33 Year-wise

RRB NTPC

Previous Year Solved Papers
Stage I & II

2nd Edition

Total 33 Solved Papers	28 Solved Pa... S...	5 S...ved ...apers
	• 20 Solv... ...r 2...6	• 3 Solved paper 2017
	• 8 Solved ... 2019 (held in 2021)	• 2 Solved Pa...

Original Question ... ...olutions
Based on latest Syllabus & Pattern

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CONTENTS

RRB NTPC STAGE – I SOLVED PAPERS (2016-2017)

RRB NTPC STAGE – II SOLVED PAPERS (2016-2017)

ABOUT THE EXAM

RRB NTPC SELECTION PROCESS

The RRB NTPC 2024 selection process comprises four stages. Successful completion of all four stages makes applicants eligible for RRB NTPC recruitment 2024. Candidates can check the RRB NTPC Selection Process that includes the following stages:

First Stage of CBT	Second Stage of CBT	Typing Test (Skill Test) / Aptitude Test	Document Verification	Medical Examination

RRB NTPC EXAM PATTERN

CBT 1 is the first stage of the RRB NTPC exam and applies to both undergraduate and graduate posts.

Section	Number of Questions	Marks	Duration
Mathematics	30	30	1 hour 30 minutes
General Intelligence & Reasoning	30	30	
General Awareness	40	40	
Total	**100**	**100**	

EXAM PATTERN FOR CBT 2

Section	Number of Questions	Marks	Duration
Mathematics	35	35	1 hour 30 minutes
Reasoning	35	35	
General Intelligence & General Awareness	50	50	
Total	**120**	**120**	

RRB NTPC 2024 CBAT EXAM PATTERN

- Computer-Based Aptitude Test (CBAT) is conducted for Assistant Station Master & Traffic Assistant posts.
- Typing Skill Test is conducted for posts like Junior Accounts Assistant-cum-Typist, Senior Clerk-cum-Typist, and Senior Time Keeper

RRB NTPC STAGE-I SOLVED PAPER-1

Held On 4th Jan. 2021 (Shift-1)

1. Harish and Bimal can complete a task in 20 days. They worked at it for 15 days and then Bimal left. The remaining work was done by Harish alone, in 10 days. Harish alone can complete the entire task in:
(a) 40 days (b) 30 days
(c) 35 days (d) 45 days

2. Who launched the Sukanya Samridhi Yojana?
(a) Narendra Modi
(b) HD Deve Gowda
(c) Atal Bihari Vajpayee
(d) Manmohan Singh

3. The main focus of the First Five-Year Plan was on the _____.
(a) service sector
(b) agricultural and industrial sector
(c) agricultural sector
(d) industrial sector

4. If $\sqrt{3^n} = 729$, then the value of n is equal to:
(a) 6 (b) 8 (c) 12 (d) 9

5. In which year did India first participate in the Olympic games?
(a) 1900 (b) 1925
(c) 1923 (d) 1924

6. With which state is the Nabakalebara festival associated?
(a) Odisha (b) Assam
(c) Sikkim (d) West Bengal

7. Which branch of physics deals with properties of fluids at rest?
(a) Hydrostatics
(b) Astrophysics
(c) Thermodynamics
(d) Optics

8. The HCF of two numbers is 6 and their LCM is 84. If one of these numbers is 42, then the second number is:
(a) 12 (b) 40 (c) 48 (d) 30

9. The first Amendment to the constitution of India was made on _____.
(a) 1951 (b) 1953
(c) 1952 (d) 1950

10. Th pH range of a human body is:
(a) 2.35 – 4.45 (b) 5.35 – 6.45
(c) 7.35 – 7.45 (d) 8.35 – 9.45

11. When was the Hindustan Republican Association formed?
(a) 1920 (b) 1922
(c) 1924 (d) 1926

12. If $x^2y^2 + \frac{1}{x^2y^2} = 83$, then the value of $xy - \frac{1}{xy}$ is
(a) 85 (b) 9 (c) 10 (d) 81

13. As per Nov. 2020. How many countries have membership in the World Trade Organisation?
(a) 168 (b) 160 (c) 164 (d) 165

14. Where was the first nuclear power plant set up in India?
(a) Kalapakkam (b) Kakrapur
(c) Tarapur (d) Kaiga

15. Who wrote the famous Hindi novel `Tamas'?
(a) Yashpal (b) Nagendra
(c) Bhisham Sahni (d) Trilochan

16. When did the Simon Commission arrive in India?
(a) 1931 (b) 1928 (c) 1927 (d) 1930

17. The ratio of the number of females to that of male employees in a small company is 2 : 3. If the number of male employees in the company is 90, then the total number of employees working in the company is:
(a) 150 (b) 130 (c) 90 (d) 120

18. If the area of a circle is 154 cm^2, then the circumference of the circle is:
(a) 22 cm (b) 44 cm
(c) 36 cm (d) 11 cm

