RRB NTPC Previous Year Paper 02

1. Ans.(b):
Sol. QSPR

2. Ans.(d):
Sol. Soldiers are present in army
Musicians are present in band.

3. Ans.(a):
Sol. The operating system is loaded through a bootstrapping process, more succinctly known as booting. A boot loader is a program whose task is to load a bigger program, such as the operating system.

4. Ans.(a):
Sol. The 2014 Nobel Peace Prize was shared, in two equal parts, between Kailash Satyarthi and Malala Yousafzai "for their struggle against the suppression of children and young people and for the right of all children to education".

5. Ans.(b):
Sol. $2 (2x + 3x + 5x) = 100$
$20x = 100$
$1x = 5$
$\therefore$ square of largest number
$= (5x)^2 = (25)^2 = 625$

6. Ans.(a):
Sol. The first president of the Indian National Congress was Womesh Chandra Bannerjee, a lawyer from Calcutta (Kolkata).

7. Ans.(b):
Sol. $\text{CI} = P\left[\left(1 + \frac{r}{100}\right)^2 - 1\right]$
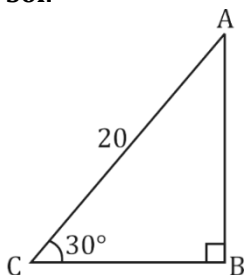$= 48000\left[\left(1 + \frac{20}{100}\right)^2 - 1\right]$
$= 48000\left[\left(\frac{6}{5}\right)^2 - 1\right]$
$= 48000\left[\frac{36-25}{25}\right]$
$= 48000 \times \frac{11}{25} = 21120$

8. Ans.(a):
Sol.

$AB = AC \sin 30°$
$= 20 \times \frac{1}{2} = 10$ m

9. Ans.(c):
Sol.

Great grand father
     |
   + |
    Son
      |
    + |
     Son ═══ Sita⁻
        |
      Ram
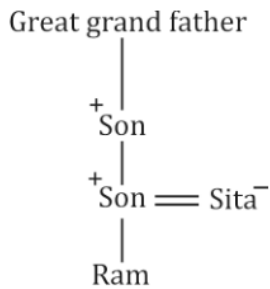
∴ Sita is the mother of Ram

10. Ans.(a):
Sol. Let total length = x m
ATQ,
$$35 = (x + 4) \times \left(\frac{35}{x} - 1\right)$$
By solving the equation
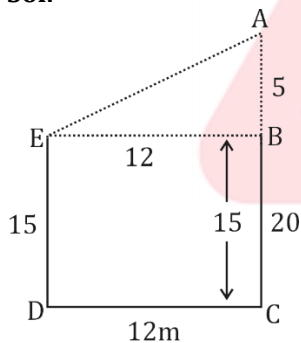$x^2 + 4x - 140 = 0$
∴ x = 10 m

11. Ans.(c):
Sol. Park Geun-hye was sworn in as South Korea's first female president in 2013.

12. Ans.(a):
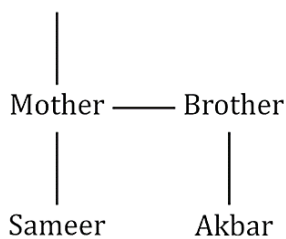**Sol.** The Mughal Empire was founded by Babur (reigned 1526–1530).

13. Ans.(c):
Sol.

∴ Distance between their tops = $\sqrt{12^2 + 5^2}$
= 13 m

14. Ans.(d):
Sol.

Maternal Grand Mother
       |
Mother ────── Brother
  | |
Sameer   Akbar

Sameer is the cousin of Akbar.

15. Ans.(a):
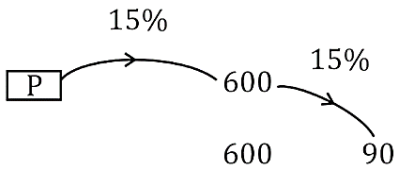**Sol.** Only conclusions I follows

16. Ans.(d):
Sol. Unlike all other pieces, pawn cannot move backward.

17. Ans.(b):
Sol. Crude oil was discovered here in late 19th century. Digboi is known as the Oil City of Assam where the first oil well in Asia was drilled.

