SP TESTPREP

RRB NTPC MODEL PAPER 2

1. Summer rains in Australia broadly decreases from

A) East to West

B) West to East

C) North to south

D) South to north

2. Which is the post-harvest folk dance in Assam?

A) Anika Nat

B) Bihu

C) Raut Nacha

D) Namgen

3. The substrate of Photo respiration is

A) Fructose

b) Pyruvic acid

C) Glycolate

D) Glucose

4. In which of the following cities bench of national green tribunal (NGT)is not created?

A) Bangalore

B) Chennai

C) Delhi

D) Bhopal

5. Who moved the preamble of Indian constitution before the Draft in committee?

A) Dr.B.R Ambedkar

B) Lal Bahadur shastri

C) Mahatma Gandhi

D) J.L Nehru

6. Which of the following language was the official language of Guptha's period?

A) Arabic

B) Persian

c) Hindi

D) Sanskrit

7. The Reginal channels of all india Radio (AIR) is currently mostly aired through

A) Medium wave

b) Lens wave

c) Short wave

B) Both a and b

8. Which of the following Indian states is not part of "seven sisters"?

A) West Bengal

B) Sikkim

C) Manipur

D) Nagaland

9. In MS-office, the command cntl+N?

A) Saves Documents

B) Open document

C) New document

D) Close documents

10. When is Zero hour generally held in Lok Sabha?

A) 1.00pm-11.00pm

B) 3.00m-4.00pm

C) 1.00pm-2.00pm

D) 12.00pm-1.00pm

11. Which celebrity is theauthor of the book "An unsuitable Boy"?

A) Shatrughan sinha

B) Shan Rukh Khan

C) Karan johar

D) Kshuswant singh

12. Expanasion of IIFA is

A) Indian International Film Academy

B) International Indian Film Academy

C) Indo International Film Academy

B) None of these

13. Alan.....Flame is produced when the ogygen supply is

A) Red

B) Orange

C) Blue

D) Green

14. MUDRA bank has been launched to help

A) Small Business

B) Marginal Farmers

C) Poor Women

D) Rural Sector

15. The Renowned temple at Rankapur is a...Temple

A) Shiva

B) Jain

C) Krishna

D) Ram

16. Jallikattu is associated with

A) Trihur

B) Karthigai

C) Onam

D) pongal

17. Which gas contributes most to the Greenhouse effect?

A) Water Vapour

B) Ozone

C) Oxygen

D) Nitrogen

18. What does the wheel in the Natinal flag represents?

A) Speed

B) Truth

C) Growth

D) Future

19. Resoure Efficiently Programme falls ounder which of the following organization?

A) UNEP

B) WTO

C) WORLD BANK

D) UNFCC

20. Who defeated Humayan in the Battle of Kannuaj?

A) Sikandar Singh

B) Sher Shab Suri

C) Jahangir

D) Akbar

21 .For contribution in which field is the jamnlal Bajaj award given?