19. Which industry uses limestone as raw material?
(a) Plastic (b) Automobile
(c) Utensils (d) Cement

20. A businessman purchases 20 articles whose cost is equal to the selling price of 15 articles. The profit or loss percentage of the businessman is:
(a) 33.33% profit (b) 25% profit
(c) 15% loss (d) 23.33% loss

21. Programming language Java was developed by _____.
(a) Paul Allen (b) Jaap Haartsen
(c) Charles Simonyi (d) James Gosling

22. A mango kept in a basket doubles every one minute. If the basket gets completely filled by mangoes in 30 min then in how many minutes half of the basket was filled?
(a) 27 (b) 29 (c) 15 (d) 28

23. Who built the Sanchi Stupa?
(a) Ashoka
(b) Chanakaya
(c) Bindusar
(d) Chandragupta

24. The first national flag of India is said to have hoisted at _____ in 1906.
(a) Patna (b) Kolkata
(c) New Delhi (d) Ahmedabad

25. The pistil in the flower is _____.
(a) a male reproductive part
(b) unisexual
(c) a female reproductive part
(d) bisexual

26. According to the World Development Report, countries having per capita income of more than US$12,000 per annum as on 2016 are called:
(a) poor countries
(b) low income countries
(c) rich countries
(d) low middle income countries

27. The value of $\left[\left(3\sqrt{2}+2\right)\times\left(3\sqrt{2}-2\right)\right]$ of 13 + 15 is:
(a) 616 (b) 197
(c) 140 (d) 414

28. In a school, 60% of the students passed in an examination. If the number of failed candidates is 240, then the number of candidates that have passed is:
(a) 600 (b) 240
(c) 360 (d) 410

29. When was INSAT 1B commissioned?
(a) 1985 (b) 1983
(c) 1987 (d) 1980

30. There is a carpet of length $20\frac{5}{2}$ m. How many small pieces of carpet, each of length $4\frac{1}{2}$ m, can be cut out of it?
(a) 7 (b) 8
(c) 9 (d) 5

31. 1. Banana price is more than that of lychee.
2. Banana price is less than that of kiwi.
3. Kiwi price is more than that of banana and lychee.
If both, 1 and 2 statements are true, then third is:
(a) vague (b) true
(c) uncertain (d) false

32. What was the code name for Pokhran Nuclear Test 2?
(a) Laughing Buddha
(b) Smiling Buddha
(c) Operation Research
(d) Operation Shakti

33. In which form is data stored in a computer?
(a) Binary (b) Picture
(c) Magnetic (d) Alphabets

34. If the ratio between two numbers is 3 : 5 and their LCM is 120, then the numbers are:
(a) 21; 35 (b) 24; 40
(c) 27; 45 (d) 30; 50

35. In which year were the Women Transforming India Awards started by NITI Aayog?
(a) 2016 (b) 2015
(c) 2014 (d) 2017

36. How many non-permanent members does the UN Council have?
(a) 15 (b) 10
(c) 12 (d) 14

37. When a smaller number divides a larger number, we get a quotient of 6 and a remainder of 5. Find the smaller number if the difference between the two numbers is 1540.
(a) 580 (b) 620
(c) 735 (d) 307

38. The value of $\frac{\sin 23^\circ}{\cos 67^\circ}+\frac{\cos 71^\circ}{\sin 19^\circ}$ is
(a) 1 (b) 3 (c) 2 (d) 0

39. The ability of metals to be drawn into thin wires is called:
(a) malleability (b) ductility
(c) reactivity (d) solubility

40. In a class of students, Rajesh ranks 15th from the top and Prakash ranks 25th from the bottom. Gyan is on the 10th place ahead of Prakash. If there are 10 students, exactly in between Rajesh and Gyan, then how many total students are there in the class?
(a) 60 (b) 55 (c) 40 (d) 50

41. Pick the odd one out.
(a) MNKL (b) IJGH
(c) EFCD (d) OPQR

42. Raja Ravi Varma was a famous _____.
(a) painter (b) poet
(c) mathematician (d) singer

43. The difference between the simple interest and the compound interest on `5000/- at 10% per annum for 3 years is:
(a) `155 (b) `480
(c) `233 (d) `235

44. In a symbolic language, `surat is a hot place' is written as `a hot is place surat' and `water' vapour to air here', as `to air vapour here water', then in the same language, `shimla is a hill place' would be written as?
(a) Shimla is a hill place
(b) A hill is place shimla
(c) A hill place is shimla
(d) shimla is a place hill

45. The perimeters of two similar triangles, ΔPQR and ΔXYZ are 48 cm and 24 cm respectively. IF XY = 12 cm, then PQ is:
(a) 24 cm (b) 18 cm
(c) 12 cm (d) 8 cm