18. Ans.(d):
Sol.

$$\therefore \frac{15}{100} \times P = 600$$
P = 4000

19. Ans.(c):
Sol. Electromagnetic waves do not require a medium in order to transport their energy. Mechanical waves are waves that require a medium in order to transport their energy from one location to another. Sound is a mechanical wave and cannot travel through a vacuum. A sound wave traveling through air, the vibrations of the particles are best described as longitudinal. Longitudinal waves are waves in which the motion of the individual particles of the medium is in a direction that is parallel to the direction of energy transport.

20. Ans.(d):
Sol. Neither of them follows

21. Ans.(a):
Sol.
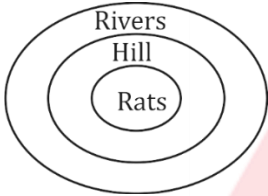
22. Ans.(a):
Sol. New born babies have around 305 bones. A baby's skeleton is mostly made up of cartilage. As a person grows up, most of this cartilage turns into bone in a process called ossification. By adulthood, the skeleton has just 206 bones.

23. Ans.(a):
Sol. The centerpiece of the 2008 Summer Olympics was the Beijing National Stadium, nicknamed "The Bird's Nest" because of its nest-like skeletal structure.

24. Ans.(c):
Sol. The lowest frequency of visible light, which is red, has the least energy.

25. Ans.(a):
Sol. In 2015, Volkswagen auto manufacturer manipulated emissions testing data leading to the resignation of its CEO Martin Winterkom.

26. Ans.(b):
Sol. Volume of the cement in the box
$= (22 - 2) \times (17 - 2) \times (12 - 2)$
$= 20 \times 15 \times 10$
$= 3000 \text{ cm}^3$

27. Ans.(c):
Sol. $-3, +3$ series

28. Ans.(b):
Sol. Non-metals liquid at room temperature - Bromine (Br).

29. Ans.(d):
Sol. Maanch dance is a lyrical folk ballet originating from the central Indian state of Madhya Pradesh.

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30. Ans.(a):
Sol. Endosulfan insecticides' harmful effects came under media attention when health issues in Kerala were publicized.

31. Ans.(c):
Sol. Other number $= \frac{3 \times 2730}{78} = 105$

32. Ans.(a):
Sol. ROAR = 18 + 15 + 1 + 18 = 52

33. Ans.(d):
Sol. Brass is an alloy.

34. Ans.(a):
Sol. The National Flag of India is a horizontal rectangular tricolour of India saffron, white and India. According to the Flag code of India, the Indian flag has a ratio of two by three.

35. Ans.(a):
Sol. Let total distance = 100 km
∴ ATQ,
Total time $= \frac{50}{40} + \frac{50}{50}$
$= \frac{5}{4} + 1 = \frac{9}{4}$ hr
∴ Average speed $= \frac{100}{9} \times 4 = \frac{400}{9}$ km/hr
= 44.44 km/hr

36. Ans.(c):
Sol. LCM of 15, 25 and 29 = 2175

37. Ans.(b):
Sol. On June 19, 1981 India launched its first geostationary satellite called APPLE. It was an **experimental** communication satellite launched by the Indian Space Research Organisation (ISRO) with a C-band transponder.

