RRB NTPC Previous Year Paper 12_(Solutions)

1. Ans.(a):
Sol. $\frac{120}{100} x = \text{Rs. } 36$
x = Rs. 30
New profit = $\frac{3}{30} \times 100\%$ = 10%

2. Ans.(a):
Sol. Yokozuna is the highest rank in sumo. Less than 100 wrestlers have been granted the rank since 1630.

3. Ans.(b):
Sol. A → MARS
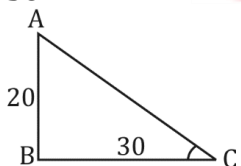B → COMET
C → VENUS
D → JUPITER
Except 'COMET', All other are planets.

4. Ans.(b):
Sol. An unidentified flying object (UFO) is an object observed in the sky that is not readily identified.

5. Ans.(b):
Sol.

AB → light house
$\tan 30° = \frac{AB}{BC} = \frac{20}{BC}$
BC = $20\sqrt{3}$ m

6. Ans.(c):
Sol. Chand Bibi is best known for defending Ahmednagar against the Mughal forces of Emperor Akbar in 1595.

7. Ans.(a):
Sol. September 16 was designated by the United Nations General Assembly as the International Day for the Preservation of the Ozone Layer.

8. Ans.(b):
Sol. Bifocals were invented in 1784, when Ben Franklin had trouble seeing both close up and far away

9. Ans.(c):
Sol. Snake, lizard and crocodile all are Reptiles.

10. Ans.(a):
Sol. Culture denotes learned and shared beliefs and behaviours.

11. Ans.(c):
Sol. The world's first mobile phone call was made on April 3, 1973, when Martin Cooper, a senior engineer at Motorola, called a rival telecommunications company and informed them he was speaking via a mobile phone.

12. Ans.(b):
Sol. Theory refers to hypotheses which are confirmed by varied tests.

13. Ans.(b):
Sol. Personal Digital Assistant (PDA) is a mobile device without a keyboard, but with a screen to write or draw the words with the help of a pen-like stylus.

14. Ans.(c):
Sol. $1x + 4x + 7x = 180°$
$x = 15$
Required ratio = 7 : 1

15. Ans.(b):
Sol. The foundation stone of the city was laid by Emperor George V during the Delhi Durbar of 1911. It was designed by British architects, Sir Edwin Lutyens and Sir Herbert Baker.
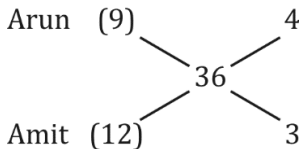
16. Ans.(c):
Sol. 11th observation = $16 \times 11 – 170 = 6$

17. Ans.(a):
Sol. The Battle of Plassey was a decisive victory of the British East India Company over the Nawab of Bengal and his French allies on 23 June 1757, under the leadership of Robert Clive.

18. Ans.(a):
Sol.

Arun (9)   4
     36
Amit (12)   3

4 + 3 = 7 unit work in 2 days
35 unit work in 5 × 2 = 10 days

19. Ans.(a):
Sol. Let CP = 100x
MP = 150x
S.P. = 110x
Discount % = $\frac{40}{150} \times 100\%$
= $26\frac{2}{3}\%$ or 27%

20. Ans.(b):
Sol. 7 clips CP → Re 1

7 clips SP → Rs 1 × $\frac{140}{100}$ = Rs. 1.40

When SP is 1 Re = $\frac{7}{1.4}$ clips = 5 clips

21. Ans.(c):
Sol. GATE = 7 + 1 + 20 + 5 = 33

22. Ans.(a):
Sol. Valley of Flowers National Park is an Indian national park, located in North Chamoli, in the state of Uttarakhand.

23. Ans.(a):
Sol. No. be 2x, 6x and 3x

$\frac{2x+6x+3x}{3} = 66$

x = 18

First no. = 2x = 36

24. Ans.(b):
Sol. Length of track = 2 × $\frac{22}{7}$ × 14 = 88 m

They will meet when distance between them is zero or 88 m.

