

Prepp

Your Personal Exams Guide



NDA



CDS



SSC CGL



CBSE UGC NET



IAS



SSC CHSL



CTET



MPSC



AFCAT



CSIR UDC NET



IBPS PO



UP POLICE



SSC MTS



SBI PO



BPSC



UP TET



IBPS RRB



IBPS CLERK



IES



UPSC CAPF



SSC Stenogr..



RRB NTPC



SSC GD



RBI GRADE B



RBI Assistant



DSSSB

RRB NTPC 2021 (CBT 1) Previous Year Paper (9 Jan 2021) Shift 2

Total Time: 1 Hour : 30 Minute

Total Marks: 100

Instructions

Sl No.	Section Name	No. of Question	Maximum Marks	Negative Marks	Positive Marks
1	Test	100	100	0.33	1

- 1.) A total of 90 minutes is allotted for the examination.
- 2.) The server will set your clock for you. In the top right corner of your screen, a countdown timer will display the remaining time for you to complete the exam. Once the timer reaches zero, the examination will end automatically. The paper need not be submitted when your timer reaches zero.
- 3.) There will, however, be sectional timing for this exam. You will have to complete each section within the specified time limit. Before moving on to the next section, you must complete the current one within the time limits.

Your Personal Exams Guide

Test

1. P is taller than Q and R is taller than S. If S is taller than Q but shorter than P and P is shorter than R, who is the tallest? (+1, -0.33)
- a. S
 - b. R
 - c. P
 - d. Q
-
2. An amount of Rs.48,000 is divided between two brothers Anil and Aditya in the ratio 11 : 13. What is the share of Aditya? (+1, -0.33)
- a. Rs.26,000
 - b. Rs.2,000
 - c. Rs.24,000
 - d. Rs.22,000
-
3. If $\sin\theta - \cos\theta = 0$, (angle in first quadrant) then the value of $\sin^3\theta + 3\cos^3\theta$ is: (+1, -0.33)
- a. $\frac{1}{\sqrt{2}}$
 - b. $2\sqrt{2}$
 - c. $\sqrt{2}$
 - d. 2

4. In which state is the Bhadra Wildlife Sanctuary located? (+1, -0.33)

- a. Kerala
 - b. Punjab
 - c. Bihar
 - d. Karnataka
-

5. A sum becomes Rs.26,400 after 2 years at simple interest of 5% per annum. Find the sum. (+1, -0.33)

- a. Rs.2,640
 - b. Rs.2,400
 - c. Rs.24,000
 - d. Rs.29,040
-

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6. Select the cluster that can replace the question mark (?) in the following series. (+1, -0.33)

G7R18, H8S19, I9T 20?

- a. D3A11
 - b. L4B12
 - c. J10U21
 - d. C2P13
-

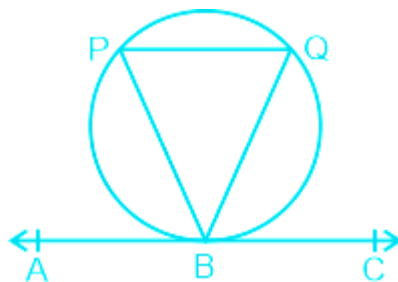
7. A scheme by the Government of India to maintain a viable population of tigers in India since 1973 is: (+1, -0.33)

- a. Wildlife Conservation
- b. Wildlife in India
- c. Project Tiger
- d. Save the Tiger

8. Who among the following advocated a moderate, gradual and persuasive approach to colonial rule through the Swadeshi movement? (+1, -0.33)

- a. Bipin Chandra Pal
- b. Bal Gangadhar Tilak
- c. Lala Lajpat Rai
- d. Gopal Krishna Gokhale

9. Line ABC is a tangent to a circle at B. $PQ \parallel AC$ and $\angle QBC = 70^\circ$. $\angle PBQ$ is = ? (+1, -0.33)



- a. 70°
- b. 20°
- c. 110°

d. 40°

10. Rajpal borrowed a certain amount at 10% per annum simple interest for $1\frac{1}{2}$ years. He gave the same amount as loan to a friend and charged compound interest (compounded semi-annually) at the same rate for the same period. In this way he earned Rs.305. Find the sum of the money. **(+1, -0.33)**

a. Rs.30,500

b. Rs.40,000

c. Rs.40,305

d. Rs.30,000

11. A 1.5 kg cake is divided equally among 10 boys. How much cake will each boy get? **(+1, -0.33)**

a. 1500 g

b. 10 g

c. 150 g

d. 15 g

12. Everything in this universe is made up of the following materials. Scientists name it: **(+1, -0.33)**

a. liquids

b. Crystals

c. matter

d. solids

13. Which state in the United States of America was once Russian land? (+1, -0.33)

a. California

b. Alaska

c. Hawaii

d. Nevada

14. Simplify: $0.83 + 44.4 + 4.44 + 4.604 + 43$ (+1, -0.33)

a. 56.18

b. 97.274

c. 178.67

d. 97.31

15. At which Sikh Guru's invitation did the Sufi saint Hazrat Mian Mir lay the foundation stone of Golden Temple (Harmandir Sahib) in Amritsar? (+1, -0.33)

a. Shri Guru Arjan Dev ji

b. Shri Guru Tegh Bahadur ji

c. Shri Guru Har Rai ji

d. Shri Guru Har Govind Ji

16. Who inaugurated the first ever corridor of the Delhi Metro?

(+1, -0.33)

- a. Madan Lal Khuarana
- b. Manmohan Singh
- c. E Sreedharan
- d. Atal Bihari Vajpayee

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

(+1, -0.33)

6	4	3
12	8	?
24	16	12
48	32	24

- a. 9
- b. 6
- c. 3
- d. 23

18. 5 m long ladder is leaning against a wall and it reaches the wall at a point 3 m high. If the foot of the ladder is moved 2.6 m towards the wall then the distance by which the top of the ladder slides upwards on the wall is:

(+1, -0.33)

- a. 1.08 m
- b. 4.8 m

c. 5.6 m

d. 1.8 m

19. If B is equal to 2, V is equal to 22 and R is equal to 18, how would you spell 'BEHAVIOUR'? (+1, -0.33)

a. 2571229252218

b. 2581229152118

c. 2571229152218

d. 2571229152118

20. Consider the given statement and decide which of the given assumptions are implicit in the statement. (+1, -0.33)

Statement: Go by air plane to reach Bengaluru from Mumbai quickly.

Assumptions:

1. Bengaluru and Mumbai are connected by airplane service.

2. There is no other means of going from Bengaluru to Mumbai.

a. Both 1 and 2 are implicit

b. Neither 1 nor 2 is implicit

c. Only 1 is implicit

d. Only 2 is implicit

21. In which state did India's White Revolution have its origin? (+1, -0.33)

- a. Gujarat
 - b. Maharashtra
 - c. Uttar Pradesh
 - d. Odisha
-

22. In a row of girls Mahua is 7th from one extreme and 11th from the other. (+1, -0.33)
Find the total number of girls in the row.

- a. 17
 - b. 19
 - c. 16
 - d. 18
-

23. Simplify: $1800 \div 10 \times \{45 \div (17 - 2)\} \times 2 + \{-2(1 + 2)\}$ (+1, -0.33)

- a. 180
 - b. 0
 - c. 1074
 - d. 114
-

24. Which type of coal has the highest percentage of carbon? (+1, -0.33)

- a. Bituminous
- b. Lignite

- c. Peat
 - d. Anthracite
-

25. Simplify: $12 \div (3 \times 2) + 8 \times 4 - 4$ (+1, -0.33)

- a. 2
 - b. 1
 - c. 60
 - d. 30
-

26. Select the option that is related to the third term in the same way as the second term is related to the first term. (+1, -0.33)

$4 : 27 :: 25 : ?$

- a. 36
 - b. 30
 - c. 125
 - d. 216
-

27. Who wrote the novel 'The God of Small Things'? (+1, -0.33)

- a. Arundhati Roy
- b. Kiran Desai
- c. Chetan Bhagat

d. Salman Rushdie

28. The sum of the digits of a two-digit number is 9. If the digits are reversed, the new number when increased by 9 equals three times the original number. Find the number. (+1, -0.33)

a. 45

b. 54

c. 27

d. 72

29. A train started with 450 passengers. At the first stop, $\frac{1}{9}$ of them got down and 20 new passengers got in. At the second stop, $\frac{1}{6}$ of the passengers then existing got down and 19 new passengers boarded. With how many passengers did the train arrive at the third stop? (+1, -0.33)

a. 394

b. 420

c. 400

d. 369

30. The base of a right-angled triangle is 12 cm and the difference between the other two sides is 6 cm. What will be the perimeter of the triangle? (+1, -0.33)

a. 18 cm

b. 30 cm

c. 54 cm

d. 36 cm

31. As of October 2020, who is the current World Number 1 in Men's Tennis ATP rankings? (+1, -0.33)

a. Alexander Zverev

b. Novak Djokovic

c. Roger Federer

d. Rafael Nadal

32. If $(2x - 1)$ is a factor of $2x^4 - 7x^3 + x + k = 0$, then find the value of 'k'. (+1, -0.33)

a. $-\frac{1}{4}$

b. $-\frac{5}{12}$

c. 0

d. $\frac{1}{4}$

33. Which of the following is **NOT** a monument in Tamil Nadu? (+1, -0.33)

a. Bekal Fort

b. Meenakshi Amman temple

c. Valluvar Kottam

d. Padmanabhapuram Palace

34. Which of the following states has the giant squirrel as its state animal? (+1, -0.33)
- a. Goa
 - b. Himachal Pradesh
 - c. Maharashtra
 - d. Haryana
-

35. The Non-cooperation movement was called off by Gandhiji after the violent act of the _____.
- (+1, -0.33)
- a. Chauri Chaura
 - b. Rowlatt Act
 - c. Quit India movement
 - d. Khilafat movement
-

36. How many Bytes make a Kilobyte? (+1, -0.33)
- a. 960
 - b. 1024
 - c. 1440
 - d. 100
-

37. Select the option that is related to the third term in the same way as the (+1, -0.33)

second term is related to the first term.

Almirah : Storage :: Chair : ?

- a. Lying down
 - b. Sitting
 - c. Keeping items
 - d. Standing
-

38. The mean of 21 observation is 42. If out of 21 given observations, the mean of the first 11 observation is 50 and the mean of the last 11 observations is 35, then the 11th observation will be: (+1, -0.33)

- a. 50
 - b. 40
 - c. 35
 - d. 53
-

39. Varun is three times as old as his sister. Six years hence the product of their ages will be 231. Find the Varun's present age. (+1, -0.33)

- a. 5 years
 - b. 15 years
 - c. 39 years
 - d. 13 years
-

40. Two numbers A and B are less than a third number C by 15% and 32% respectively. By what percentage is number B less than number A? (+1, -0.33)

- a. 80
- b. 20
- c. 32
- d. 68

41. Simplify. $\sqrt{56 + \sqrt{185 + 88\sqrt{\sqrt{36} + 19}}}$ (+1, -0.33)

- a. $\sqrt{91}$
- b. 3
- c. 9
- d. 81

42. Who was the Chief Minister of an Indian state and also chairperson of a prominent commission? (+1, -0.33)

- a. Bindheshwari Prasad Mandal
- b. Bondheswari Pathak
- c. Rajinder Sachar
- d. Daulat Singh Kothari

43. A pool has 3 taps. The first tap takes 4 days, the second tap takes 2 days (+1, -0.33)

and the third tap takes only 12 h to fill the pool. How long will it take to fill the pool using all the three taps?

- a. $6\frac{1}{2}$ days
- b. $1\frac{1}{11}$ h
- c. 6 days
- d. $8\frac{8}{11}$ h

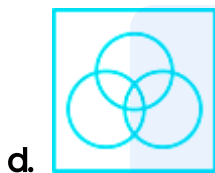
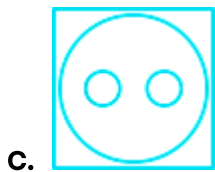
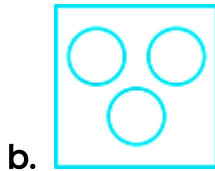
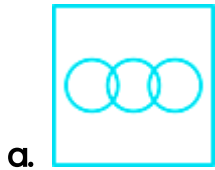
44. Who was the first woman of Indian descent to go to space? (+1, -0.33)

- a. Kalpana Chawla
- b. Nalini Ramarajan
- c. Shawna Pandya
- d. Sunita Willianms

45. If A is equal to 1, S is equal to 19 and G is equal to 7, how would you spell 'MESSAGE'? (+1, -0.33)

- a. 1311919175
- b. 1311945375
- c. 1311945355
- d. 1311919277

46. Select the Venn diagram that best represents the relationship between Musical Instruments, Drums and Flute . (+1, -0.33)



47. In which year did the Pulwama terror attack take place?

(+1, -0.33)

- a. 2019
- b. 2017
- c. 2016
- d. 2018

48. By selling an article for Rs.1,785, a dealer loses 15%. At what price should he sell the article to gain 15%?

(+1, -0.33)

- a. Rs.2,100
- b. Rs.2,205

c. Rs.2,415

d. Rs.1,785

49. In 1857, the last ruler of the Mughal dynasty _____ was overthrown by the British. (+1, -0.33)

a. Bahadur Shah Zafar

b. Nasiruddin Humayun

c. Jalaluddin Akbar

d. Zahiruddin Babar

50. Simplify: $\frac{(542+321)^2 - (542-321)^2}{542 \times 321}$ (+1, -0.33)

a. 1

b. 4

c. $\frac{1}{271}$

d. $\frac{642}{321}$

51. Video Graphics Array (VGA) is a system for displaying colour graphics. It was developed by: (+1, -0.33)

a. IBM

b. Macintosh

c. Apple

d. Microsoft

52. The radius of a spherical balloon increases from 5 cm to 10 cm when more air is pumped into it. The ratio of the surface area of the original balloon and that of the inflated balloon is: (+1, -0.33)

a. 1 : 2

b. 1 : 8

c. 1 : 4

d. 2 : 1

53. A special bank account meant for the girl child and launched as a part of the Beti Bachao Beti Padhao Campaign is known as: (+1, -0.33)

a. Sukanya Samriddhi

b. Kanya Dhan

c. Kanyashree

d. Dhanalakshmi

54. A good indicator of economic growth is steady increase in the _____. (+1, -0.33)

a. VAT

b. GDP

c. GST

d. STC

55. The UN was founded as a successor to the League of Nations in 1945 (+1, -0.33)

- a. right before the Second World War
 - b. right before the First World War
 - c. immediately after the First World War
 - d. immediately after the Second World War
-

56. Two numbers are in the ratio 3 : 2. If 8 is subtracted from the first number and 6 subtracted from the second number, the ratio becomes 5 : 4. The numbers are: (+1, -0.33)
- a. 2, 3
 - b. 3, 2
 - c. 24, 16
 - d. 16, 24
-

57. Home Decor shop marked every item 30% higher than the actual cost price. The owner offers 10% discount on the marked price of each item. If a Sofa set is sold for Rs.23,400, how much profit did he earn? (+1, -0.33)
- a. Rs.3,400
 - b. Rs.20,000
 - c. Rs.3,978
-

d. Rs.18,000

58. Select the option in which the words share the same relationship as that shared by the given pair of words. (+1, -0.33)

Kiwi : Fruit :: Zucchini : ?

