Solution: Dank: unpleasantly damp and cold.
Clammy: unpleasantly damp and sticky or slimy to touch.
Hence option B is the correct synonym.
Ques 176. ANS (B) Solution:
Steadfast: resolutely or dutifully firm and unwavering.
Pliant: easily bent.
Ques 177. ANS (C) Solution:
Sibilate: utter with a hissing sound.
Exalt: to praise someone very highly.
Ques 178. ANS (D) Solution:
Magnate: a wealthy and influential businessman or businesswoman.
Nonentity: an unimportant person or thing.
Ques 179. ANS (C) Solution:
Impugnable: To attack as false or questionable
Indubious: certain, not doubtful.
Ques 180. ANS (C) Solution:
Scrimp: be thrifty or parsimonious; economize.
Squander: waste in a reckless and foolish manner.
Ques 181. ANS (A) Solution: The wrongly spelt word is 'dissappoint'. Correct spelling is "disappoint" which means fail to fulfil the hopes or expectations of.
Ques 182. ANS (B) Solution: Blossom should be the correct spelling and it means a flower or a mass of flowers, especially on a tree or bush.
Ques 183. ANS (B) Solution: Essential means absolutely necessary; extremely important.
Ques 184. ANS (C) Solution: Correct word will be " courteous" which means polite, respectful, or considerate in manner.
Ques 185. ANS (D) Solution: Correct word will be " drought" which means a prolonged period of abnormally low rainfall, leading to a shortage of water.
Ques 186. ANS (D) Solution:
Ques 187. ANS (B) Solution:
Ques 188. ANS (C) Solution:
Ques 189. ANS (C) Solution:
Ques 190. ANS (A) Solution:
Ques 191. ANS (C) Solution:
Ques 192. ANS (A) Solution:
Ques 193. ANS (B) Solution:
Ques 194. ANS (A) Solution:
Ques 195. ANS (B) Solution:
Ques 196. ANS (C) Solution: Stalemate: Stalemate is a situation in which neither side in an argument or contest can win or in which no progress is possible.
Ques 197. ANS (B) Solution: Eke: manage to make a living with difficulty.
Ques 198. ANS (A) Solution: Along with: in company with or at the same time as; together with something.
Ques 199. ANS (D) Solution: Treacherous: presenting hidden or unpredictable dangers.
Ques 200. ANS (B) Solution: Manifestation: an event, action, or object that clearly shows or embodies something abstract or theoretical.