RRB NTPC Previous Year Paper 14_(Solutions)

S1. Ans.(d);
Sol. Summer is hot → de fe ba ...(i)
Come cold summer → ja ha ba ...(ii)
Winter is cold → pa ja de ...(ii)
Come hot winter → ?
From (iii) winter → pa
Is → de from (i)&(iii)
Come → ha from (ii)
⇒ pa ha de

S2. Ans.(c);

$$
\begin{array}{r}
451 \\
14\overline{)6321} \\
56 \\
\hline
72 \\
70 \\
\hline
21 \\
14 \\
\hline
7
\end{array}
$$

S3. Ans.(b);
Sol. The chronology of first six Mughal emperors are
Babur, Humayun, Akbar, Jahangir, Shah Jahan, Aurangzeb (Alamgir) . Thus Jahangir was the 4th Mughal emperor of India.

S4. Ans.(b);
Sol. 48 ÷ 8 + 6 × 9 – 31 = ?
6 + 54 – 31 = 29

S5. Ans.(a);
Sol. In 1600, Queen Elizabeth 1 granted monopoly to East India Company for trade with East Indies. The first factory of the company was set up in Masulipatnam(present day
machilipatnam,) in 1611. in 1612, it got permission from Mughal
Emperor Jahangir to establish Factories in Surat.

S6. Ans.(b);
Sol. Ramdas → 90,000 × 12
Shyamdas → 30000 × x
Atq,
$\frac{90000 \times 12}{30000 \times x} = \frac{4}{1}$
⇒ $\frac{36}{x} = 4$ ⇒ x = 9
Required months = 12 – 9 = 3

S7. Ans.(c);
Sol. Methane is a colorless odorless gas. It is also known as marsh gas. It is easily ignited.

S8. Ans.(c);
Sol. Hawa Mahal is a palace in Jaipur, India. It is constructed of red and pink sandstone.

S9. Ans.(c);
Sol. x + 2x + 3x = 180
6x = 180
x = 30
largest angle = 3x = 90

S10. Ans.(c);

S11. Ans.(b);
Sol. The main objective of Kabaddi is to grab points by raiding into the opponent's court and touching as many opponent players as possible without getting caught on a single breath.

S12. Ans.(d);
Sol. S = 22 × 10 = 220
Atq,
$\frac{220+2x}{24} = 11$
$\Rightarrow 220 + 2x = 11 \times 24$
$\Rightarrow 264 = 2x + 220$
2x = 44
x = 22
Mean $= \frac{2 \times 22}{2} = 22$

S13. Ans.(b);
Sol. Let the angle = x
$x = 10 + \frac{1}{3}(90 - x)$
$x = 10 + 30 - \frac{x}{3}$
$\frac{4x}{3} = 40$
x = 30
$\Rightarrow 90 - x = 60 \rightarrow$ greater angle

S14. Ans.(b);
Sol. Using relative velocity concept, time $= \frac{12}{9-7} = 6$ hrs

S15. Ans.(a);
Sol. Distance $= \frac{48 \times 40}{60} = \frac{48 \times 2}{3} = 32$ km
Now,
$32 = \frac{x \times 32}{60}$
x = 60 kmph

S16. Ans.(c);
Sol. Coefficient of variation $= \frac{\text{SD}}{\text{Mean}} = \frac{7}{13} = 53.85\%$

S17. Ans.(c);
Sol. Friction generate between disc and pads and kinetic energy of wheel convert into heat and friction offer resistance to rotation and hence stops the vehicle.

S18. Ans.(b);

S19. Ans.(a);

S20. Ans.(b);
Sol. The ability to convert voltage to and from mechanical stress is called piezoelectricity. Quartz crystals maintain a precise frequency standard, which helps to regulate the movement of a watch or clock, thus making the timepieces very accurate. quartz crystal used in quartz clocks is chemically Silicon dioxide.

S21. Ans.(b);
Sol. President is the head of the state in India.

S22. Ans.(b);
Sol. The politics of the People's Republic of Bangladesh takes place in the context of a parliamentary representative democratic republic with government headed by the prime minister.

S23. Ans.(a);
Sol. Principal is single, rest are plural

S24. Ans.(c);
Sol. Assam and Chhattisgarh are two Indian States which share border with 7 states.

S25. Ans.(c);
Sol. Squash is a ball sport played by two (singles) or four players (doubles squash) in a four-walled court with a small, hollow rubber ball.