- a. Spice
 - b. Vegetable
 - c. Herb
 - d. Fruit
-

59. The first woman to serve as the President of India was: (+1, -0.33)

- a. Sucheta Kriplani
 - b. Sumitra Mahajan
 - c. Rajkumari Amrit Kaur
 - d. Pratibha Patil
-

60. Select the number that can replace the question mark (?) in the following series. (+1, -0.33)

5, 12, 19, 26, ?

- a. 44
- b. 33

c. 43

d. 34

61. What does OCR stand for? (+1, -0.33)

- a. Optical Character Recognition
 - b. Optimum Computer Recording
 - c. Optical Computer Recording
 - d. Optimum Colour Recognition
-

62. Which award did Pranab Mukherjee receive in 2019? (+1, -0.33)

- a. Padma Vibhushan
 - b. Bharat Bhushan
 - c. Bharat Ratna
 - d. Padma Bhushan
-

63. GSLV stands for: (+1, -0.33)

- a. Global Stationary Launching Vehicle
 - b. Geosynchronous Satellite Launching Vehicle
 - c. Global Satellite Launch Vehicle
 - d. Geosynchronous Satellite Launch Vehicle
-

64. What is the scientific name of the 'Touch-Me-Not' plant? (+1, -0.33)

- a. Mimosa verrucosa
- b. Mimosa Loxensis
- c. Mimosa pudica
- d. Mimosa townsendii

65. Select the letter-cluster that can replace the question mark (?) in the following series. (+1, -0.33)

BIN, CJO, DKP, ?

- a. LPN
- b. ELQ
- c. WVI
- d. SFY

66. As of October 2020, which was **NOT** a Maharatna? (+1, -0.33)

- a. National Thermal Power Corporation
- b. Steel Authority of India Limited
- c. Oil and Natural Gas Corporation
- d. Hindustan Aeronautics Limited

67. _____ is the first reserve forest of India. (+1, -0.33)

- a. Jim Corbett National Park
 - b. Ranthambore National Park
 - c. Satpura National Park
 - d. Gir National Park
-

68. The number of bones in an adult human body is: (+1, -0.33)

- a. 206
 - b. 156
 - c. 16
 - d. 296
-

69. In a certain code language- (+1, -0.33)

'123' means 'good to taste'

'456' means 'see you soon'

'789' mean 'be right back'

Which of the following numbers stands for 'be' in that language?

- a. 9
 - b. 1
 - c. 4
 - d. 7
-

70. The female Anopheles mosquito is a transmitter of: (+1, -0.33)
- a. malaria
 - b. dengue
 - c. cholera
 - d. typhoid
-

71. HCF of $2^4 \times 3^4 \times 5^3 \times 7^2$ and $2^2 \times 3^6 \times 5^5$ is: (+1, -0.33)
- a. $2^2 \times 3^4 \times 5^3$
 - b. $2^6 \times 3^{10} \times 5^8 \times 7^2$
 - c. $2^3 \times 3^5 \times 5^4 \times 7$
 - d. $2^2 \times 3^2 \times 5^3 \times 7^2$
-

72. According to question, who has the ultimate command of the Union Defense Forces? (+1, -0.33)
- a. Minister of Defense
 - b. President
 - c. Prime Minister
 - d. Chief of Army Staff
-

73. How much is the premium payable for the annual commercial/horticulture crops under the Pradhan Mantri Fasal Bima Yojana, as a percentage of the (+1, -0.33)

sum insured/actuarial rate?

- a. 6 percent
 - b. 1 percent
 - c. 5 percent
 - d. 7 percent
-

74. Rakhi goes 3 meters North then turns right and walks 4 meters, then again turns right and walks 2 meters, then a again turns right and walks 4 meters. How many meters is she from her original position? (+1, -0.33)

- a. 1
 - b. 2
 - c. On the starting point or 0
 - d. 4
-

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75. The largest number which divides 55, 72 and 123 leaving the remainders 3, 7 and 6 respectively is: (+1, -0.33)

- a. 117
 - b. 26
 - c. 13
 - d. 66
-

76. Sixteen men can complete a work in 24 days. Twenty four women can (+1, -0.33)

complete the same work in 32 days. Sixteen men and sixteen women together worked for twelve days, after which women dropped. How many more men are to be taken to complete the remaining work in 2 days?

- a. 32
- b. 24
- c. 48
- d. 64

77. In a 200 m race, Shruti runs at the speed of 4 km/h. Shruti gives a start of 18 m to Veena and still beats her by 30s. What is Veena's speed? (+1, -0.33)

- a. 4.36 km/h
- b. 3.12 km/h
- c. $\frac{7}{24}$ km/h
- d. $\frac{24}{7}$ km/h

78. As of October 2020, who is the current Secretary General of the UN? (+1, -0.33)

- a. Antonio Guterres
- b. Ban Ki Moon
- c. Boutros Boutros-Ghali
- d. Kofi Annan

79. _____ built the Taj Mahal Palace Hotel at Mumbai by integrating (+1, -0.33)

Indian and European styles.

- a. RD Tata
 - b. Ratan Tata
 - c. Jamsetji Tata
 - d. JRD Tata
-

80. The angles of elevation of the top of the tower from two points on the ground at a distance of 18 m and 32 m from the foot of a tower are complementary. The height of the tower is (+1, -0.33)

- a. 32 m
 - b. 20 m
 - c. 24 m
 - d. 36 m
-

81. Name the major river that flows through the Union Territory of Dadra and Nagar Haveli. (+1, -0.33)

- a. Pinjal
 - b. Narmada
 - c. Damanganga
 - d. Par
-

82. It is a joint venture between the big industrialists to establish a planned (+1, -0.33)

economy in the country after _____ independence.

- a. Madras Plan
 - b. Cole Plan
 - c. Delhi Plan
 - d. Bombay Plan
-

83. The salt satyagraha is notable for at least three reasons. Which of the following is not one of them? (+1, -0.33)

- a. the young population in India began to attend schools X4 was the first
 - b. It bought Mahatma Gandhi to the world's attention.
 - c. nationalist movement in which a large number of women participated.
 - d. The British had to realize that their monarchy would not last forever.
-

84. Which country is **NOT** a member of OPEC? (+1, -0.33)

- a. Venezuela
 - b. Algeria
 - c. Nigeria
 - d. Kenya
-

85. If the mode of the following data is 12, then find the value of k. (+1, -0.33)

11, 15, 8, 9, k, 11, 12, 12, 15, 14

- a. 12
- b. 15
- c. 13
- d. 11

86. The table given below gives data for wheat production (in lakh tonnes) for 5 states, from the year 2015 to 2019. Study the data given in the table and answer the question below it. (+1, -0.33)

Year	2015	2016	2017	2018	2019
State					
A	8	10	9	11	11
B	11	12	10	9	8
C	12	13	14	11	14
D	6	8	8	9	7
E	18	17	15	16	14

From 2015–2019, which state contributed the least to the total production of wheat?

- a. A
- b. C
- c. D
- d. B

87. The table given below gives data for wheat production (in lakh tonnes) for 5 states, from the year 2015 to 2019. Study the data given in the table and answer the question below it. (+1, -0.33)

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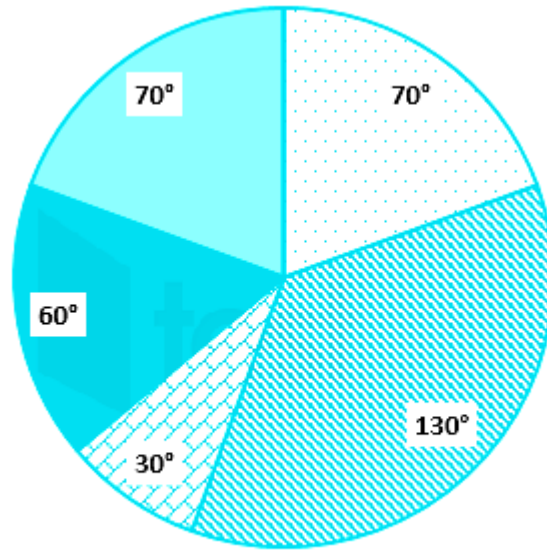
Year					
	2015	2016	2017	2018	2019
State					
A	8	10	9	11	11
B	11	12	10	9	8
C	12	13	14	11	14
D	6	8	8	9	7
E	18	17	15	16	14

In 2015, which state contributed close to $\frac{1}{3}$ rd of the total production of all the five states?

- a. A
- b. B
- c. E
- d. C

88. The following pie chart shows the population of a town.

(+1, -0.33)



Boys
 Girls
 Animals
 Female
 Male

If the total population of the town is 720000, then the number of animals in the town is:

- a. 30000
- b. 40000
- c. 60000
- d. 50000

89. The table given below gives data for wheat production (in lakh tonnes) for 5 states, from the year 2015 to 2019. Study the data given in the table and answer the question below it. (+1, -0.33)

Year					
	2015	2016	2017	2018	2019
State					
A	8	10	9	11	11
B	11	12	10	9	8
C	12	13	14	11	14
D	6	8	8	9	7
E	18	17	15	16	14

In which state was there a continuous and fixed increase in production, from the year 2015 to 2017?

- a. A
- b. D
- c. B
- d. C

90. Select the letter-cluster than can replace the question mark (?) in the following series. (+1, -0.33)

GPW, HQX, IRY, ?

- a. JSZ
 - b. THU
 - c. ERD
 - d. MNF
-

91. If A is equal to 1, V is equal to 22 and E is equal to 5, how would you spell 'VAGUELY'? (+1, -0.33)

- a. 22172151225
 - b. 21172151225
 - c. 21171215225
 - d. 22171215225
-

92. Select the number from among the given options that can replace the question mark (?) in the following series. (+1, -0.33)

4, 27, 256, ?

- a. 2315
 - b. 1235
 - c. 3125
 - d. 5321
-

93. What is the smallest number of birds that could fly in the formation described below, assuming that **each is counted only once** to fulfill all the conditions listed? (+1, -0.33)

Two birds in front of a bird, two birds behind a bird and a bird between two birds.

- a. 7
- b. 3
- c. 5
- d. 4

-
94. Select the pair of letter clusters from among the given options that has the same relationship as the one given below: (+1, -0.33)

BQZH : OGXI :: ?

- a. SQMN : UTWZ
- b. WHLK : RTID
- c. FLXR : YESM
- d. PNML : STWW

-
95. If AVERY is coded as 71 then AMANDA will be coded as _ _ _ _ _ (+1, -0.33)

- a. 54
- b. 43
- c. 64

d. 34

96. Select the number that can replace the question mark (?) in the following series. (+1, -0.33)

5, 12, 54, 306, ?

a. 1008

b. 1818

c. 2734

d. 2460

97. If RAHUL is coded as 60 then RAJESH will be coded as _____. (+1, -0.33)

a. 71

b. 61

c. 41

d. 51

98. Select the number that can the question mark (?) in the following series. (+1, -0.33)

3, 12, 48, 192, ?

a. 768

b. 687

c. 876

d. 786

99. Six persons are playing a card game. They are sitting in a circle facing the centre. S is facing R who is to the left of A and to the right of P. A is to the left of D and Y is to the left of P. (+1, -0.33)

If D exchanges his seat with Y and P exchanges his seat with R, who will be sitting to the left of D?

- a. Y
 - b. R
 - c. P
 - d. S
-

100. Arun walks 10 yards straight from his house which is facing north and then he walks 20 yards in the reverse direction. Further he takes a left turn and walks 10 yards. In which direction is Arun now from his original position? (+1, -0.33)

- a. South-east
- b. North-east
- c. South-west
- d. North-west

Answers

1. Answer: b

Explanation:

The logic followed here is:

1) P is taller than Q.

$$P > Q$$

2) R is taller than S.

$$R > S$$

3) S is taller than Q but shorter than P and P is shorter than R.

$$R > P > S > Q$$

Thus, R is the tallest in all.

Hence, the correct answer is "R".

Your Personal Exams Guide

2. Answer: a

Explanation:

Given:

Total amount = Rs. 48000

Ratio of Anil and Aditya = 11 : 13

Concept used:

Concept of ratio and proportion

Calculation:

According to the question,

$$\text{Share of Aditya} = 48000 \times 13/24$$

$$\Rightarrow \text{Rs. } 26000$$

\therefore The share of Aditya is Rs. 26000

3. Answer: c

Explanation:

Given:

$$\sin\theta - \cos\theta = 0$$

Concept used:

	0°	30°	45°	60°	90°
sin	0	1/2	1/√2	√3/2	1
cos	1	√3/2	1/√2	1/2	0
tan	0	1/√3	1	√3	∞
cosec	∞	2	√2	2/√3	1
sec	1	2/√3	√2	2	∞
cot	∞	√3	1	1/√3	0

Calculation:

$$\sin\theta - \cos\theta = 0$$

$$\Rightarrow \sin\theta = \cos\theta$$

$$\text{So, } \theta = 45^\circ$$

$$\sin 3\theta + 3\cos 3\theta$$

$$\Rightarrow (1/\sqrt{2})^3 + 3(1/\sqrt{2})^3$$

$$\Rightarrow 1/2\sqrt{2} + 3/2\sqrt{2}$$

$$\Rightarrow 4/2\sqrt{2}$$

$$\Rightarrow 2/\sqrt{2}$$

$$\Rightarrow \sqrt{2}$$

\therefore Required answer is $\sqrt{2}$

4. Answer: d

Explanation:

The correct answer is Karnataka.

- Bhadra Wildlife Sanctuary, a protected area and tiger reserve as part of Project Tiger, is located in Chikkamagaluru district, 23 km south of Bhadravati town, 38 km 20 km northwest of Tarikere town, north-west of Chikkamagaluru and Karnataka state.

★ Key Points

- Karnataka
 - Capital: Bangalore
 - National Parks: Anshi National Park, Bandipur National Park, Bannerghatta National Park, Kudremukh National Park, Nagarahole National Park.
 - State Animal: Asian elephant
 - State Bird: Indian roller
 - State Tree: Indian Sandalwood
 - State Flower: Lotus (Crape Jasmine)

★ Additional Information

State	Capital	State Animal
Kerala	Thiruvananthapuram	Elephant
Punjab	Chandigarh	Blackbuck
Bihar	Patna	Gaur

5. Answer: c

Explanation:

Given:

Amount = Rs. 26400

Time = 2 years

Rate = 5%

Formula used:

Amount = P + SI

$S.I = (P \times t \times r)/100$

P = Principal

t = Time

r = Rate of interest

Calculation:

$$P + (P \times 2 \times 5)/100 = 26400$$

$$\Rightarrow P + P/10 = 26400$$

$$\Rightarrow 11P/10 = 26400$$

$$\Rightarrow P = 26400 \times 10/11$$

$$\Rightarrow P = \text{Rs. } 24000$$

\therefore The sum is Rs. 24000

6. Answer: c

Explanation:

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The logic followed here is:



Hence, the correct answer is "J10U21".