46. Select the option that is related to the third term in the same way as the second term is related to the first term.
BSTN : AQUP :: DNUC :?
(a) CLVE (b) BSTO
(c) TOUS (d) TSTB

47. Train A, running at the speed of 80 km/hr crossed train B, running at the speed of 70 km/hr in the opposite direction. Both trains finish crossing each other in 30 seconds. If the length of train A is 300 m, then the length of train B is:
(a) 855 m (b) 950 m
(c) 850 m (d) 750 m

48. The capacity of a cylindrical tank is 237 m^3. If the radius of the tank is 21 m, then the depth of the tank is:
(a) 1.71 m (b) 2.89 m
(c) 5.75 m (d) 3.72 m

49. The first high court of India was established in _____.
(a) Kolkata (b) Delhi
(c) Mumbai (d) Punjab

50. When did the RTI Act come into effect?
(a) December 2005
(b) November 2006
(c) September 2005
(d) October 2005

51. Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) was launched in the year _____.
(a) 2006 (b) 2004
(c) 2003 (d) 2005

52. When was Akbar became the emperor?
(a) 1552 AD (b) 1550 AD
(c) 1560 AD (d) 1556 AD

53. Who among the following is the youngest Nobel Laureate?
(a) Lawrence Bragg (b) Nadia Murad
(c) Malala Yousafzai (d) Tsung Dao Lee

54. In which of the following does the river Godavari originate?
(a) Yamnotri (b) Brahmagiri Hills
(c) Hills of Coorg (d) Gangotri

55. Five students are sitting in a circle facing the centre. Sumit is between Sunil and Sushmit. Sushma is on the left side of Shweta. Sushmit and sushma are not sitting next to each other. Who is sitting next to Sumit on his right side?
(a) Sushma (b) Sushmit
(c) Shweta (d) Sunil

56. The sum of two numbers is 25 and their difference is 15. The ratio of the numbers is:
(a) 2 : 3 (b) 4 : 1
(c) 3 : 2 (d) 5 : 3

57. How many world heritage sites have been protected by UNESCO as of June 2020?
(a) 1121 (b) 1256
(c) 1056 (d) 1273

58. Select the combination of letters that when sequentially placed in the blanks will create a repetitive pattern.
a_bc_a_bcda_ccd_bcd_
(a) a, a, b, c, c, d (b) a, c, b, d, b, d
(c) a, d, b, b, a, d (d) a, b, b, b, d, d

59. If $x + \frac{1}{x} = 9$, then the value of $x^2 + \frac{1}{x^2}$ is:
(a) 83 (b) 81 (c) 79 (d) 81.01

60. Consider the given statement and decide which of the given assumptions is/are implicit in the statement.
Statement:
A wealthy person has a higher chance of having diabetes.
Assumptions:
I. Most of causes of death among wealthy persons are due to diabetes.
II. Poor persons do not have diabetes.
(a) Only assumptions(II) is implicit.
(b) Both, assumptions (I) and (II) are implicit.
(c) Neither assumption (I) nor (II) is implicit.
(d) Only assumptions (I) is implicit.

61. Select the number from among the given options that can replace the question mark(?) in the following series.
64, 60, 52, 40, ?, 4
(a) 20 (b) 24 (c) 10 (d) 16

62. The value of $\frac{(0.27)^2 - (0.13)^2}{0.27 + 0.13}$ is:
(a) 0.40 (b) 0.03
(c) 0.14 (d) 1.40

63. How many environmental activists got the Goldman Environmental Prize 2019?
(a) 5 (b) 4
(c) 6 (d) 3

64. In which state is the Gandhi Sagar Dam constructed?
(a) Maharshtra
(b) Himachal Pradesh
(c) Rajasthan
(d) Madhya Pradesh

65. When was revolt of 1857 finally suppressed by British?
(a) 1859 (b) 1861
(c) 1860 (d) 1857

66. If $\tan\theta + \cot\theta = 5$, then the value of $\tan^2\theta + \cot^2\theta + 2\tan^{-2}60°$ is:
(a) $29\sqrt{3}$ (b) 29
(c) 25 (d) $10\sqrt{3}$

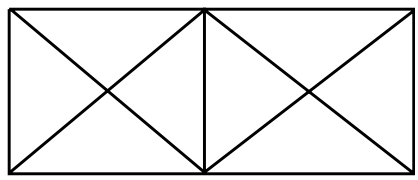
67. A class has 48 students. On a specific day, only $\frac{3}{8}$ of the students were present; the number of absentees on the same day would be:
(a) 18 (b) 28
(c) 38 (d) 30

68. The value of $15 \times 14 - 30 + (3^2 + 17)$ is:
(a) 206 (b) 124
(c) 154 (d) 266

69. URL stands for:
(a) Uniform Resource Locator
(b) Uniform Remote Locator
(c) Universal Remote Land
(d) Universal Resource Locator