A) Science

B) Politics

C) Literature

D) Sports

22. Shiva samudra is an island formed by the river

A) Ganga

B) Godavari

C) Krishna

D) Cauvery

23. The study of universe is known as

A) Cosmology

B) Astrology

C) Seismology

D) Limnology

24. If a ball is thrown up, which of the following does not change?

A) Acceleration

B) Speed

C) Potential Energy

D) Distance

25. Brighton cup is associated with which of the following?

A) Cricket

B) Hockey

C) Foot ball

D) Volley ball

26. In which part of the Indian Constitution is concerned with the administration of scheduled areas and tribal areas?

A) Part 11

B) Part 10

C) Part 3

D) Part 4

27. India's Poulation is what Percentage to World's Population?

A) 8%

B) 17%

C) 26%

D) 36%

28. The Arya Samaj was founded by

A) Swamy Dayanand Saraswathi

B) Swami Vivekananda

C) Keshav Chandra Sen

D) Ishwar Chandra Vidyasagar

29. Which is the most Abundant metal in the earth's crust?

A) Iron

B) Silicon

C) Aluminum

D) Zinc

30. Which union ministry will organize the International Yoga Fest 2018?

A) Ministry of women and child

B) ministry of Human Affairs

C) Ministry of Ayush

D) Ministry of water Resource

31. When is world water day observed?

A) February 17

B) August 19

C) July 12

D) March 22

32. Rajiv Gandhi institute of Petroleum Technology is located in which state of India?

A) Bihar

B) Uttar Pradesh

C) Madhya Pradesh

D) Gujarat

33. World's Highest waterfall-Angel Falls- is in Which Country?

A) Switzerland

B) Venezuela

C) Siberia

D) Russia

34. Which among the following day is observed on September 27 Annually?

A) World Tourism Day

B) World Habitat Day

C) World Food Day

D) World Hepatitis Day

35. The Pamban Island is located in which indian state?

A) Goa

B) Tamilnadu

C) Maharashtra

D) Andaman & Nicobar

36. Ashoka's Inscription is written in which language?

A) Magadhi

B) Brahmi

C) Pali

D) Devanagari script

37."SIMBEX" is a joint military exercise between India and...?

A) France

B) Australia

C) Indonesia

D) Singapore

38. Where will be next common wealth games 2022 will be held?

A) Birmingham

B) Qatar

C) Usha

D) Mexico

39. Who was the first ruler of Vijayanagara Empire?

A) Hari Hara 1

B) Bukka Raya 1

C) Harihara Raya 2

D) Virupaksha Raya

40. Who called Guru Dev 1st time to Rabindranath Tagore?

A) S.C Bose

B) BAL Gangadhar Tilak

C) Mahatma Gandhi

D) Lala Lajpat Rai

41.The total age of A and B is 12 years more than the total age of B and C .C is how many years younger than A?

A) 12

B) 13

C) 14

D) 15

42. If salary of X is 20% more than salary of Y, then by how much percentage is salary of Y less than X?

A) 25

B) 20

C) 50/3

D) 65/4

43. The value of Equipment depreciates by 20% each year. How much less will the value of the equipment be after 3 years?

A) 48.8%

B) 51.2%

C) 54%

D) 60%

44. A boat goes 12km upstream in 3 hours. If the speed of the current is 3km/hr, then the speed (km/hr) of the boat in still water is?

A) 12

B) 9

C) 8

D) 7

45. If the difference between the S.I and C.I on a certain amount at 10% per Annum for 2 years is Rs.20, then the sum is

A) Rs 4000

B) Rs 2000

C) Rs 1500

D) Rs 3000

46. Two cones have their heights in the ratio 1:3 and the radii of their bases in the ratio 3:1.Find the ratio of their Volumes?

A) 3:1

B) 2:1

C) 4:1

D) 5:1

47. $(12)^3 \times 6^4 \div 432 = ?$

A) 5184

B) 5060

C) 5148

D) 5084

48. $2+2^2+2^3+\ldots\ldots\ldots+2^9 = ?$

A) 2044

B) 1022

C) 1056

D) None

49. The least number which increased by 5 is divisible by each one of 24, 32, 36 and 54 is

A) 427

B) 859

C) 869

D) 4320

50. If $3x+7=x^2+p=7x+5$, what is the value of p?

A) $\frac{1}{2}$

B) $8\frac{1}{4}$

C) $8\frac{1}{2}$

D) Can't be determined

51. $\sqrt[3]{\sqrt{.000064}} = ?$

A) .02

B) .2

C) 2

D) None of these

52. The Product of two Natural number is 17. Then, the sum of the reciprocals of their squares is

A) $\frac{1}{289}$

B) $\frac{289}{290}$

C) $\frac{290}{289}$

D) 289

53. A Father said to his son, "I was as old you are at present at the time of your birth", if the father's age is 38 years now, the son's age five years back was:

A) 14 years

B) 19 years

C) 33 years

D) 38 years

54. $\frac{1}{1+a^{(n-m)}} + \frac{1}{1+a^{(m-n)}} = ?$

A) 0

B) $\frac{1}{2}$

C) 1

D) a^{m+n}

55. What percent decrease in salaries would exactly cancel out the 20% increase?

A) $16\frac{2}{3}$

B) 18

C) 20

D) $33\frac{1}{3}$

56. A Shopkeeper cheats to the extent of 10% while buying as well as selling, by using false weights. His total gain is:

A) 10%

B) 11%

C) 20%

D) 21%

57. The least whole number which when subtracted from both the terms of the ratio 6:7 gives a ratio less than 16:21 is

A) 2

B) 3

C) 4

D) 6

58.A can finish a work in 18 days and B can do the same work in 15 days' worked for 10 days and left the job. In how many days, A alone can finish the remaining work?

