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	UPTET
IBPS RRB	IBPS CLERK	IES	UPSC CAPF
SSC Stenogr..	RRB NTPC	SSC GD	RBI GRADE B
RBI Assistant	DSSSB		

SSC MTS Previous Year Paper (Held on: 7 Oct 2021 Shift 1)

Total Time: 1 Hour : 30 Minute   **Total Marks:** 100

Instructions

Sl No.	Section Name	No. of Question	Maximum Marks	Negative Marks	Positive Marks
1	General English	25	25	0.25	1
2	General Intelligence & Reasoning	25	25	0.25	1
3	Numerical Aptitude	25	25	0.25	1
4	General Awareness	25	25	0.25	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.

General English

1. Select the most appropriate word that means the same as the group of words given.   (+1, -0.25)

    The point at which the earth and the sky appear to meet

    a. Crust

    b. Horizon

    c. Rainbow

    d. Ocean

2. Select the most appropriate word to fill in the blank.   (+1, -0.25)

    There _____ a big park in front of our house.

    a. are

    b. may be

    c. is

    d. were

3. Select the most appropriate word to fill in the blank.   (+1, -0.25)

    To practise yoga, I usually wake up when the sun _____.

    a. covers

    b. disappears

    c. rises

d. sets

---

4. Select the most appropriate option to substitute the underlined segment in the given sentence. **(+1, -0.25)**

I have online science classes <u>for Wednesdays.</u>

a. on Wednesdays

b. from Wednesdays

c. in Wednesdays

d. at Wednesdays

---

5. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required'. **(+1, -0.25)**

The details of the menu for today's party <u>has been </u>worked out.

a. No substitution required

b. have been

c. are been

d. is being

---

6. Select the most appropriate option to substitute the underlined segment in the given sentence. **(+1, -0.25)**

If the town had been built at a lower altitude, it <u>will be </u>a lot warmer.

a. would be

b. should be

c. will have been

d. would have been

---

7. Select the most appropriate meaning of the given idiom/phrase.　　(+1, -0.25)

Go off

a. Continue or happen

b. Stop working

c. Leave or disappear

d. Explain something in detail

---

8. Select the most appropriate word to fill in the blank.　　(+1, -0.25)

To an ordinary person, one kind of oil is as important as _____ .

a. anything

b. other

c. another

d. none

---

9. Select the most appropriate ANTONYM of the given word.　　(+1, -0.25)

END

a. Show

b. Start

c. Hide

d. Close

---

10. Select the correctly spelt word. (+1, -0.25)

   a. Defferensce

   b. Diferense

   c. Difference

   d. Deferanse

---

11. The given sentence contains a grammatical error. Identify the segment (+1, -0.25)
    that contains the error.

   Smitha was offered the job although having no qualifications.

   a. although having

   b. Smitha was offered

   c. the job

   d. no qualifications

---

12. The given sentence contains a grammatical error. Identify the segment (+1, -0.25)
    that contains the error.

   Sumanth is going to school by the school bus every day.

a. every day

b. to school

c. Sumanth is going

d. by the school bus

---

13. Select the most appropriate word that means the same as the group of words given.   (+1, -0.25)

The application of scientific knowledge for practical purposes

a. Technology

b. Technicality

c. Discovery

d. Engineering

---

14. Select the most appropriate word to fill in the blank.   (+1, -0.25)

I _ _ _ _ _ _ _ the film we saw yesterday.

a. didn't like

b. wasn't like

c. doesn't like

d. haven't liked

---

15. Select the most appropriate ANTONYM of the given word.   (+1, -0.25)

CONFIRM

a. Open

b. Agree

c. Reject

d. Accept

---

16. Select the most appropriate meaning of the given idiom/phrase.   (+1, -0.25)

Break in

a. Enter a building illegally

b. End a relationship

c. Be unable to control (one's) feelings

d. Begin to do (something) suddenly

---

17. Select the correctly spelt word.   (+1, -0.25)

a. Safficiente

b. Sephient

c. Suffusiance

d. Sufficient

---

18. The given sentence contains a grammatical error. Identify the segment   (+1, -0.25)
that contains the error.

How many does the cricket bat cost?

a. the cricket bat

b. does

c. How many

d. cost

---

19. Select the most appropriate synonym of the given word. (+1, -0.25)

EVIDENT

a. Clear

b. Aimless

c. Complex

d. Confusing

---

20. Select the most appropriate synonym of the given word. (+1, -0.25)

CALM

a. Excited

b. Quiet

c. Disturbed

d. Claim

---

21. Comprehension:In the following passage, some words have been deleted. **(+1, -0.25)**
Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank.

Many reports have said that in the context (1) _ _ _ _ _ _ _ _ Covid-19 lockdown, schooling, and college education are likely to be online. The reports have (2) _ _ _ _ _ _ _ _ pointed out that this change will deny the students the experience of studying in a physical (3) _ _ _ _ _ _ _ _ . This is because they can only interact with their teachers; they will miss the (4) _ _ _ _ _ _ _ _ to get to know their classmates and make real friends. Thus, the current situation has (5) _ _ _ _ _ _ _ _ many boys and girls and they are waiting for things to get back to normal.

Select the most appropriate option to fill in blank no. 1.

a. from

b. at

c. of

d. in

22. Comprehension:In the following passage, some words have been **(+1, -0.25)**
deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank.

Many reports have said that in the context (1) _ _ _ _ _ _ _ _ Covid-19 lockdown, schooling, and college education are likely to be online. The reports have (2) _ _ _ _ _ _ _ _ pointed out that this change will deny the students the experience of studying in a physical (3) _ _ _ _ _ _ _ _ . This is because they can only interact with their teachers; they will miss the (4) _ _ _ _ _ _ _ _ to get to know their classmates and make real friends. Thus, the current situation has (5) _ _ _ _ _ _ _ _ many boys and girls and they are waiting for things to get back to normal.

Select the most appropriate option to fill in blank no. 2.

   a. though

   b. addition

   c. but

   d. also

---

23. Comprehension:In the following passage, some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank.   (+1, -0.25)

Many reports have said that in the context (1) _____ Covid-19 lockdown, schooling, and college education are likely to be online. The reports have (2) _____ pointed out that this change will deny the students the experience of studying in a physical (3) _____ . This is because they can only interact with their teachers; they will miss the (4) _____ to get to know their classmates and make real friends. Thus, the current situation has (5) _____ many boys and girls and they are waiting for things to get back to normal.

   Select the most appropriate option to fill in blank no. 3.

   a. condition

   b. area

   c. campus

   d. situation

---

24. Comprehension:In the following passage, some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the   (+1, -0.25)

most appropriate option for each blank.

Many reports have said that in the context (1) _____ Covid-19 lockdown, schooling, and college education are likely to be online. The reports have (2) _____ pointed out that this change will deny the students the experience of studying in a physical (3) _____ . This is because they can only interact with their teachers; they will miss the (4) _____ to get to know their classmates and make real friends. Thus, the current situation has (5) _____ many boys and girls and they are waiting for things to get back to normal.

Select the most appropriate option to fill in blank no. 4.

a. reward

b. opportunity

c. conduct

d. award

25. Comprehension:In the following passage, some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank.　　(+1, -0.25)

Many reports have said that in the context (1) _____ Covid-19 lockdown, schooling, and college education are likely to be online. The reports have (2) _____ pointed out that this change will deny the students the experience of studying in a physical (3) _____ . This is because they can only interact with their teachers; they will miss the (4) _____ to get to know their classmates and make real friends. Thus, the current situation has (5) _____ many boys and girls and they are waiting for things to get back to normal.

Select the most appropriate option to fill in blank no. 5.

a. supported

b. encouraged

c. discourage

d. upset

General Intelligence & Reasoning

26. Which two numbers should be interchanged to make the given equation correct?   **(+1, −0.25)**

$42 \div 7 \times 5 + 35 - 49 = 18$

a. 42 and 49

b. 35 and 49

c. 5 and 35

d. 42 and 35

---

27. In a certain code language, 'HOUSE' is written as '81261922' and 'INK' is written as '181411'. How will 'MISTAKE' be written in that language?   **(+1, −0.25)**

a. 14901920261222

b. 13181920261122

c. 13181819261105

d. 13091920011122

---

28. Which of the following numbers will replace the question mark (?) in the given series?   **(+1, −0.25)**

11, 22, 25, ?, 105, 630

a. 100

b. 75

c. 55

d. 29

---

29. Select the option that will replace the question mark (?) in the figure given below to complete the pattern.

(+1, −0.25)

a.

b.

c.

d.

---

30. Two statements are given followed by two conclusions numbered I and II. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.

(+1, −0.25)

Statements:

No bowler is batsman.

Some bowlers are fielders.

Conclusions:

I. No fielder is a batsman.

II. No batsman is a bowler.

a. Both conclusions I and II follow.

b. Only conclusion I follows.

c. Only conclusion II follows.

d. Neither conclusion I nor II follows.

31. Study the given pattern carefully and select the number that can replace the question mark (?) in it.
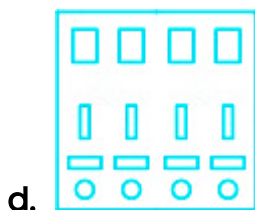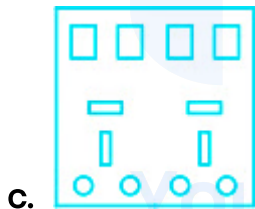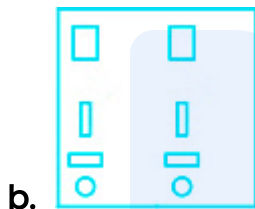
(+1, -0.25)

25	24	122
31	27	143
35	29	?

a. 157

b. 197

c. 114

d. 222

32. A paper is folded and cut as shown below. How will it appear when unfolded? **(+1, −0.25)**

a.

b.

c.

d.