7. Answer: c

Explanation:

The correct answer is Project Tiger.

★ Key Points

- Project Tiger was started in 1973 with 9 tiger reserves to conserve our national animal, the tiger.
 - Tiger sanctuaries have been set up on a core/buffer strategy. Core areas have the legal status of a national park or sanctuary, while buffer or peripheral areas are a mixture of forest and non-forest land, managed as multi-use areas.
 - It is a centrally sponsored scheme of the Ministry of Environment, Forest, and Climate Change that provides central assistance to tiger states for tiger conservation in designated tiger reserves.
 - The process of estimating the number of tigers in a given area is called 'Tiger Census'.
 - Every 4 years the National Tiger Conservation Authority (NTCA) conducts a tiger census across India.

★ Additional Information

Some of the Tiger Reserves are:

Name of Tiger Reserve	State
Namdapha	Arunachal Pradesh
Kamlang Tiger Reserve	Arunachal Pradesh
Pakke	Arunachal Pradesh
Manas	Assam
Nameri	Assam
Orang Tiger Reserve	Assam
Kaziranga	Assam
Valmiki	Bihar
Udanti-Sitanadi	Chattisgarh

8. Answer: d

Explanation:

The correct answer is Gopal Krishna Gokhale.

★ Key Points

Swadeshi Movement of 1905-07:

- The movement had its roots in the anti-partition movement, which was launched to protest Lord Curzon's decision to divide the province of Bengal.
- The anti-partition campaign was launched by the moderates to put pressure on the government to stop the unjust partition of Bengal from being implemented.
- The leaders of the Swadeshi movement advocated belligerent opposition to colonial rule, a group of "liberals" that preferred a more gradual and persuasive approach.

- The Swadeshi Movement of 1905-07 had greatly broadened its appeal among the middle class. Among the moderate leaders were Gandhi's recognized political mentor, Gopal Krishna Gokhale, as well as Muhammad Ali Jinnah who, like Gandhi, was a London-trained advocate of Gujarati extraction. On Gokhale's advice, Gandhi spent a year travelling to British India, getting to know the land and its people.

★ Important Points

Gopal Krishna Gokhale:

- Gopal Krishna Gokhale was a great social reformer and educationist.
- In 1905, he became the President of the Congress in the Banaras session.
- He founded the Servants of India Society in 1905 for the expansion of Indian education.

★ Additional Information

Bal Gangadhar Tilak

- He was an Indian nationalist, the independent activist who fought for India's independence.
- The Britishers called him "the father of the Indian unrest".
- Mahatma Gandhi called him "The Maker of Modern India".

Bipin Chandra Pal

- He was an Indian nationalist, social reformer, freedom fighter.
- He was one of the main architects of the Swadeshi Movement along with Sri Aurobindo

Lala Lajpat Rai

- He was an Indian nationalist, social reformer, freedom fighter.
- He was popularly known as Punjab Kesari.
- He was also associated with the foundation of the Punjab National Bank in 1894.

9. Answer: d

Explanation:

Given:

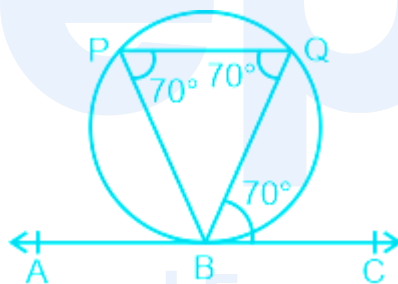
$$\angle QBC = 70^\circ$$

$$PQ \parallel AC$$

Concept used:

The alternate segment theorem (also known as the tangent-chord theorem) states that in any circle, the angle between a chord and a tangent through one of the end points of the chord is equal to the angle in the alternate segment.

Calculation:



$$\angle QBC = \angle BQP [\because PQ \parallel AC]$$

With the help of alternative segment theorem

$$\angle BPQ = \angle QBC$$

So,

$$\angle BQP \text{ and } \angle BPQ = 70^\circ$$

$$\text{So } \angle PBQ = 180 - 140$$

$$\Rightarrow 40^\circ$$

$$\therefore \angle PBQ \text{ is } 40^\circ$$

10. Answer: b

Explanation:

Given:

$$\text{Time} = 1\frac{1}{2} \text{ years}$$

$$\text{Rate} = 10\%$$

Formula used:

$$SI = (P \times t \times r)/100$$

$$CI = P(1 + (r/2)/100)^{2n} - P \text{ [When CI calculating in semi annually]}$$

Calculation:

Let Principal be Rs. $8000x$

$$\text{So SI} = (8000x \times 3 \times 10)/200$$

$$\Rightarrow 1200x$$

$$\text{So CI} = 8000x(1 + 10/200)^3 - 8000x$$

$$\Rightarrow 8000x \times 9261/8000 - 8000x$$

$$\Rightarrow 9261x - 8000x$$

$$\Rightarrow 1261x$$

$$\text{Difference} = 1261x - 1200x = 61x$$

$$61x = 305$$

$$\Rightarrow x = 5$$

So Principal = Rs. 40000

★ Alternate Method

∴ The sum of money is Rs. 40000
 $5\% = 1/20$ Let P = 8000

$$8000 \times 1/20 = 400$$

1st → 400

$$2\text{nd} \rightarrow 400 + 20 [400 \times 1/20]$$

$$3\text{rd} \rightarrow 400 + 40 [800 \times 1/20] + 1 [20 \times 1/20]$$

$$\text{So, difference} = 20 + 40 + 1 = 61$$

$$\text{Here } 61 = 305$$

$$1 = 5$$

$$8000 = 40000$$

11. **Answer: c**

Explanation:

Given:

Total quantity = 1.5 kg

No. of boys = 10

Concept used:

Average = Total of elements/No. of elements

Calculation:

$$1.5 \text{ kg} = 1500 \text{ g}$$

$$\text{So Each boys} = 1500/10 = 150 \text{ g}$$

∴ 150g cake will each boy get.

12. Answer: c

Explanation:

The correct answer is Matter.

- Everything in this **universe** is made up of the following materials. Scientists name it **matter** .

★ Key Points

- The **universe** is a collection of billions and **trillions** of stars and **galaxies** , along with **planets, asteroids, comets** and **clouds of dust** , and several **gases** all swirling in **space** .
- Everything in this **universe** is made up of **material** which is called **matter**. A matter is referred to as a substance that has a certain mass and takes up a certain **volume in space** .
 - **For example** , we **human beings** are **matter** as well as a **pencil or a vehicle** is also a **matter** . So the matter is both a **living and a non-living thing** .
- The **matter** is composed of **atomic and subatomic** things (electron, proton, and neutron). Matter does not include **mass-less objects** like **light, photons, and sound**.
- **Matter exists** in different phases. The most common are **solid, liquid, and gaseous** phases .

★ Additional Information

13. Answer: b

Explanation:

The correct answer is Alaska.

★ Key Points

- Alaska is a state in the western United States located at the northwestern end of North America.
 - The purchase of Alaska in 1867 marked the end of Russian efforts to expand trade and settlements along the Pacific coast of North America and became a significant step in the rise of the United States as a great power in the Asia-Pacific region.
 - Beginning in 1725, when Russian Czar Peter the Great sent Vitus Bering to explore the Alaskan coast, Russia had a keen interest in the region, which was rich in natural resources and lightly inhabited.
 - Russia offered to sell Alaska to the United States in 1859, believing that the United States would harbor the design of Russia's biggest rival in the Pacific, Great Britain.
 - Alaska became the gateway to the **Klondike Goldfields**.
 - The strategic importance of Alaska was eventually recognized in World War II. Alaska became a state on January 3, 1959.

14. Answer: b Your Personal Exams Guide

Explanation:

Given:

$$0.83 + 44.4 + 4.44 + 4.604 + 43$$

Concept used:

$$a.bc \times 100 = abc$$

Calculation:

$$0.83 + 44.4 + 4.44 + 4.604 + 43$$

$$\Rightarrow 0.830 + 44.400 + 4.440 + 4.604 + 43.000$$

$$\Rightarrow 0.830 + 4.440 + 4.604 + 44.400 + 43.000$$

$$\Rightarrow 9.874 + 87.400$$

$$\Rightarrow 97.274$$

\therefore Required answer is 97.274

15. Answer: a

Explanation:

The correct answer is Shri Guru Arjan Dev Ji.

★ Key Points

- Shri Guru Arjan Dev ji
 - Guru Arjan was the first of the two Gurus martyred in the Sikh faith and the fifth of the ten total Sikh Gurus.
 - He compiled the first official edition of the Sikh scripture called the Adi Granth, which later expanded into the Guru Granth Sahib.
 - He completed the construction of Darbar Sahib at Amritsar after the fourth Sikh Guru founded the town and built a pool.
 - Guru Arjan compiled the hymns of previous Gurus and of other saints into Adi Granth, the first edition of the Sikh scripture, and installed it in the Harimandir Sahib.

★ Additional Information

- Shri Guru Tegh Bahadur ji
 - He was the ninth of the ten Gurus who founded Sikhism.
 - He was executed under the orders of Aurangzeb.
 - He was a learned spiritual scholar and a poet, whose 115 hymns are included in the Sri Guru Granth Sahib, the main text of Sikhism.

- **Shri Guru Har Rai Ji**
 - He revered as the seventh Nanak, was the seventh of ten Gurus of the Sikh religion.
 - He became the Sikh leader at age 14, on 3 March 1644, after the death of his grandfather and the sixth Sikh leader Guru Hargobind.
- **Shri Guru Har Govind Ji**
 - He was revered as the sixth Nanak.
 - He was the sixth of ten Gurus of the Sikh religion.
 - He had become Guru at the young age of eleven, after the execution of his father.

16. Answer: d

Explanation:

The correct answer is Atal Bihari Vajpayee.

- The Red Line, the first line of the Delhi Metro, was inaugurated on 24 December 2002 by the then Prime Minister of India, Atal Bihari Vajpayee.
 - The Delhi Metro became the second underground rapid transit system in India after the Kolkata Metro, when the Vishwa Vidyalyaya–Kashmere Gate section of the Yellow Line was opened on 20 December 2004.
 - Vajpayee and other guests boarded the train from Kashmere Gate and got down at Seelampuri station.

★ Key Points

- Delhi Metro
 - The Delhi Metro is a mass rapid transit system serving Delhi and its satellite cities.
 - It is by far the largest and busiest metro rail system in India and the second oldest after the Kolkata Metro.
 - The network consists of 10 color-coded lines serving 254 stations with a total length of 348.12 Km.

- Delhi Metro also interchanges with the Rapid Metro Gurgaon and Noida Metro.
- The Red Line was the first line of the Metro to be opened and connects Rithala in the west to Shaheed Sthal in the east, covering a distance of 34.69 km.
- **Atal Bihari Vajpayee**
 - He served three terms as the Prime Minister of India.
 - He was a member of the Rashtriya Swayamsevak Sangh, a Hindu nationalist volunteer organization.

★ **Additional Information**

- **E Sreedharan**
 - He is an Indian engineer and politician from the Indian state of Kerala.
 - He is credited with changing the face of public transport in India with his leadership in building the Konkan Railway and the Delhi Metro.
 - He served as the Managing Director of Delhi Metro Rail Corporation between 1995 and 2012.
 - He is a member of the Mata Vaishno Devi Shrine Board.

17. **Answer: b** Your Personal Exams Guide

Explanation:

The logic followed here is:-

We multiply by 2 in the first column and first-row number then we get the second column and first-row number, then we multiply by 2 in the second column and first-row number then we get the third column and first-row number, and then we multiply by 2 in the third column and first-row number then we get the fourth column and first-row number, which is given below:-

Column 1 → 6, 12, 24, 48

$$6 \xrightarrow{\times 2} 12 \xrightarrow{\times 2} 24 \xrightarrow{\times 2} 48$$

Column 2 → 4, 8, 16, 32

$$4 \xrightarrow{\times 2} 8 \xrightarrow{\times 2} 16 \xrightarrow{\times 2} 32$$

Similarly,

Column 3 → 3, ?, 12, 24

$$3 \xrightarrow{\times 2} \boxed{6} \xrightarrow{\times 2} 12 \xrightarrow{\times 2} 24$$

So, the final matrix is:-

6	4	3
12	8	6
24	16	12
48	32	24

Hence, "option 2" is the correct answer.

18. Answer: d

Explanation:

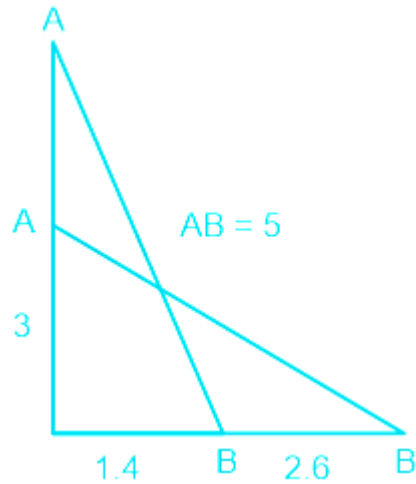
Given:

Length of ladder = 5 m

Concept used:

Pythagoras theorem

Calculation:



According to the question,

$$\text{Distance from the wall to the foot of the ladder} = \sqrt{5^2 - 3^2}$$

$$\Rightarrow 4 \text{ m}$$

$$\text{Now it become } 4 - 2.6 = 1.4 \text{ m}$$

$$\text{So height} = \sqrt{5^2 - 1.4^2}$$

$$\Rightarrow \sqrt{25 - 1.96}$$

$$\Rightarrow \sqrt{23.04}$$

$$\Rightarrow 4.8$$

So ladder slide upwards by $4.8 - 3 = 1.8 \text{ m}$

\therefore Ladder slides upwards on the wall is 1.8 m

19. Answer: b

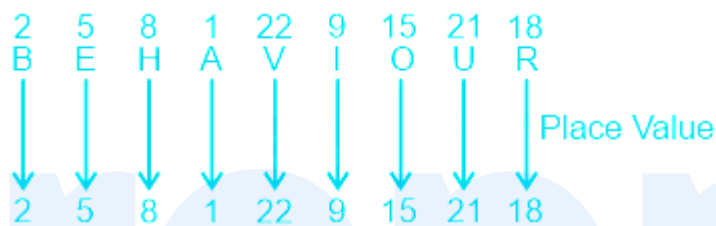
Explanation:

The alphabet template is given below:-

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The logic followed here is:-

If B is equal to 2, V is equal to 22 and R is equal to 18 that means we put the place value of letter, which is given below:-



Hence, "option 2" is the correct answer.

20. Answer: c

Explanation:

The pattern followed here is:

From the statement, we want to reach on time, so we want to travel as fast as we can and we mention that go by airplane to reach Bengaluru from Mumbai quickly.