S26. Ans.(b);
Sol. The United Nations Development Programme (UNDP) has appointed award-winning action heroine Michelle Yeoh as its Goodwill Ambassador in March 2016.

S27. Ans.(a);
Sol. Deliquescence, the process by which a substance absorbs moisture from the atmosphere until it dissolves in the absorbed water and forms a solution.
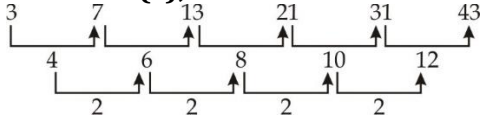
S28. Ans.(c);
Sol. The process of standardization involves reduction of fat content in milk from the natural minimum of 3.25%.

S29. Ans.(c);
Sol. fins, fish swin by fins

S30. Ans.(c)

S31. Ans.(c);

S32. Ans.(d);
Sol. Maharashtra has the second highest number of seats(48) in the Lok Sabha.

S33. Ans.(b);
Sol. −2 series
AFYGP

S34. Ans.(d);
Sol. Stainless steel is a metal alloy, made up of steel mixed with elements such as chromium, nickel, molybdenum, silicon, aluminum, and carbon. Iron mixed with carbon to produce steel is the main component of stainless steel. Chromium is added to make it resistant to rust.

35. Ans.(a);
Sol. Darjeeling Tea was the first Indian product to get the geographical indication tag. In 2004, the famous beverage got the recognition

S36. Ans.(d);
Sol. On the Fahrenheit scale, the freezing point of water is 32 degrees Fahrenheit (°F) and the boiling point is 212 °F (at standard atmospheric pressure)

S37. Ans.(d);
Sol. +2 pattern series GJMP

S38. Ans.(a);
Sol. $R = \frac{8}{2} = 4\%$

T = 2

P = 10000

$Amount = 10000 \left(1 + \frac{4}{100}\right)^2$

$= 10000 \times \frac{676}{625}$

$= 16 \times 676 = 10816$

Interest = 10816 – 10000 = 816

Equivalent rate = R

$816 = \frac{10000 \times R \times 1}{100}$

R = 8.16%

S39. Ans.(c);
Sol. File extension DOCX is a new format created by Microsoft and first used in Word 2007.

S40. Ans.(a);
Sol. $\frac{35}{2} \times \frac{1}{100} \times 800 - \frac{45}{2} \times \frac{1}{100} \times 400$

$140 - 90 = 50$

S41. Ans.(d);
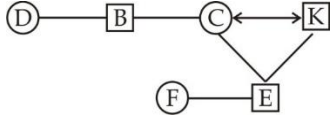**Sol.** $\frac{12 \times 6}{\frac{1}{4}} = \frac{x \times 6}{\frac{3}{4}}$

$12 = \frac{x}{3}$

x = 36

Addition men = 36 – 12 = 24

S42. Ans.(a);
Sol.

Maternal aunt

S43. Ans.(a);
Sol. Ophiuchus has sometimes been used in sidereal astrology as a thirteenth sign in addition to the twelve signs of the tropical Zodiac.

S44. Ans.(c);
Sol. All other than C are flowers.
(a) Jasmine
(b) Marigold
(c) Carrot
(d) Sunflower

S45. Ans.(a);
Sol. Taxonomy usually refers to the theory and practice of describing, naming and classifying living things. Such work is essential for the fundamental understanding of biodiversity and its conservation.

S46. Ans.(a);
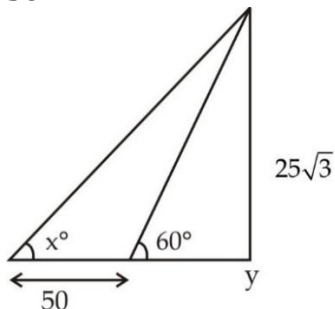**Sol.** $625 = \frac{(100+25)}{100} x$

x = 50

SP = 500

Atq,

$500 = \left(\frac{100+50}{100}\right) CP$

$CP = \frac{500 \times 2}{3} \simeq 333$

S47. Ans.(b);
Sol.