---
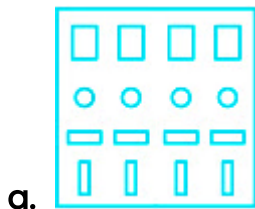
33. If T > H > K > L and V < K > Z = B, then which of the following conclusions is NOT correct? **(+1, −0.25)**

a. T > L

b. V < T

c. K = B

d. H > Z

---

34. Select the option that is related to the third letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster.

(+1, -0.25)

CANVAS : DCQZFY :: LOANER : ?

a. MQDRJX

b. MQERJY

c. MQDSKX

d. MRDRJY

---

35. Five salesmen A, B, C, D and E are sitting in a meeting around a circular table. A is to the immediate left to E. C is to the immediate left of B. D is sitting between B and A. Who is sitting at the second place to the right of E?
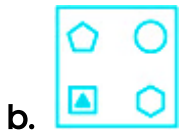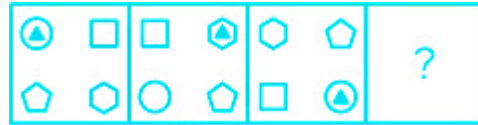
(+1, -0.25)

a. B

b. C

c. D

d. A

---

36. Select the figure that will replace the question mark (?) in the following figure series.
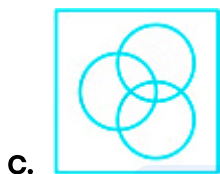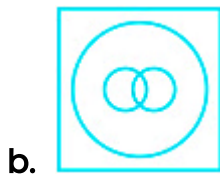
(+1, -0.25)

a.

b.

c.

d.

---

37. Select the option that is related to the third number in the same way as the second number is related to the first number.   (+1, −0.25)

6 : 85 :: 12 : ?

a. 302

b. 210

c. 313

d. 346

---

38. Select the Venn diagram the best illustrates the relationship between the following classes.   (+1, −0.25)

Females, Mothers, Sisters

a.

b.

c.

d.

---

39. In a certain code language, 'FOSTER' is written as '36' and 'DANCE' is written as '25'. How will 'ORCHARD' be written in that language? (+1, −0.25)

    a. 64

    b. 36

    c. 49

    d. 45

---

40. Select the option that is related to the third word in the same way as the second word is related to the first word. (+1, −0.25)

Rupee : Currency :: Summer : ?

a. Heat

b. Humidity

c. Season

d. Temperature

---

41. A series is given with one term missing. Select the correct alternative from the given ones that will complete the series   (+1, -0.25)

FUV, IXW, LAX, ?, RGZ

a. PCY

b. PCX

c. ODY

d. OCW

---

42. Two statements are given followed by three conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.   (+1, -0.25)

Statements:

Some beauticians are architects.

All architects are cashiers.

Conclusions:

I. Some architects are beauticians.

II. Some cashiers are architects.

III. Some cashiers are beauticians.

a. Only conclusions I and III follow.

b. Only conclusions II and III follow.

c. All of the conclusions follow.

d. Only conclusions I and II follow.

---

43. In a certain code language, 'ROMAN' is written as 'YVTHU'. How will 'THING'   (+1, -0.25)
be written in that language?

a. AORSN

b. BCPUN

c. APQUM

d. AOPUN

---

44. Select the option which is related to the third word in the same way as   (+1, -0.25)
the second word is related to the first word.

Pleasurable : Pleasant : : Excellent : ?

a. Prosperous

b. Comical

c. Exquisite

d. Happy

---

45. In a certain code language, 'CLASS' is written as 'TTBMD'. How will 'DINOSOUR' be written in that language?   **(+1, -0.25)**

   a. SVPTPOJE

   b. SVPRPJKF

   c. SWPUPOJE

   d. SXOSPOJE

---

46. Which of the following numbers will replace the question mark (?) in the given series?   **(+1, -0.25)**

   50, 86, ?, 127, 136, 140, 141
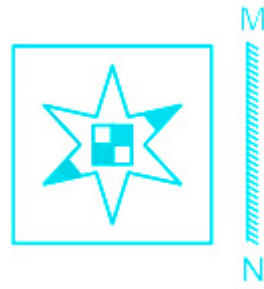
   a. 123

   b. 99

   c. 111

   d. 103

---

47. Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.   **(+1, -0.25)**

a.

b.

c.

d.

---

48. If A denotes 'addition', B denotes 'multiplication', C denotes 'subtraction', and D denotes 'division', then what will be the value of the following expression?   (+1, -0.25)

5 B 5 B 3 A 14 C (28 D 7) A 5 B (13 C 9)

a. 105

b. 112

c. 95

d. 45

---

49. Eight friends P, Q, R, S, T, U, V and W are sitting in two lines, with four friends sitting in each line. Both the lines are facing north. The four persons in the back line are exactly behind the four persons in the front line. P is between T and W. Q is just behind T. Q, who is to the immediate left of S, is also at one of the corners in the back line. R is between S and U. Who is sitting between P and V?   **(+1, −0.25)**

   a. S

   b. W

   c. T

   d. U

---

50. Select the option figure that is embedded in the given figure (X) as its part (rotation is NOT allowed).   **(+1, −0.25)**
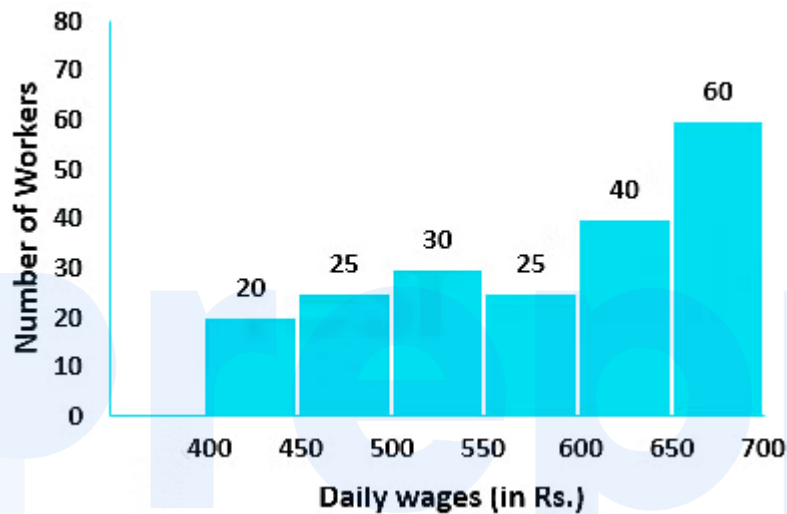
(X)

a.

b.

c.

d.
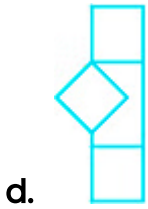
Numerical Aptitude

51. Study the graph and answer the question given below. **(+1, −0.25)**

The given graph represents the number of workers getting daily wages (in Rs.).

Total number of workers = 200

The total number of workers whose daily wages are less than Rs. 550 is what percentage less than the total number of workers whose daily wages are Rs. 550 and above?

a. 45%

b. 60%

c. 40%

d. 50%

---

52. Two numbers are in the ratio 7 : 9. If the sum of their squares is 8320, then the sum of the two numbers is: **(+1, −0.25)**

a. 124

b. 228

c. 128

d. 120

---

53. Out of two numbers, the first number is three-fourth of the second number. If the average of the reciprocals of the two numbers is $\frac{7}{72}$, then the sum of the two numbers is: (+1, −0.25)

a. 21

b. 20

c. 25

d. 22

---

54. An article was sold at a loss of 18%. If it was sold for Rs. 2,475 more, then there would have been a profit of 12%. The cost price of the article is: (+1, −0.25)

a. Rs. 8,250

b. Rs. 8,500

c. Rs. 8,000

d. Rs. 8,200

---

55. The smallest four-digit number which is exactly divisible by 18, 32 and 48 is: (+1, −0.25)

a. 1256

b. 1252

c. 1156

d. 1152

---

56. A, B and C are three boxes containing marbles in the ratio 3 : 5 : 7, and the total number of marbles is 75. If 3 marbles are transferred from B to A, and 5 marbles are transferred from C to B, then the new ratio of the marbles is: **(+1, −0.25)**

a. 6 : 8 : 11

b. 5 : 6 : 7

c. 7 : 9 : 10

d. 6 : 9 : 10

---

57. From each of the four corners of a rectangular sheet of dimensions 48 cm × 27 cm, a square of side 3.5 cm is cut off and a box is made. The volume of the box is: **(+1, −0.25)**
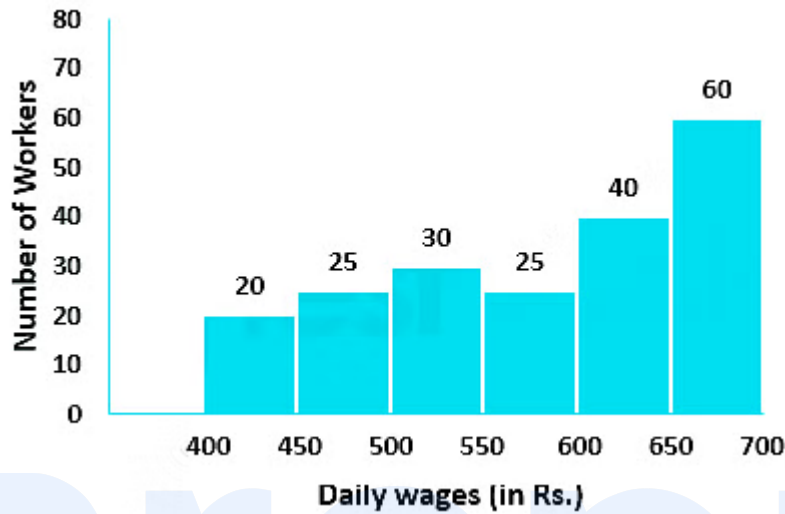
a. 2880 cm^3

b. 2780 cm^3

c. 2870 cm^3

d. 2860 cm^3

---

58. Study the graph and answer the question given below. **(+1, −0.25)**

The given graph represents the number of workers getting daily wages (in Rs.).