38. Ans.(a):
Sol. In 1928 Alexander Fleming (1881–1955) discovered penicillin, made from the Penicillium notatum mold.

39. Ans.(b):
Sol. 17 + 6 × 13 ÷ 8
17 × 6 + 13 – 8
= 102 + 13 – 8
= 115 – 8 = 107

40. Ans.(b):
Sol. $\frac{3}{8} = 0.37$
$\frac{19}{73} = 0.26$
$\frac{29}{47} = 0.61$
$\frac{17}{39} = 0.43$
∴ $\frac{19}{73} < \frac{3}{8} < \frac{17}{39} < \frac{29}{47}$

41. Ans.(c):
Sol. ATQ,
2K + 3K + 6K = 3740 ⇒ k = 340
∴ 3 parts are : -
$(340 \times 2); (3 \times 340); (6 \times 340)$
680 ; 1020 ; 2040

42. Ans.(a):
Sol. The Rann of Kutch is famous for its white salty desert sand and is reputed to be the largest salt desert in the world. It is known as White Desert.

43. Ans.(a):
Sol. Article 21-A in the Constitution of India to provide free and compulsory education of all children in the age group of six to fourteen years as a Fundamental Right in such a manner as the State may, by law, determine.

44. Ans.(b):
Sol. Charminar, the iconic monument built by the fifth king, Muhammad Quli Qutb Shah, to commemorate the eradication of a plague, became one of India's most recognizable symbols.

45. Ans.(d):
Sol. Microsoft Excel is a spreadsheet developed by Microsoft for Windows, macOS, Android and iOS.

46. Ans.(a):
Sol. Persons like reading
= 43 + 31 + 12 + 44 + 28 + 12 = 170

47. Ans.(d):
Sol. 28

48. Ans.(a):
Sol. 31

49. Ans.(c):
Sol. Let 5 paise coin = x
Let 10 paise coin = (90 – x)
ATQ,
$7 \times 100 = 5x + 10 (90 - x)$
$700 = 5x + 900 - 10x \Rightarrow x = 40$
∴ 5 paise coin = 40 coins

50. Ans.(a):
Sol. The net is 1.55 metres (5 ft 1 inch) high at the edges and 1.524 metres (5 ft) high in the centre.

51. Ans.(b):
Sol. Only conclusion II follows

52. Ans.(c):
Sol. Mode = 55 (maximum repetition)

53. Ans.(a):
Sol.

Arun and Biswajyot

54. Ans.(c):
Sol. So. Evan and chitra
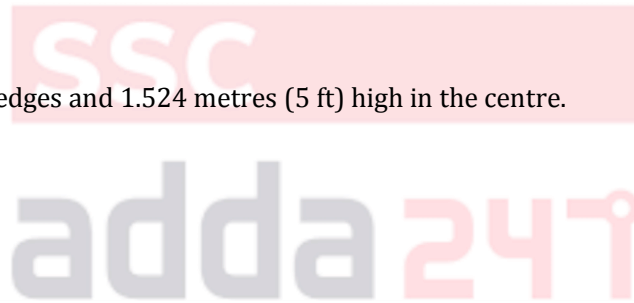
55. Ans.(a):
Sol. Arun, Chitra and Fatima

56. Ans.(b):
Sol. $30 \times 5 \times 16 = 40 \times 6 \times N$
∴ N = 10 days

57. Ans.(a):
Sol. Total household expenditure for the year
2012 = 46 + 14 + 7.3 + 5.6 + 17
= 89.9 × 1000 = 89,900

58. Ans.(b):
Sol. Required % $= \frac{7.4}{52} \times 100 = 14.23\%$

59. Ans.(a):
Sol. Required value $= \frac{5 + 6.5 + 7.3 + 7.9 + 8.5}{5} \times 1000$
$= 7040$

60. Ans.(c):
Sol. x + x +x + 20 = 200
3x = 180 ⇒ x = 60
∴ Third side = 60 + 20 = 80

61. Ans.(b):
Sol. Unix is a family of multitasking, multiuser computer operating systems that derive from the original AT&T Unix, development starting in the 1970s at the Bell Labs research center by Ken Thompson.

62. Ans.(a):
Sol. Willis Carrier invented the first, large-scale electrical air conditioner in 1902, meant to control the air temperature at a publishing company where humidity and air temperature was affecting the manufacturing process.