70. The angle of elevation of a pole from a point, which is 20 m away from the foot of the pole is 45°. Find the height of the pole.
(a) 20 m (b) $20\sqrt{2}$ m
(c) 15 m (d) 10 m

71. How many triangles are there in the following figures?



(a) 20 (b) 18
(c) 22 (d) 16

72. On which river is the Sardar Sarovar Dam constructed?
(a) Ganga (b) Brahmaputra
(c) Yamuna (d) Narmada

73. The marks obtained by 7 students in a class in mathematics are 43, 44, 65, 41, 53, 65 and 62. The mode of the data is:
(a) 53 (b) 65
(c) 41 (d) 62

74. 15 male employees or 20 female employees of a company can complete a project in 26 days. How long will 30 male employees and 12 female employees together take to complete the project?
(a) 14 days (b) 10 days
(c) 12 days (d) 8 days

75. The sum of two numbers is 16 and their product is 63. The sum of their reciprocal is equal to:
(a) $\frac{63}{16}$ (b) $\frac{8}{63}$ (c) $\frac{60}{63}$ (d) $\frac{16}{63}$

76. _____ is the larger Bauxite producing state of India.
(a) Odisha
(b) Jharkhand
(c) Andhra Pradesh
(d) Gujarat

77. A man is older than Sahu, Sahu is younger than Komal but older than Millan. Komal is older than A man but younger than Uday. Who is the third oldest among them?
(a) Komal (b) A man
(c) Sahu (d) Uday

78. Select the option that is related to the third term in the same way as the second term is related to the first term.
DFB : GHC :: LNJ :?
(a) LOJ (b) OQM
(c) OPK (d) EGC

79. Read the given statements and conclusions carefully and decide which of the conclusions logically follow(s) from the statements.
Statements:
Some women are wise.
All wise are engineers.
Conclusions:
I. Some women are engineers.
II. All engineers are wise.
(a) Neither conclusion I nor conclusion II follows.
(b) Both, conclusion (I) and (II) follow.
(c) Only conclusion (II) follows.
(d) Only conclusion (I) follows.

80. If `+' denotes `multiplication `,' `_' denotes `addition', `×' denotes `division' and `÷' denotes `subtraction', then which of the following equation is true?
(a) $9 + 5 - 16 \times 4 \div 2 = 41$
(b) $15 + 15 \times 3 - 4 \div 5 = 26$
(c) $10 - 12 \div 18 \times 6 + 2 = 16$
(d) $11 \div 8 \times 2 - 4 + 1 = 42$

81. 27% of 250 – 0.02% of 1000 is equal to:
(a) 65.52 (b) 52.56
(c) 67.30 (d) 76.30

82. A bank provides a loan at the rate of 5% per annum to a trader on an amount of `12,50,000 for 5 years. The simple interest to be paid is:
(a) `2,25,400 (b) `3,12,500
(c) `2,40,600 (d) `4,20,250

83. The cause of Hepatitis A is a:
(a) mosquito bite (b) bacteria
(c) virus (d) protozoa

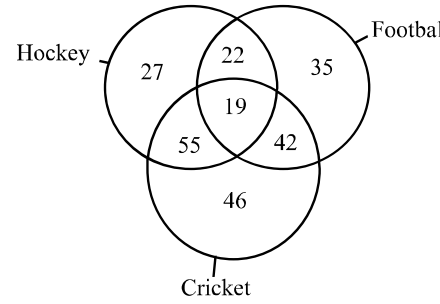
84. Which organ in the human body produces bile juice?
(a) Small intestine
(b) Pancreas
(c) Liver
(d) Stomach

85. PQRS is a cyclic trapezium where PQ is parallel to RS and PQ is the diameter. If $\angle QPR = 40°$, then the $\angle PSR$ is equal to:
(a) 130° (b) 120°
(c) 140° (d) 110°

86. If `A + B' means `A is daughter of B', `A – B' means `A is wife of B', A × B' means `A is the son of B', if P × Q – S then which of the following is true?
(a) Q is the father of P
(b) P is a daughter of Q
(c) S is the father of P
(d) S is the wife Q

87. Read the given statements and conclusions carefully and decide which of the conclusions logically follow(s) from the statements.
Statements:
I. Regularity is a cause for a success in exams.
II. Some irregular students pass in the exam.
Conclusions
I. All irrugular students pass in exams.
II. Some irregular students fail in the exam.
(a) Only conclusions (II) follows.
(b) Only conclusions (I) follows.
(c) Both, conclusion (I) and conclusion (II) follow.
(d) Neither conclusion I nor conclusion II follows.