Total number of workers = 200

The ratio of the total number of workers whose daily wages are less than Rs. 500 to the total number of workers whose daily wages are Rs. 600 and above is:

a. 9 : 20

b. 12 : 17

c. 8 : 15

d. 9 : 15

---

59. The sum of three numbers is 396. If the ratio between the first and the second number is 7 : 11 and that between the second and the third number is 11 : 15, then the difference between the first and the third number is:

(+1, −0.25)

a. 96

b. 86

c. 94

d. 85

---

60. An article was sold at 65% of its marked price, and thus there was a gain of 30%. Find the ratio of the marked price to cost price.   **(+1, −0.25)**

a. 3 : 2

b. 4 : 3

c. 2 : 1

d. 3 : 1

---

61. If the area of the base of a cylinder is 346.5cm^2 and the area of the curved surface is 990cm^2, then its height is: (Take π = $\frac{22}{7}$)   **(+1, −0.25)**

a. 10 cm

b. 12 cm

c. 14 cm

d. 15 cm

---

62. What is the value of x, if $(5 + 4^2) ÷ 3$ of $x − 2 × 4 = −7$?   **(+1, −0.25)**

a. −3

b. 5

c. 7

d. −7

---

63. If the volume of a sphere is $65\frac{10}{21}$ cm ^{3}, then its surface areas is: (Take π = $\frac{22}{7}$)   **(+1, −0.25)**

a. $77\frac{4}{7}$cm^2

b. $76\frac{4}{7}$cm^2

c. $78\frac{4}{7}$cm^2

d. $78\frac{3}{7}$cm^2

---

64. A sum of Rs. 8,500 amounts to Rs. 11,900 in 5 years at simple interest per annum. If the rate of interest is increased by 3%, then the increased amount for the same period is: **(+1, −0.25)**

a. Rs. 12,175

b. Rs. 13,175

c. Rs. 12,475

d. Rs. 13,275

---

65. A certain number of persons can complete a piece of work in 46 days. If there were 8 persons more, the work could be finished in 16 days less. How many persons were originally there?   **(+1, −0.25)**

a. 25

b. 18

c. 15

d. 20

---

66. The average of seven consecutive odd numbers is 27. If the last number is removed from the list, then the average of the remaining numbers is:

    (+1, -0.25)

    a. 26

    b. 25

    c. 24

    d. 22

---

67. The dimensions of a solid metallic cuboid are 36 cm, 54 cm and 24 cm. It is melted and recast into 8 cubes of same volume. The sum of the surface areas (in cm^2) of these 8 cubes is:

    (+1, -0.25)

    a. 10368

    b. 11664

    c. 9720

    d. 15552

---

68. The income of a company increases by 25% per year. If its income is Rs. 31,25,000 in the year 2017, what was the income in 2015?

    (+1, -0.25)

    a. Rs. 25,00,000

    b. Rs. 22,00,000

c. Rs. 20,00,000

d. Rs. 20,20,000

---

69. If the difference between the selling prices of an article, when sold at 22% **(+1, −0.25)** discount and at 14.5% discount, is Rs. 285, then the marked price of the article is:

a. Rs. 3,400

b. Rs. 3,500

c. Rs. 3,800

d. Rs. 2,800

---

70. A man covered a distance of 280 km in 8 hours on a motorcycle. How **(+1, −0.25)** much distance will be covered on a bicycle in 2 hours, if he rides the bicycle at $\frac{3}{14}$ of the speed of the motorcycle?

a. 20 km

b. 25 km

c. 24 km

d. 15 km

---

71. A and B can do a work in 15 days and 25 days, respectively. They worked **(+1, −0.25)** together for 5 days, after which B was replaced by C and the remaining work was completed by A and C in the next 4 days. In how many days will C alone complete the same work?

a. 24 days

    b. 20 days

    c. 15 days

    d. 25 days

---

72. At what rate per cent per annum will Rs. 4,800 amount to Rs. 5,547 in two years if the interest is compounded annually?   **(+1, −0.25)**

    a. 7.5%

    b. 7%

    c. 8.5%

    d. 8%

---

73. The mean of 25 numbers is 14. If 3 is added to every number, what will be the new mean?   **(+1, −0.25)**

    a. 18

    b. 14

    c. 15

    d. 17

---

74. Walking at $\frac{3}{5}$ of his usual speed, a man covers a certain distance in one hour and 40 minutes more than the time he takes to cover the distance at his usual speed. The time taken by him to cover the same distance at is usual speed is: **(+1, −0.25)**
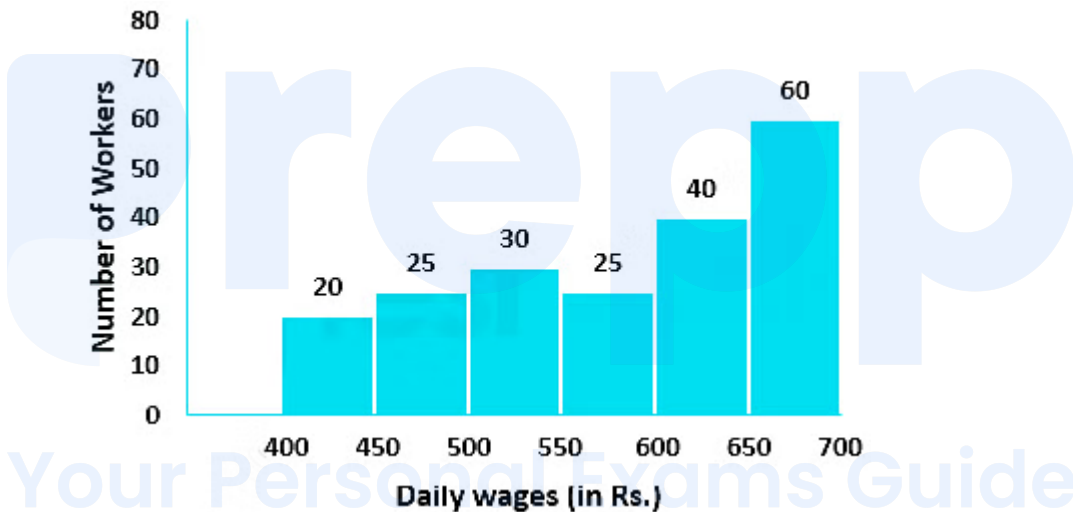
    a. $\frac{7}{2}$ hours

b. $\frac{3}{2}$ hours

c. $\frac{5}{2}$ hours

d. $\frac{5}{3}$ hours

---

75. Study the graph and answer the question given below: (+1, −0.25)

The given graph represents the number of workers getting daily wages (in Rs.).

Total number of workers = 200

What is the difference between the percentage of workers whose daily wages are less than Rs. 500 and the percentage of workers whose daily wages are Rs. 600 and above?

a. 25%

b. 27%

c. 30%

d. 27.5%

General Awareness

76. 'Powada dance' is a performing art from the state of _ _ _ _ _ _ _ _ .   **(+1, -0.25)**

    a. Gujarat

    b. Maharashtra

    c. Rajasthan

    d. Kerala

77. In which of the following states is Bhiti Chitra (fresco painting) a popular art form?   **(+1, -0.25)**

    a. Karnataka

    b. Nagaland

    c. Haryana

    d. Maharashtra

78. The growing voice box in boys can be seen as a protruding part of the throat called _ _ _ _ _ _ _ _.   **(+1, -0.25)**

    a. bronchi

    b. thyroid cartilage

    c. trachea

    d. Adam's apple

79. Litmus solution is a purple dye, which is extracted from lichen, a plant belonging to the division _____.   **(+1, -0.25)**

   a. Gymnosperms

   b. Pteridophyta

   c. Thallophyta

   d. Bryophyta

80. Which part of a flower is the sticky surface at the top of the pistil, it traps and holds the pollen?   **(+1, -0.25)**

   a. Style

   b. Stigma

   c. Sepal

   d. Ovary

81. Imphal valley of Manipur is an important centre of _____ craft.   **(+1, -0.25)**

   a. Kauna

   b. Godna

   c. Butta

   d. Mirijims

82. Which is the second most important metallurgical industry in India?   **(+1, -0.25)**

a. Iron

b. Copper

c. Aluminium

d. Zinc

---

83. When did the Indian Army liberate Goa from the Portuguese and declare it a Union Territory?　　　(+1, -0.25)

a. 1967

b. 1961

c. 1952

d. 1969

---

84. As of July 2020, who among the following was the Director General of Indian Council of Medical Research (ICMR)?　　　(+1, -0.25)

a. Prof. Balram Bhargava

b. Prof. Subrata Sinha

c. Dr. Shyam S Chauhan

d. Dr. Parthaprasad Chattopadhyay

---

85. Who is the author of the book 'The Best Thing About You is You'?　　　(+1, -0.25)

a. Amitabh Bachchan

b. Anil Kapoor

c. Anupam Kher

d. Annu Kapoor

---

86. Who among the following is the first Indian to get an Oscar Award?   (+1, −0.25)

a. Bhanu Athaiya

b. Satyajit Ray

c. AR Rahman

d. Resul Pookutty

---

87. In June 2020, Amit Panghal and Vikas Krishan were nominated for   (+1, −0.25)
_ _ _ _ _ _ _ _ by the Boxing Federation of India.

a. Padma Bhushan

b. Rajiv Gandhi Khel Ratna Award

c. Padma Shri

d. Arjuna Award

---

88. Which of the following is a tidal port?   (+1, −0.25)

a. Tuticorin

b. Kandla

c. Chennai

d. Vishakapatnam

---

89. Provisions of the Consumer Protection Act, 2019 has come into force since   (+1, -0.25)
_____ .

    a. 12 March 2020

    b. 23 June 2020

    c. 30 April 2020

    d. 20 July 2020

---

90. Which Commission recommended 27% reservation for OBC candidates in   (+1, -0.25)
all levels of government services?

    a. Balwant Commission

    b. Kothari Commission

    c. Sarkaria Commission

    d. Mandal Commission

---

91. Which of the following is one of the main mineral constituents of the   (+1, -0.25)
continental mass of the earth?

    a. Bronze

    b. Gypsum

    c. Silica

    d. Copper

92. Which of the following elements has the highest thermal conductivity of any element and the highest light reflectance?   (+1, -0.25)

    a. Aluminium

    b. Copper

    c. Brass

    d. Silver

93. In which year was the Treaty of Salbai signed?   (+1, -0.25)

    a. 1794

    b. 1773

    c. 1782

    d. 1799

94. 10 per cent reservation in central government jobs under economically weaker sections (EWS) category is available to persons whose family income is below: (+1, -0.25)

    a. Rs. 10 lakh

    b. Rs. 8 lakh

    c. Rs. 3 lakh

    d. Rs. 5 lakh

95. Which of the following is the largest cell in the human body?   (+1, −0.25)

   a. Ovum

   b. Neurons

   c. Osteoclast

   d. Sperm

96. Name of which river among the following got associated with the water disputes tribunal of 1990 aimed at resolving the old issue of water sharing between Karnataka and Tamil Nadu?   (+1, −0.25)

   a. Godavari

   b. Tapti

   c. Krishna

   d. Cauvery

97. In which year did the companies IBM and Coca Cola shut down their operations for not being able to comply with the Foreign Exchange Regulation Act that mandated foreign investors cannot own over 40% in Indian enterprises?   (+1, −0.25)

   a. 1964

   b. 1981

   c. 1956

   d. 1977

98. Which of the following teams won the Indian Super League 2019-2020?   **(+1, −0.25)**

   a. ATK Football Club

   b. Kerala Blasters

   c. North East United

   d. FC Goa

99. _____ was one of the first Indian rulers to lead an armed rebellion   **(+1, −0.25)**
against the British East India Company in 1824 against the
implementation of the Doctrine of Lapse.

   a. Kittur Chennamma

   b. Titumir

   c. Jayi Rajaguru

   d. Pazhassi Raja

100. Who among the following social reformers founded an educational   **(+1, −0.25)**
institution, Hindu Widows Home, in Poona in the year 1896?

   a. Dhondo Keshav Karve

   b. Puli Thevar

   c. Nanaji Deshmukh

   d. Tantia Tope

Answers

1. Answer: b

Explanation:

Here the correct answer is **Horizon** .