$\frac{25\sqrt{3}}{y} = \sqrt{3}$

$y = 25$

$\Rightarrow \frac{25\sqrt{3}}{75} = \tan x$

$= \frac{1}{\sqrt{3}} = \tan x$

$\Rightarrow x = 30°$

S48. Ans.(a);
Sol. $30 \times 14 = x \times 20$

$x = 21$

required persons = 30 – 21 = 9

S49. Ans.(c);
Sol. Let capital = x

Sum of interests $= \frac{x}{2} \times \frac{5}{100} \times 2$

$\frac{x}{20}$ ...(i)

$\frac{x}{4} \times \frac{10}{100} \times 2$

$= \frac{x}{20}$ ...(ii)

Rest $= x - \frac{x}{2} - \frac{x}{4}$

$= \frac{4x-2x-x}{4}$

$= \frac{x}{4}$

$\frac{x}{4} \times \frac{8}{100} \times 2$
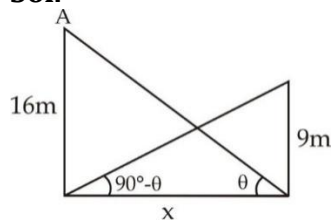
$= \frac{x}{25}$.(ii)

Now atq,

(i) + (ii) + (iii) = 2800

$\Rightarrow \frac{x}{20} + \frac{x}{20} + \frac{x}{25} = 2800$

$\frac{5x+5x+4x}{100} = \frac{14x}{100} = 2800$

$x = 20000$

S50. Ans.(d);
Sol.

$\frac{16}{x} = \tan\theta$ ...(i)

$\frac{9}{x} = \tan(90 - \theta) = \cot\theta$

$\Rightarrow \frac{16}{x} = \frac{1}{9/x}$

$\frac{16}{x} = \frac{x}{9}$

$x = 12$

S51. Ans.(c);
Sol. Abrasives constitute at least 50% of a typical toothpaste, Fluoride in various forms is the most popular active ingredient in toothpaste to prevent cavities. Many, although not all, toothpastes contain sodium lauryl sulfate (SLS) or surfactants mainly for improving its cleansing power.

S52. Ans.(b);
Sol. Pritesh > Suresh > Ramesh ...(i)
Rakesh > Ramesh ...(ii)
Rakesh > Jinesh > Shortest ...(iii)
Jinesh > Pritesh ...(iv)
From
(i), (ii), (iii) and (iv)
Shortest = Ramesh

S53. Ans.(d);
Sol. Since no exact relation is given.
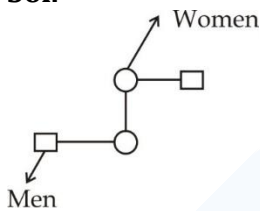
S54. Ans.(b);
Sol. Pritesh is shorter than Rakesh
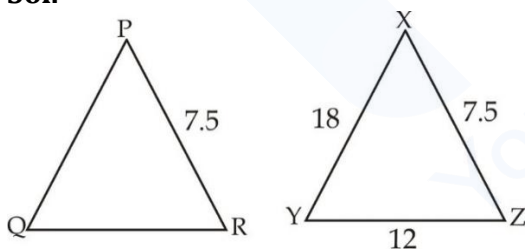
S55. Ans.(c);
Sol. S is unique in TEASER.

S56. Ans.(b);
Sol.

S57. Ans.(b);
Sol.

$$\frac{PQ}{QR} = \frac{18}{12} = \frac{3}{2}$$

S58. Ans.(b);
Sol. Pluto was finally discovered in 1930 by Clyde Tombaugh at the Lowell Observatory, based on predictions by Lowell and other astronomers.

S59. Ans.(c);
Sol. $\frac{N}{D} = \frac{3}{5}$; Also, $\frac{N+10}{D+10} = \frac{5}{7}$
$\Rightarrow$ 2units corresponds to 10
$\Rightarrow$ 1 unit $\Rightarrow$ 5
$\Rightarrow$ smaller = 3 × 5 = 15

S60. Ans.(d);
Sol. On July 1, 1955, as per the State Bank of India Act 1955, the State Bank of India (SBI) was constituted and it took over the business and undertaking of the Imperial Bank.

S61. Ans.(a);
Sol. Ratio of 1st = 2 : 3 = M : W
2nd = 7 : 3
Atq,

Ratio = $\frac{2}{10} \times \frac{10}{1} = 2 : 1$

S62. Ans.(b);
Sol. 335 × 335 – 165 × 165
$(335)^2 - (165)^2$
$[(a^2 - b^2 = (a - b)(a + b)]$
$(335 - 165)(500)$
170 × 500 = 85000

S63. Ans.(d);
Sol. Tomato is not generally used as a fruit.

