



RRB NTPC MODEL PAPER **3**



1) Bharat Ratna and Padma Vibhushan awards in India were instituted in the year

- A) 1958
- B) 1968
- C) 1964
- D) 1954

2) Which of the following instruments measures electromagnetic radiation?

- A) Pyrheliometer
- B) Cathetometer
- C) Bolometer
- D) Phonograph

3) The total forest cover in India as per the 2011 census is

- A) 22.07 %
- B) 21.05 %
- C) 17.80 %
- D) 23.42 %

4) Where was the Sanskrit Kumbh, a 29 days cultural extravaganza, held in January 2019 ?

- A) Chandra hila
- B) Sanprayag
- C) Agastramuni
- D) Prayagraj

5) Which of the following is the vector of malaria?

- A) Aedes Mosquito
- B) Fleas

C) Anopheles Mosquito

D) Sand-fly

6) Which ruler constructed the highest and biggest gate way of victory, Buland Darwaja?

- A) Aurangzeb
- B) Akbar
- C) Jahangir
- D) Ghori

7) India won — medals at the Asia Games 2018 held in Indonesia

- A) 69
- B) 39
- C) 49
- D) 29

8) As of February 2019, who is the Governor of Tamil Nadu?

- A) BD Mishra
- B) Jagadish Mukhi
- C) OP Kohli
- D) Banwarilal Purohit

9) Article of the constitution of India provides special rights and privileges to permanent residents of Jammu Kashmir

- A) 34A
- B) 32A
- C) 35A
- D) 31A



10) The imperial Bank of India was renamed as in 1955

- A) Punjab National Bank
- B) The state Bank of India
- C) Central bank of India
- D) Allahabad Bank

11) Which is largest freshwater lake in India?

- A) Pangong tso
- B) Gular lake
- C) Udai Sagar
- D) Chilka lake

12) Which drug is used for pain Relief?

- A) Risedronal
- B) Tramadol
- C) Folic Acid
- D) Buproin

13) The National Defense Academy is located at

- A) MT.Abu
- B) Hyderabad
- C) Khadakvasla
- D) New Delhi

14. World Health day is observed on?

- A) 3rd April
- B) 4th April
- C) 5th April
- D) 7th April

15. Which of the following will be India's first solar mission?

- A) Aditya-LL mission
- B) Aditya-L1 mission
- C) Aditya-XL mission
- D) Aditya-x1 mission

16. Who is the author of the book "the ministry of utmost Happiness?"

- A) Kiran Desai
- B) Chetan Bhagat
- C) Arundhati Roy
- D) Jhumpa Lahari

17.'Boat race' is the part of which festival?

- A) Pongal
- B) Onam
- C) Bihu
- D) Navratri

18. S.I Unit of Luminas intensity is

- A) Lumen
- B) Lux
- C) Candela
- D) Walt

19. How many number of the Biogeographic Zones are resent in India?

- A) 4
- B) 8
- C) 10



D) 15

20. Where did Gautama Buddha preach his first sermon?

- A) Bodh Gaya
- B) Rajgriha
- C) Sarnath
- D) Vaishali

21. In the sultanate period, the highest rural authority for land revenue was

- A) Chowdhury
- B) Rawat
- C) Malik
- D) Patwari

22. Under which part of the Indian constitution Directive principles of the state policy are discussed?

- A) Part II
- B) Part III
- C) Part IV
- D) Part V

23. Which of the following is the leading sediment transporting river in India?

- A) Brahmaputra
- B) Yamuna
- C) Ganga
- D) Indus

24. India ranked..... On the World Bank's Ease of Doing business ranking 2019?

A) 63rd

B) 35th

C) 26th

D) 102nd

25. The watershed between India and Myanmar is formed by

- A) The Naga Hills
- B) The Garo hills
- C) The Khasi hills
- D) The Jaintia hills