Thus, we can assume that Bengaluru and Mumbai are connected by airplane service.

Assumption I is implicit.

We can go from Bengaluru to Mumbai in another way also, so we cannot say anything about assumption 2.

Assumption II is not implicit.

So, only 1 is implicit.

Hence, "option 3" is the correct answer.

★ Additional Information

- If there are two or more sentences that are used to frame a statement, then, **the sentences must be interrelated, and mutual contradiction should be there.**
- Do not look for truthful notions. The information provided in the statement is the only requirement for a student to answer the question. No assumptions must be made.
- Read the statement carefully and **look for keywords that are common between the statement and the conclusions**
- If there is more than one conclusion that is applicable to the statement, students must ensure that the conclusions they opt for have some relation with each other.

21. Answer: a

Explanation:

The correct answer is Gujarat.

★ Key Points

- The White Revolution was started in 1970.
 - It was an initiative of the National Dairy Development Board (NDDB) of India and was the largest dairy development program in the world.
 - This is known as Operation Flood.
 - It transformed India from a milk deficient country to the largest milk producer in the world.
 - Operation Flood was based on the experimental pattern established by Verghese Kurien.
 - The Amul-Anand Milk Union Limited Gujarat-based collaboration was the engine that drove the success of the Operation Flood program.

★ Additional Information

- Gujarat

- Capital: Gandhinagar
 - National Parks: Vansda National Park, Blackbuck National Park, Gir National Park, Marine National Park.
 - State Animal: Asiatic Lion
 - State Bird: Greater Flamingo
 - State Tree: Disputed Various official websites disagree on state tree.
 - State Flower: Marigold
-

22. Answer: a

Explanation:

The logic followed here is:

Given that:-

In a row of girls, Mahua is 7th from one extreme end.

In a row of girls, Mahua is 11th from other extreme ends.

Total number of girls in the row = Mahua position from one end + Mahua position from other end - 1 (Because Mahua added two times.)

Total number of girls in the row = $7 + 11 - 1 = 18 - 1 = 17$.

Hence, "option 1" is the correct answer.

23. Answer: c

Explanation:

Given:

$$1800 \div 10 \times \{45 \div (17 - 2)\} \times 2 + \{-2(1 + 2)\}$$

Concept used:

B	Brackets in order {}, {}, []	ब्रैकेट {}, {}, [] क्रम में
O	of	का
D	Division (÷)	विभाजन (÷)
M	Multiplication (×)	गुणा (×)
A	Addition (+)	जोड़ (+)
S	Subtraction (-)	घटाव (-)

Calculation:

$$1800 \div 10 \times \{45 \div (17 - 2)\} \times 2 + \{-2(1 + 2)\}$$

$$\Rightarrow 180 \times \{45 \div 15\} \times 2 + \{-2 \times 3\}$$

$$\Rightarrow 180 \times 3 \times 2 - 6$$

$$\Rightarrow 1080 - 6$$

$$\Rightarrow 1074$$

∴ Required answer is 1074

24. Answer: d

Explanation:

The correct answer is Anthracite.

- Anthracite is the best quality of coal with the highest calorific value and has a carbon content of 80 to 95%.
 - It ignites slowly with a blue flame and is found in small quantities in Jammu and Kashmir.

- It is a very low volatile substance.
- This is a negligible ratio of moisture.
- Semi-metallic luster.

★ Key Points

- The rank of coal is based on the amount of the plant converted into carbon. Based on this four types of coal are generated:-
 - Anthracite
 - Bituminous
 - Lignite
 - Peat

★ Additional Information

- **Bituminous**
 - It is soft coal; the most widely available and used coal.
 - Derives its name after a liquid called bitumen.
 - Contains 40 to 80 % Carbon.
 - Moisture and volatile content.
- **Lignite**
 - It is a Brown Coal.
 - Lower-grade coal.
 - Contains 40 to 55% carbon.
 - Dark to black-brown.
 - It undergoes Spontaneous combustion.
- **Peat**
 - The first stage of transformation.
 - Contains less than 40 to 55% carbon.
 - Contains sufficient volatile matter and a lot of moisture.
 - It burns like wood, gives less heat, emits more smoke and leaves a lot of ash.

25. Answer: d

Explanation:

Given:

$$12 \div (3 \times 2) + 8 \times 4 - 4$$

Concept used:

B	Brackets in order (), {}, []	ब्रैकेट (), {}, [] क्रम में
O	of	का
D	Division (÷)	विभाजन (÷)
M	Multiplication (×)	गुणा (×)
A	Addition (+)	जोड़ (+)
S	Subtraction (-)	घटाव (-)

Calculation:

$$12 \div (3 \times 2) + 8 \times 4 - 4$$

$$\Rightarrow 12 \div 6 + 8 \times 4 - 4$$

$$\Rightarrow 2 + 8 \times 4 - 4$$

$$\Rightarrow 2 + 32 - 4$$

$$\Rightarrow 30$$

∴ Required answer is 30

26. Answer: d

Explanation:

The logic followed here is:-

Square root of first number and add 1 then cube of that number we get second number.

Similarly, for third and fourth number.

$$4 \rightarrow \sqrt{4} = 2 + 1 = 3^3 = 27$$

$$25 \rightarrow \sqrt{25} = 5 + 1 = 6^3 = \boxed{216}$$

Hence, "option 4" is the correct answer.

27. Answer: a

Explanation:

The correct answer is Arundhati Roy.

★ Key Points

- The God of Small Things is a novel written by Indian writer Arundhati Roy.
 - Arundhati Roy was awarded Man Booker Prize for fiction in 1997 for her novel The God of Small Things.
 - Her notable works include The God of Small Things, The Ministry of Utmost Happiness, Kashmir: the case of freedom, Azadi: Freedom Fascism, Fiction.

★ Additional Information

- Chetan Bhagat
 - In 2010, he was included in Time magazine's list of the world's 100 most influential people.
 - **His notable works:** Five Point Someone, 2 States, The 3 Mistakes of My Life, Half Girlfriend.
- Kiran Desai

- In 2006, she was awarded the Man Booker Prize for her novel *The Inheritance of Loss*.
- In 2015, *The Economic Times* listed her as one of the 20 most influential global Indian women.
- **Her notable works:** *The Inheritance of Loss*, *Hullabaloo in the Guava Orchard*.
- **Salman Rushdie**
 - He is an Indian-born British-American novelist and essayist.
 - His work, combining magical realism with historical fiction, is primarily concerned with the many connections, disruptions, and migrations between Eastern and Western civilizations, with much of his fiction being set on the Indian subcontinent.
 - His second novel, *Midnight's Children* (1981), won the Booker Prize in 1981.

28. Answer: c

Explanation:

According to the question,

$$10y + x + 9 = 3(10x + y)$$

$$\Rightarrow 10y + x + 9 = 30x + 3y$$

$$\Rightarrow 29x - 7y = 9 \quad \text{-----(i)}$$

$$29x - 7y = x + y$$

$$\Rightarrow 28x = 8y$$

$$\Rightarrow x \text{ and } y = 2 \text{ and } 7$$

So, the number is $20 + 7 = 27$

∴ The number is 27

29. Answer: d

Explanation:

Given:

Total passenger at the beginning = 450

Concept used:

Final = Initial + inclusion or - exclusion

Calculation:

Passenger after 1st stop = $450 \times \frac{8}{9} + 20$

⇒ 420

Passenger after 2nd stop = $420 \times \frac{5}{6} + 19$

⇒ 369

∴ 369 passenger were there when train arrived at the third stop.

Your Personal Exams Guide

30. Answer: d

Explanation:

Given:

Base = 12 cm

Concept used:

$$p^2 + b^2 = h^2$$

Calculation:

Let height be x cm

So, hypotenous is $(x + 6)$ cm

$$(x + 6)^2 - x^2 = 144$$

$$\Rightarrow x^2 + 36 + 12x - x^2 = 144$$

$$\Rightarrow 12x = 108$$

$$\Rightarrow x = 9$$

$$\Rightarrow \text{height} = 9 \text{ cm}$$

So, hypotenous is 15 cm

$$\text{Perimeter} = 9 + 12 + 15$$

$$\Rightarrow 36 \text{ cm}$$

\therefore The perimeter of the triangle is 36 cm

31. Answer: b

Explanation:

The correct answer is Novak Djokovic.

- As of October 2020, Novak Djokovic was the number one player on the ATP rankings with 11,740 points.

★ Key Points

- **Novak Djokovic**
 - He is a Serbian professional tennis player.
 - As of October 2020, Novak Djokovic was the number one player on the ATP rankings with 11,740 points.
 - He has won a joint record of 20 Grand Slam men's singles titles, including a record of nine Australian Open titles.
 - He has won 86 ATP singles titles, including a record 37 Masters events.

★ Additional Information

- **Alexander Zverev**
 - He is a German professional tennis player.
 - He has been ranked by the Association of Tennis Professionals as high as world No 3.
 - He has won 19 ATP titles in singles and two in doubles.
- **Roger Federer**
 - He is a Swiss professional tennis player.
 - He has won 20 Grand Slam men's singles titles.
- **Rafael Nadal**
 - He is a Spanish professional tennis player.

32. Answer: d

Explanation:

Given:

$$2x^4 - 7x^3 + x + k = 0$$

Concept used:

if $(ax - b)$ is a factor of a certain equation then

$$x = b/a$$

Calculation:

$$\text{If } (2x - 1) = 0,$$

$$x = 1/2$$

If $(2x - 1)$ is a factor of $p(x)$ then $p(1/2) = 0$

$$p(x) = 2x^4 - 7x^3 + x + k$$

$$\Rightarrow p(1/2) = 2 \times 1/16 - 7 \times 1/8 + 1/2 + k = 0$$

$$\Rightarrow 1/8 - 7/8 + 1/2 + k = 0$$

$$\Rightarrow (1 - 7 + 4)/8 + k = 0$$

$$\Rightarrow -2/8 + k = 0$$

$$\Rightarrow -1/4 + k = 0$$

$$\Rightarrow k = 1/4$$

\therefore Value of k is 1/4

33. Answer: a

Explanation:

The correct answer is Bekal Fort.

★ Key Points

- **Bekal Fort** was built by Shivappa Nayaka of Keladi in 1650 AD, at Bekal.
 - It is the largest fort in Kerala, spreading over 40 acres.
 - The fort appears to emerge from the sea.
 - India declared Bekal Fort a special tourism area in 1992.

★ Additional Information

- **Meenakshi Amman temple**
 - It is a historic Hindu temple located on the southern bank of the Vaigai River, Tamil Nadu.
 - It is dedicated to the goddess Meenakshi, a form of Paravati, and her consort, Sundareshwar a form of Shiva.
- **Valluvar Kottam**
 - It is a monument in Chennai.
 - It is dedicated to the classical Tamil poet-philosopher Valluvar.

- It is the city's biggest Tamil cultural center.
- **Padmanabhapuram Palace**
 - Padmanabhapuram Palace is a Travancore-era palace located in Padmanabhapuram in the Kanyakumari district of the Indian state of Tamil Nadu.
 - It is possible it is the oldest palace in India.

34. Answer: c

Explanation:

The correct answer is Maharashtra.

★ Key Points

- Indian Giant Squirrel (Shekaru in Marathi) is the state animal of the state of Maharashtra in western India.
 - The Indian giant squirrel is a multi-colored tree squirrel species endemic to forests and woodlands in India.
 - It is a diurnal, arboreal, and mainly herbivorous squirrel.

★ Important Points

- Maharashtra
 - Capital: Mumbai
 - National Parks: Chandoli National Park, Gugamal National Park, Nawegaon National Park, Sanjay Gandhi National Park, Tadoba National Park.
 - State Animal: Indian giant squirrel
 - State Bird: Yellow-footed green pigeon
 - State Tree: Mangifera Indica
 - State Flower: Pride of India/Jarul

★ Additional Information

State	Capital	State Animal
Goa	Panaji	Gaur
Himachal Pradesh	Shimla	Snow leopard
Haryana	Chandigarh	Blackbuck

35. Answer: a

Explanation:

The correct answer is Chauri Chaura.

★ Key Points

- On 1 August 1920, Gandhi started the non-cooperation movement against the government.
 - Chauri Chaura incident took place in Gorakhpur district of United Provinces in British India.
 - This includes using indigenous and boycotting foreign goods, especially machine-made clothing, and legal, educational and administrative institutions, "refusing to assist a ruler who misrules".
 - During this incident, a large group of protesters participating in the non-cooperation movement clashed with the police, who opened fire.
 - In retaliation, a police station was attacked and set on fire, killing all its men.
 - In response, Mahatma Gandhi, who was strongly against violence, stopped the non-cooperation movement at the national level on 12 February 1922 as a direct result of this incident.

★ Additional Information

- **Rowlatt Act**
 - The Rowlatt Act was passed by the Central Legislative Council in March 1919 to control the militant nationalist struggles and curtail the liberties of the people.

- The Bill provided for speedy trial of offenses by a special court and there was no appeal.
- The provincial government was empowered to search any place and arrest a suspect without a warrant. These gave the government unbridled powers to arrest suspects without trial and imprison them for a maximum of two years.
- This created a wave of anger among all sections and spread the nationwide movement by Gandhiji and laid the foundation of the non-cooperation movement. Gandhiji organized a Satyagraha on 14 February 1919. Gandhi was arrested on 8 April 1919.
- **Quit India Movement**
 - The Quit India Movement is one of India's most important freedom struggle movements that led to the end of British rule in India.
 - On 8 August 1942, Mahatma Gandhi initiated the Quit India Movement or Bharat Chodo Aandolan from Bombay.
 - Gandhiji gave the slogan "Do or Die" in his speech at the Gowalia Tank Maidan now popularly known as August Kranti Maidan in Mumbai.
 - The slogan 'Quit India' was coined by Yusuf Meherally who was a socialist and also a trade unionist. He also served as Mayor of Mumbai. He also coined the slogan "Simon Go Back".
- **Khilafat Movement**
 - The Khilafat Movement was an agitation by Indian Muslims allied with Indian nationalism in the years following World War I.
 - Its purpose was to pressure the British government to preserve the authority of the Ottoman Sultan as Caliph of Islam following the breakup of the Ottoman Empire at the end of the war.

36. Answer: b

Explanation:

The correct answer is 1024.

- **Computer Storage is often measured in megabytes (MB) and gigabytes(GB):**

- 1 KB (Kilobytes) = 1024 bytes
- 1 Mb (Megabytes) = 1024 KB
- 1 GB (Gigabytes) = 1024 MB
- 1 TB (Terabytes) = 1024 GB

★ Key Points

- Generally, there are two types of Storage Devices
 - Primary Storage Devices such as RAM and ROM
 - Secondary Storage Devices such as Hard Drive, Floppy Disk.
-

37. Answer: b

Explanation:

The logic followed here is:-

Almirah is used for storing things.

Similarly,

The chair is used for sitting.

Hence, "option 2" is the correct answer.