63. Ans.(c):
Sol.
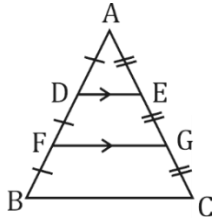
Area of DEGF
$= \frac{1}{3} \times 63$ = 21 sq. units

64. Ans.(a):
Sol. Calcium stones are the most common type of kidney stones. They are usually made of calcium and oxalate (a natural chemical found in most foods), but are sometimes made of calcium and phosphate. Uric acid stones form when your urine is often too acidic.

65. Ans.(c):
Sol. $(50 + 0.5 \times 20) \div 0.7$
$= (50 + 10) \div 0.7$
$= \frac{600}{7} = 85.71$

66. Ans.(b):
Sol.

∴ R alone can do it in $= \frac{120}{3} = 40$ days

67. Ans.(a):
Sol. In 2015, underground glaciers of frozen water were discovered on Mars.

68. Ans.(a):
Sol. $100 - 320$
∴ $90 - \frac{320}{100} \times 90$ Ans.(After discount)
SP = 288
∴ 120% = 288
∴ CP (100%) $= \frac{288}{120} \times 100 = 240$

69. Ans.(a):
Sol. This act was followed by the acceptance of Christianity as the state religion after the baptism of Olga's grandson Vladimir I, prince of Kiev, in 988.

70. Ans.(a):
Sol. Position of letters in alphabetical series

71. Ans.(a):
Sol. On average, the human tongue has **2,000–8,000 taste buds**, implying that there are hundreds of thousands of receptor cells.
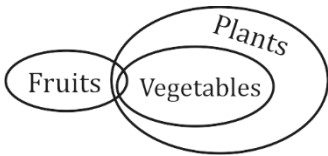
72. Ans.(b):
Sol. 5.16 × 3.2 = 16.512

73. Ans.(a):
Sol. Kennel is the shelter of dog.
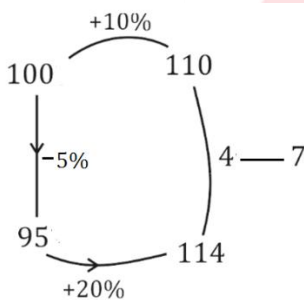Hive is the shelter of bee.

74. Ans.(c):
Sol.

I. ✓
II. ✓
Both I and II follow

75. Ans.(a):
Sol. Let CP = 100

∴ 4 = 7
∴ $100 = \frac{7}{4} \times 100 = 175$

76. Ans.(b):
Sol. Hydra reproduce asexually by producing buds in the body wall, which grow to be miniature adults and break away when they are mature.

77. Ans.(a):
Sol. Heliocentrism is the astronomical model in which the Earth and planets revolve around the Sun at the center of the Solar System. Nicholas Copernicus, a Polish scientist living about a century before Galileo, had already come up with the unorthodox idea that the Sun was at the center of the solar system. Galileo knew about and had accepted Copernicus's heliocentric (Sun-centered) theory

78. Ans.(b):
Sol. Vikram Ambalal Sarabhai was an Indian scientist and innovator widely regarded as the father of India's space programme.

79. Ans.(c):
Sol. This wire is called a filament. The filament is the part of the light bulb that

produces light. Filaments in incandescent light bulbs are made of tungsten. When Electric current goes through the filament, the filament glows.

80. Ans.(c):
Sol. Dennis Anthony Tito (born August 8, 1940) is an American engineer and multimillionaire, most widely known as the first space tourist to fund his own trip into space.