26. Clove is obtained from

- A) Root TM
- B) Stem
- C) Leaves
- D) Flower buds

27. Which of the following was India's first interplanetary mission?

- A) Chandrayan
- B) Aryabhata
- C) Mangalyaan
- D) Philae mission

28. Right to privacy comes under..

- A) Article 19
- B) Article 20
- C) Article 21
- D) Article 18

29. CPU performance is often measured in



- A) GB
- B) MHZ
- C) MIPS
- D) Baud rate

30. Which one among the following is responsible for formation of "Ozone Holes" in the Atmosphere?

- A) Benzo pyrene
- B) Hydrocarbons
- C) Chlorofluro Carbons
- D) UV radiation

31. Security Council of UNO consists ofpermanent members

- A) 3
- B) 4
- C) 5
- D) 6

32. Numismatics is the study of

- A) Coins
- B) Numbers
- C) Stamps
- D) Space

33. Sodium calcium Silicate is called

- A) Hard glass
- B) Borosilicate glass
- C) Soft glass
- D) Jena glass

34. The atomic power station in Rajasthan is situated at

- A) Pokhran
- B) Suratgarh
- C) Rawatbhata
- D) Chittogarh

35. The Sahiya Akademi Awards are given for best writings in how many Indian languages?

- A) 12
- B) 15
- C) 20
- D) 24

36. The outermost range of Himalaya is called

- A) Kali
- B) Shiwalik
- C) Dehradun
- D) Kumaom

37. Among the following states has the lowest birth rate in India.

- A) Kerala
- B) Uttar Pradesh
- C) Bihar
- D) West Bengal

38 .C.K Naidu Cup is associated with which of the following Sporting events?

- A) Tennis
- B) Cricket



C) Hockey

D) Golf

39. Who introduced leather token currency in India?

A) Akbar

B) Mohammad-bin-Tugblaq

C) Babur

D) Humayan

40. Which of the following storage device is volatile in nature?

A) RAM

B) Hard disk

C) Magnetic

D) ROM

41. Five Boys A, B, C, D, E are sitting in a circle facing inside. A is facing South-West, D is facing South-East, Band E are right Opposite A and D respectively and C is neighbor of both D and B. Which direction is C facing?

A) West

B) South

C) North

D) East

42. CFIL: ORUX:: DGJM:?

A) BFVV

B) NQST

C) HJLN

D) RTVX

43. 392:28:: 722:?

A) 18

B) 28

C) 38

D) 48

44. From the given alternatives select the word which cannot be formed using the letters of given word. LAUGHTER

A) GATE

B) RATE

C) HATE

D) GRUNT TM

45. Rahul and Robin are brothers. Pramod is Robin's father Sheela is pramod's sister.prema is pramod's niece.Shubha is Sheela's granddaughter. How is Rahul related to Shubha?

A) Brother

B) Cousin

C) Uncle

D) Nephew

46. In the given figure, which letter represents broom, which is word but not long?



A) H

B) G



C) F

D) K

47. Statements: 1) No man is a monkey

2) Hari is a man

Conclusions: I) Hari is not a monkey

II) All men are not Hari

A) Only Conclusion I follow.

B) Only Conclusion II follows

C) Both I&II follow

D) Neither conclusion I nor conclusion II follows

48. Statements: I) All grapes are green

II) Some green are hard

Conclusion: I) some green are grapes

II) Some hard are grapes

III) No grape is hard

A) Only Conclusion I follow and either II or III follows

B) Only conclusion I and II follows

C) Only conclusion I and III follows

D) All conclusion follow

49. HJRN, JMTQ, LPVT, NSXW?

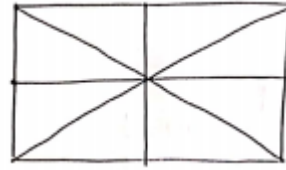
A) QWYY

B) QVAA

C) PVZZ

D) PVYZ

50. How many triangles are there in the given figure?



A) 12

B) 8

C) 16

D) 10

51. $\sqrt{AFI} = M, \sqrt{ADD} = L: \sqrt{ABA} = ?$

A) I

B) K

C) N

TM

D) O

52. Choose the odd one

A) LNJ

B) RTP

C) NPK

D) FHD

53. Choose the odd pair

A) Broad-Wide

B) Tiny-Small

C) Light-Heavy

D) Big-Large

54. If 'REASON' is coded as 5 and 'BELIEVED' as 7, then what is the code number for 'GOVERNMENT'?

A) 10



B) 6

C) 9

D) 8

55. 4, 18? 100, 180, 294.