★ Additional Information

- The bed is used for **laying down**.
 - The rack is used for **keeping items**.
 - The stool is used for **standing**.
-

38. Answer: d

Explanation:

Given:

Mean of 21 observations is 42

Mean of 1st 11 observations = 50

Mean of last 11 observations = 35

Concept used:

Average = Sum of elements / No. of elements

Calculation:

Total of 21 observation = 42×21

⇒ 882

Total of 1st 11 observation = 11×50

⇒ 550

Total of last 11 observation = 11×35

⇒ 385

Total = 935

So, 11th observation = $935 - 882$

⇒ 53

∴ The 11th observation will be 53

39. Answer: b

Explanation:

Given:

$$\text{Varun} = 3 \times \text{Sister}$$

Concept used:

$$x^2 - (\text{sum of roots})x + \text{product of roots} = 0$$

Calculation:

According to the question,

$$(V + 6) \times (S + 6) = 231$$

$$\Rightarrow (3S + 6)(S + 6) = 231$$

$$\Rightarrow 3S^2 + 18S + 6S + 36 = 231$$

$$\Rightarrow 3S^2 + 24S - 195 = 0$$

$$\Rightarrow S^2 + 8S - 65 = 0$$

$$\Rightarrow S^2 + 13S - 5S - 65 = 0$$

$$\Rightarrow S(S + 13) - 5(S + 13) = 0$$

$$\Rightarrow (S + 13)(S - 5) = 0$$

$$\Rightarrow S = -13, 5$$

Age cannot be in negative

So age of sister = 5 years

So, age of Varun is 15 years

\therefore Varun's present age is 15 years

40. Answer: b

Explanation:

Given:

A = 15% less than C

B = 32% less than C

Concept used:

If X is a% less than Y then $X = Y \times (100 - a)/100$

Calculation:

A = 17/20 of C

B = 17/25 of C

LCM of 20 and 25 is 100

So A = 85

B = 68

% = $(85 - 68)/85 \times 100$

$\Rightarrow 1/5 \times 100$

$\Rightarrow 20\%$

\therefore B is 20% less than A

41. Answer: c

Explanation:

Given:

$$\sqrt{56 + \sqrt{185 + 88\sqrt{\sqrt{36} + 19}}}$$

Concept used:

$$\sqrt{a^2} = a$$

Calculation:

$$\sqrt{56 + \sqrt{185 + 88\sqrt{\sqrt{36} + 19}}}$$

$$\Rightarrow \sqrt{56 + \sqrt{185 + 88\sqrt{6 + 19}}}$$

$$\Rightarrow \sqrt{56 + \sqrt{185 + 88\sqrt{25}}}$$

$$\Rightarrow \sqrt{56 + \sqrt{185 + 88 \times 5}}$$

$$\Rightarrow \sqrt{56 + \sqrt{185 + 440}}$$

$$\Rightarrow \sqrt{56 + \sqrt{625}}$$

$$\Rightarrow \sqrt{56 + 25}$$

$$\Rightarrow \sqrt{81}$$

$$\Rightarrow 9$$

∴ Required answer is 9

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42. Answer: a

Explanation:

The correct answer is Bindheshwari Prasad Mandal.

★ Key Points

- **Bindheshwari Prasad Mandal**
 - He was an Indian politician.
 - He chaired Mandal Commission which became a major political theme after 1990.

- He served as 7th Chief Minister of Bihar in the year 1968, but he had resigned after 30 days.
- He was also a parliamentarian who served as the chairman of the Second Backward Classes Commission.

★ Additional Information

- **Bondheswari Pathak**

- He is an Indian sociologist and social entrepreneur.
- He is the founder of Sulabh International, an Indian-based social service organization that works to promote human rights, environmental cleanliness, non-conventional sources of energy.
- He was awarded the Padma Bhushan, India's third-highest civilian award, in 1991.

- **Rajinder Sachar**

- He was an Indian layperson and former Chief Justice of the Delhi High Court.
- He was a member of the United Nations Sub-Commission on the Promotion and Protection of Human Rights.
- He also served as an advocate for the People's Union for Civil Liberties.
- He chaired the Sachar Committee constituted by the Government of India.

- **Daulat Singh Kothari**

- He was an Indian Scientist and educationist.
- He was president of the Indian Science Congress at its golden jubilee session in 1963.
- He was elected President of Indian National Science Academy in 1973.

43. Answer: d

Explanation:

Given:

1st tap fill in 4 days

2nd tap fill in 2 days

3rd tap fill in 12 hours

Concept used:

If a tap can fill a tank alone in x hours, then the efficiency (part of the work completed in one hour) = $1/x$

Calculation:

The efficiency of taps = $1/4, 1/2,$ and 2

One day work of all taps together = $1/4 + 1/2 + 2$

$\Rightarrow 11/4$

So three taps will take $4/11$ days to fill the tank

$4/11 \times 24 = 96/11$ h [We need to convert days into hours]

$\Rightarrow 8\frac{8}{11}$ h

\therefore It will take $8\frac{8}{11}$ hours to fill the pool using all three taps.

★ Shortcut Trick

Total efficiency = $1 + 2 + 8 = 11$

Time = $96/11 = 8\frac{8}{11}$ h

44. Answer: a

Explanation:

The correct answer is Kalpna Chawla.

★ Key Points

- **Kalpana Chawla**

- She was an American astronaut and engineer.
- **She was the first woman of Indian origin to go to space.**
- She first flew on Space Shuttle Columbia in 1997 as a mission specialist and primary robotic arm operator.
- She was one of the seven crew members who died in the Space Shuttle Columbia disaster.
- She is regarded as a national hero in India.
- She was posthumously awarded the Congressional Space Medal of Honor.

★ **Additional Information**

- **Shawna Pandya**

- She is a physician, Scientist–Astronaut candidate with Project PoSSUM, researcher, aquanaut, speaker, martial artist.
- She previously served as Commander during a 2020 tour at the Mars Desert Research station.
- She was named one of the Women's Executive Network's Top 100 Most Powerful Women in Canada in 2020.

- **Sunita Williams**

- She is an American astronaut and United States Navy officer.
- She formerly held the records for most spacewalks by a woman and most spacewalk time for a woman.
- She was assigned to the International Space Station as a member of Expedition 14 and Expedition 15.
- She served as a flight engineer on Expedition 32 and then commander of Expedition 33 in 2012.

45. Answer: a

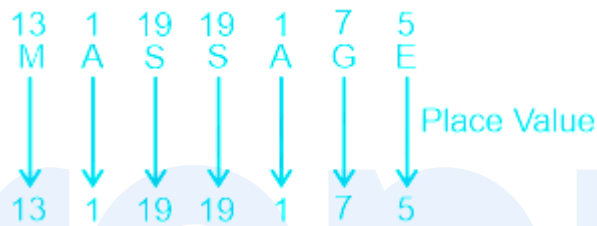
Explanation:

The alphabet template is given below:-

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The logic followed here is:-

If A is equal to 1, S is equal to 19 and G is equal to 7 that means we put the place value of the letter, which is given below:-



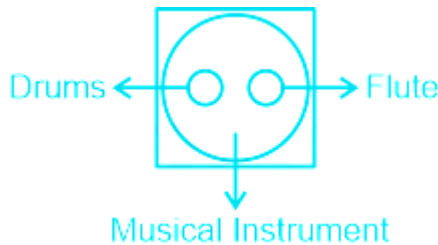
Hence, "option 1" is the correct answer.

46. Answer: c

Explanation:

Drums and flute both are musical instruments but no drums is flute.

The Venn diagram that best represents the relationship between Musical Instruments, Drums and Flute are given below:-



Hence, "option 3" is the correct answer.

★ Additional Information

- A **flute** is an aerophone or reed less wind instrument that produces its sound from the flow of air across an opening. According to the instrument classification of Hornbostel–Sachs, flutes are categorized as edge-blown aerophones.
- **Drums** are used to keep a steady beat in a song. They give music of many kinds a sense of feeling. For example, to make a song to be slow or fast, the drums play slower or faster. A drum is a percussion instrument, which means it makes a noise by being hit.

47. Answer: a

Explanation:

The correct answer is 2019.

★ Key Points

- Pulwama terror attack
 - The Pulwama attack took place on 14 February 2019, when a convoy of vehicles carrying Indian security personnel on the Jammu–Srinagar National Highway was attacked by a vehicle-borne suicide bomber at Lethpora in Pulwama district of the erstwhile state of Jammu and Kashmir.
 - 40 jawans of the Indian Central Reserve Police Force (CRPF) were killed in this attack.
 - The responsibility of the attack was claimed by Pakistan-based Islamic terrorist group Jaish-e-Mohammed.
 - This is the deadliest terror attack on India's state security personnel in Kashmir since 1989.
 - On 26 February, twelve Mirage 2000 jets of the Indian Air Force crossed the Line of Control and dropped bombs in Balakot, Pakistan.

48. Answer: c

Explanation:

Given:

$$SP = \text{Rs. } 1785$$

Concept used:

$$SP = CP \times (100 - \text{loss\%})/100$$

$$SP = CP \times (100 + \text{profit\%})/100$$

Calculation:

$$CP \text{ of the article} = 1785 \times 20/17$$

$$\Rightarrow \text{Rs. } 2100$$

$$SP \text{ should be } 2100 \times 23/20$$

$$\Rightarrow \text{Rs. } 2415$$

\therefore To gain 15% he should sell it at Rs. 2415

★ Additional Information

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49. Answer: a

Explanation:

The correct answer is Bahadur Shah Zafar.

★ Key Points

- Bahadur Shah Zafar
 - He was the last ruler of the Mughal Empire.
 - He led Delhi in the revolt of 1857.
 - He was more of a poet than a political leader or emperor.

- He was an accomplished Urdu poet and had good knowledge of Persian and Arabic as well.
- He was also a calligrapher and musician.

★ Additional Information

- Babur
 - He is the founder of the Mughal Empire.
 - He fought the first Battle of Panipat in 1526 with Ibrahim Lodhi and laid the foundation of the Mughal Empire.
 - His autobiography Tuzuk-i-Babri was written in the Turkish Language.
 - In 1527 his general Mir Baki built Babri Masjid.
 - He died in 1530.
- Humayun
 - He was the son of Babur.
 - He was a mathematician and astronomer.
 - His biography Humayunama was written by his sister Gulbadan Begum.
- Akbar
 - He was born in 1542 at Amarkot.
 - He fought the second battle of Panipat in 1556 with Hemu and he defeated Hemu.
 - He abolished the religious tax Jizya.
 - He founded a new religion "Din-i- Allahi".
 - His biography was written by Abul Fazal " Ain-i-Akbari".

50. Answer: b

Explanation:

Given:

$$\frac{(542+321)^2 - (542-321)^2}{542 \times 321}$$

Formula used:

$$(a + b)^2 = a^2 + b^2 + 2ab$$

$$(a - b)^2 = a^2 + b^2 - 2ab$$

Calculation:

$$\frac{(542+321)^2 - (542-321)^2}{542 \times 321}$$

$$\Rightarrow \frac{(542)^2 + (321)^2 + 2 \times 542 \times 321 - (542)^2 - (321)^2 + 2 \times 542 \times 321}{542 \times 321}$$

$$\Rightarrow (4 \times 542 \times 321) / 542 \times 321$$

$$\Rightarrow 4$$

∴ Required answer is 4

51. Answer: a

Explanation:

The correct answer is IBM.

- Video Graphics Array (VGA) is a system for displaying color graphics. It was developed by IBM.

★ Key Points

- **Video Graphics Array** is a display standard or video display controller was developed by International Business Machines (IBM) Corporation in the year 1987.
 - It uses analog signals which indicates its capacity to use a lower resolution and display lower quality on screens.
 - Its predecessor is Enhanced Graphic Adapter.
 - VGA was extended into many forms by third parties collectively known as super Video Graphics Array (successor of VGA).

★ Additional Information

- **International Business Machines (IBM) Corporation** is an American multinational technology corporation.
 - Its headquarters is Armonk, Newyork.
- **Macintosh** is a family of personal computers designed manufactured and sold by Apple.Inc from the year 1984.
 - Apple is an American multinational technology company that specializes in consumer electronics, computer software, and online services.
 - It was founded on April 1, 1976.
 - The headquarters is located in Cupertino, California, United States.
 - Steve Jobs, Steve Wozniak, Ronald Wayne are the founders of the company.
 - The current CEO of the company is Tim Cook.
- **Microsoft** is an American multinational technology corporation that produces computer software, consumer electronics, personal computers, and related services.
 - Bill Gates and Paul Alien are the founders of the company.
 - Its headquarters is Redmond, Washington, United States.
 - The current CEO of the company is Satya Nadella.

52. Answer: c

Explanation:

Given:

Radius $r_1 = 5$ cm

Radius $r_2 = 10$ cm

Formula used:

The surface area of a sphere = $4\pi r^2$

Calculation:

$$\text{Initial surface area (r}_1 = 5) = 4\pi r_1^2$$

$$\Rightarrow 4 \times 22/7 \times 25$$

$$\Rightarrow (2200/7) \text{ cm}^2$$

$$\text{New surface area (r}_2 = 10) = 4\pi r_2^2$$

$$\Rightarrow 4 \times 22/7 \times 10 \times 10$$

$$\Rightarrow (8800/7) \text{ cm}^2$$

$$\text{Ratio of surface area} = (2200/7) \text{ cm}^2 : (8800/7) \text{ cm}^2$$

$$\Rightarrow 1 : 4$$

\therefore Required ratio is 1 : 4

★ Shortcut Trick

Here radius are 5 and 10

We know for this type of question

Volume always in the ratio of square

$$\text{So, } 5^2 : 10^2$$

$$\Rightarrow 25 : 100$$

$$\Rightarrow 1 : 4$$

\therefore Required ratio is 1 : 4

53. Answer: a

Explanation:

The correct answer is Sukanya Samriddhi.

- A special bank account known as Sukanya Samridhi was launched as a part of the Beti Bachao Beti Padhao campaign.

★ Important Points

- **Beti Bachao Beti Padhao** is a campaign of the Government of India.
 - It was launched on **22 January 2015** with initial funding of 100 crores.
 - The campaign aims to create awareness and improve the efficiency of welfare services for girls in India.
 - It is a joint initiative by the Ministry of Child and Development, Ministry of Education, Ministry of Health, and Ministry of Family Welfare to address the issue of declining child sex ratio.
 - According to census data in India, the child sex ratio in India was 927 girls per 1000 boys in 2001 which decreased to 918 girls per 1000 boys in 2011.
 - Reason for the Initiative: Sex-selective abortion, female feticide.

54. Answer: b

Explanation:

The correct answer is GDP.

- A good indicator of economic growth is a steady increase in the GDP.

★ Key Points

- **GDP:** is the standard measure of the value-added created through the production of goods and services.
- **GST:** is an indirect tax used in India on the supply of Goods and Services
 - It is a destination-based tax.
 - It is imposed at every step in the production process which is meant to be refunded to all parties in various stages of final production other than the final consumer.
 - Petroleum products, electricity, and alcoholic drinks are exempted from GST.