S64. Ans.(d);
Sol. Prime Minister Narendra Modi launched the Make in India Week at NSCI, Worli, Mumbai.

S65. Ans.(b);
Sol. Ranchi is the capital of Jharkhand

S66. Ans.(d)

S67. Ans.(c);
Sol. The Forbidden City is a palace complex in central Beijing, China. The former Chinese imperial palace from the Ming dynasty to the end of the Qing dynasty, it now houses the Palace Museum.

S68. Ans.(c);
Sol. Rate of heat conduction in solids mainly depends on Temperature Difference, Material, Area, Thickness or Distance.
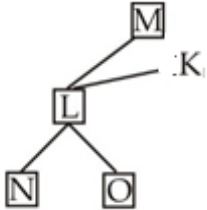
S69. Ans.(c);
Sol. As per tiger census report 2014, the population of tigers in India has increased from 1,706 in 2011 to 2,226 in 2014. This tiger census report was released by Union environment minister Prakash Javadekar.

S70. Ans.(a);
Sol. The World Wetlands Day is observed annually on February 2 to mark the adoption of the Convention on Wetlands in the city of Ramsar in Iran in 1971. The 2016 theme is " Wetlands for our Future – Sustainable Livelihoods"

S71. Ans.(d);
Sol.

Since, gender of K is not known
Can't be determined

S72. Ans.(a);
Sol. Chlorofluorocarbons (CFCs) are nontoxic, nonflammable chemicals containing atoms of carbon, chlorine, and fluorine. They are used in the manufacture of aerosol sprays, blowing agents for foams and packing materials, as solvents, and as refrigerants.

S73. Ans.(b);
Sol. $x^2 + \frac{1}{x^2} - 2 = 6 - 2$
$\Rightarrow \left(x - \frac{1}{x}\right)^2 = 4$
$\Rightarrow x - \frac{1}{x} = \pm 2$
$\Rightarrow 10x - \frac{10}{x} = \pm 20$

S74. Ans.(b);
Sol. The last time this comet was near earth was in 1986, and it is projected to return in 2061

S75. Ans.(b);
Sol. Asymmetric digital subscriber line (ADSL) is a type of digital subscriber line (DSL) technology, a data communications technology that enables faster data transmission over copper telephone lines than a conventional voice band modem can provide.

S76. Ans.(c);
Sol. On November 10, 2014, Parrikar left as Goa's chief minister and took over the powerful defence minister's post, replacing Arun Jaitley.

S77. Ans.(c);
Sol. 25 + 25 ÷ 5 + 2 × 15
25 + 5 + 30 = 60

S78. Ans.(a);
Sol. SMART → 31524 ...(i)
MARBLE → 428376 ...(ii)
EAT → 537
From (i) & (ii)'A/R/M = 3/2/4 ...(iv)
In any order
From (iii) & (iv)
E → 7 A → 3 S → 1
B→ 8/6 T → 5
⇒ 618537

S79. Ans.(d);
Sol. All other are data storage devices.

S80. Ans.(c);
Sol. PC users can consider both local backup from a computer's internal hard disk to an attached external hard drive or removable media, such as a thumb drive.