A) 32

B) 36

C) 48

D) 40

56. Find missing one

$\frac{1}{R}, \frac{3}{O}, \frac{5}{K}, \frac{9}{F}, \frac{13}{Z}, ?$

A) 19/S

B) 20/T

C) 19/T

D) 21/R

57. Arrange the words in meaningful order

1) Collector 2) Governor 3) Chief secretary 4) president 5) clerk

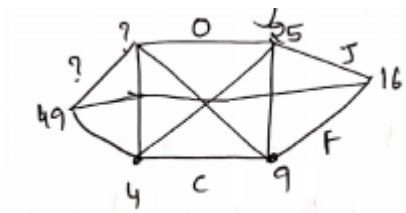
A) 1, 2,3,4,5

B) 5, 1,3,2,4

C) 5, 1,3,4,2

D) 5, 1,4,3,2

58. Find out missing number & letters



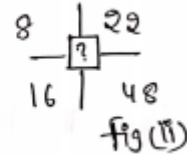
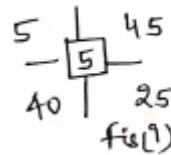
A) Y and 40

B) U and 36

C) W and 64

D) X and 81

59. Find the missing one



A) 5

B) 6

C) 12

D) 9

60. If p denotes ' ', Q denotes ' ', R denotes '+', and S denotes '-', then 18Q12P4R5S6=?

A) 95

B) 53

C) 51

D) 57

61. Ravi walks 8km North-East and then 6Km South-East. Find the total distance as well as shortest distance starting and end points

A) 14Km, 12Km

B) 14Km, 10Km

C) 10Km, 8Km

D) 8Km, 6Km

62. What will be the angle between hour hand and minute hand, if clock shows 8:30pm?

A) 90°



- B) 75°
- C) 60°
- D) 85°

63. Which figure best represents the relationship between editor, Newspaper and Journalist?

A)



B)



C)



D)



64. The Average weight of 35 students in a class is 35kg. If the teacher is also included the Average increases 36kg. The Weight of the teacher is

- A) 36Kg
- B) 72kg
- C) 70Kg
- D) 71Kg

65. ABC is a triangle and sides AB, BC and CA are produced to E, F and G respectively. If $\angle CBE = \angle ACF = 130^\circ$, then the value of $\angle GAB$

- A) 100°
- B) 80°
- C) 130°
- D) 90°

66. The centroid of a ΔABC is G. The area of ABC is 60 cm^2 . The area of ΔGAB is

- A) 30 cm^2
- B) 40 cm^2
- C) 10 cm^2
- D) 20 cm^2

67. Area of 4 walls of a cuboid is 57 sq m , if its length is 5.5m and height is 3m. What is its breath (in m)?

- A) 4.5
- B) 4
- C) 3
- D) 3.5

68. A Trader had 630Kgs of rice. He sold a part of it at 15% Profit and the rest at 8% profit, 80 that the made a total profit of 12%. How much rice (in Kgs) did he sell at 8% profit

- A) 270
- B) 300
- C) 280
- D) 290



69. If $\frac{2x}{3} - \frac{\left[\frac{5(4x)}{5} - \left(\frac{4}{3}\right)\right]}{2} = \frac{1}{3}$, then what is the value of x ?