Relative speed = 48 – 40 = 8 m/s
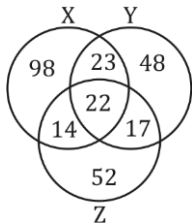
Time = $\frac{88}{8}$ = 11 sec

25. Ans.(a):
Sol. Government has appointed Amulya Patnaik as commissioner of Delhi police. Patnaik, a 1985 batch IPS officer from Union Territories cadre, will replace Alok Verma.

26. Ans.(a):
Sol.

X is used most by 157 houses

27. Ans.(c):
Sol. Z only = 52 houses

28. Ans.(b):
Sol. Required fraction

= $\frac{23 + 22 + 14 + 17}{274} = \frac{76}{274}$

29. Ans.(a):
Sol. Length of train = (90 – 36) $\frac{5}{18}$ × 25 = 375 m

30. Ans.(a):
Sol. −1 pattern
So, S − 1 = R

31. Ans.(b):
Sol.

32. Ans.(d):
Sol. $3^2 = 3^3$
Similarly = $a^2 : a^3$

33. Ans.(c):
Sol. At the time of the British withdrawal, 565 princely states were officially recognised in the Indian subcontinent, apart from thousands of thakurs, taluqdars, zamindaris and jagirs.

34. Ans.(a):
Sol. 5x÷(5x²-10x+5)
$$\frac{5x}{5x^2-10x+5}$$
Dividing numerator and denominator by 5x
We get, $\frac{1}{x+\frac{1}{x}-2}$ = 1/3

35. Ans.(d):
Sol. Raja Ram Mohan Roy is considered to be the father of modern Indian renaissance.

36. Ans.(c):
Sol. Largest no. of 3 digit exactly divisible by 15, 18, 27 and 30 is 810.

37. Ans.(a):
Sol. The Band-Aid was invented in 1920 by a Johnson & Johnson employee, Earle Dickson in Highland Park.

38. Ans.(c):
Sol. $x + \frac{1}{x} = 2$
x = 1, satisfies it
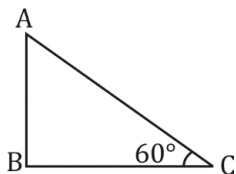Required value = (1 + 1) ÷ (1 + 1) = 1

39. Ans.(c):
Sol. Mar 9 – May 21 = 74 days or 0.2 year
$I = \frac{2000\times8.25\times0.2}{100}$ = 33

40. Ans.(d):
Sol.

AB → tower

$\tan 60 = \frac{AB}{BC} = \frac{AB}{25}$

AB = $25\sqrt{3}$ or 43.3 m

41. Ans.(b):
Sol. The most common units to measure resolution include: PPI (pixels per inch), DPI (dots per inch), LPI (lines per inch), and SPI (samples per inch).

42. Ans.(a):
Sol. A first generation (programming) language (1GL) is a grouping of programming languages that are machine level languages used to program first-generation computers.

43. Ans.(b):
Sol. Cheetah is the fastest land animal in the World.

44. Ans.(a):
Sol. 16 + 4 × 5 – 72 ÷ 8
⇒ 16 + 20 – 9 = 27

45. Ans.(c):
Sol. $\frac{V-4}{R-4} = \frac{3}{5}$
5V – 20 = 3R – 12
5V – 3R = 8   ... (i)
$\frac{V+6}{R+6} = \frac{4}{5}$
⇒ 5V – 4R = –6   ... (ii)
On Subtracting (ii) from (i)
R = 14

46. Ans.(a):
Sol. M → 4, O → 5, N → 7, I → 9, T → 8, R → 6

47. Ans.(a):
Sol. 9 × 8 + 8 ÷ 4 – 9
= 72 + 2 – 9 = 65

48. Ans.(a):
Sol. Scott Kelly is a former NASA astronaut who is best known for spending nearly a year on the International Space Station.