A) 5

B)

C) 6

D) 8

59. A train covers a distance of 10km in 12minutes.If its speed is decreased by 5km/hr the time taken by it to cover the same distance will be:

A) 10min

B) 11 min 20sec

C) 13 min

D) 13 min 20 sec

60. The length of the bridge, which a train 130 meters long and travelling at 45km/hr can cross in 30sec, is

A) 200m

B) 225m

C) 245m

D) 250m

61. DCBA: WYZ:: IJKL:?

A) SRQP

B) QPON

C) RQPO

D) PONM

62.'ATOM' is related to 'Molecule', in the same way as "cell" is related to

A) Matter

B) Nucleus

C) Organism

D) Battery

63. How many such pair of letters are there in the word 'CHENNEL' which have as many letters between them in the word as in that same code?

A) None

B) One

C) Two

D) Three

64. In a certain code language, 'GIVE' is written as 'VIEG' and 'OVER' is written as 'EVRO'. How will 'DISK' be written in that same code?

A) SIDK

B) KISD

c) KDSI

d) SIKD

65. in a certain code '975' means 'throw away garbage','528'means 'give away smoking' and '213' means 'smoking is harmful'. Which digit in that code means 'smoking'?

A) 5

B) 8

C) 2

D) 3

66. 30, 68, 130, 222,?, 520, 738

A) 420

B) 350

C) 250

D) 280

67. Which of the following terms follows the trend of the given list YXXXXXX, YYXXXX, YYYXXXX, YYYYXXX, YYYYYXX?

A) XXXXXXX

B) YXXXXXX

C) YYYYYYX

D) YYXXXXX

68. Arrange the words as per dictionary

1) Aqueous 2) Aquarium 3) Aquiline 4) Aquatic

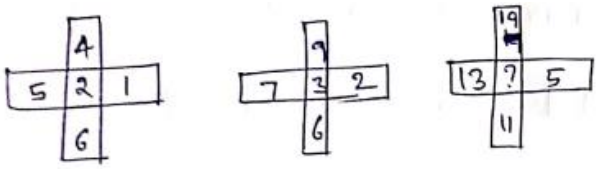
A) 4,3,2,1

B) 1,2,3,4

C) 2,4,1,3

D) 3,1,4,2

69. Find the missing one



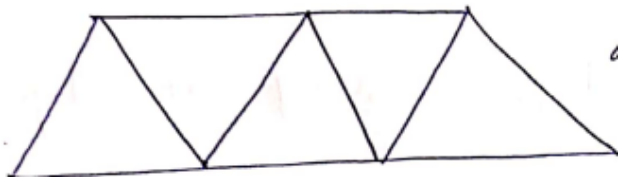
A) 4

B) 6

C) 8

D) 10

70. How many parallelograms are there in the following figure?



A) 3

B) 4

C) 5

D) 6

71. A cube and a Sphere have equal surface areas the ratio of their volume is

A) $\pi : 6$

B) $\sqrt{\pi} : \sqrt{6}$

C) $\sqrt{6} : \sqrt{\pi}$

D) 6:π

72. If2($cos^2\theta - sin^2\theta) = 1$, 0 being a +ve Acute angles then the value of $cot\theta$ is

A) 3

B) $\sqrt{3}$

C) -1

D) 2

73. A batsman scored 110 runs which included 3 focuses and 8 sixes. What percent of his total score, did he make by running between the wickets?

A) 45%

B)$45\frac{5}{11}$

C)$54\frac{6}{11}$

D) 5%

74. If $c + \frac{1}{c} = 3$, $then$ the value of (c-3)^7+$\frac{1}{c^7}$ is

A) 2

B) 0

C) 3

D) 1

75. The length of a rectangle is increased by 10% and breath decreased by 10% .Then the area of the new rectangle is

A) Neither decreased nor increased

B) Increased by 1%

C) Decreased by 1%

D) Decreased by 10%

76. Raj and Ram working together do a piece of work in 10 days. Raj alone can do it in 12 days. Ram alone will do the work in