- A) $\frac{9}{4}$
- B) $\frac{4}{9}$
- C) $\frac{-9}{4}$
- D) $\frac{-4}{9}$

70. A Shopkeeper sold an item at 10% loss after giving a discount equal to half the marked price. The cost price is

- A) $\frac{1}{9}$ th Of marked price
- B) $\frac{4}{9}$ th Of marked price
- C) $\frac{5}{9}$ th Of marked price
- D) $\frac{7}{9}$ th Of marked price

71. If $\cos^4 A - \sin^4 A = X$, then value of X is?

- A) $\cos^2 A - 1$
- B) $2\cos^2 A - 1$
- C) $2\cos^2 A + 1$
- D) $\cos^2 A + 1$

72. What is the equation of line its slope is and 4 intercept is 5?

- A) $3x+4y=20$
- B) $3x+4y=-20$
- C) $3x-4y=-20$
- D) $3x4y=20$

73. The ratio of the number of boys and girls in a school is 2:3.If 25% of the boys and 30% of

the girls are scholarship holders, the percentage of the school students who are not scholarship holders is

- A) 72%
- B) 36%
- C) 54%
- D) 60%

74. The simple and compound interest that can be earned in two years at the same rate is Rs.4000 and 4180 respectively. What is the rate of interest?

- A) 18
- B) 4.5
- C) 9
- D) 12

75. Amit and Sumit can plough a field in 4 days. Sumit alone can plough the field in 6 days in hoe many days will Amit alone plough the field?

- A) 10 days
- B) 12 days
- C) 14 days
- D) 15 days

76. The radius of a circular wheel is $\frac{7}{4}$ m .How many revolutions does the wheel make to cover 22Km?

- A) 2000
- B) 1000
- C) 4000



D) 100

77. If 'n' is a nature number, then $(6n^2 + 6n)$ is always divisible by

A) 6 only

B) 6 and 12 both

C) 12 only

D) By 18 only

78. If the sum of two numbers is 55 and the H.C.F and L.C.M of these numbers are 5 and 120 respectively, then the sum of the reciprocals of the numbers is equal to

A) $\frac{55}{601}$

B) $\frac{601}{55}$

C) $\frac{11}{120}$

D) $\frac{120}{11}$

79. The value of is $4\sqrt{2}$

A) $4\frac{11}{90}$

B) $4\frac{11}{99}$

C) $\frac{371}{900}$

D) None

80. The value of $\left(1 + \frac{1}{2}\right)\left(1 + \frac{1}{3}\right)\left(1 + \frac{1}{4}\right)\dots\left(1 + \frac{1}{120}\right)$ is

A) 30

B) 40.5

C) 60.5

D) 121

81. If $a+b+c=13$, $a^2+b^2+c^2=69$, then find $ab+bc+ca$

A) -50

B) 50

C) 69

D) 75

82. $\sqrt{1369} + \sqrt{0615} = 37.25$ If, then 'x' is equal to

A) 10^{-1}

B) 10^{-2}

C) 10^{-3}

D) None TM

83. The mean of $1^2, 2^2, 3^2, 4^2, 5^2, 6^2, 7^2$ is

A) 10

B) 20

C) 30

D) 40

84. When the number of a function increases by 4, the fraction increases by .The denominator of the fraction is

A) 2

B) 3

C) 4

D) 6

85. $\frac{(243)^{n/5} \times 3^{2n+1}}{9^n \times 3^{n-1}} = ?$

A) 1

B) 3



C) 9

D) 3^n

86. 36 men can be complete a piece of work in 18 days. In how many days will 27 men complete the same work?

A) 12

B) 18

C) 22

D) 24

87. A person travels from P to Q at a speed 40kmph and returns by increasing his speed by 50%.What is his average speed for both the trips?