49. Ans.(b):
Sol. A knife is an example of a simple machine called a wedge.

50. Ans.(c):
Sol. Stefanie Maria "Steffi" Graf is a German former professional tennis player.

51. Ans.(c):
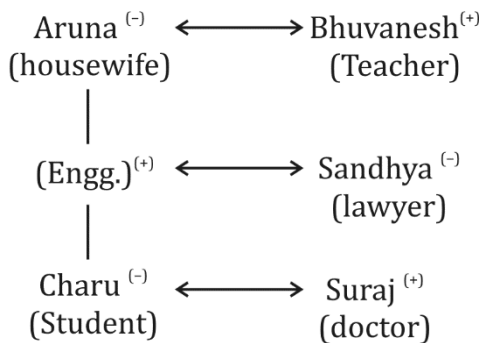**Sol.** Immiscible means that the liquids don't dissolve in each other – oil and water are an example.

52. Ans.(d):
Sol.

Aruna $^{(-)}$ $\longleftrightarrow$ Bhuvanesh$^{(+)}$
(housewife)   (Teacher)
    |
(Engg.)$^{(+)}$ $\longleftrightarrow$ Sandhya $^{(-)}$
    | (lawyer)
Charu $^{(-)}$ $\longleftrightarrow$ Suraj $^{(+)}$
(Student)   (doctor)

53. Ans.(b):
Sol.

54. Ans.(c):
Sol.

55. Ans.(c):
Sol. Synonyms

56. Ans.(a):
Sol.

57. Ans.(b):
Sol. Glaciers are masses of flowing ice that are formed when more snow falls than melts each year

58. Ans.(a); $(12M + 16W) \times 4 = 1M \times 80$
$$\frac{M}{W} = \frac{2}{1}$$
$(12M + 16W) \times 4 = 1W \times x$
$\Rightarrow x = 160$

59. Ans.(b):
Sol. Let their share be

Jalal : Amit : Feroz
= 12x : 3x : 4x

ATQ,
$19x \rightarrow$ Rs. 19,000
Jalal's share = 12x = 12,000

60. Ans.(d):
Sol. Twelve of the astronauts walked on the Moon's surface.

61. Ans.(b):
Sol. Except Bridge, all other are water bodies.

62. Ans.(d):

63. Ans.(c):
Sol. Khadga Prasad Sharma Oli, more commonly known by abbreviated name K.P. Oli, is a Nepalese politician and the current Prime Minister of Nepal.

64. Ans.(b):
Sol. The current president is Swiss-Italian Gianni Infantino, elected on 26 February 2016 during an extraordinary session of the FIFA Congress.

65. Ans.(a):
Sol. Louis Hamilton won the Australian Grand Prix 2015.

66. Ans.(b):
Sol. X rays are used to penetrate solids and are used by doctors and at airport. Transportation Security Administration (TSA) screeners at airports check passengers and suitcases for dangerous items such as weapons. To do their job, they use different kinds of screening equipment such as backscatter x-ray and cabinet x-ray machines.

67. Ans.(a); Ans.($7x + 5) + (x + 5) = 90$
$8x + 10 = 90$
$x = 10$

68. Ans.(d):
Sol. A → SQUARE
B → POLYGON
C → RECTANGLE
D → GREENTHS

69. Ans.(c):
Sol. Pair of antonyms.

70. Ans.(a):
Sol. Let total = 100
Men = x
Female = 100 – x
$\frac{x}{4} = \frac{1}{3}(100 - x)$
$\frac{x}{100-x} = \frac{4}{3}$

71. Ans.(c):
Sol. $9 \times 48 \div 6 - 16 + 3 = 59$

72. Ans.(a):
Sol. Annealing of glass is a process of slowly cooling hot glass objects after they have been formed, to relieve residual internal stresses introduced during manufacture.