81. Ans.(a):
Sol. When SP = 1840

∴ $P\% = \frac{240}{1600} \times 100 = 15\%$

∴ Increase in profit % = 15% - 10% = 5%

82. Ans.(b):
Sol. Cro-magnon are the earliest humanoid of Europe.

83. Ans.(b):
Sol. $C_{12}H_{22}O_{11}$ also known as Sugar.

84. Ans.(d):
Sol. $27 \times 3 + 19 - 10 = 90$

⇒ 81 + 19 − 10 = 90

⇒ 100 − 10 = 90 ⇒ 90 = 90

85. Ans.(a):
Sol. $\left(\frac{2}{7} + \frac{3}{5}\right) \div \left(\frac{2}{5} + \frac{2}{7}\right)$

⇒ $\left(\frac{10+21}{7\times5}\right) \times \left(\frac{5\times7}{14+10}\right) \Rightarrow \frac{31}{24}$

86. Ans.(d):
Sol. $44 \div 4 \times 7 + 5 = 82$

⇒ 11 × 7 + 5 = 82

⇒ 77 + 5 = 82 ⇒ 82 = 82

87. Ans.(d):
Sol. R + 1 = 0 + 9[for divisibility with 11]

R = 9 − 1 ⇒ R = 8

88. Ans.(a):
Sol.

```
                        Mother
                          |
Mother ——— Sister ——— Brother
   |                      |
 Malini                 Rohit
```
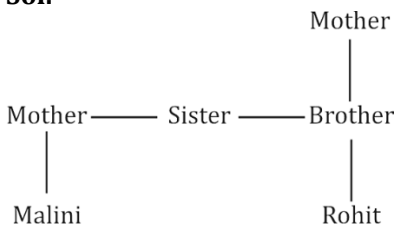
∴ Malini is the cousin of Rohit.

89. Ans.(a):
Sol. A hardcourt (or hard court) is a surface or floor on which a sport is played, most usually in reference to tennis courts. They are typically made of rigid materials such as asphalt or concrete.

90. Ans.(b):
Sol. 36 − 4 + 7 × 8

⇒ 36 ÷ 4 × 7 + 8

⇒ 9 × 7 + 8 ⇒ 63 + 8 = 71

91. Ans.(c):
Sol. Required average $= \frac{12 \times (1+2+3+\cdots+20)}{20}$

$= (1 + 2 + 3 + \cdots + 20) \times \frac{3}{5}$

$= \frac{20 \times 21}{2} \times \frac{3}{5} = 126$

92. Ans.(b):
Sol. 31, 53, 55, 56, 59, 61, 69

∴ Numbers are odd in number

∴ Median = $\left(\frac{n+1}{2}\right)^{th}$ term

$= \left(\frac{7+1}{2}\right)^{th}$ term = 4th term = 56

93. Ans.(d):
Sol. Let the number be xy

∵ x + y = 9   ...(i)

Atq,

　　　Ans.(10x + y) – (10y + x) = 45

9x- 9y = 45

x – y = 5   ...(ii)

by solving (i) and (ii)

x = 7, y = 2

∴ changed number = 10y + x = 20 + 7 = 27

94. Ans.(b):
Sol. Pair of opposite letters

95. Ans.(b):
Sol. Vande Mataram is the National Song of India written by Bankim Chandra Chattopadhyay in 1882 in a novel, Anandamath. Originally it was written in two languages i.e. Bengali and Sanskrit.

96. Ans.(d):
Sol. Ozone Depletion is NOT an effect of Noise Pollution.

97. Ans.(b):
Sol. Upstream speed = 40

Boat – stream = 40

55 – stream = 40

∴ stream = 15

∴ Downstream speed = 55 + 15 = 70 km/hr

98. Ans.(b):
Sol. Tennis is played in the court

Similarly, boxing is played in the ring

99. Ans.(b):
Sol. Let present age of P = P

Present age of Q = Q

Atq,

$\frac{P-6}{Q-6} = \frac{3}{2} \Rightarrow 2P - 3Q = -6$

$\& \frac{P+4}{Q+4} = \frac{8}{7} \Rightarrow 7P - 8Q = 4$

By solving both equations

P = 12 yrs

100. Ans.(b):
Sol. Gateway of India was erected to commemorate the landing of King George V and Queen Mary at Apollo Bunder on their visit to India in 1911.