S81. Ans.(b);
Sol. Population variance = $(SD)^2 = (9.5)^2 = 90.25$

S82. Ans.(c);
Sol.

```
        14084
71)999999
   71
   289
   284
    599
    568
    319
    284
     35
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Required number = 999999 – 35 = 999964

S83. Ans.(a);
Sol. Bikxie Pink, the first two-wheeler public transportation service for women, started by a married couple Divya Kalia and Mohit Sharma in Gurgaon to ferry women.

S84. Ans.(b);
Sol. $a - \frac{1}{a} = \frac{3}{4}$

$a^3 - \frac{1}{a^3} = \left(a - \frac{1}{a}\right)\left(a^2 + \frac{1}{a^2} + 1\right)$

$= \frac{3}{4}\left[a^2 + \frac{1}{a^2} + 1\right]$ ...(i)

$a - \frac{1}{a} = \frac{3}{4}$

$a^2 + \frac{1}{a^2} - 2 = \frac{9}{16}$

$\Rightarrow a^2 + \frac{1}{a^2} = 41/16$

$a^2 + \frac{1}{a^2} + 1 = \frac{57}{16}$ ...(ii)

From (i) and (ii)

$a^3 - \frac{1}{a^3} = \frac{3}{4} \times \frac{57}{16} = \frac{171}{64}$

S85. Ans.(d);
Sol. Required No. = HCF {3050 – 7), (5200-9)}
= {3043, 5191] = 179

S86. Ans.(c);
Sol. Male employees in India = 150

$$
\begin{array}{rl}
\text{total} = & 285 \\
& +240 \\
& +305 \\
& +170 \\
\hline
& 1000
\end{array}
$$

$\% = \frac{150}{1000} \times 100 = 15\%$

S87. Ans.(d);

S88. Ans.(b);
Sol. Female of US = 105
Female of Canada = 50 + 10 = 60
Ratio $= \frac{105}{60} = \frac{21}{12} = 7 : 4$

S89. Ans.(d);
Sol. The Dominion of India also known as the Union of India, was a predecessor to the modern-day Republic of India and an independent state that existed between 15 August 1947 and 26 January 1950.
90. Ans.(c);
Sol. The man of the match award in the final of 2016 Asia Cup T20 is given to Shikhar Dhawan.

S91. Ans.(c);
Sol. a = 11
$\ell = 11 \times 25 = 275$
$S_n = \frac{n}{2}(a + \ell)$
average $= \frac{S_n}{n} = \frac{(a+\ell)}{2} = \frac{11+275}{2}$
$= \frac{286}{2} = 143$

S92. Ans.(b);
Sol. $x + y + z = \frac{250}{2x} = \frac{125}{x}$ ...(i)
$= \frac{50}{y}$ ....(ii)
$= \frac{50}{z}$ ...(iii)
$\frac{125}{x} = \frac{50}{y} = \frac{50}{Z} = k$ (let)
$\frac{5}{x} = \frac{2}{y} = \frac{2}{Z} = k$
$x : y : z = \frac{5}{k} : \frac{2}{k} : \frac{2}{k}$
$\Rightarrow 5 : 2 : 2$
$x = 5a$

$y = 2a$

$z = 2a$

now (i) →

$2 \times 5a (9a) = 250$

$90a^2 = 250$

$a = \dfrac{5}{3}$

$\Rightarrow 3x + 6y + 15z$

$= 3 \times \dfrac{5 \times 5}{3} + 6 \times 2 \times \dfrac{5}{3} + 15 \times 2 \times \dfrac{5}{3}$

$= 25 + 20 + 50 = 95$

S93. Ans.(c);

Sol. The Kakori Conspiracy was a train robbery that took place between Kakori and, near Lucknow, on 9 August 1925 during the Indian Independence Movement against the British Indian Government.

S94. Ans.(a);

Sol. $979 = \dfrac{(100-11)}{100} \times CP$

$CP = \dfrac{979 \times 100}{89}$

$CP = 1100$

$SP = 1232$

$\Rightarrow \text{Profit } \% = \dfrac{1232 - 1100}{1100}$

$= \dfrac{132}{1100} \times 100 = 12\%$

S95. Ans.(c);

Sol. HCF × LCM = Products of two numbers

$45 \times 270 = 2y \times 3y$

$6y^2 = 45 \times 270$

$2y^2 = 45 \times 90$

$y^2 = 45 \times 45$
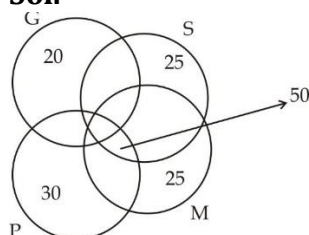
$y = 45$

Smaller number = $2y = 2 \times 45$

$x = 90$

$x^2 = 8100$

S96. Ans.(a);

Sol. Bronchitis is an inflammation of the bronchial tubes, the airways that carry air to your lungs. It causes a cough that often brings up mucus. It can also cause shortness of breath, wheezing, a low fever, and chest tightness.

S97. Ans.(c);

Sol.

Required value = 200 – (20 + 25) = 155

S98. Ans.(c);
Sol. 25 + 25 + 50 = 100

S99. Ans.(c);
Sol. 25 + 50 = 75

S100. Ans.(b);
Sol. MP = x
$SP = \frac{x}{2}$
$8100 = \frac{x}{2}$
$MP = 16200$
$MP = 16200 = \frac{135}{100} CP$
$\Rightarrow CP = \frac{16200 \times 20}{27}$
Cost price = 12000