73. Ans.(a):

74. Ans.(a):
Sol.

75. Ans.(b):
Sol. Degree of polynomial is 2 + 3 = 5

76. Ans.(a):
Sol. First Schedule -List of States & Union Territories

77. Ans.(d):
Sol. Pair of opposite letters.

78. Ans.(a):
Sol. Magnesium hydroxide is a common component of antacids, such as milk of magnesia, as well as laxatives.

79. Ans.(d):
Sol. 11509 = x × 71 + 7
x = 162

80. Ans.(c):
Sol. Books sold by B, D and E in July = 208 + 187 + 175 = 570
Required value = $\frac{70}{100}$ × 570 = 399

81. Ans.(d):
Sol. Books sold by A in July and Sept. = 156 + 220 = 376
Books sold by E in Aug. and Oct. = 215 + 249 = 464
Ratio = 47 : 58

82. Ans.(a):
Sol. Books sold by C in July, Sept. and Oct. = 216 + 235 + 278 = 729
Average = 729/3 = 243
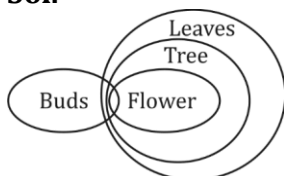
83. Ans.(c):
Sol. $3 : 3^5$
Similarly $5 : 5^5$
5^5 = 3125

84. Ans.(a):
Sol. Variance = $(SD)^2$ = 9

85. Ans.(c):
Sol.

I. ✓
II. ✓

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86. Ans.(c):

Sol. $\frac{\text{LCM of numerator}}{\text{HCF of denominator}}$

Required LCM = $\frac{32}{3}$

87. Ans.(c):

Sol. The Koyna Dam is one of the largest dams in Maharashtra, India.
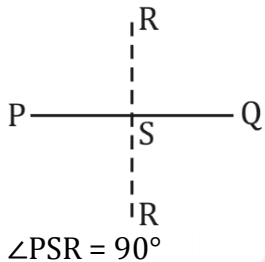
88. Ans.(c):

Sol. Venus is most like Earth in terms of mass and size, and it is also the planet closest to Earth.

89. Ans.(c):

Sol. Coefficient of variation = $\frac{\sigma}{X} \times 100\%$

= $\frac{5}{15} \times 100\% = 33.33\%$

90. Ans.(c):

Sol.

∠PSR = 90°

91. Ans.(c):

Sol. The structure was built in 1799 by Maharaja Sawai Pratap Singh.
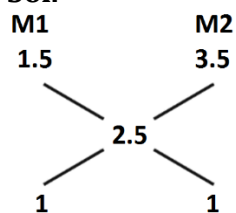
92. Ans.(b):

Sol. 27 + 81 ÷ 9 – 6 = 30

93. Ans.(d):

Sol. The Mudrarakshasa is a Sanskrit-language play by Vishakhadatta that narrates the ascent of the king Chandragupta Maurya to power in India.

94. Ans.(c):

Sol.

Required ratio = 1 : 1

95. Ans.(a):

Sol. The first emperor of a united China, Qin Shi Huang Di (221-210 B.C.), created one of the first unified lines of fortifications along the entire northern border.

96. Ans.(c):
Sol. Martin David Crowe was a New Zealand former cricketer, Test and ODI captain as well as a commentator.

97. Ans.(b):
Sol. $\frac{70}{100} \times \frac{5}{7} \times x = 90$
x = 180

98. Ans.(b):
Sol. Quicksilver is just another word for mercury (quicksilver has germanic origins, mercury is latin).

99. Ans.(a):
Sol. The kiwi is a vertebrate. The kiwi is a bird and all birds are vertebrates.

100. Ans.(a):
Sol. Total simple interest
$= 500 \times \frac{7 \times 3}{100} + 700 \times \frac{10 \times 3}{100} + 1000 \times \frac{4 \times 3}{100}$
= Rs. 435