A) 20 days

B) 40 days

C) 50 days

D) 60 days

77. If $sec\theta + tan\theta = 2 + \sqrt{5}$, then the value of $sin\theta + cos\theta$ is:

A)$\frac{3}{\sqrt{5}}$

B)$\sqrt{5}$

C)$\frac{7}{\sqrt{5}}$

D)$\frac{1}{\sqrt{5}}$

78. The sum of three numbers is 116. The second number and third number are in the ratio of 9:16 while the first number and third number are in the ratio of 1:4 find the second number

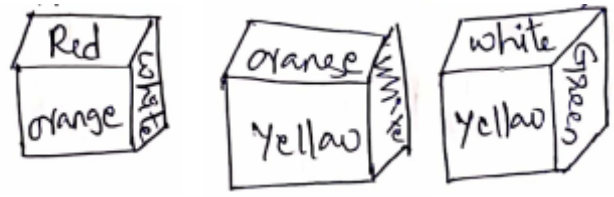
A) 8

B) 16

C) 64

D) None

79. Four positions of a cube are shown below. Which color is opposite to white color in the given cubes?



A) Orange

B) Blue

C) Red

D) Yellow

80. A compass is incorrectly aligned. For the direction of NORTH, it is showing SOUTHWEST. Which direction will it show for EAST?

A) East

B) North

c) Northwest

D) Southeast

81. Neha is the only girl of her father and her father is the father-in-law of ranav's brother. Pranav is Rajeev's son. How is Rajesh related to Neha?

A) Father-in-law

B) Daughter in-law

C) Uncle

D) Brother

82. If p denotes +, Q denotes -, R denotes , and S denotes , then 15S24R12Q5P8=?

A) 115

B) 33

C) 55

D) 45

83. Identify the diagram that best represents the relationship among classes given below Rose, Marigold and Flowers.

A)

B)

C)

D)

84. If the first day of a year is Sunday, what will be the first day of the next year? (Not a leap year)

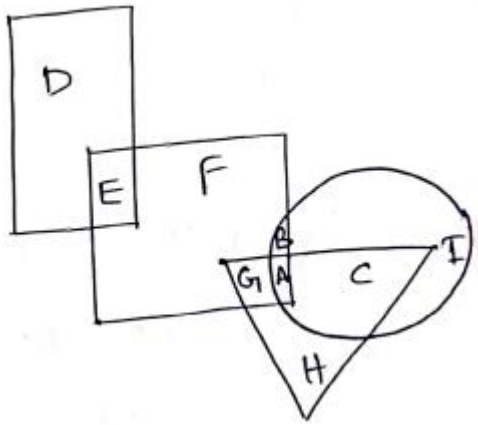
A) Saturday

B) Friday

C) Monday

D) Thurs day

85. In the following figure, rectangle represents Hairstylists, circle represents Racers, triangle represents Drivers and Square represents Fathers. Which set of letters represents Fathers who are Drivers?



A) BA

B) AC

C) HA

D) GA

86. Pankaj is taller than Vinod, who is shorter than pramod; Usha is taller than Priyanka but shorter than Vinod Pramod is taller than Priyanka but shorter than Vinod pramod is shorter than Pankaj. Who is the tallest?

A) Priyanka

B) Pramod

C) Vinod

D) Pankaj

87. School: Education:: ?

A) Scalpel: Teacher

B) Hospital: Treatment

C) Teacher: School

D) Class: College

88. 85:42:: 139:?

A) 68

B) 69

C) 70

D) 67

89) Find the odd word

A) Geometry

B) Trigonometry

C) Mensuration

D)Mathematics

90) Statement s:

I. Some notes are coins

II. No coin is a card

Conclusion:

I. All cards can be notes

II. Some notes are neither coins nor cards

A) Conclusion I follows

B) Conclusion II follows

C) Neither I nor II follows

D) Both I and II follows

91. F has less many than H but more than G.E has more than f but less than H. Who is the poorest?

A) F

B) E

C) H

D) G

92. The diagonal of a square is $10\sqrt{2}$ cm. Find its perimeter?

A) 160 cm

B) 80cm

C) 20cm

D) 40cm

93. The ratio in which a man must mix rice at Rs 10.20 per Kg and Rs 14.40 per Kg. So as to make a mixture worth Rs 12.60Per Kg is