A) 36kmph

B) 45kmph

C) 48kmph

D) 59kmph

88. Two trains, one Howrah to Patna and the other from Patna to Howrah, start simultaneously. After they meet, the trains reach their destinations after 9 hours and 16 hours respectively. The ratio of their speeds is

A) 2:3

B) 4:3

C) 6:7

D) 9:16

89. If $\log 27 = 1.431$, then the value of is

A) 0.934

B) 0.945

C) 0.954

D) 0.958

90. A metallic hemisphere is method and recast in the shape of a cone with the same base radius(R) as that of the hemisphere. If H is height of the cone, then

A) $H=2R$

B) $H=3R$

C) $H=\sqrt{3}R$

D) $H=\frac{2}{3}R$

91. A motor boat can travel at 10km/hr in still water it travelled 91km downstream in a river and then retained to the same place, taking altogether 20 hours. Find the rate of flow of river

A) 3km/hr

B) 4km/hr

C) 2km/hr

D) 5km/hr

92. The sum pf first 20 odd natural numbers is

A) 210

B) 300

C) 400

D) 420

93. A sum of many becomes triple itself in 16 years in how many years will it become 5 times at the same rate?

A) 32

B) 15



C) 27

D) 30

94. The number of revolutions a wheel of diameter 40cm makes in travelling a distance of 176m is

A) 240

B) 140

C) 40

D) 340

95. Sachin is younger than Rahul by 7 years .If the ratio of their ages is 7:9, find the age of sachin?

A) 23.5

B) 24.5

C) 12.5

D) 14.5

96. Which state hosted the first meeting of NITI forum for North-East

A) Tripura

B) Nagaland

C) Arunachal Pradesh

D) Mizoram

97. Which app has been launched by Prime Minister Narendra Modi for government services?

A) Bharat

B) Ujala

C) Umang

D) Bhim yug

98. Which of the following leaders presided over the congress session at Calcutta in 1906?

A) BAL Gangadhar Tilak

B) Gopal Krishna Gokhle

C) Aurobindo Ghosh

D) Dhadabhai Naoroji

99. Navjot starts moving towards the west. After covering some distance he turns left and then takes a right which direction is he facing now?

A) South

B) North

C) West TM

D) East

100. What is used to prevent freezing of fuel in space crafts?

A) Benzene

B) Glycol

C) Acetylene

D) Ester



SOLUTIONS:

1. Answer, D

2. Answer, C

3. Answer, B

4. Answer, D

Prayalgraj-uttarpradesh it is sold

5. Answer, C

6. Answer, B

7. Answer, A

India won 15-gold medals

24-silver medals

30-Bronze medals

8. Answer, D

9. Answer, C

10. Answer, B

On 1 July 1955, the imperial Bank of India become the state bank of India

11. Answer, B

12. Answer, B

13. Answer, C

NDA is located in Khadkvasta near pune, Maharashtra

14. Answer, D

15. Answer, B

16. Answer, C

17. Answer B

Onam is an annual Hindu Festival of Kerala in India

Boat race is part of Onam Festival

18. Answer, C

19. Answer, C

20. Answer, C

21. Answer, A

22. Answer, C

23. Answer, C

24. Answer, A

25. Answer, A

26. Answer, DTM

27. Answer, B

28. Answer, C

29. Answer, C

The number of machine code instructions a computer can process while executing a standard program is measured in MIPS

30. Answer, C

31. Answer, C

Russia, UK, France, China & USA

32. Answer, A

33. Answer, C

34. Answer, C

35. Answer, D

36. Answer, B

37. Answer, A



38. Answer, B

C.K naidu ->first captain of the Indian Cricket

39. Answer, B

40. Answer, A

41. Answer, D



42. Answer, A

The pattern is +12, +12, +12, +12

43. Answer, C

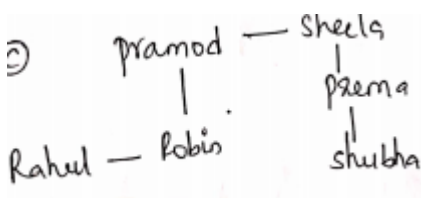
$14 \times 12 = 28$, $14 \times 14 \times 12 = 392$