55. Answer: d

Explanation:

The correct answer is immediately after the Second World War.

- The UN was founded as a successor to the League of Nations in 1945 immediately after the Second World War.

★ Key Points

- **The United Nations** is an intergovernmental organization whose purpose is to maintain international peace and security, to develop friendly relations between nations, to achieve international cooperation and to be the center of harmonious work of nations.
 - The United Nations Charter was signed on **26 June 1945** and the Charter came into force on **24 October 1945**.
 - Its headquarter is in **New York City**.
 - The United Nations was preceded by the League of Nations, which came into force on 10 January 1920.
 - The League of Nations suffered frequent failures in the Japanese invasion of Manchuria and the Second Italo-Ethiopian War.
 - To prevent future wars, the United Nations was established after World War II.
 - The organization's objectives include maintaining international peace and security, protecting human rights, providing humanitarian assistance, promoting sustainable development, and upholding international law.
 - **The initial membership of the United Nations was 51 member states, which increased to 193 member states (as of 2021)**.
 - Official languages: Arabic, Chinese, English, French, Russian, Spanish.
 - The current Secretary-General is Antonio Guterres.

★ Important Points

- **The United Nations has six principal organs namely**
 - The General Assembly.

- The Security Council.
- The Economic and Social Council (ECOSOC).
- The Trusteeship Council.
- International Court of Justice.
- The UN Secretariat.
- The United Nations system also includes a multitude of specialized agencies such as the World Bank Group, the World Health Organization, the World Food Programme, UNESCO, UNICEF.

56. Answer: b

Explanation:

Given:

Ratio of number = 3 : 2

Concept used:

Concept of ratio and proportion

Calculation: **Your Personal Exams Guide**

Let number are $3x$ and $2x$

According to the question,

$$(3x - 8)/(2x - 6) = 5/4$$

$$\Rightarrow 12x - 32 = 10x - 30$$

$$\Rightarrow 2x = 2$$

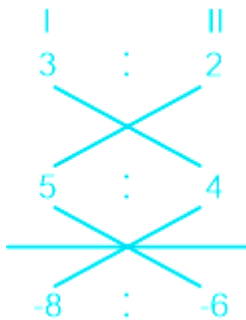
$$\Rightarrow x = 1$$

So, numbers are 3 and 2

\therefore The numbers are 3, 2

Cross product method

★ Shortcut Trick



$$12 - 10 = 2$$

$$30 - (-32) = 2$$

$$2 = 2$$

$$1 = 1$$

So, numbers are 3 and 2

57. Answer: a

Explanation:

Given:

SP of sofa = Rs. 23400

Discount % = 10%

Concept used:

Profit = SP - CP

$SP = MP \times (100 - \text{Discount\%})/100$

Calculation:

According to the question,

$$CP = 23400 \times 100/90 \times 100/130$$

⇒ Rs. 20000

$$\text{So, profit} = 23400 - 20000$$

⇒ Rs. 3400

∴ He earned Rs. 3400

58. Answer: b

Explanation:

The logic followed here is:

Kiwi is a fruit.

Similarly,

Z uchgini is a vegetable.

Hence, the correct answer is "**Vegetable**".

★ Confusion Points

While it is **often thought of and used as a vegetable**, zucchini is technically a fruit.

Zucchini, (Cucurbita pepo), also called courgette, variety of summer squash in the gourd family (Cucurbitaceae), grown for its edible fruits and the **young fruits are cooked as a vegetable**.

In cookery, it is a vegetable, usually cooked and eaten as a savory dish or accompaniment.

59. Answer: d

Explanation:

The correct answer is Pratibha Patil.

- The first woman to serve as the President of India was Pratibha Patil.

★ Key Points

- **Pratibha Devisingh Patil** is an Indian politician and lawyer.
 - She hails from Maharashtra.
 - She is the only woman president to hold the position.
 - Pratibha Patil served as the 12th President of India from 2007 to 2012.
 - She served as the Governor of Rajasthan from 2004 to 2007.

★ Important Points

- **Sucheta Kripalani** was an Indian freedom fighter and politician. She was India's first woman Chief Minister, serving as the head of Uttar Pradesh.
- **Sumitra Mahajan** is an Indian politician who was the Speaker of the Lok Sabha from 2014 to 2019. He belongs to Bharatiya Janata Party.
- **Rajkumari Amrit Kaur** was an Indian activist and politician. After a long association with the Indian independence movement, she was appointed India's first health minister in 1947 and held the position until 1957.

60. Answer: b

Explanation:

The logic followed here is:-

We add 7 in the first number and get second number, then we add 7 in second number we get third number and so on.



Hence, "option 2" is the correct answer.

61. Answer: a

Explanation:

The correct answer is Optical Character Recognition.

- OCR stands for Optical Character Recognition.

★ Key Points

- **Optical character recognition** is the electronic or mechanical conversion of images of typed, handwritten, or printed text into machine-encoded text, whether a photograph of a document from a scanned document, a visual photo, or an image with subtitle text applied to it.
 - It is widely used as a form of data entry from printed paper data records whether passport documents, invoices, bank statements, computerized receipts, business cards, mail, printouts of static data, or any suitable documentation.
 - It is a common method of digitizing printed texts so that they can be electronically edited, searched, stored more compactly, displayed on-line, and used in machine processes such as cognitive computing, machine translation, text to speech, key data, and text mining.
 - OCR is a field of research in pattern recognition, artificial intelligence, and computer vision.

★ Important Points

- **Applications**: Automatic Number Plate Recognition.
 - Data entry for business documents(Cheque,passport,invoice).
 - Passport recognition and information extraction.

- Traffic sign recognition.
- Automatic insurance documents.

62. Answer: c

Explanation:

The correct answer is Bharat Ratna.

- Pranab Mukherjee received Bharat Ratna in 2019.

★ Key Points

- **Pranab Kumar Mukherjee** was an Indian politician and statesman.
 - He served as the 13th President of India from 2012–2017.
 - He was preceded by Pratibha Patil and was succeeded by Ram Nath Govind.
 - He received Padma Vibhushan in the year 2008 and Bharat Ratna in the year 2019.
 - **Books:** Challenges Before the Nation: A Saga of Struggle and Sacrifice, Beyond Survival: Emerging Dimensions of the Indian Economy.

★ Additional Information

- **Bharat Ratna** is the highest civilian award of the Republic of India.
 - Established on 2 January 1954, the award is presented in recognition of "extraordinary service/performance of the highest order" without distinction of race, occupation, status or gender.

63. Answer: d

Explanation:

The correct answer is Geosynchronous Satellite Launch Vehicle.

- GSLV stands for Geosynchronous Satellite Launch Vehicle.

★ Key Points

- Geosynchronous Satellite Launch Vehicle is an expendable launch system operated by the Indian Space Research Organization.
 - The first stage comprises a solid booster with a propellant and four liquid strap-on motors.
 - The second stage is a liquid engine carrying liquid propellant.
 - The third stage is the indigenously built Cryogenic Upper Stage.

★ Important Points

- **PSLV vs GSLV**
 - GSLV can put a heavier payload in the orbit than Polar Satellite Launch Vehicle.
 - GSLV can carry weight up to 5000 kg and reach up to 36000 km.
 - PSLV can carry weight up to 2000 kg into space and reach up to the altitude of 600–900 km.

64. Answer: c

Explanation:

The correct answer is Mimosa pudica.

- Mimosa pudica is the scientific name of the 'Touch-Me-Not' plant.

★ Key Points

- **Pudica** is a Latin word that means shy.
 - It is also called tickle me plant, sensitive plant, shy plant, humble plant, sleeping plant.
 - It got the name touch-me-not as the green leaves of this tiny plant shut or shrink inwardly when someone touches them (even with a tender touch).

- **Characteristics** : The plant is native to central and South America.
 - The plant is not at all shade tolerant and is known for its fastest development.
 - They close during the nighttime and resume during light.
- **Uses** : Customary roots of the plant are utilized for treating snake bites, small pox, diarrhea, fever, ulcer, jaundice, leucoderma, hemorrhoids, fistula, asthma. sleep disorder, infections in the urinary tract.
 - The entire plant is used for operating stiffness, depression, muscle torment, cancer, elephantiasis.

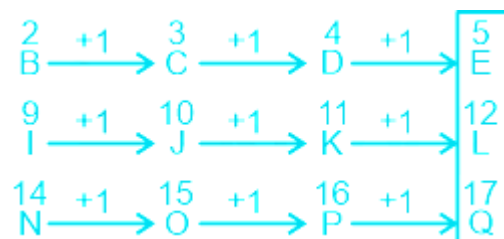
65. Answer: b

Explanation:

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The logic followed here is:-

We add 1 in each letter of word.



Hence, "option 2" is the correct answer.

66. Answer: d

Explanation:

Hindustan Aeronautics Limited was NOT a Maharatna as of October 2020.

★ Key Points

Central Public Sector Enterprises functions under the Government of India.

- The government of India categorizes all the CPSE s as Maharatna, Navaratna, Miniratna.
- As of the year 2021, there are 11 Maharatna's, 13 Navratna's, and 73 mini Ratna's.
- **Factors for categorization** : Turn over, Net worth, Net profit every year, and companies present in the stock exchange as per SEBI's rules.

★ Important Points

Maharatna's status was started in 2009.

- The investment ceiling of the company rises from 1000 crores to 5000 crores after the attainment of status.
- Maharatna firm has the permission to invest 15 % of the network in a project.
- **Conditions to acquire the status of Maharatna** : Company should have a turnover of more than 25000 crores for the last three years.
 - The company should have a net worth of more than 15000 crores for the last three years.
 - The company should have a net profit of more than 5000 crores for the last three years after paying tax.

★ Additional Information

List of Maharatna's :

- Bharat Heavy Electricals Limited.
- Bharat Petroleum Corporation Limited.
- Coal India Limited.
- Gas Authority of India Limited.
- Hindustan Petroleum Corporation Limited.
- Indian Oil Corporation Limited.

- National Thermal Corporation Limited.
- Oil and Natural Gas Corporation.
- Power Grid Corporation of India.
- Steel Authority of India Limited.
- Power Finance Corporation Limited.

67. Answer: c

Explanation:

The correct answer is Satpura National Park.

- Satpura National Park is the first reserve forest of India.

★ Key Points

- **Satpura National Park** is a wildlife habitat located on the border of Satpura in the Hoshangabad district of Madhya Pradesh.
 - It is surrounded by Bori and Pachmarhi Wildlife Sanctuaries.
 - It was first introduced by the popular bird watcher Dr. Salim Ali in the year 1981.
 - Terrain: Sandstone peaks, narrow valleys, ravines, and dense forests.
 - Fauna: Indian giant squirrel, porcupine, hornbill, peacock.
 - Flora: Sal, teak, tendu, Phyllanthus Emblica, medicinal plants.
 - The Denwa River is the main water source of the park.

★ Important Points

- **Jim Corbett National Park** is located in the Nainital district of Uttarakhand.
 - Also known as Hailey National Park, it is the oldest national park established in the year 1936.
 - The park includes the Patli Doon valley formed by the Ram Ganga river.
- **Ranthambore National Park** is located in Sawai Madhapur, Rajasthan.
 - It is bounded by the Banas River in the north and the Chambal River in the south.

- Gir National Park is a wildlife sanctuary in Gujarat, western India.

68. Answer: a

Explanation:

The correct answer is 206.

- The number of bones in an adult human body is 206.

★ Key Points

- The adult human skeleton is made up of 206 bones.
- These include the bones of the skull, spine, ribs, arms and legs.
- Bones are made of connective tissue reinforced by calcium and specialized bone cells.
 - Most bones contain bone marrow where blood cells are made.
 - **Femur** is the longest bone in the human body.
 - **Stapes** is the smallest bone found in the ear

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69. Answer: d

Explanation:

The logic followed here is:-

Each number and word coded on the same place, which is given below:-

1 2 3 → good to taste
4 5 6 → see you soon
7 8 9 → be right back

7 stands for 'be' in that language.

Hence, "option 4" is the correct answer.

70. Answer: a

Explanation:

The correct answer is **malaria**.

- The female Anopheles mosquito is a transmitter of malaria.

★ Key Points

- **Malaria** is an acute febrile disease caused by the Plasmodium parasite that is transmitted to people by the bite of a female Anopheles mosquito.
 - Plasmodium groups are single-celled microorganisms.
 - The disease is widespread in tropical and sub-tropical regions around the equator.

★ Additional Information

- **Dengue virus (DENV)** is the cause of dengue fever. It is a mosquito-borne, single positive-stranded RNA virus of the family Flaviviridae; genus Flavivirus.
- **Cholera** is an acute diarrhoeal infection caused by ingestion of food or water contaminated with the bacterium Vibrio cholerae.
- **Typhoid** is a bacterial infection that can lead to a high fever, diarrhea, and vomiting.
 - It can be fatal.
 - It is caused by the bacteria Salmonella typhi.

71. Answer: a

Explanation:

Given:

$$2^4 \times 3^4 \times 5^3 \times 7^2 \text{ and } 2^2 \times 3^6 \times 5^5$$

Concept used:

HCF by Prime Factorization Method

Calculation:

$$2^4 \times 3^4 \times 5^3 \times 7^2 \text{ and } 2^2 \times 3^6 \times 5^5$$

If we calculate the HCF of these two numbers

then we can see highest common factors are $2^2 \times 3^4 \times 5^3$

\therefore Required HCF is $2^2 \times 3^4 \times 5^3$

72. **Answer: b**

Explanation:

The correct answer is President.

- **President** has the ultimate command of the **Union Defense Forces**.
- **Ram Nath Kovind** is an **Indian politician** serving as the **14th and current president of India** since **2017**.

★ Key Points

- The Indian It consists of three professional uniformed services:
 - Indian Army
 - Indian Navy
 - Indian Air Force
- The Department of Defence Production of the Ministry of Defence is responsible for the indigenous production of equipment used by the **Indian Armed Forces**.
 - It comprises the **41 Indian Ordnance Factories** under the control of the **Ordnance Factories Board**, and **eight Defence PSUs** namely: **HAL, BEL, BEML,**

BDL, MDL, GSL, GRSE and Midhani .

★ Additional Information

• Article 53 in The Constitution of India:

- The executive power of the Union shall be vested in the President and shall be exercised by him either directly or through officers subordinate to him under this Constitution.
- Without prejudice to the generality of the foregoing provision, the supreme command of the Defence Forces of the Union Shall be vested in the President and the exercise thereof shall be regulated by law. Hence, Option 2 is correct.
- Nothing in this article shall.
- Be deemed to transfer to the President any functions conferred by any existing law on the Government of any State or other authority; or
- Prevent Parliament from conferring by law functions on authorities other than the President.
- President is the supreme commander of the Indian Armed forces. This is the military power vested in him.
- The President can declare war or conclude peace on the advice of the Union Council of Ministers headed by the Prime Minister.
- All important treaties and contracts are made in the President's name.
- He appoints chiefs of all branches of armed forces.