⭐ **Key Points**

- Let's look at the **meaning** of the correct answer:-
  - **Horizon** - the line or point at which the earth's surface and the sky appear to meet. (वह रेखा या बिंदु जिस पर पृथ्वी की सतह और आकाश मिलते हुए प्रतीत होते हैं)
    - For Example - The sun rose above the **horizon** .
- Thus, the correct answer is **Option 2** .

⭐ **Additional Information**

- Let's look at the **meaning** of the other words given in options:-
  - **Crust** - the outermost layer of rock of which a planet consists, especially the part of the earth above the mantle. (चट्टान की सबसे बाहरी परत जिसमें एक ग्रह होता है, विशेष रूप से मेंटल के ऊपर पृथ्वी का भाग)
  - **Rainbow** - an arch of colours visible in the sky, caused by the refraction and dispersion of the sun's light by rain or other water droplets in the atmosphere. The colours of the rainbow are generally said to be red, orange, yellow, green, blue, indigo, and violet. (इंद्रधनुष)
  - **Ocean** - a very large expanse of sea, in particular each of the main areas into which the sea is divided geographically. (सागर)

---

2. Answer: c

Explanation:

The correct answer is **'is'**

⭐ Key Points

- According to the rule of grammar, whenever the subject of the sentence is singular then we need to use a singular verb for the singular noun.
- In the given sentence, the subject of the sentence 'park' there is an adverb hence, we need to use a singular verb so the correct answer is 'is'
- Let's see an example-
  - There's someone on the phone for you.
- In the given sentence, 'there' is an adverb which means that 'there is used to introduce the subject of a sentence, especially before the verbs be, seem, and appear'

So the correct sentence is-*There is* a big park in front of our house.

---

3. **Answer: c**

Explanation:

The correct answer is **'rises'**

⭐ Key Points

- Let's see the meanings of the given words-
  - **Covers-** to put or spread something over something, or to lie on the surface of something
  - **Disappears-** If people or things disappear, they go somewhere where they cannot be seen or found
  - **Rises-** to move upwards
    - Example:- At 6 a.m. we watched the sunrise (= appear and move upwards in the sky).
  - **Sets-** to get something ready so that it comes into operation or can be used.
- **In the given sentence,** we need to use the present tense of the verb. The meaning of the verb should be upwards because we are talking about the morning routine.

Hence, the correct sentence is-*To practise yoga, I usually wake up when the sun rises.*

---

4. **Answer: a**

Explanation:

The correct answer is **'on Wednesdays'**

⭐ **Key Points**

- According to grammar, the preposition 'on' will be used with 'days, dates, holidays, weekends, days+morning/afternoon/evening'
- In the given sentence, the speaker wants to say that the classes will be conducted only on Wednesdays i.e. In a week they have one class which will be conducted on Wednesdays.
- The meaning of 'Wednesdays' is- every Wednesday.
- Let's see examples-
  - Do you work **on Mondays?**
  - I have English classes **on Mondays and Wednesdays.**

So the correct sentence is- I have online science classes on Wednesdays.

⭐ **Mistake Points**

- We can't say 'from Wednesdays' as we don't use 'Wednesdays' with 'from' or we don't use the plural form of the days with from.
- Also, "from Wednesdays" gives the incorrect context as it tells that the class will be starting from Wednesday.
- The important point is that the preposition 'from' can't be used with 'days'

---

5. **Answer: b**

Explanation:

The correct answer is ' **have been**'

⭐ <u>Key Points</u>

- According to grammar, when the subject of the sentence is plural then we need to use a plural verb for the subject.
- In the given sentence, the subject of the sentence is 'details' hence, we need to use a plural verb so instead of using 'has' we need to use 'have'

So the correct sentence is- *The details of the menu for today's party **have bee**n worked out.*

---

6. Answer: d

Explanation:

The correct answer is **'would have been'**

⭐ <u>Key Points</u>

- The given sentence is a conditional sentence as the sentence has one subordinate clause and the main clause. The subordinate clause has 'If' conjunction.
- The tense of the subordinate clause is 'had been' hence, this is a third conditional sentence.
- So we need to use a structure i.e. 'if + had + been + v$_3$' (subordinate clause), Subject + would + have + V$_3$.
- Let's see an example-
  - If you had told me about the meeting, I would have come.

Hence, the correct sentence is- *If the town had been built at a lower altitude, it **would have been** a lot warmer.*

---

7. Answer: b

Explanation:

Here the correct answer is **Stop working.**

⭐ <u>**Key Points**</u>

- Let's look at the **meaning** of the given phrase:-
- **Go off** - If a light or a machine goes off, it stops working. (काम करना बंद कर देना)
  - For Example - The lights **went off** in several villages because of the storm.
- Thus, the correct answer is **Option 2.**

---

8. **Answer: c**

Explanation:

The correct answer is **'another'**

⭐ <u>**Key Points**</u>

- In the given sentence, we get to know that an ordinary person has the choices from the simile used i.e. 'as important as' this simile is used when we do the comparison between the persons/things/etc.
- Hence, whenever two things are given and the first is known then we need to use a determiner 'the other' and the thing is not known there many things from which we need to select then we need to use 'another'
- So the correct answer is Option 3 i.e. 'another'

Hence, the correct sentence is-*To an ordinary person, one kind of oil is as important as another.*

⭐ <u>**Hinglish**</u>

- दिए गए वाक्य में प्रयुक्त **उपमा** अर्थात **'as important as'** से हमें पता चलता है कि एक सामान्य व्यक्ति के पास विकल्प होते हैं। इस उपमा का उपयोग तब किया जाता है जब हम व्यक्तियों/वस्तुओं/आदि के बीच तुलना करते हैं।

- इसलिए, जब भी दो चीजें दी जाती हैं और पहली ज्ञात होती है तो हमें एक निर्धारक **'the other'** का उपयोग करने की आवश्यकता होती है और बात ज्ञात नहीं होती है, जिसमें से हमें कई चीजों का चयन करने की आवश्यकता होती है, फिर हमें ' **another** ' का उपयोग करने की आवश्यकता होती है।
- तो सही उत्तर विकल्प 3 यानी ' **another** ' है।

---

9. **Answer: b**

Explanation:

The correct answer is **'start'**

⭐ **Key Points**

- Let's see the meanings of the given words-
  - **End-** the final part of something such as a period of time, activity, or story.
  - **Show-** to make it possible for something to be seen.
  - **Start-** to begin doing something.
  - **Hide-** to put something or someone in a place where that thing or person cannot be seen or found, or to put yourself somewhere where you cannot be seen or found.
  - **Close-** to (cause something to) change from being open to not being open.
- Hence, according to the meanings of the given words, the correct answer is **Option 2**

---

10. **Answer: c**

Explanation:

Here the correct answer is **Difference** .

⭐ **Key Points**

- Let's look at the **meaning** of the correct answer:-

- Difference - the way in which two or more things which you are comparing are not the same. (अंतर)
  - For Example - What's the **difference** between an ape and a monkey?
- Thus, the correct answer is **Option 3** .

---

11. Answer: a

Explanation:

The erroneous part is **'although having'**

⭐ **Key Points**

- In the given sentence, the usage of 'although' is incorrect instead of this use 'despite'
- According to grammar, 'although' is a conjunction, and whenever the conjunction is used when we need to use a clause and the clause has a subject and its own verb. But in the given sentence, although the clause doesn't have any verb it has gerund (noun) i.e. 'having' hence, we need to use a preposition.
- "Despite" is a preposition that means 'without being influenced or prevented by' which acts the same as the conjunction 'although/though' acts.
- We want the meaning of the sentence- Smitha don't have qualifications but still she has an offer of the job.

Hence, the correct sentence is-*Smitha was offered the job **despite** having no qualifications.*

⭐ **Hinglish**

- दिए गए वाक्य में, 'although' का प्रयोग गलत है, इसके बजाय हमें 'despite' का उपयोग करने की आवश्यकता है
- व्याकरण के अनुसार, 'although' एक संयोजन है और जब भी संयोजन का प्रयोग किया जाता है तो हमें एक खंड का उपयोग करने की आवश्यकता होती है और खंड में एक विषय और अपनी क्रिया होती है। लेकिन दिए गए वाक्य में, हालांकि खंड में कोई क्रिया नहीं है, लेकिन इसमें गेरुंड (संज्ञा) है, यानी 'having', इसलिए हमें एक पूर्वसर्ग का उपयोग करने की आवश्यकता है।

- "despite" एक पूर्वसर्ग का अर्थ है 'बिना प्रभावित या रोका हुआ' जो संयोजन के समान कार्य करता है 'यद्यपि/ यद्यपि' कार्य करता है।
- हम वाक्य का अर्थ चाहते हैं– स्मिता के पास योग्यता नहीं है लेकिन फिर भी उसके पास नौकरी का प्रस्ताव है।

अतः सही वाक्य है– *Smitha was offered the job despi **te** having no qualifications.*

---

12. Answer: c

Explanation:

The erroneous part is **'Sumanth is going'**

⭐ **Key Points**

- In the given sentence, the usage of 'is going' is incorrect instead of this we need to use 'goes'
- According to grammar, whenever we need to use the usual actions that we do regularly then we need to use the present simple tense. In the given, sentence, the present continuous tense is used which is incorrect.