Similarly $19 \times 2 = 38$

$19 \times 19 \times 2 = 722$

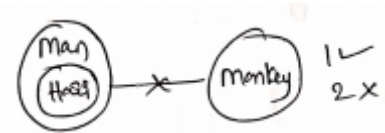
44. Answer, C

45. Answer, C

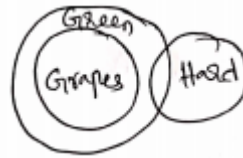


46. Answer, C

47. Answer, A



48. Answer, A



49. Answer, C

+2, +3, +2, +3 series

50. Answer, C

51. Answer, B

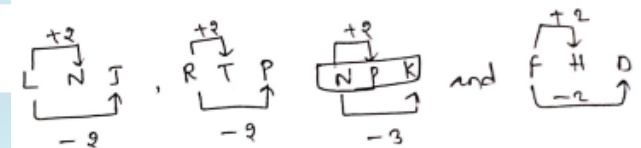
$$\sqrt{AFI} = \sqrt{169} = 13 = M$$

$$\sqrt{ADD} = \sqrt{144} = 12 = L$$

$$\text{Similarly } \sqrt{ABA} = \sqrt{121} = 11 = K$$

52. Answer, C

TM



53. Answer, B

Light is antonym of heavy. But in other pairs words are synonyms of each other

54. Answer, C

Given reason=5

Believed=7

Here, pattern is (number of letters-1)

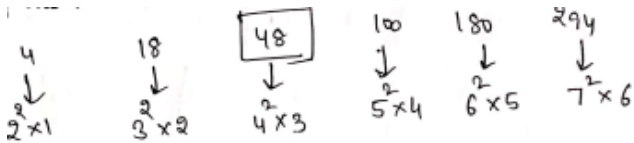
Government = Number of letters-1

$$= 10 - 1$$

$$= 9$$

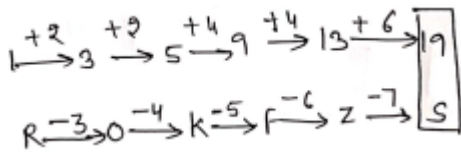
55. Answer, C

Pattern is as shown



56. Answer, A

Pattern



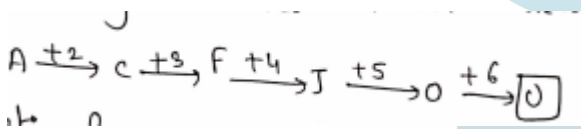
Missing term— 19/s.

57. Answer, B

Clerk → collector → chief secretary → Governor → president

58. Answer, B

Starting from letter A in Anti-clock wise direction.



Starting from number 4 in Anti-clock wise direction.

$2^2=4, 3^2=9, 4^2=16, 5^2=25, 6^2=36$ and $7^2=49$

?=u and 36

59. Answer, B

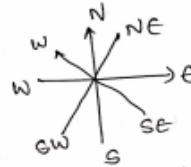
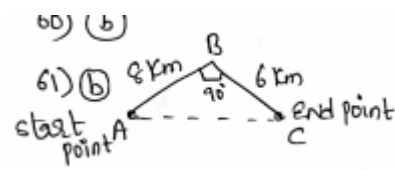
Fig (1) $\frac{25}{5} = 45 - 40 \Rightarrow 5 = 5 = 5$

Similarly Fig (2) $\frac{48}{8} = 22 - 16 = ? \Rightarrow 6 = 6 = ?$

So missing number = 6

60. Answer, B

61. Answer, B



Here, total distance = $AB + BC = 14$ km

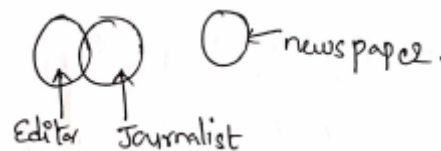
Shortest distance = $AC = \sqrt{AB^2 + BC^2} = \sqrt{8^2 + 6^2} = 10$ km

62. Answer, B

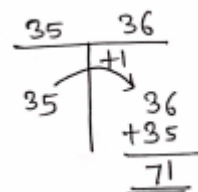
$\theta = \left| \frac{11}{2}(m) - 30(h) \right|$ $h=8, m=30^\circ$