A) 4:3

B) 2:5

C) 1.8:24

D) 3:4

94. Find the value of x where (x+1)(5-8x) will be Maximum.

A) $\frac{-3}{8}$

B) $\frac{3}{8}$

C) $\frac{-3}{16}$

D) $\frac{3}{16}$

95. If the sum of 'x' and its reciprocal is 2. What is the value of? $x^{17} + \frac{1}{x^{19}} = ?$

A) $\frac{5}{2}$

B) 2

C) $2^{17} + \frac{1}{2^{19}}$

D) 1

96. Water falls are generally found in ……course of river

A) Upper

B) Middle

C) Lower

D) End of month

97. Find the odd one

A)

B)

C)

D)

98. Find odd one

A) Copper

B) Bronze

C) Gold

D) Aluminum

99. Who was the first Muslim President of Indian National Congress?

A) Badruddin Tyabji

B) Maulana Abul Kalam Azad

C) Hassan Iman

D) M.A Ansari

100. In which year was the Morley Minto reform passed?

A) 1917

B) 1900

C) 1909

D) 1912

SOLUTIONS:

1. Answer, C

2. Answer, B

3. Answer, C

4. Answer, A

5. Answer, D

6. Answer, D

7. Answer, A

8. Answer, A

9. Answer, C

10. Answer, D

Zero hour is immediately followed by Question hour

11. Answer, C

Unsuitable Boy is an autobiographical book written by film director "Karan Johar"

12. Answer, B

13. Answer, C

Adequate supply of oxygen makes blue flame

14. Answer, A

Non Corporate small business

15. Answer, B

16. Answer, D

17. Answer, A

Water Vapour & Clouds -36-72%

Co_2-9.26%

O_3-3.7%

18. Answer, B

19. Answer, A

UNEP ->Un Environment Programme .

20. Answer, B

Battle Kanauji is on 17 may 1540.

21. Answer, A

22. Answer, D

23. Answer, A

24. Answer, A

25. Answer, B

26. Answer, B

27. Answer, B

India's population is equivalent to 17.74% of the Total world's population.

28. Answer, A

Dayanad Sarasvati

29. Answer, C

30. Answer, C

31. Answer, D

32. Answer, B

33. Answer, B

34. Answer, A

35. Answer, B

Pandaman Island is also known as "Rameshwaram Island".

36. Answer, B

37. Answer, D

38. Answer, A

39. Answer, A

40. Answer, C

41. Answer, A

A+B=B+C+12

A-C=12

'C' is 12 years younger than A.

42. Answer, C

Salary of y=100

Salary of x=100× $\frac{120}{100}$

=120

Required % =$\frac{20}{120} \times 100$

=$\frac{50}{3}\%$

43. Answer, A

Let present value of Equipment =100

Value after 3 years=100× $\frac{80}{100} \times \frac{80}{100} \times \frac{80}{100}$

=51.2%

44. Answer, D

Upstream speed =B-3

12=3(B-3)

12=3B-9

B=7

Speed of boat =7 Km/hr.

45. Answer, B

S.I-C.I=p$\left(\frac{r}{100}\right)^2$

20=p× $\left(\frac{1}{10}\right)^2$

P=2000Rs

46. Answer, A.

Ratio of volume =$\frac{\frac{1}{3}\pi {r_1}^2 h_1}{\frac{1}{3}\pi {r_2}^2 h_2}$

=$\frac{9}{1} \times \frac{1}{3}$

=3:1

47. Answer, A.

=$\frac{(12)^3 \times 6^4}{12 \times 6^2}$=$(12)^2 \times 6^2$

=$(72)^2 = 5184$

48. Answer, B

This is a G.P

Where a=2, r=$\frac{2^2}{2}$=2, and n=9.