Hence, the correct sentence is- *Sumanth **goes** to school by the school bus every day.*

---

13. Answer: a

Explanation:

Here the correct answer is **Technology** .

⭐ **Key Points**

- Let's look at the **meaning** of the correct answer:-
  - **Technology** - the application of scientific knowledge for practical purposes, especially in industry. (व्यावहारिक उद्देश्यों के लिए वैज्ञानिक ज्ञान का अनुप्रयोग, विशेष रूप से उद्योग में)

- For Example - **Technology** allowed us to peer deeper into the mysteries of the minuscule.
- Thus, the correct answer is **Option 1** .

⭐ <u>Additional Information</u>

- Let's look at the **meaning** of the other words given in options:-
  - **Technically** - according to the facts or exact meaning of something; strictly. (किसी चीज के तथ्यों या सटीक अर्थ के अनुसार; कठोरता से)
  - **Discovery** - the action or process of discovering or being discovered. (खोज)
  - **Engineering** - the branch of science and technology concerned with the design, building, and use of engines, machines, and structures; a field of study or activity concerned with modification or development in a particular area. (अभियांत्रिकी; इंजन, मशीनों और संरचनाओं के डिजाइन, निर्माण और उपयोग से संबंधित विज्ञान और प्रौद्योगिकी की शाखा; किसी विशेष क्षेत्र में संशोधन या विकास से संबंधित अध्ययन या गतिविधि का एक क्षेत्र)

---

14. **Answer: a**

Explanation:

The correct answer is **'didn't like'**

⭐ <u>Key Points</u>

- The negative of the present simple and past simple of all main verbs (except for being and some uses of having as main verbs) is made with auxiliary do + not, which is shortened to don't (do not), doesn't (does not) and didn't (did not).
- In the given sentence, the sentence is talking about the past tense hence, we need to use 'didn't like'
- Let's see an example-
  - I didn't recognize your dad, but I did recognize your mum.

Hence, the correct sentence is- I *didn't like* the film we saw yesterday.

15. Answer: c

Explanation:

The correct answer is **'Reject'**

⭐ **Key Points**

- Let's see the meanings of the given words-
  - **Confirm-** to make an arrangement or meeting certain, often by phone or writing एक व्यवस्था या बैठक निश्चित करने के लिए, अक्सर फोन या लिखकर
  - **Open-** not closed or fastened बंद या बन्धन नहीं
  - **Agree-** to have the same opinion एक ही राय रखने के लिए
  - **Reject-** to refuse to accept, use, or believe something or someone कुछ या किसी को स्वीकार करने, उपयोग करने या विश्वास करने से इनकार करने के लिए
  - **Accept-** to agree to take something कुछ लेने के लिए सहमत होना
- Hence, according to the meanings of the given words, the correct antonym is **Option 3.**

16. Answer: a

Explanation:

Here the correct answer is **Enter a building illegally.**

⭐ **Key Points**

- Let's look at the **meaning** of the given phrase:-
- **Break in** - to enter a building by force, especially in order to steal things. (किसी इमारत में बलपूर्वक प्रवेश करना, विशेष रूप से चीजों को चुराने के लिए)
  - For Example - Someone had **broken in** through the bedroom window.
- Thus, the correct answer is **Option 1.**

17. **Answer: d**

Explanation:

Here the correct answer is **Sufficient** .

⭐ <u>**Key Points**</u>

- Let's look at the **meaning** of the correct answer:-
  - **Sufficient** - enough for a particular purpose. (पर्याप्त)
    - For Example - This recipe should be **sufficient** for five people.
- Thus, the correct answer is **Option 4.**

18. **Answer: c**

Explanation:

The erroneous part is **'How many'**

⭐ <u>**Key Points**</u>

- In the given sentence, the usage of **'many'** is incorrect instead of this we need to use **'much'**
- 'How much' is the phrase that means 'used for asking or saying what the amount of something is'
- Let's see an example-
  - How much stuff is she taking with her?

So the correct sentence is-*How much* does the cricket bat cost?

19. **Answer: a**

Explanation:

The correct answer is **'Clear'**

⭐ **Key Points**

- Let's see the meanings of the given words-
    - **Evident-** easily seen or understood आसानी से देखा या समझा गया
    - **Clear-** easy to understand, hear, read, or see समझने, सुनने, पढ़ने या देखने में आसान
    - **Aimless-** without any clear intentions, purpose, or direction बिना किसी स्पष्ट इरादे, उद्देश्य या दिशा के
    - **Complex-** involving a lot of different but related parts बहुत से अलग लेकिन संबंधित भागों को शामिल करना
    - **Confusing-** Something that is confusing makes you feel confused because it is difficult to understand कुछ ऐसा जो भ्रमित करने वाला हो, आपको भ्रमित करता है क्योंकि इसे समझना मुश्किल है
- Hence, according to the meanings of the given words, the correct synonym is **Clear i.e. Option 1.**

---

20. **Answer: b**

Explanation:

The correct answer is **'Quiet'**

⭐ **Key Points**

- Let's see the meanings of the given words-
    - **Calm-** peaceful, quiet, and without worry शांतिपूर्ण, शांत और बिना किसी चिंता के
    - **Excited-** feeling very happy and enthusiastic बहुत खुश और उत्साहित महसूस कर रहा है
    - **Quiet-** making very little noise बहुत कम शोर करना
    - **Disturbed-** not thinking or behaving normally because of mental or emotional problems मानसिक या भावनात्मक समस्याओं के कारण सामान्य रूप से सोचना या व्यवहार नहीं करना
    - **Claim-** to say that something is true or is a fact, although you cannot prove it and other people might not believe it यह कहना कि कुछ सच है या तथ्य है, हालांकि आप इसे साबित नहीं कर सकते हैं और अन्य लोग इस पर विश्वास नहीं कर सकते हैं

- Hence, according to the meanings of the given words, the correct answer is **Option 2 i.e. Quiet.**

---

21. **Answer: c**

Explanation:

The correct answer is **'of'**

⭐ **Key Points**

- Many reports have said that in the context (1) _____ Covid-19 lockdown, schooling, and college education are likely to be online.
- In the given blank, we need a preposition so that we can connect two nouns i.e. 'context' and 'lockdown'
- "In the context of"- it is a phrase that means ' In or amid the surrounding words or event that gives something its complete, original, or genuine meaning.

So the correct passage will be:-*Many reports have said that in the context **(1) of** Covid-19 lockdown, schooling, and college education are likely to be online. The reports have (2)_____ pointed out that this change will deny the students the experience of studying in a physical (3)_____. This is because they can only interact with their teachers; they will miss the (4)_____ to get to know their classmates and make real friends. Thus, the current situation has (5)_____ many boys and girls and they are waiting for things to get back to normal.*

---

22. **Answer: d**

Explanation:

The correct answer is **'also'**

⭐ **Key Points**

- The reports have (2)_____ pointed out that this change will deny the students
- The given passage is all about COVID-19 lockdown.
- In the given passage, the sentence wants to say that the report further elaborates that this change will deny the students...
- Hence, we need to use 'also' because that means **'in addition'**

So the correct passage will be:- *Many reports have said that in the context (1) of Covid-19 lockdown, schooling, and college education are likely to be online. The reports have* **(2) also** *pointed out that this change will deny the students the experience of studying in a physical (3)_____. This is because they can only interact with their teachers; they will miss the (4)_____ to get to know their classmates and make real friends. Thus, the current situation has (5)_____ many boys and girls and they are waiting for things to get back to normal.*

23. **Answer: c**

Explanation:

The correct answer is **'campus'**

⭐ **Key Points**

- the experience of studying in a physical (3) _____ .
- Let's see the meanings of the given words-
  - **Condition-** the particular state that something or someone is in
  - **Area-** a particular part of a place, piece of land, or country
  - **Campus-** the buildings of a college or university and the land that surrounds them
  - **Situation-** the set of things that are happening and the conditions that exist at a particular time and place
- Hence, according to the meanings of the given words, the correct answer is **Option 3 i.e. campus.**
- The speaker is stressing that the reports pointed out that COVID-19 lockdown denies the experience of studying in a physical campus.

So the correct passage will be:-*Many reports have said that in the context (1) of Covid-19 lockdown, schooling, and college education are likely to be online. The reports have (2) also pointed out that this change will deny the students the experience of studying in a physical (3) campus . This is because they can only interact with their teachers; they will miss the (4)_____ to get to know their classmates and make real friends. Thus, the current situation has (5)_____ many boys and girls and they are waiting for things to get back to normal.*

---

24. **Answer: b**

Explanation:

The correct answer is **'opportunity'**

⭐ <u>**Key Points**</u>

- they will miss the (4) _____ to get to know their classmates and make real friends.
- Let's see the meanings of the given words-
  - **Reward-**something given in exchange for good behavior or good work, etc
  - **Opportunity-**an occasion or situation that makes it possible to do something that you want to do or have to do or the possibility of doing something
  - **Conduct-**to organize and perform a particular activity
  - **Award-** to give money or a prize following an official decision
- Hence, according to the meanings of the words, the correct answer is **Option 2.**

So the correct passage will be- *Many reports have said that in the context (1) of Covid-19 lockdown, schooling, and college education are likely to be online. The reports have (2) also pointed out that this change will deny the students the experience of studying in a physical (3) campus . This is because they can only interact with their teachers; they will miss the **(4) opportunity** to get to know their classmates and make real friends. Thus, the current situation has (5)_____ many boys and girls and they are waiting for things to get back to normal.*

25. **Answer: d**

Explanation:

The correct answer is **'upset'**

⭐ **Key Points**

- Thus, the current situation has (5) _____ many boys and girls and they are waiting for things to get back to normal.
- Let's see the meanings of the given words-
  - **supported-** to agree with and give encouragement to someone or something because you want him, her, or it to succeed
  - **encouraged-** to make someone more likely to do something, or to make something more likely to happen
  - **discourage-** to make someone feel less confident, enthusiastic, and positive about something, or less willing to do something
  - **upset-** to make someone worried, unhappy, or angry
- The speaker says that the current situation is so worse that many boys and girls are disheartened or get upset and think that when things get back to normal.
- So discourage can be the correct answer but it is grammatically incorrect since 'has' is used then we need to use the past participle form of the verb i.e. the third form of the verb hence, the upset third form is upset itself so the correct answer is **Option 4.**

So the correct passage will be:- *Many reports have said that in the context (1) of Covid-19 lockdown, schooling, and college education are likely to be online. The reports have (2) also pointed out that this change will deny the students the experience of studying in a physical (3) campus. This is because they can only interact with their teachers; they will miss the (4) opportunity to get to know their classmates and make real friends. Thus, the current situation has (5) upset many boys and girls and they are waiting for things to get back to normal.*

26. **Answer: d**

Explanation:

By using **BODMAS RULE** :

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

Option 1) : 42 and 49

Given equation : 42 ÷ 7 × 5 + 35 − 49 = 18

By interchanging 42 and 49 in given equation.