$\theta = \left| \frac{11}{2} \times 30 - 30(8) \right| \Rightarrow \theta = 75^\circ$

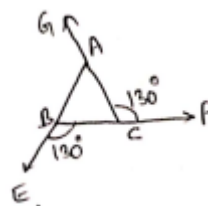
63. Answer, D



64. Answer, D



65. Answer, A



Sum of exterior angles = 360°



$$X + 130^\circ + 130^\circ = 360^\circ$$

$$X = 100^\circ$$

66. Answer, D



$$\text{Area of } \triangle BGC = \frac{1}{3} \text{ area of } \triangle ABC$$

$$= \frac{1}{3} \times 60$$

$$= 20 \text{ cm}^2$$

67. Answer, B

$$\text{Area of 4 walls of cuboid} = 57 \text{ cm}^2$$

$$2(l \times b) \times h = 57 \Rightarrow 2(l \times b) \times 3 = 57$$

$$\Rightarrow 5.5 + b = \frac{19}{2}$$

$$b = 4 \text{ cm}$$

68. Answer, A

Using allegation

$$\begin{array}{r} 15\% \quad 8\% \\ \diagdown \quad \diagup \\ 12\% \\ \diagup \quad \diagdown \\ 4 \quad 3 \end{array}$$

$$\text{Quality sold at } 8\% = 630 \times \frac{3}{7} = 270$$

69. Answer, A

70. Answer, C

$$C.P = 100, E.P = 90 \Rightarrow 90 + \frac{1}{2}x = x \Rightarrow x = 180$$

$$C.P = 100, M.P = 180$$

$$\frac{C.P}{M.P} = \frac{100}{180} = \frac{5}{9}$$

71. Answer, B

$$\begin{aligned} X &= \cos^4 A - \sin^4 A \\ &= (\cos^2 A + \sin^2 A)(\cos^2 A - \sin^2 A) \\ &= (\cos^2 A - \sin^2 A) \\ &= (\cos^2 A - (1 - \cos^2 A)) \\ &= 2\cos^2 A - 1 \end{aligned}$$

72. Answer, C

$$\text{Slope } m = \frac{3}{4}$$

$$\text{Point} = (0, 5)$$

$$\text{Eqn. } (y - y_1) = m(x - x_1)$$

$$y - 5 = \frac{3}{4}(x - 0)$$

$$\Rightarrow 3x - 4y = -20$$

73. Answer, A

Expenditure	:	Savings		Total
200	:	300	+	500
		↓ +75%		
150	:	210	+	360

Not holding scholarship

$$\text{Req \%} = \frac{360}{500} \times 100 = 72\%$$

74. Answer, C

		S.I	C.I
1st Year	2000	2000	
2nd "	2000	2180	

$$\text{Rate \%} = \frac{180}{2000} \times 100 = 9\%$$

75. Answer, B

$$\text{Amit's 1 days' work} = \left(\frac{1}{4} - \frac{1}{6}\right) = \frac{1}{12}$$

Amit alone can plough the field in 12 days



76. Answer, A

$$D = n(2\pi r)$$

$$23000 = n \times 7 \times \frac{22}{7} \times \frac{7}{4}$$

$$\boxed{2000 = n}$$

77. Answer, B

$(6n^2 + 6n) = 6n(n+1)$, which is always divisible by 6 and 12 both, since $n(n+1)$ is always even.