S_n=$\frac{a(r^n-1)}{(r-1)} = \frac{2\times(2^9-1)}{(2-1)}$

=$2 \times (512 - 1)$

=$2 \times 511 = 1022$

49. Answer, B

Required Number= (L.C.M of 24, 32, 36, 54)-5

=864-5

50. Answer, B

3x+7=7x+5

7x-3x=2

4x=2

X=$\frac{1}{2}$

Now, 3x+7=$x^2 + p$

$\frac{3}{2} + 7 = \frac{1}{4}$+p

P=$\frac{17}{2} - \frac{1}{4} = \frac{33}{4} = 8\frac{1}{4}$

51. Answer, B

$\sqrt{.000064}$ = $\sqrt{\frac{64}{10^6}} = \frac{8}{10^3} = .008$

$\therefore \sqrt[3]{\sqrt{.000064}} = \sqrt[3]{0.008} = \sqrt[3]{\frac{8}{1000}} = \frac{2}{10}$

=0.2

52. Answer, C. Let the number a and b

Then, ab=17

a=1, b=17

So,$\frac{1}{a^2} + \frac{1}{b^2} = \frac{a^2+b^2}{a^2b^2} = \frac{1^2+17^2}{(17)^2} = \frac{290}{289}$

53. Answer, C

Let the son's present age be × Years.

Then, (38-X) =X

2X=38

X=19

∴ Son's age 5 years back = (19-5) years

=14 years

54. C. $\frac{1}{1+a^{(m-n)}} = \frac{1}{1+\left(\frac{a^n}{a^m}\right)} + \frac{1}{1+\left(\frac{a^m}{a^n}\right)}$

$= \frac{a^m}{(a^m+a^n)} + \frac{a^n}{(a^m+a^n)} = \frac{a^m+a^n}{a^m+a^n} = 1$

55. Answer, A

Original Salary =Rs.100

New salary=Rs.120

Decrease on 120=20

Decrease on 100=$\left(\frac{20}{120} \times 100\right)$

=16$\frac{2}{3}$

56. Answer, D

Gain %=$\frac{(100+common\ gain\ \%)^2}{100} - 100$

$\left[\frac{(100+10)^2}{100} - 100\right]$ =21%

57. Answer, B.

Let 'x' be subtracted $\frac{6-x}{7-x} < \frac{16}{21}$

$\Rightarrow 21(6-x) < 16(17-x)$

⇔5x>4 ⇔x>2.8

∴ Least whole number is 3

58. Answer, C.

B's 10 days' work=$\left[\frac{1}{15} \times 10\right] = \frac{2}{3}$

Remaining work =$\left[1 - \frac{2}{3}\right] = \frac{1}{3}$

Now $\frac{1}{18}$ work is done by A in 1 day

∴ $\frac{1}{3}$ Work is done by A in $\left[18 \times \frac{1}{3}\right]$

=6 days

59. Answer, D

Speed=$\left[45 \times \frac{60}{12}\right] km/hr = 50$ km/hr

New speed = (50-5)km/hr=45km/hr

∴Time taken=$\left[\frac{10}{45}\right] hr = \left[\frac{2}{9} \times 60\right]$min

=$13\frac{1}{3}$min

=13min 20 sec

60. Answer, C

Speed =$\left[45 \times \frac{5}{18}\right] m/sec = \left[\frac{25}{2}\right]$ m/sec

Time =30sec

Let length of bridge='x' m

Then, $\frac{130+x}{30} = \frac{25}{2}$ ⇒ 2 (130-x) = 25 × 30

⇒x=245m

61. Answer, C

Here, each letter has its opposite letter

D C B A I J K L

↓ ↓ ↓ ↓ , Similarly ↓ ↓ ↓ ↓

W X Y Z R Q P O

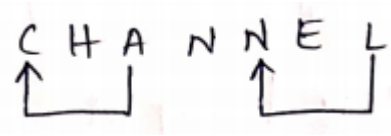
62. Answer, C

First constitutes the second.

As combining Atom we get molecules in the same way by combining "cell" → Organism.

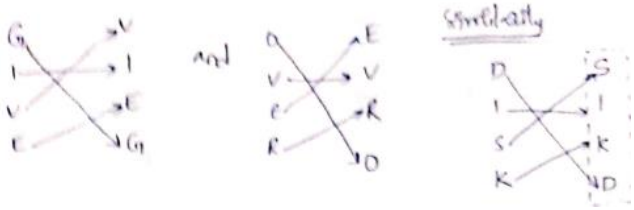
63. Answer, C

According to Question,



So, there are two such pairs, i.e., AC and LN

64. Answer, D



65. Answer, C

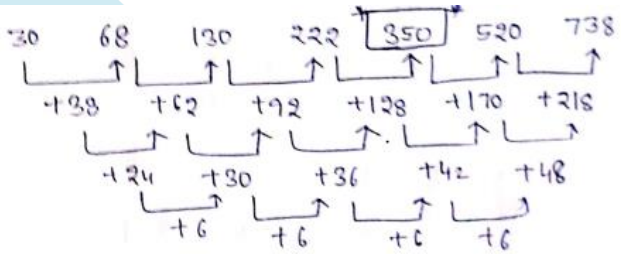
9 7 5 → Throw away garbage —i)