Interchanged equation is :

⇒ 49 ÷ 7 × 5 + 35 − 42 = 18

⇒ 7 × 5 + 35 − 42 = 18

⇒ 35 + 35 − 42 = 18

⇒ 70 − 42 = 18

⇒ 28 ≠ 18

LHS ≠ RHS

Option 2) : 35 and 49

Given equation : 42 ÷ 7 × 5 + 35 − 49 = 18

By interchanging 35 and 49 in given equation.

Interchanged equation is :

⇒ 42 ÷ 7 × 5 + 49 − 35 = 18

⇒ 6 × 5 + 49 − 35 = 18

⇒ 30 + 49 − 35 = 18

⇒ 79 − 35 = 18

⇒ 44 ≠ 18

LHS ≠ RHS

Option 3) : 5 and 35

Given equation : 42 ÷ 7 × 5 + 35 − 49 = 18

By interchanging 5 and 35 in given equation.

Interchanged equation is :

⇒ 42 ÷ 7 × 35 + 5 − 49 = 18

⇒ 6 × 35 + 5 − 49 = 18

⇒ 210 + 5 − 49 = 18

⇒ 215 − 49 = 18

⇒ 166 ≠ 18

LHS ≠ RHS

Option 4) : 42 and 35

Given equation : 42 ÷ 7 × 5 + 35 − 49 = 18

By interchanging 42 and 35 in given equation.

Interchanged equation is :

⇒ 35 ÷ 7 × 5 + 42 − 49 = 18

⇒ 5 × 5 + 42 − 49 = 18

⇒ 25 + 42 − 49 = 18

⇒ 67 − 49 = 18

⇒ 18 = 18

LHS = RHS

Hence, the correct answer is **"42 and 35"**.

---

27. **Answer: b**

Explanation:

The logic followed here is :-

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

Vowels opposite positional values is given and consonant its positional value is given.

'HOUSE' is written as '81261922'

```
 8     15    21    19     5
 H     [O]   [U]   S     [E]
       |     |            |
       Opposite  Opposite  Opposite
       |     |            |
 H     L     F     S      V
 8     12    6     19     22
```

and

'INK' is written as '181411'
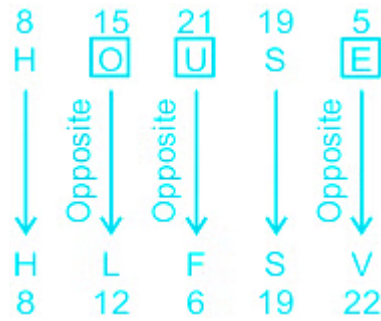
```
 9    14    11
[I]   N     K
 |
 Opposite
 |
 R    N     K
 18   14    11
```
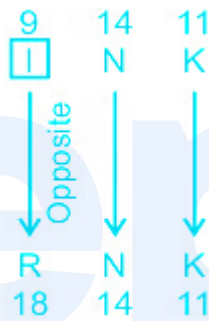
Similarly,

'MISTAKE' will be written as:

```
13    9     19    20     1     11    5
M    [I]    S     T     [A]    K    [E]
|     |     |     |      |      |    |
      Opposite        Opposite   Opposite
|     |     |     |      |      |    |
M     R     S     T      Z      K    V
13    18    19    20     26     11   22
```
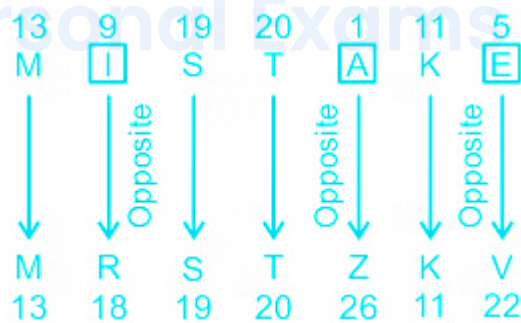
Hence, the correct answer is **"13181920261122"**.

---

28. **Answer: a**

Explanation:

The logic followed here is :-

Hence, the correct answer is **"100"**.

---

29. Answer: b

Explanation:

The figure that will replace the question mark (?) in the following figure series is shown below :

Hence, the correct answer is **"Option 2"**.

---
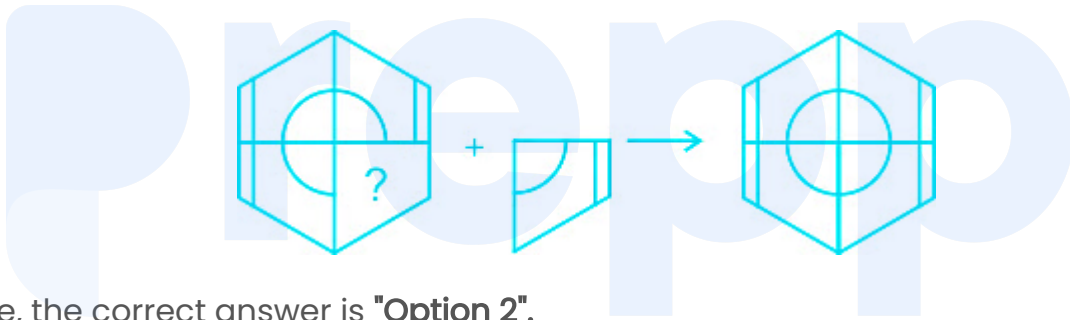
30. Answer: c

Explanation:

The least possible Venn diagram for given statements is as shown below :
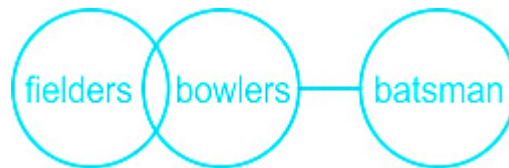
Conclusions:

I. No fielder is a batsman → False (No definite relation is given hence, false)

II. No batsman is a bowler → True (No bowler is batsman so, No batsman is a bowler is true)

Hence, the correct answer is **"Only conclusion II follows"**.

---

31. **Answer: a**

Explanation:

The logic followed here is :-

((Second number × 4) + First number) + (First number – Second number) = Third number

Row 1 → 25, 24, 122

⇒ 24 × 4 = 96

⇒ 96 + 25 = 121

⇒ 121 + (25 – 24)

⇒ 121 + 1 = 122

Row 2 → 31, 27, 143

⇒ 27 × 4 = 108

⇒ 108 + 31 = 139

⇒ 139 + (31 – 27)

⇒ 139 + 4 = 143

Row 3 → 35, 29, ?

⇒ 29 × 4 = 116

⇒ 116 + 35 = 151

⇒ 151 + (35 – 29)

⇒ 151 + 6 = 157

Hence, the correct answer is **"157"**.

---

32. Answer: d

Explanation:

The folded paper after unfolding then the image is as follows :-

Hence, the correct answer is **"Option 4"**.

---

33. Answer: c

Explanation:

The logic followed here is:-

On combining the given statements :

T > H > K > L ; K > Z = B ; K > V

Option 1) : T > L → True (as T > H > K > L → T > L)

Option 2) : V < T → True (as T > H > K ; K > V → V < T)

Option 3) : K = B → False (as K > Z = B → Clear relation between K and B cannot be determined)

Option 4) : H > Z → True (as T > H > K > L and K > Z = B → T > H > K > Z = B → H > Z)

Therefore T, K = B conclusion is not correct

Hence, the correct answer is **"K = B".**

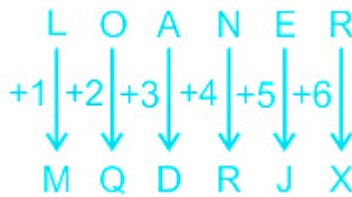34. **Answer: a**

Explanation:

The logic followed here is :-

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

CANVAS : DCQZFY
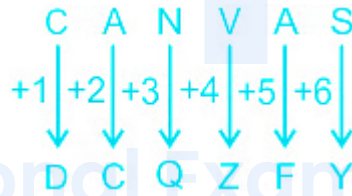
Similarly,

LOANER : ?

Hence, the correct answer is **"MQDRJX".**
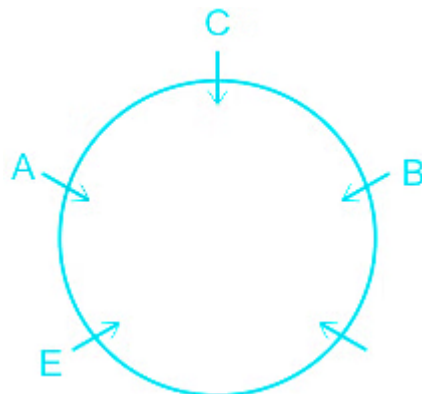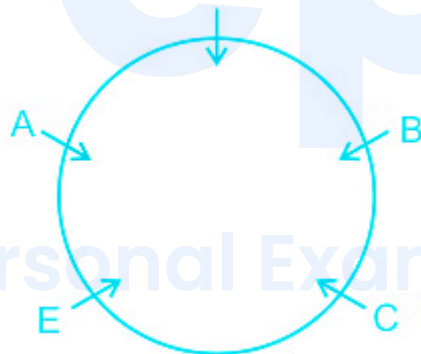
---

35. **Answer: a**

Explanation:

Five salesmen A, B, C, D and E are sitting in a meeting around a circular table.
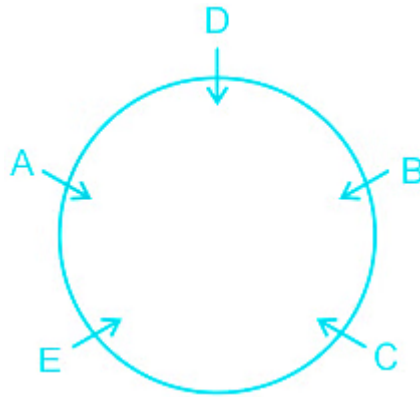
1) A is to the immediate left to E.
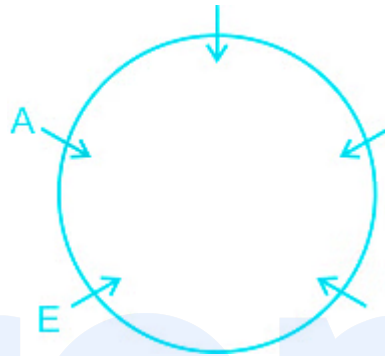
2) C is to the immediate left of B.

or

3)D is sitting between B and A.