88. In the given figure, how many hockey players are playing football?



(a) 55 (b) 35 (c) 41 (d) 22

89. Select the number that is different from the rest.
(a) 72563 (b) 52637
(c) 56372 (d) 63754

90. A, B, C, D, and E are sitting in a line. C is sitting at the west end and E is the neighbour of B and C. Between A and C there are two persons. Who is sitting at the east end?
(a) B (b) D (c) A (d) C

91. If in a certain code, INTEREST is written as TSERETNI, then in the same code, REMEMBER would be written as:
(a) REWOLFES (b) MEMBARAI
(c) SATATAION (d) REBMEMER

92. In one of the following letter-clusters, the number of letters skipped in between the adjacent letters is in a decreasing sequence. Identify the letter-cluster.
(a) UPGIG (b) OJEBG
(c) UNSOB (d) VQMJH

93. Select the number from among the given options that can replace the question mark (?) in the following table.

20	16	33
22	?	15
27	19	23

(a) 32 (b) 34 (c) 36 (d) 42

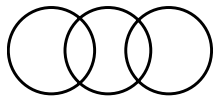
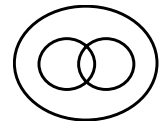
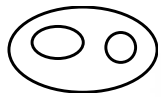
94. Select the option that is related to the third number in the same way as the second number is related to the first number.
25 : 16 :: 41 : ?
(a) 32 (b) 31 (c) 30 (d) 51

95. Select the number from among the given options that can replace the question mark (?) in the following series.
2, 6, 12, 20, ?, ?
(a) 30, 42 (b) 27, 36
(c) 25, 30 (d) 32, 48

96. Select the number from among the given options that can replace the question mark(?) in the following series.
8, 27, 64, 125, 216, ?
(a) 353 (b) 337 (c) 343 (d) 341

97. Pick the odd one out.
(a) LEOPARD (b) COW
(c) DEER (d) TIGER

98. Which of the following diagrams best represents the relationship between Man, Father and Brother?

(a) 
(b) 
(c) 
(d) 

99. Select the option in which the words share the same relationship as that shared by the given pair of words.
Cat : Mew :: ?
(a) Duck : Quack
(b) Jackal : Hoot
(c) Bull : Crow
(d) Owl : Hiss

100. Select the number from among the given options that can replace the question mark (?) in the following table.

90	80	120
5	4	6
7	6	10
25	?	30

(a) 23 (b) 55
(c) 26 (d) 25

HINTS & EXPLANATIONS

1. (a) (Harish + Bimal) 20 = (Harish + Bimal)15 + Harish × 10
(Harish + Bimal)5 = Harish × 10
Bimal × 5 = Harish × 5

$$\frac{\text{Bimal}}{\text{Harish}} = \frac{1}{1}$$

Total Task = (Harish + Bimal) 20
= (1 + 1) 20 = 40
Harish can complete the entire task in 40 days.

2. (a) Sukanya samriddhi scheme was launched by Prime Minister Narendra Modi on 22 January 2015 as a part of the 'Beti bachao beti padhao' campaign. It is a saving scheme by Government of India, which is aimed at the betterment of girl child in India.

3. (c) The first Indian Prime Minister, Jawaharlal Nehru, presented the first five year plan on 8th December, 1951 on the Parliament which focused on enhancing the Agricultural sector through investment in the dams and irrigation facilities.

4. (c) $\sqrt{3^n} = 729$

$3^{\frac{n}{2}} = 3^6$ $\boxed{n = 12}$

5. (a) India first participated at the Olympic Games in 1900.

6. (a) Nabakalebara is a festival celebrated in Odisha state. The Nabakalebara festival is an ancient ritual that is observed in most of the Jaganath temple.

7. (a) Hydrostatics is a branch of fluid mechanics, which also includes the study of fluids in motion, called fluid dynamics.

8. (a) Second number $= \frac{\text{HCF} \times \text{LCM}}{\text{first number}} = \frac{6 \times 84}{42}$

Second number = 12

9. (a) Amendment 1 of the Indian constitution was made in 1951. It empowers the state to undertake affirmative action for the advancement of any socially and economically backward classes.

10. (c) The normal pH range of the human body is 7.35-7.45, with an average of 7.40.pH means the potential of Hydrogen.

11. (c) The HRA was founded in October 1924 in Kanpur by Ramprasad Bismil, Jogesh Chandra Chatterjee and Sachin Sanyal, with an aim to organise an armed revolution to overthrow the colonial government.

12. (b) Subtract 2 from both sides

$$x^2y^2 + \frac{1}{x^2y^2} - 2 = 83 - 2$$

$$\left(xy - \frac{1}{xy}\right)^2 = 81 \Rightarrow xy - \frac{1}{xy} = 9$$

13. (c) As of November 2020,WTO has 164 member. Also,As of June 13, 2024, the World Trade Organization (WTO) has 164 member states.

14. (c) Tarapur Atomic Power station is located in Tarapur, Maharashtra. It was the first commercial atomic power station of India commissioned on 28th October 1969.

15. (c) Bhishma Sahni is the author of the novel 'Tamas'.