5 2 8 → give away smoking—ii)

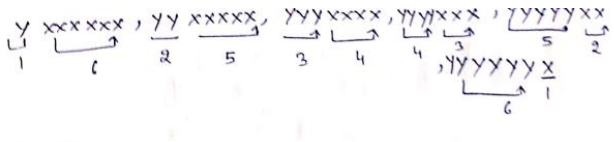
2 1 3 → smoking is harmful—iii)

From i) & ii) smoking →2

66. Answer, B



67. Answer, C



68. Answer, C

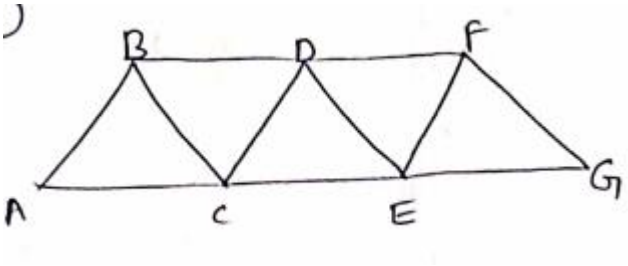
69. Answer, B

Fig (i) $\frac{(4+6)-(5+1)}{2} = \frac{10-6}{2} = 2$

Fig (ii) $\frac{(9+6)-(7+2)}{2} = \frac{15-9}{2} = 3$

Fig (iii) $\frac{(19+11)-(13+5)}{2} = \frac{30-18}{2} = 6$

70. Answer, D.



There are 6 parellograms

ABDC, ABFE, BCED, BCGF, CDFE, DEGF

71. Answer, B

Surface areas $6a^2 = 4\pi r^2$

$$\frac{a^2}{r^2} = \frac{4\pi}{6} \Rightarrow \frac{a}{r} = \sqrt{\frac{4\pi}{6}}$$

Volumes ratio $= \frac{a^3}{\frac{4}{3}\pi r^3}$

$$\frac{\cancel{3}\cdot\cancel{4\pi}\sqrt{4\pi}}{\cancel{4\pi}\cancel{2}\sqrt{6}}$$

$= \frac{2\sqrt{\pi}}{2\sqrt{6}} = \sqrt{\pi}:\sqrt{6}$

72. Answer, B

$$2(cos^2\theta - sin^2\theta) = 1$$

$$cos2\theta = \frac{1}{2} \Rightarrow 2\theta = 60^\circ \Rightarrow \theta = 30^\circ$$

$$\Rightarrow \cot 30^\circ = \sqrt{3}$$

73. Answer, B

Boundary—$60(3 \times 4 + 6 \times 8)$

$$\frac{50}{110} \times 100 = 45\frac{5}{11}\%$$

74. Answer, B

$$(c-3) + \frac{1}{c} = 0 \Rightarrow (c-3) = -\frac{1}{c}$$

$$\Rightarrow \frac{-1}{c^7} + \frac{1}{c^7} = 0$$

75. Answer, B

Decrease in area $= \frac{x^2}{100}\% = \frac{(10)^2}{100}$

=1%

76. Answer, D

Eff → Raj + Ram=$\frac{1}{10}$

Eff→ Raj=$\frac{1}{12}$

Efficiency Ram=$\frac{1}{10} - \frac{1}{12} = \frac{6-5}{60} = \frac{1}{60}$

Ram will take ⇒60 days.