∴ Here, 'B' is sitting at the second place to the right of E.

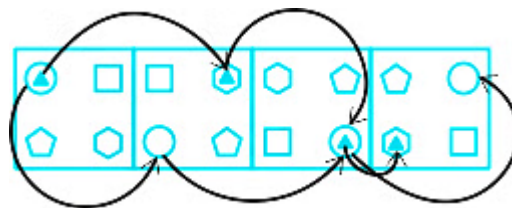Hence, the correct answer is **"B"** .

---

36. **Answer: c**

Explanation:

The figure that will replace the question mark (?) in the given figure series is shown below :

- Square, Pentagon, Circle, Hexagon shapes moves anticlockwise by one step.

- moves clockwise by one step from one shape to other shape.

Hence, the correct answer is **"Option 3"**.

---

37. **Answer: c**

Explanation:

The logic followed here is :-

Second number = (First number) ^{2} + (First number + 1) ^{2}

6 : 85 → 6 ^{2} + (6 + 1) ^{2} → 6 ^{2} + 7 ^{2} = 36 + 49 = 85

Similarly,

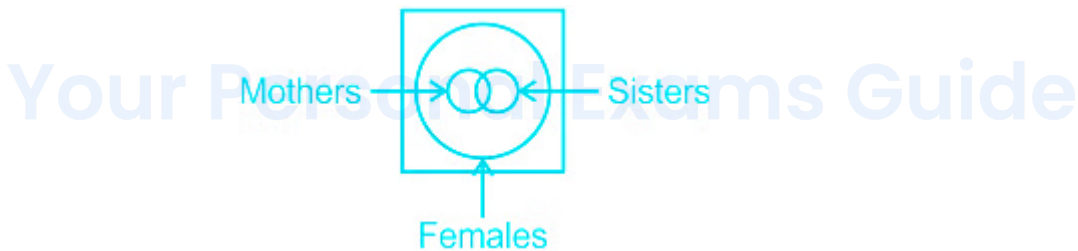12 : ? → 12 ^{2} + (12 + 1) ^{2} → 12 ^{2} + 13 ^{2} = 144 + 169 = 313

Hence, the correct answer is **"313"**.

---

38. Answer: b

Explanation:

The least possible Venn diagram for given relation is as shown below :

- All Mothers are Females.
- All Sisters are Females.
- Some Mothers can be Sisters and vice-versa.

Hence, the correct answer is **"Option 2"**.

---

39. Answer: c

Explanation:

The logic followed here is :-

Code : Square of number of alphabets in a word.

'FOSTER' is written as '36'

Number of letters in word FOSTER = 6 → 6^2 = 36

and

'DANCE' is written as '25'

Number of letters in word DANCE = 5 → 5^2 = 25

Similarly,

'ORCHARD' will be written as

Number of letters in word ORCHARD = 7 → 7^2 = **49**

Hence, the correct answer is **"49".**

---

40. **Answer: c**

Explanation:

The logic followed here is :-

Rupee is a part in currency

Similarly,

Summer is a period in season

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

---

41. **Answer: c**

Explanation:

The logic followed here is :-

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

```
        F   U   V
      +3  +3  +1
        ↓   ↓   ↓
        I   X   W
      +3  +3  +1
        ↓   ↓   ↓
        L   A   X
      +3  +3  +1
        ↓   ↓   ↓
       [O   D   Y]
      +3  +3  +1
        ↓   ↓   ↓
        R   G   Z
```
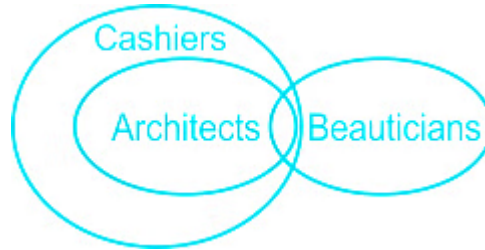
Hence, the correct answer is **"ODY"**.

---

42. **Answer: c**

Explanation:

The least possible Venn diagram for given statements is as shown below :

Conclusions:

I. Some architects are beauticians → True (Some beauticians are architects so, Some architects are beauticians is true)

II. Some cashiers are architects → True (All architects are cashiers so, Some cashiers are architects is true)

III. Some cashiers are beauticians → True (All architects are cashiers and Some beauticians are architects so, Some cashiers are beauticians is true)

Hence, the correct answer is **"All of the conclusions follow"**.
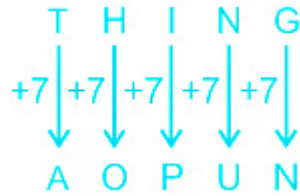
---

43. Answer: d

Explanation:

The logic followed here is :-

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

'ROMAN' is written as 'YVTHU' and 'THING' will be written as :

Similarly,

T H I N G
+7 +7 +7 +7 +7
↓ ↓ ↓ ↓ ↓
A O P U N

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

---

44. Answer: c

Explanation:

The logic followed here is :

Pleasant is the synonym of Pleasurable.

Similarly,

Exquisiteis the synonym of Excellent.
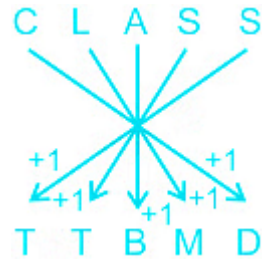
Hence, the correct answer is **"Exquisite "**.
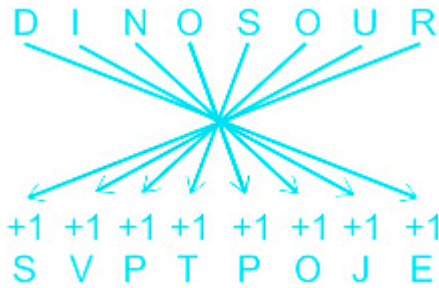
---

45. Answer: a

Explanation:

The logic followed here is :-

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

'CLASS' is written as 'TTBMD'

C L A S S

+1   +1
+1   +1
+1   +1

T T B M D

Similarly,

D I N O S O U R

+1 +1 +1 +1 +1 +1 +1 +1
S   V   P   T   P   O   J   E

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

---

46. Answer: c

Explanation:

The logic followed here is :-

50   86   111   127   136   140   141

+36   +25   +16   +9   +4   +1
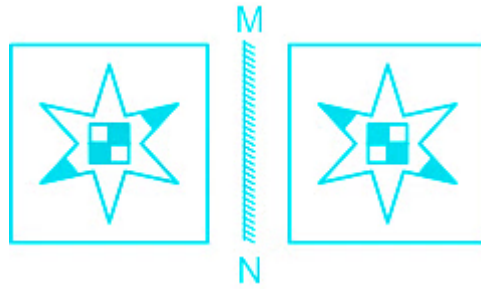(6^2) (5^2) (4^2) (3^2) (2^2) (1^2)
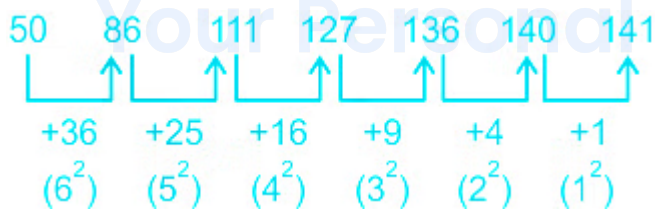
Hence, the correct answer is **"111"**.

---

47. Answer: a

Explanation:

The mirror image of the given figure is as shown below :

Hence, the correct answer is **"Option 1".**

---

48. **Answer: a**

Explanation:

By using BODMAS RULE :

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

A denotes 'addition', B denotes 'multiplication', C denotes 'subtraction', and D denotes 'division'

Alphabets	A	B	C	D
Symbols	+	×	–	÷

Given equation : 5 B 5 B 3 A 14 C (28 D 7) A 5 B (13 C 9)

After inserting symbols in place of alphabets the equation is :

= 5 × 5 × 3 + 14 – (28 ÷ 7) + 5 × (13 – 9)

= 5 × 5 × 3 + 14 – 4 + 5 × 4

= 75 + 14 – 4 + 20

= 109 – 4

= 105
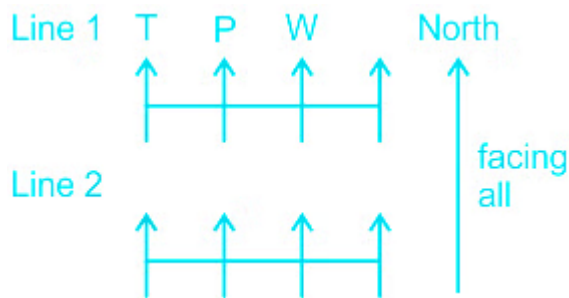
Hence, the correct answer is "105".

---

49. Answer: b

Explanation:

Eight friends P, Q, R, S, T, U, V and W are sitting in two lines, with four friends sitting in each line. Both the lines are facing north.
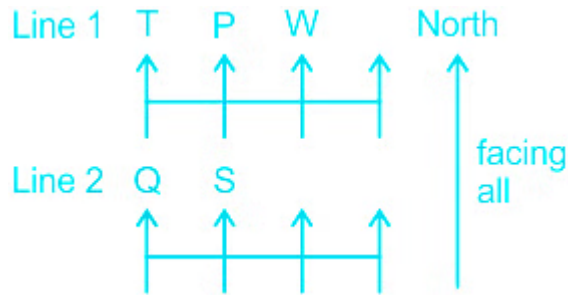
The four persons in the back line are exactly behind the four persons in the front line.
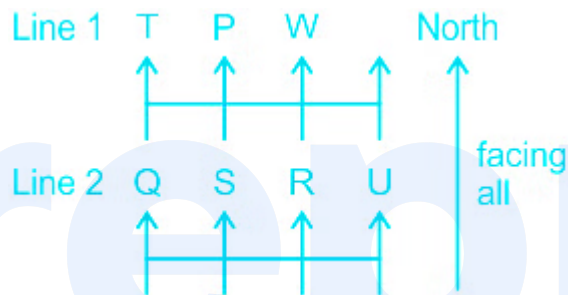
1) P is between T and W.
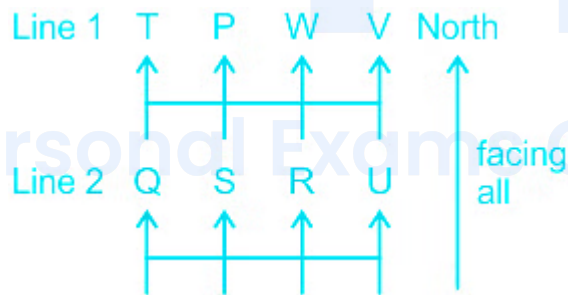
2) Q is just behind T.