★ Important Points

Force	Chief
Indian Army	Gen. Manoj Pande
Indian Navy	Admiral R. Hari Kumar
Indian Air Force	Chief Marshal Vivek Ram Chaudhari

73. Answer: c

Explanation:

The correct answer is 5 percent.

- The premium payable for the annual commercial/horticulture crops under the Pradhan Mantri Fasal Bima Yojana, as a percentage of the sum insured/actuarial rate, is 5 percent.

★ Key Points

- **Pradhan Mantri Fasal Bima Yojana** was launched on **18 February 2016**.
 - This scheme replaced the two earlier schemes, namely the Rashtriya Krishi Bima Yojana and the Revised National Agricultural Insurance Scheme.
 - It provides insurance against failure of crops due to non-preventable risks like cyclones, typhoons, hurricanes, tornados, landslides, drought, dry season, pests, and diseases which stabilizes the income of the farmers.
 - **Implementing Agencies:** Listed General Insurance Companies which are done by the State Government through bidding, Department of Agriculture Cooperation and Farmers Welfare, Ministry of Agriculture Cooperation and Farmers Welfare.
 - **Coverage of crops:** Food and oilseed crops, commercial and horticultural crops.
 - **Applicable:** The scheme is applicable for farmers availing crop loan/KCC account for notified crops and voluntarily for others.
 - **Premium:** Farmers will have to pay 2% on all Kharif crops, 1.5% on Rabi crops, 5% on commercial and horticultural crops.
 - **Note:** There is no upper limit for government subsidy.

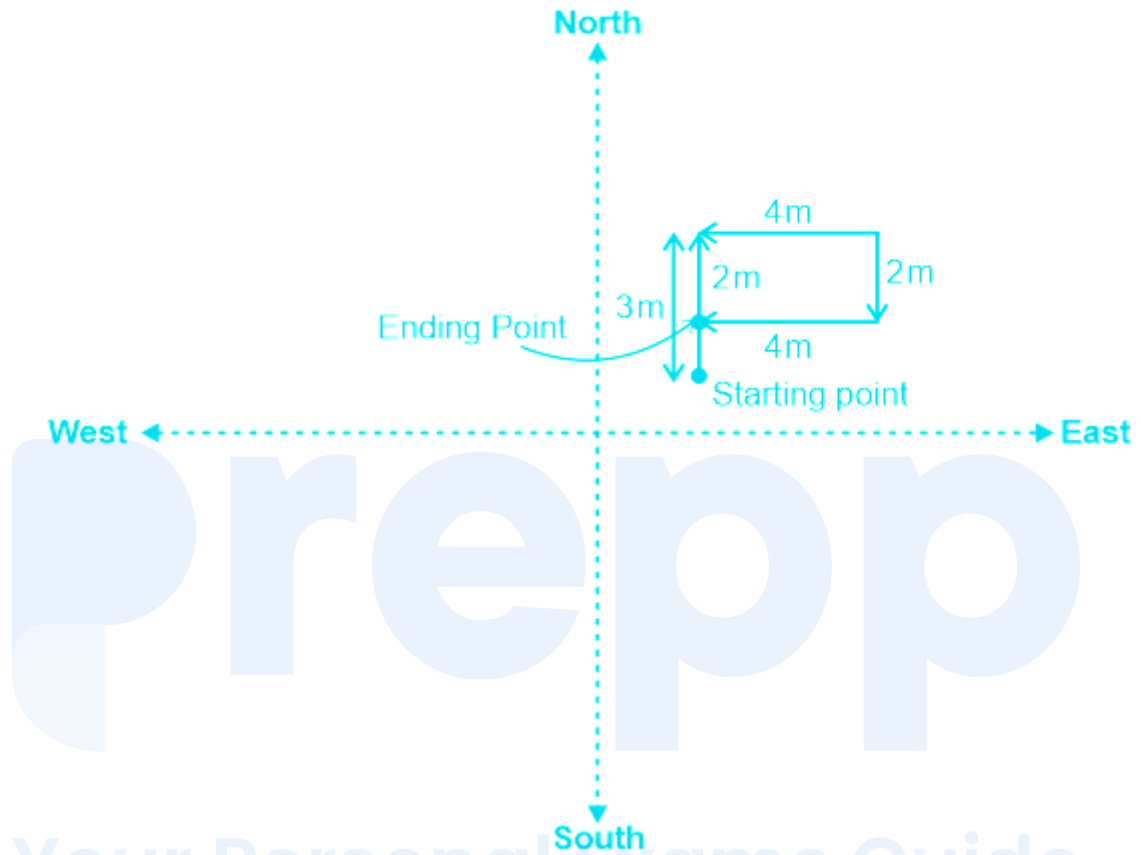
74. Answer: a

Explanation:

Given that:-

Rakhi goes 3 meters North then turns right and walks 4 meters, then again turns right and walks 2 meters, then a again turns right and walks 4 meters.

The figure is given below:-



Thus she is 1 meter from her original position.

Hence, "option 1" is the correct answer.

75. Answer: c

Explanation:

Given:

Numbers = 55, 72, 123

Remainders = 3, 7, 6

Concept used:

H.C.F of certain numbers

Calculation:

$$55 - 3 = 52$$

$$72 - 7 = 65$$

$$123 - 6 = 117$$

H.C.F of 52, 65, 117

$$\Rightarrow 52 = 13 \times 2^2$$

$$\Rightarrow 65 = 13 \times 5$$

$$\Rightarrow 117 = 13 \times 3^3$$

So H.C.F = 13

\therefore The largest number which divides the numbers is 13

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76. Answer: a

Explanation:

Given:

Sixteen men can complete a work in 24 days

Twenty four women can complete the same work in 32 days

Concept used:

x man can complete a work in n days

So total work = xn

Calculation:

24 men can complete the work in 16 days

1 man can complete the work in $=16 \times 24$

$\Rightarrow 384$ days

32 women can complete the work in 24 days

1 woman can complete the work in $= 32 \times 24$

$\Rightarrow 768$ days

Ratio between man and woman $=384 : 768 =1 : 2$

then 1 man = 2 women

16 women = 8 men

So, the number of men complete the work in 12 days $= 16 + 8 = 24$ men

Since 24 men takes 16 days to complete the work

So, after 12 days, 4 days' work will be left for 24 Men

So, the work left can be completed in 2 days by $=4/2 \times 24$

$\Rightarrow 48$ days

Additional men required to complete the work in 2 days $=48 - 16 = 32$ men

\therefore More 32 men is required to complete the work in 2 days

77. Answer: b

Explanation:

Given:

Total distance = 200 m

Speed of Shruti = 4 km/h

Concept used:

Speed = Distance/time

$\text{km/h} \times 5/18 = \text{m/sec}$

Calculation:

Speed of Shruti in m/sec = $4 \times 5/18$

$\Rightarrow 10/9 \text{ m/sec}$

Time taken by Shruti to cover 200 m = $200 \times 9/10$

$\Rightarrow 180 \text{ sec}$

Time taken by Veena to complete the race = $180 + 30 = 210 \text{ sec}$

Distance cover by Veena = $200 - 18 = 182 \text{ m}$

Speed of Veena = $182/210 \times 18/5$

$\Rightarrow 3.12 \text{ km/h}$

\therefore Veena's speed is 3.12 km/h

78. Answer: a

Explanation:

The correct answer is Antonio Guterres.

- Antonio Guterres is the current Secretary-General of the UN.

★ Key Points

- The United Nations is an intergovernmental organization whose purpose is to maintain international peace and security, to develop friendly relations between nations, to achieve international cooperation, and to be the center of harmonious work of nations.
 - The United Nations Charter was signed on 26 June 1945 and the Charter came into force on 24 October 1945 .
 - Its headquarter is in New York City .
 - The United Nations was preceded by the League of Nations, which came into force on 10 January 1920.
 - The League of Nations suffered frequent failures in the Japanese invasion of Manchuria and the Second Italo-Ethiopian War.
 - To prevent future wars, the United Nations was established after World War II.
 - The organization's objectives include maintaining international peace and security, protecting human rights, providing humanitarian assistance, promoting sustainable development, and upholding international law.
 - The initial membership of the United Nations was 51 member states, which increased to 193 member states (as of 2021) .
 - Official languages: Arabic, Chinese, English, French, Russian, Spanish.
 - The current Secretary-General is Antonio Guterres.

★ Important Points

- The United Nations has six principal organs namely
 - The General Assembly.
 - The Security Council.
 - The Economic and Social Council (ECOSOC).
 - The Trusteeship Council.
 - International Court of Justice.
 - The UN Secretariat.
- The United Nations system also includes a multitude of specialized agencies such as the World Bank Group, the World Health Organization, the World Food Programme, UNESCO, UNICEF.

79. Answer: c

Explanation:

The correct answer is Jamsetji Tata.

- Jamsetji Tata built the Taj Mahal Palace Hotel in Mumbai by integrating Indian and European styles.

★ Key Points

- **The Taj Mahal Palace** is a heritage, five-star, luxury hotel in the Colaba area of Mumbai, located next to the Gateway of India.
 - It was opened in the year **1903**.
 - The hotel is built in the Saracenic Revival style that was used by the British in the 19th century.

★ Additional Information

- **Ratan Naval Tata** is an Indian industrialist and former chairman of Tata Sons.
- **Jamsetji Nasrwanji Tata** was an Indian pioneer, an industrialist who founded the Tata Group.
- **Jehangir Ratanji Dadabhoy Tata** was an Indian aviator, industrialist, entrepreneur and chairman of Tata Group.

80. Answer: c

Explanation:

Given:

Two points 18m and 32m from the base of a tower.

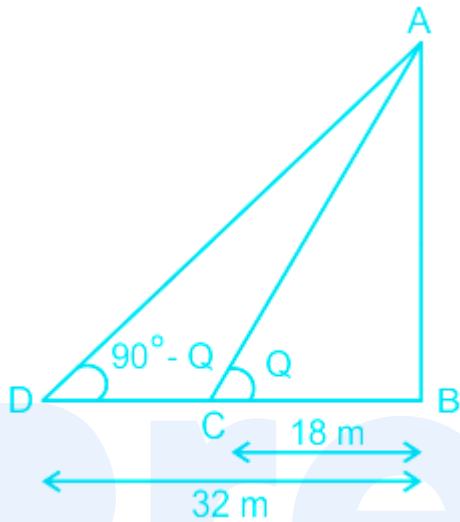
Formula used:

$$\tan\theta = \text{Perpendicular} / \text{Base}$$

$$\text{Cot}\theta = 1/\text{Tan}\theta$$

Calculation:

According to the question,



In ΔABC

$$\text{Tan } Q = \text{AB}/\text{BC}$$

$$\Rightarrow \text{Tan } Q = \text{AB}/18 \quad \text{----(1)}$$

In ΔADB

$$\Rightarrow \text{Tan}(90 - Q) = \text{AB}/\text{DB}$$

$$\Rightarrow \text{Cot } Q = \text{AB}/32$$

$$\Rightarrow 1/\text{Cot } Q = 32/\text{AB}$$

$$\Rightarrow \text{Tan } Q = 32/\text{AB} \quad \text{----(2)}$$

Put equation 1 in equation 2

$$\Rightarrow \text{AB}/18 = 32/\text{AB}$$

$$\Rightarrow \text{AB}^2 = 32 \times 18$$

$$\Rightarrow \text{AB} = 24 \text{ m}$$

∴ The height of the tower is 24 m.

81. Answer: c

Explanation:

The correct answer is Damanganga.

- Damanganga is the major river that flows through the Union Territory of Dadra and Nagar Haveli.

★ Key Points

- **Daman Ganga**
 - The main water of the river is on the western slope of the Western Ghats range and it flows west into the Arabian Sea.
 - The river flows through Maharashtra, Gujarat as well as the union territories of Dadra and Nagar Haveli and Daman and Diu.
 - The industrial cities of Vapi, Dadra, and Silvassa are situated on the north bank of the river.
 - The city of Daman is situated on both the banks of the river estuary.

★ Additional Information

- **The Narmada River**, also known as the lifeline of Madhya Pradesh, is the 5th longest river in India.
 - It rises from the Amarkantak plateau in Annupur district of Madhya Pradesh.
 - It forms a traditional boundary between North India and South India.
 - **Pinjal** is a river in Maharashtra.
 - **Par** is a river originating in Vadapara village, Nashik, Maharashtra.
-

82. Answer: d

Explanation:

The correct answer is Bombay plan.

- It is a joint venture between the **big industrialists** to establish a planned **economy** in the country after **Bombay plan** independence.

★ Key Points

- Bombay Plan was drafted in **1944** in the want of states to take major initiatives in **industrial and other economic investment** through a joint proposal of a section of the big industrialist for setting up a **Planned Economy**.
- This plan was published in two parts or volumes- first in **1944** and second in **1945**.
- The Bombay Plan offers a comprehensive **vision of mass education, including primary, secondary and vocational, and university schooling**. It was also made for **adult education and scientific training and research**.

★ Additional Information

- People associated with the Bombay Plan are:
 - Mr. J. R. D. Tata.
 - Mr. G. D. Birla.
 - P. Thakurdas.
 - Kasturbhai Lalbhai.
 - Sir Shri Ram, Ardeshir Dalal.
 - Mr. A. D. Shroff.
 - Dr. John Matthai

83. Answer: a

Explanation:

The correct answer is the young population in India began to attend schools X4 was the first.

★ Key Points

- The Salt March was notable for at least three reasons.
 - **First**, it was this event that first brought **Mahatma Gandhi** to world **attention** and was widely covered by the **European** and **American press**. Hence, **Statement 2 is correct**.
 - **Second**, it was the **first nationalist activity** in which **women participated** in **large numbers**. Hence, **Statement 3 is correct**.
- The socialist activist **Kamaladevi Chattopadhyay** had persuaded **Gandhiji** not to restrict the protests to **men alone** and was herself one of the **numerous women** who **courted arrest** by breaking the **salt or liquor laws**.
 - **Third**, and perhaps most significant, it was the **Salt March** which forced upon the **British** the realization that their **Raj would not last forever**, and that they would have to devolve some power to the Indians. Hence, **Statement 4 is correct**.
- To that end, the **British government** convened a series of **Round Table Conferences** in London.

84. Answer: d

Explanation:

The correct answer is Kenya.

- Kenya is NOT a member of OPEC.

★ Key Points

- **Organization of Petroleum Exporting Countries (OPEC)** is an intergovernmental organization (national sovereignty over natural resources).
 - It was founded on 14th September 1960 in Bagdad.
 - It is headquartered in Vienna, Austria (Austria not a member of OPEC state).
 - **Mission**: Coordinate and unify the petroleum policies of its member countries and ensure the stabilization of oil markets.

- To secure an efficient, economic, and regular supply of petroleum to consumers, a steady income to producers, and a fair return on capital for those investing in the petroleum industry.
- **Current OPEC members** : **Algeria** , Angola, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, **Nigeria** , The Republic of Congo, Saudi Arabia, **Venezuela** , United Arab Emirates.