16. (b) Simon commission was an all-white commission without any Indian members.

17. (a) Let the number of females and males in a small company 2x and 3x.
The number of male employees in the company = 90
The total number of employees working

$$= \frac{90}{3x} \times 5x = 150$$

18. (b) Area of a circle is = 154 cm^2
$\pi r^2 = 154$

$$r^2 = 154 \times \frac{7}{22}$$

$\boxed{r = 7cm}$
Circumference of the circle = $2\pi r$

$$= 2 \times \frac{22}{7} \times 7 = 44\,cm$$

19. (d) Limestone is used as a raw material in cement industry. It is the main ingredient for the production of cement.

20. (a) $CP \times 20 = SP \times 15$

$$\frac{CP}{SP} = \frac{3}{4}$$

$$\text{Profit \%} = \frac{1}{3} \times 100 = 33.33\%$$

21. (d) Java was developed by James Gosling. James Gosling is known as the father of Java. Java was formerly known as Oak.

22. (b) The basket gets completely filled by mangoes in = 30 min
The basket was filled half in = 30 – 1 = 29 min

23. (a) The Sanchi Stupa, built by Ashoka in the 3rd Century BCE. The Great Stupa at Sanchi is one of the oldest stone structures in India, and an important monument of Indian Architecture.

24. (b) The first national flag in India is said to have been hoisted on 7th August 1906. It was hoisted in the Parsee Bagan Square (Green Park) in Kolkata.

25. (c) The pistil is the female reproductive part of a flower that produces ovules, or potential seeds.

26. (c) According to the world development report, countries having per capita income of more than US$12000 per annum as on 2016 are called rich country.

27. (b) $\left[\left(3\sqrt{2}+2\right) \times \left(3\sqrt{2}-2\right)\right]$ of 13 + 15
$= 14 \times 13 + 15 = 197$

28. (c) The number of students passed in an examination = 60%
The number of failed candidates is = 240
The number of candidates that have passed

$$= \frac{240}{100 - 60} \times 60 = 360$$

29. (b) INSAT-1B was an Indian communications satellite which formed part of the Indian National Satellite System. Launched in 1983, it was operated in geostationary orbit at a longitude of 74 degrees east.

30. (d) Small pieces of Carpet are Cut $= \frac{\frac{45}{2}}{\frac{9}{2}} = 5$

31. (b) Banana > lychee
Kiwi > Banana
So, Kiwi > Banana > lychee
Hence, time taken to cover same distance when travelling to original speed is 1 hour 05 minutes.

32. (d) Pokhran 2 was code-named Operation Shakti. Pokhran-II was the series of five nuclear bomb test explosions that were conducted by India in may 1998 at the Indian Army's Pokhran Test Range.

33. (a) Computers store data in binary form, which is made up of 1's and 0's. This is because binary is the language that computers understand.

34. (b) Let the numbers are 3x and 5x.
LCM is = 120, 15x = 120 $\boxed{x = 8}$
The numbers are 24 and 40.

35. (a) The Women Transforming India (WTI) Awards, an annual contest that recognizes women leaders and change-makers in India, was launched by NITI Aayog in 2016 to celebrate International Women's Day.

36. (b) The United Nations Security Council (UNSC) has 15 members, five permanent and ten non-permanent. The non-permanent members are elected by the UN General Assembly for two-year terms.

37. (d) Let the two numbers are a and b

$a - b = 1540$ ...(i)

$5 + 6b = a$

Put the value of a in eq (i)

$5 + 6b - b = 1540$

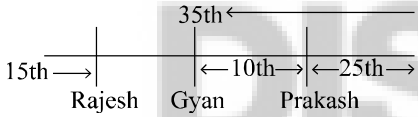
$5b = 1535$ $\boxed{b = 307}$

38. (c) $\frac{\sin 23°}{\cos 67°} + \frac{\cos 71°}{\sin 19°} = \frac{\cos 67°}{\cos 67°} + \frac{\sin 19°}{\sin 19°}$

$= 1 + 1 = 2$

39. (b) The ability of a metal to be drawn into thin wires is called Ductility. Ductility is the property of a material to be pulled or plastically deformed without breaking.

40. (a)



$\therefore$ Total students = 15 + 10 + 10 + 25 = 60

41. (d)

$M \xrightarrow{+1} N \xrightarrow{-3} K \xrightarrow{+1} L$

$I \xrightarrow{+1} J \xrightarrow{-3} G \xrightarrow{+1} H$

$E \xrightarrow{+1} F \xrightarrow{-3} C \xrightarrow{+1} D$

$O \xrightarrow{1} P \xrightarrow{+1} Q \xrightarrow{+1} R$

42. (a) Raja Ravi Varma was an Indian painter and artist from the princely state Travancore of present day Kerala. He is considered among the greatest painters in the history of Indian art.