77. Answer, A

$$sec\theta + tan\theta = 2 + \sqrt{5}$$

$sec\theta - tan\theta = \frac{1}{\sqrt{5}+2} = \sqrt{5}$-2

$$2\,sec\theta = 2\sqrt{5} \Rightarrow sec\theta = \sqrt{5}$$

$$cos\theta = \frac{1}{\sqrt{5}}$$

$$sin\theta\,\frac{2}{\sqrt{5}}$$

78. Answer, D

II : III =9:16

III : I =4:1

2nd: 3rd:1st=36:64:16

=9:16:4

2nd number=$\frac{9}{29} \times 116$

=36

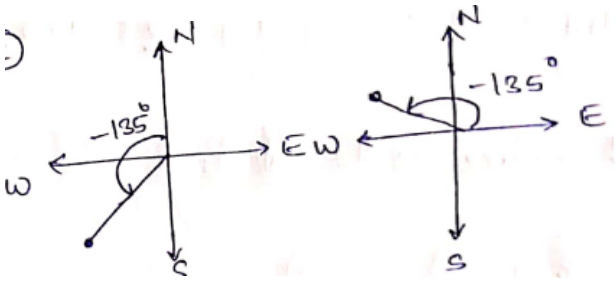
79. Answer, B

Yellow ↔Red

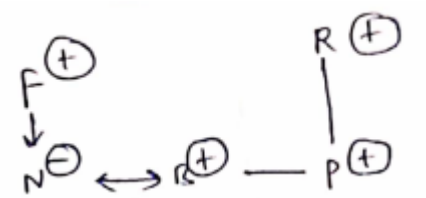
Orange↔ Green

White↔ Blue

80. Answer, C



81. Answer, A



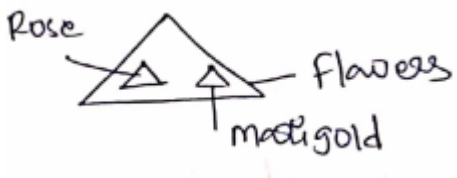
82. Answer, B

After changing sign: $15\times24\div 12-5+8$

$=15\times 2-5+8$

$=33$

83. Answer, C



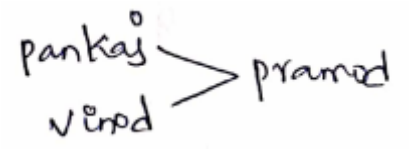
84. Answer, C

Odd day in Ordinary year=1

So, First day in next year= Monday

85. Answer, D

86. Answer, D



Usha

Priyanka So, Pankaj is tallest.

87. Answer, B

We get education in school; similarly treatment is done in hospital

88. Answer, B

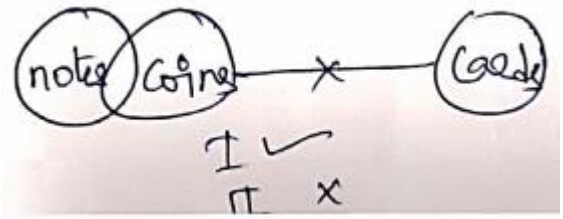
8+5=13→sum=4, similarly 1+3+9→sum=4

4+2=6; similarly 6+9=15⇒1+5=6

89. Answer, D

Mathematics is the core subject.

90. Answer, A



91. Answer, D

H>E>F>G

92. Answer, D

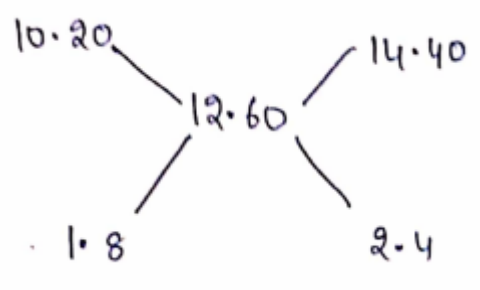
Diagonal of square=$a\sqrt{2}=10\sqrt{2}$ cm

a=10cm

Perimeter of the square = 4a

=4(10)= 40cm

93. Answer, D



Req ratio=1.8:2.4

=3:4

94. Answer, C

$(x+1)(5-8x)=-8x^2-3x+5$

We know that 'x' is max at $x=\frac{-b}{2a}$

$X=-\frac{-(-3)}{2(-8)}=\frac{-3}{16}$

95. Answer, B

$x+\frac{1}{x}=2$

$X^2-2x+1=0$; $(x-1)^2=0 \Rightarrow X=1$

$x^{17}+\frac{1}{x^{19}}=1+\frac{1}{1}=2$

96. Answer, A

97. Answer, A

98. Answer, B

Except Bronze, all others are metals.

Bronze is an Allay.

99. Answer, A

100. Answer, C