85. **Answer: a**

Explanation:

Given:

11, 15, 8, 9, k, 11, 12, 12, 15, 14

Concept used:

The mode is the value that occurs the most often in a given set of data.

Calculation:

In the data set provided here, the mode is 12, hence 12 should occur the most number of times.

11, 15, 8, 9, k, 11, 12, 12, 15, 14

Excluding k and arranging these numbers in ascending order,

8, 9, 11, 11, 12, 12, 14, 15, 15

Here 11, 12, and 15 are occurring twice.

Since 12 is the mode, it should occur more than twice.

∴ **The value of k should be 12.**

86. Answer: c

Explanation:

Total product in state A = $8 + 10 + 9 + 11 + 10$

⇒ 49

Total production in state B = $11 + 12 + 10 + 9 + 8$

⇒ 50

Total production in state C = $12 + 13 + 14 + 11 + 14$

⇒ 60

Total production in state D = $6 + 8 + 8 + 9 + 7$

⇒ 38

Total production in state D = $18 + 17 + 15 + 16 + 14$

⇒ 80

∴ State D contributed the least to the total production of wheat

87. Answer: c

Explanation:

Total production of all states in 2015 = $8 + 11 + 12 + 6 + 18$

⇒ 55

So $\frac{1}{3}$ rd of 55 = 18.33

∴ State E is close to $\frac{1}{3}$ rd of the total production of all states in 2015

88. Answer: c

Explanation:

According to the question

Animals are $\frac{1}{12}$ th part of the town's population [$\frac{30^\circ}{360^\circ} = \frac{1}{12}$]

So Animals = $720000 \times \frac{1}{12}$

$\Rightarrow 60000$

\therefore The number of animals in the town is 60000

89. Answer: d

Explanation:

In state C there was a continuous fixed increase in production

12, 13, 14

\therefore In state C there was a continuous and fixed increase in production, from the year 2015 to 2017

90. Answer: a

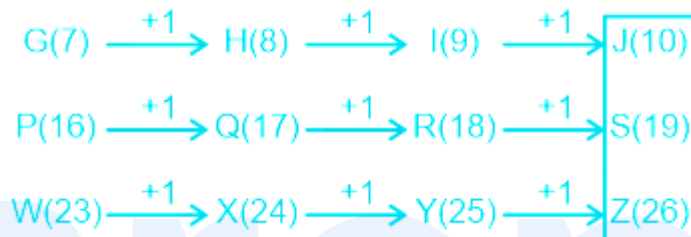
Explanation:

The alphabet template is given below:-

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The logic followed here is:-

- We add 1 in each letter.



Hence, "option 1" is the correct answer.

91. Answer: a

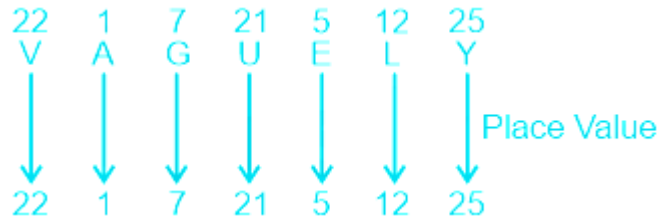
Explanation:

The alphabet template is given below:-

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The logic followed here is:-

- We put the place value of each letter.
- Given A → 1, V → 22, E → 5



Hence, "option 1" is the correct answer.

92. Answer: c

Explanation:

The logic followed here is:-



Hence, "option 3" is the correct answer.

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93. Answer: c

Explanation:

Given that:-

★ **Mistake Points**

Assuming that each is counted only once to fulfil all the conditions listed:

- Two birds in front of a bird.



That means there are two birds here.

- Two birds behind a bird.



That means two more birds are there.

- A bird between two birds.



That means one more bird is there.



So, total number of birds = $2 + 2 + 1 = 5$

Hence, "option 3" is the correct answer.

★ Confusion Points

Some difference of question Language only "Assuming that each is counted only once to fulfil all the conditions listed" this is already mentioned in question so according to this 5 will be the right answer. If this statement is not given then answer will be 3.

For example:

Wolves move in packs. What is the smallest number of wolves that could move in the following formation: 2 Wolves in front of a Wolf, 2 behind a Wolf and 1 Wolf in between 2 Wolves?

- (1) 2 Wolves in front of a Wolf.



(2) 2 behind a Wolf.



(3) 1 Wolf in between 2 Wolves.



So, there can be minimum 3 Wolves.

After solving this question, we get answer is 3.

94. Answer: c

Explanation:

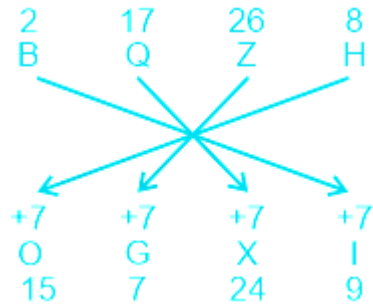
The alphabet template is given below:-

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The logic followed here is:-

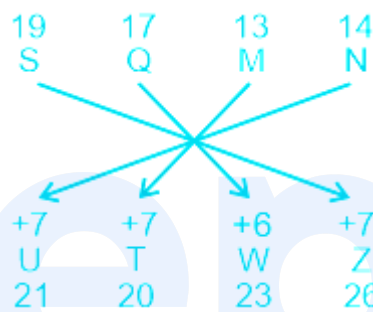
In the first letter, we add 7 and shift to the fourth letter, then in the second letter, we add 7 and shifted to the third letter and so on.

BQZH → OGXI



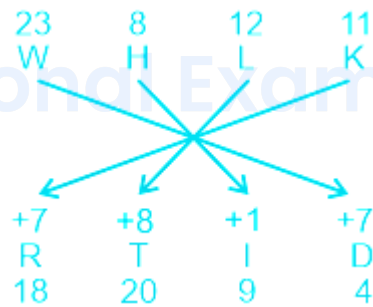
Similarly,

From option 1:-



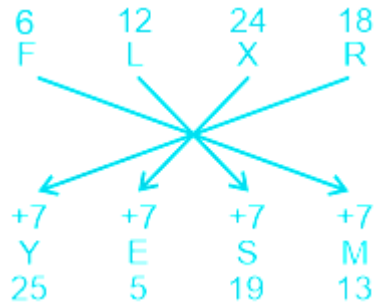
It is not followed.

From option 2:-



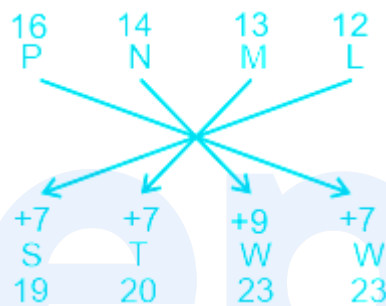
It is not followed.

From option 3:-



It is followed.

From option 4:-



It is not followed.

Hence, "option 3" is the correct answer.

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95. Answer: d

Explanation:

The alphabet template is given below:-

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The logic followed here is:-

We add all the place value of letter.

$$A(1) V(22) E(5) R(18) Y(25) = 1 + 22 + 5 + 18 + 25 = 71$$

Similarly,

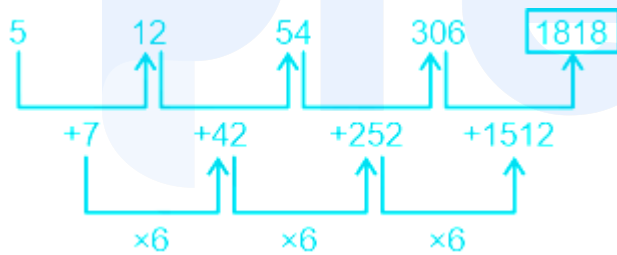
$$A(1) M(13) A(1) N(14) D(4) A(1) = 1 + 13 + 1 + 14 + 4 + 1 = 34$$

Hence, "option 4" is the correct answer.

96. Answer: b

Explanation:

The logic followed here is:-



Hence, "option 2" is the correct answer.

97. Answer: b

Explanation:

The alphabet template is given below:-

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The logic followed here is:-

We add all the place value of letter.

$$R(18) A(1) H(8) U(21) L(12) = 18 + 1 + 8 + 21 + 12 = 60$$

Similarly,

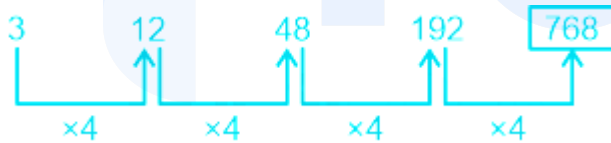
$$R(18) A(1) J(10) E(5) S(19) H(8) = 18 + 1 + 10 + 5 + 19 + 8 = 61$$

Hence, "option 2" is the correct answer.

98. Answer: a

Explanation:

The logic followed here is:-



Hence, "option 1" is the correct answer.

99. Answer: d

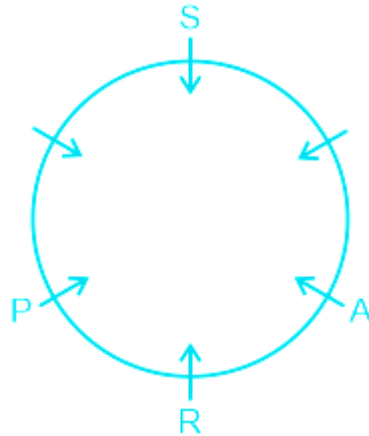
Explanation:

Given that:-

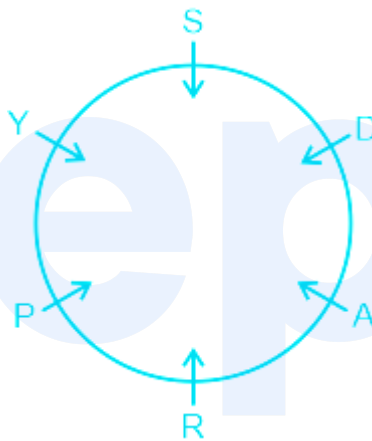
Six persons are playing a card game. They are sitting in a circle facing the centre

1) S is facing R who is to the left of A and the right of P.

Here who is used for R not for S. So S is facing R and R is to the left of A and the right of P.

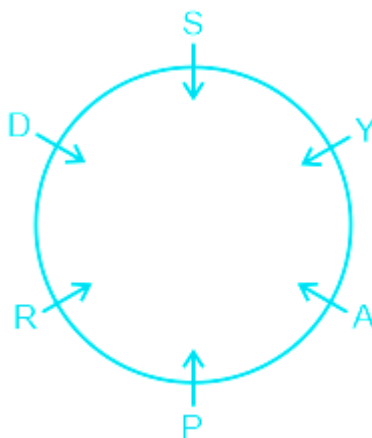


2) A is to the left of D and Y is to the left of P.



If D exchanges his seat with Y and P exchanges his seat with R,

Then the final arrangement is given below:-



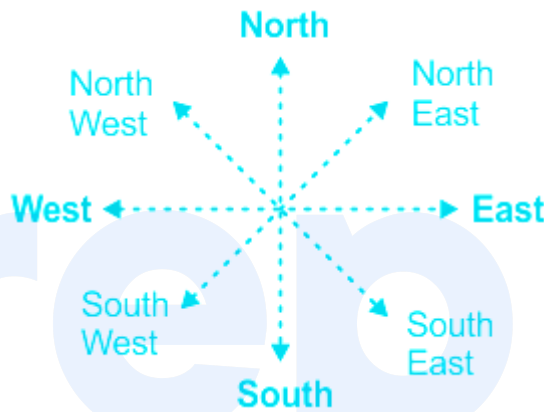
Thus S is sitting to the left of D.

Hence, "option 4" is the correct answer.

100. Answer: a

Explanation:

We know that:

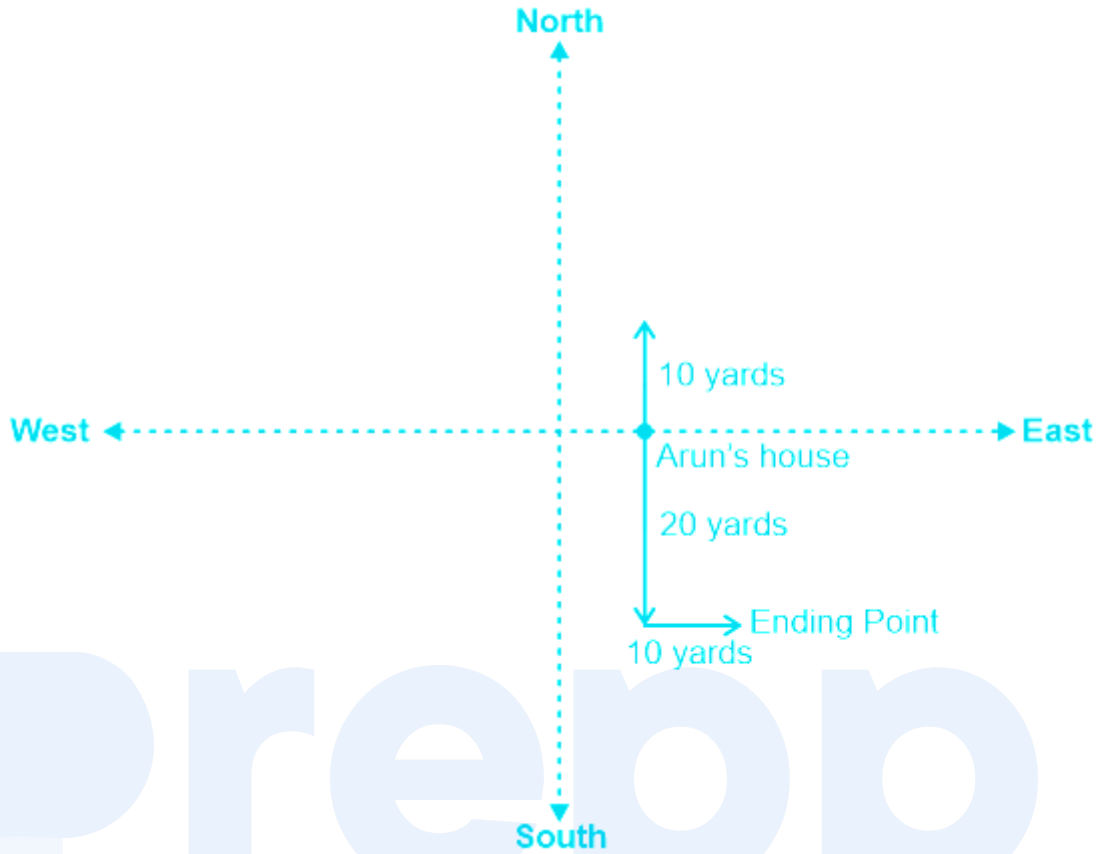


Given that:-

Arun walks 10 yards straight from his house which is facing north and then he walks 20 yards in the reverse direction.

Further, he takes a left turn and walks 10 yards.

The figure is given below:-



Arun is South-East direction now from his original position.

Hence, "option 1" is the correct answer.

Your Personal Exams Guide