43. (a) Principal = ` 5000

Rate of interest = 10% per annum

Time = 3 years

$= 3 \times 5000 \times \left(\frac{10}{100}\right)^2 + 5000 \times \left(\frac{10}{100}\right)^3$

$= 15000 \times \frac{1}{100} + 5000 \times \frac{1}{1000}$

$= 150 + 5 = 155$

44. (b) Here, position of the words changes in order 34251. Based on that code of 'Shimla is a hill place' code is 'A hill is place shimla'.

45. (a) $\frac{\text{Perimeter of } \Delta PQR}{\text{Perimeter of } \Delta XYZ} = \frac{PQ}{XY}$

$\frac{48}{24} = \frac{PQ}{12}$

$\boxed{PQ = 24cm}$

46. **(a)**

B	S	T	N
−1	−2	+1	+2
A	Q	U	P

Similarly

D	N	U	C
−1	−2	+1	+2
C	L	V	E

47. (b) Sum of the length of both the train

$= (80 + 70) \times \frac{5}{18} \times 30 = \frac{150 \times 5 \times 30}{18} = 1250$ M

The length of train B = 1250 – 300.

950 M

48. (a) Volume of cylindrical tank = 2376 m^3

$\pi r^2 h = 2376$

$\frac{22}{7} \times 21 \times 21 \times h = 2376, \; h = \frac{2376}{22 \times 21 \times 3}$

$\boxed{h = 1.71m}$

49. (a)

50. (d) The RTI Bill was passed by Parliament of India on 15 June 2005 and came into force with effect from 12 October 2005. RTI has been given the status of a fundamental right under Article 19(1) of the Constitution.

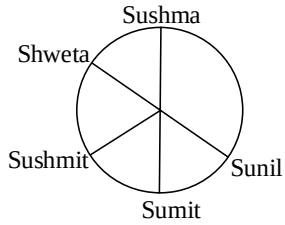
51. (c) The Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) is a national government scheme that was first launched in the year 2003. The scheme was approved in March 2006.

52. (d) Akbar succeeded Humayun on 14 February 1556.

53. (c) Malala Yousafzai is the youngest Nobel laureate in history, winning the Nobel Peace Prize in 2014 at the age of 17.

54. (b) The River rises in the Sahyadris, from bramhagiri mountain at Trimbakeshwar in the Nashik district of Maharashtra.

55. (d)



'Sunil' is sitting next to sumit on his right side.

56. (b) Let the first number is = x
the second number is = y
$x + y = 25$ ... (i)
$x - y = 15$ ... (ii)
By eq (i) and eq. (ii)
$\boxed{x = 20}\ \boxed{y = 5}$
Ratio = 20 : 5 = 4 : 1

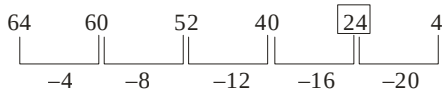
57. (a) As of June 2020, there are 1121 world heritage sites that have been protected by UNESCO. UNESCO classified these sites as cultural, natural, and mixed. UNESCO published its first list of protected places in 1978.

58. (c) a a b c d a b b c d a b c c d a b c d d

59. (c) $x + \frac{1}{x} = 9$
taking square on both side
$\left(x + \frac{1}{x}\right)^2 = (9)^2,\ x^2 + \frac{1}{x^2} + 2 = 81$
$\boxed{x^2 + \frac{1}{x^2} = 79}$

60. (c) Both the assumptions are not implicit in the statement.
So, Neither assumption (i) nor (ii) is implicit.

61. (b)



62. (c) $\frac{(0.27)^2 - (0.13)^2}{0.27 + 0.13}$
$= \frac{(0.27 - 0.13)(0.27 + 0.13)}{(0.27 + 0.13)} = 0.14$

63. (c) Six environmental activists won the 2019 Goldman Environmental Prize, also known as the "Green Nobel".

64. (d) Gandhi Sagar Dam is built on the Chambal River. The dam is located in Mandsaur, Neemuch districts of Madhya Pradesh. The foundation stone was laid in 1954, and construction was completed by 1960.

65. (a) The revolt of 1857 was suppressed by the British in 1859.

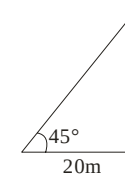
66. (b) $\tan\theta + \cos\theta = 5$
taking square on both sides
$(\tan\theta + \cot\theta)^2 = 25$
$\tan^2\theta + \cot^2\theta = 25 - 2$
$\tan^2\theta + \cot^2\theta = 23$
$\tan^2\theta + \cot^2\theta + 2\left(\sqrt{3}\right)^2$
$23 + 6 = 29$

67. (d) The students were present = $48 \times \frac{3}{8} = 18$
the number of absentces = 48 – 18 = 30

68. (a) $15 \times 14 - 30 + (3^2 + 17) = 210 - 30 + 26 = 206$

69. (a) URL stand for Uniform Resource Locator. A URL is the address of a unique resource on the internet.