78. Answer, C

Let numbers a & b $a + b = 55$ & $ab = 5 \times 120 = 600$

$$\therefore \text{Req sum} = \frac{1}{a} + \frac{1}{b} = \frac{a+b}{ab} = \frac{55}{600} = \frac{11}{120}$$

79. Answer, A

$$4\sqrt{2} = 4 + 0\sqrt{2} = 4 + \frac{12-1}{90} = 4\frac{11}{90}$$

80. Answer, C

$$\text{Given Exp} = \frac{3}{2} \times \frac{4}{3} \times \frac{5}{4} \times \dots \times \frac{121}{120}$$

$$= 60.5$$

81. Answer, B

$$(a+b+c)^2 = a^2 + b^2 + c^2 + 2(ab+bc+ca)$$

$$\Rightarrow (ab+bc+ca) = \frac{(a+b+c)^2 - (a^2 + b^2 + c^2)}{2}$$

$$= 100$$

82. Answer, C

$$37 + \sqrt{.0615 + x} = 37.25 \Leftrightarrow \sqrt{.0615 + x} = 0.25$$

$$\Leftrightarrow .0615 + x = (0.25)^2 = 0.0625$$

$$\Leftrightarrow x = .001 = \frac{1}{10^3} = 10^{-3}$$

83. Answer, B

$$1^2 + 2^2 + 3^2 + \dots + n^2 = \frac{n(n+1)(2n+1)}{6}$$

$$= \frac{7 \times 8 \times 15}{6}$$

$$\text{So, average} = \frac{140}{7} = 20$$

84. Answer, D

$$\text{Let fraction } \frac{x}{y} \frac{x+y}{y} - \frac{x}{y}$$

$$\Leftrightarrow \frac{4}{y} = \frac{2}{3}$$

$$\Rightarrow y = \frac{4 \times 3}{2} = 6$$

85. Answer, C

$$\frac{(3^5)^{\frac{n}{5}} \times 3^{2n+1}}{(3^2)^n \times 3^{n-1}} = \frac{3^{n+2n+1}}{3^{2n+n+1}}$$

$$= 3^{(3n+1-3n+1)} = 3^2 = 9$$

86. Answer, D

Let men, more days (Indirect proportion)

$$\therefore 27:36 :: 18:x \Leftrightarrow 27x = 6 \times 18$$

$$\Rightarrow \frac{36 \times 18}{27} = 24$$

87. Answer, C

Speed on return trip = 150% of 40 = 60 kmph

$$\text{Average Speed} = \left(\frac{2 \times 40 \times 60}{40+60} \right) = \frac{4800}{100} = 48 \text{ km/hr}$$

88. Answer, B

$$A's \text{ speed} : B's \text{ speed} = \sqrt{b} : \sqrt{a}$$

$$= \sqrt{16} : \sqrt{9} = 4 : 3$$

89. Answer, C



$$\begin{aligned}\log 27 &= 1.431 \Rightarrow \log(3^3) = 1.431 \\ &\Rightarrow 3 \log 3 = 1.431 \\ &\Rightarrow \log 3 = 0.477\end{aligned}$$

$$\begin{aligned}\log a &= \log(3^2) = 2 \log 3 = 2(0.477) \\ &= 0.954\end{aligned}$$

90. Answer, A

$$\frac{2}{3} \pi R^3 = \frac{1}{3} \pi R^2 H$$

$$H=2R$$

91. Answer, A

$$\frac{91}{10+x} + \frac{91}{10-x} = 20$$

$$X=3\text{km/hr}$$

92. Answer, C

$$\text{Sum of 1}^{\text{st}} 20 \text{ odd numbers} = n^2 = 20^2 = 400$$

93. Answer, A

$$\frac{n_{1-1}}{16} = \frac{n_{2-1}}{t_2} \Rightarrow \frac{2}{16} = \frac{4}{t_2} = t_2 = 36y$$

94. Answer, A

$$\text{Number of revolutions} = \frac{\text{Distance travelled}}{\text{Circumference}} =$$

$$\frac{176 \times 100}{2\pi r} = \frac{176 \times 100 \times 7}{2 \times 22 \times 20} = 140$$

95. Answer, B

$$R=S+7; S: R=7:9$$

$$7x=9x+7$$

$$2x=7 \text{ Sachin} = \frac{7 \times 7}{2}$$

$$=24.5$$


96. Answer, A

97. Answer, B

UMANG → "unified mobile application for New-age Governance"

98. Answer, D

99. Answer, C

 He is facing towards the west.

100. Answer, B