70. (a) $\tan 45° = \frac{P}{B}$



$1 = \frac{P}{20}$
$\boxed{P = 20m}$

71. (b) There are 18 triangles in the figure

72. (d) Sardar Sarovar Dam (SSD) is located in the state of Gujarat on the Narmada river and is the largest dam in the Narmada Valley Project.

73. (b) As, 65 has come two time.
mode of the data is 65.

74. (b) $15 \times \text{male} = 20 \times \text{female}\ \frac{\text{male}}{\text{female}} = \frac{20}{15} = \frac{4}{3}$
15 male × 26 days = (30 male + 12 female) × Days
$15 \times 4 \times 26 = (30 \times 4 + 12 \times 3)$ Days
$\frac{60 \times 26}{156} = \text{Days}$
$\boxed{\text{Days} = 10}$

75. (d) Let the first number is = x
the second number is = y
$x + y = 16$ ...(i)
$xy = 63$ ...(ii)
By eq (i) and eq (ii)
$x = 9, y = 7$
$\frac{1}{9} + \frac{1}{7} = \frac{7+9}{63} = \frac{16}{63}$

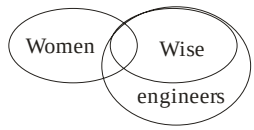
76. (a) Odisha is India's largest bauxite producer accounting for about 49% of the total production followed by Gujarat (24%), Jharkhand (9%), Chhattisgarh and

Maharashtra (8% each). The remaining was produced by Madhya Pradesh, Goa, Karnataka and Tamil Nadu.

77. (b) Uday > Komal > Aman > Sahu > millian

78. (c)
D F B
+3 +2 +1
G H C
Similarly
L N J
+3 +2 +1
O P K

79. (d)



only conclusion (i) follows

80. (c) $10 - 12 \div 18 \times 6 + 2 = 16$
$10 + 12 - 18 \div 6 \times 2 = 16, 22 - 6 = 16$
$16 = 16$

81. (c) 27% of 250 – 0.02% of 1000

$$= \frac{27}{100} \times 250 - \frac{2}{10000} \times 1000 = 67.5 - 0.2 = 67.3$$

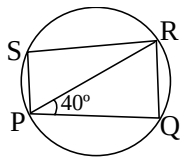
82. (b) simple interest $= 12,50,000 \times 5 \times \frac{5}{100}$

= ` 3,12,500

83. (c) Hepatitis A is caused by the hepatitis A virus, which is primarily transmitted through the faecal-oral route. This means that an uninfected person can catch the virus by ingesting food or water that has been contaminated with the feces of an infected person.

84. (c) Bile juice is produced by the liver and then stored in the gall bladder. Bile helps with digestion.

85. (a)



$\angle PRQ = 90^\circ$ (PQ is the diameter)
$\angle PQR = 90^\circ - 40^\circ = 50^\circ$
$\angle PSR = 180^\circ - 50^\circ = 130^\circ$

86. (c)
Q (–) | S (+)
P (+)
'S' is the father of 'P'.

87. (a) I. 'All irregular students pass in the exams' is not given in the statements.
II. 'Some irregular students fail in the exam' is given in the statements.

88. (c) '41' hockey players are playing football.

89. (d) $7 + 2 + 5 + 6 + 3 = 23$
$5 + 2 + 6 + 3 + 7 = 23$
$5 + 6 + 3 + 7 + 2 = 23$
$6 + 3 + 7 + 5 + 4 = 25$

90. (b)
C E B A D
'D' is sitting at the east end.

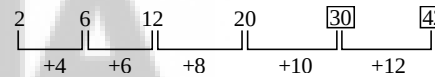
91. (d) I N T E R E S T - T S E R E T N I
write the alphabets from right to left similarly
R E M E M B E R - R E B M E M E R

92. (d)
V — Q — M — J — H
(22) (17) (13) (10) (8)
Adjacent letters of option (d) is in a decreasing sequence.

93. (a) $20 + 16 + 33 = 69$
$22 + 32 + 15 = 69$
$27 + 19 + 23 = 69$

94. (a) $25 - 9 = 16$
similarly
$41 - 9 = 32$

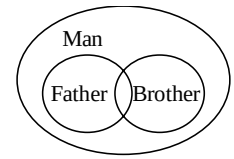
95. (a)



96. (c) $8 — (2)^3$
$27 — (3)^3$
$64 — (4)^3$
$125 — (5)^3$
$216 — (6)^3$
$343 — (7)^3$

97. (b) Except, 'Cow' all are wild animals.

98. (b)



99. (a) Cat makes the sound 'Mew'.
Similarly
Duck makes the Sound 'Quack'.

100. (c) $\frac{90}{5} + 7 = 25$

$\frac{120}{6} + 10 = 30$

Similarly

$\frac{80}{4} + 6 = 26$