3) Q, who is to the immediate left of S, is also at one of the corners in the back line.

```
Line 1   T    P    W         North
         ↑    ↑    ↑    ↑      ↑
         |────|────|────|      |
         |    |    |    |      |  facing
Line 2   Q    S                |  all
         ↑    ↑    ↑    ↑
         |────|────|────|
```

4) R is between S and U.

```
Line 1   T    P    W         North
         ↑    ↑    ↑    ↑      ↑
         |────|────|────|      |
         |    |    |    |      |  facing
Line 2   Q    S    R    U      |  all
         ↑    ↑    ↑    ↑
         |────|────|────|
```

5) Sitting position of all 8 people is :

```
Line 1   T    P    W    V   North
         ↑    ↑    ↑    ↑    ↑
         |────|────|────|    |
         |    |    |    |     |  facing
Line 2   Q    S    R    U     |  all
         ↑    ↑    ↑    ↑
         |────|────|────|
```

∴ Here, W is sitting between P and V.

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

---

50. **Answer: b**

Explanation:

On close observation we can find problem figure is embedded in option (4) as shown below.

Hence, the correct answer is **"Option 2".**

---

51. **Answer: c**

Explanation:

Calculation:

The total number of workers whose daily wages are less than Rs. 550 = (20 + 25 + 30) = 75

The total number of workers whose daily wages are Rs. 550 and above = (25 + 40 + 60) = 125

The total number of workers whose daily wages are less than Rs. 550 to the total number of workers whose daily wages are Rs. 550 and above

$\Rightarrow [(125 - 75)/125 \times 100]$

$\Rightarrow (50/125 \times 100)$

$\Rightarrow 40\%$

∴ The required percentage is 40%

---

52. **Answer: c**

Explanation:

Given:

The ratio of two numbers = 7 : 9

The sum of their squares = 8320

Calculation:

Let the ratio of two numbers be 7x and 9x respectively

According to the question

$\Rightarrow (7x)^2 + (9x)^2 = 8320$

$\Rightarrow 49x^2 + 81x^2 = 8320$

$\Rightarrow 130x^2 = 8320$

$\Rightarrow x^2 = 64$

$\Rightarrow x = 8$

Now,

The first number = $(7 \times 8) = 56$

The second number = $(9 \times 8) = 72$

The sum of the two numbers = $(56 + 72)$

$\Rightarrow 128$

∴ The required sum is 128

---

53. **Answer: a**

Explanation:

Given:

The first number is three-fourth of the second number

The average of the reciprocals of the two numbers = 7/72

Formula used:

Average = sum of observations/Number of observations

Calculation:

Let the second number be x

Then,

The first number be 3x/4

Now,

The average of the reciprocals of the two numbers

$\Rightarrow (4/3x + 1/x)/2 = 7/72$

$\Rightarrow (4 + 3)/3x/2 = 7/72$

$\Rightarrow 7/3x/2 = 7/72$

$\Rightarrow 7/3x = 14/72$

$\Rightarrow 7/3x = 7/36$

$\Rightarrow x = 12$

Now,

The first number = 3x/4 = (3 × 12)/4 = 9

The second number = x = 12

The sum of the two number = (9 + 12)

$\Rightarrow 21$

∴ **The required sum is 21**

54. Answer: a

Explanation:

Given:

Loss = 18%

Selling price of an article = Rs. 2,475

Profit = 12%

Formula used:

CP = [SP/(100 + profit%) × 100]

Calculation:

Let the Cost price be 100x

Sell at 18% loss = (100x − 18x) = 82x

Sell at 12% profit = (100x + 12x) = 112x

Now,

⇒ (112x − 82x) = Rs. 2,475

⇒ 30x = 2,475

⇒ x = 82.5

The Cost price of an article = 100x = Rs. (100 × 82.5)

⇒ Rs. 8,250

∴ The Cost price of an article is Rs. 8,250

55. **Answer: d**

Explanation:

Given:

The given numbers = 18, 32 and 48

Concept used:

LCM - The smallest positive integer that is evenly divisible by both a and b

Calculation:

The smallest four digit number = 1000

LCM of 18, 32 and 48

$\Rightarrow$ 18 = 2 × 3 × 3

$\Rightarrow$ 32 = 2 × 2 × 2 × 2 × 2

$\Rightarrow$ 48 = 2 × 2 × 2 × 2 × 3

LCM = 2 × 2 × 2 × 2 × 2 × 3 × 3 = 288

Now,

Divide the smallest four digit number by 288, we get the remainder = 136

Now,

$\Rightarrow$ (288 − 136) = 152

The smallest four digit number which is exactly divisible by 18, 32 and 48 = (1000 + 152)

$\Rightarrow$ 1152

∴ **The required number is 1152**

56. **Answer: d**

Explanation:

Given:

The ratio of the three boxes of marbles = 3 : 5 : 7

The total number of marbles = 75

Calculation:

Let the ratio of the three boxes of marbles be 3x, 5x and 7x respectively

⇒ (3x + 5x + 7x) = 75

⇒ 15x = 75

⇒ x = 5

The marbles in A = 3x = (3 × 5) = 15

The marbles in B = 5x = (5 × 5) = 25

The marbles in C = 7x = (7 × 5) = 35

Now,

3 marbles are transferred from B to A

⇒ The marbles in B = (25 − 3) = 22

⇒ And, The marbles in A = (15 + 3) = 18

Again,

5 marbles are transferred from C to B

⇒ The marbles in C = (35 − 5) = 30

⇒ And, The marbles in B = (22 + 5) = 27

So,

The new ratio of the marbles A, B and C = (18 : 27 : 30)

⇒ 6 : 9 : 10

∴ **The required ratio is 6 : 9 : 10**

---

57. **Answer: c**

Explanation:

Given:

Length = 48 cm
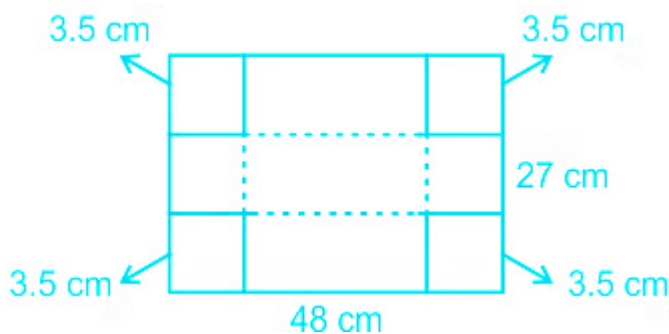
Breadth = 27 cm

Height = 3.5 cm

Formula used:

Volume of the box = l × b × h

Calculation:

Length of the box = [48 − (2 × 3.5)] = (48 − 7)

⇒ 41 cm

Breadth of the box = [27 − (2 × 3.5)] = (27 − 7)

⇒ 20 cm

Height of the box = 3.5 cm

Now,

Volume of the box = (41 × 20 × 3.5) cm^3

⇒ 2870 cm^3

∴ The volume of the box is 2870 cm^3

---

58. **Answer: a**

Explanation:

Calculation:

The total number of workers whose daily wages are less than Rs. 500 = (20 + 25) = 45

The total number of workers whose daily wages are Rs. 600 and above = (40 + 60) = 100

The ratio of the total number of workers whose daily wages are less than Rs. 500 to the total number of workers whose daily wages are Rs. 600 and above

⇒ (45 : 100)

⇒ 9 : 20

∴ The required ratio is 9 : 20

---

59. **Answer: a**

Explanation:

Given:

The sum of three numbers = 396

The ratio between the first and the second number = 7 : 11

The ratio between the second and the third number = 11 : 15

Calculation:

Let the first, second and third number be 7x, 11x and 15x respectively

According to the question

$\Rightarrow (7x + 11x + 15x) = 396$

$\Rightarrow 33x = 396$

$\Rightarrow x = 12$

Now,

The first number = 7x = (7 × 12) = 84

The third number = 15x = (15 × 12) = 180

Now,

The difference between the first and third number = (180 − 84)

$\Rightarrow 96$

∴ **The required difference is 96**

---

60. **Answer: c**

Explanation:

Given:

An article was sold at 65% of its marked price

There was a gain = 30%

Calculation:

Let the Cost price be 100 and Marked price be x

According to the question

An article was sold at 65% of its marked price = (65% of x)

And there was a gain = (130% of 100)

Now,

⇒ (65/100 × x) = (130/100 × 100)

⇒ 13x/20 = 130

⇒ 13x = (130 × 20)

⇒ x = (130 × 20)/13

⇒ x = 200

Now,

The ratio of the marked price to cost price = (200 : 100)

⇒ 2 : 1

∴ The required ratio is 2 : 1

---

61. **Answer: d**

Explanation:

Given:

The area of the base of a cylinder = 346.5 cm^2

The curved surface area = 990 cm^2

Formula used:

Area of the base of the cylinder = πr^2

Area of the curved surface = $2\pi rh$

Calculation:

The area of the base of a cylinder = πr^2

$\Rightarrow$ 22/7 $\times$ r^2 = 346.5 cm^2

$\Rightarrow$ 22r^2/7 = 346.5

$\Rightarrow$ 22r^2 = 2,425.5

$\Rightarrow$ r^2 = 110.25

$\Rightarrow$ r = 10.5 cm

Now,

Area of the curved surface = $2\pi rh$

$\Rightarrow$ 2 $\times$ 22/7 $\times$ 10.5 $\times$ h = 990 cm^2

$\Rightarrow$ 66h = 990 cm^2

$\Rightarrow$ h = 990/66 cm^2

$\Rightarrow$ h = 15 cm

$\therefore$ **The required height is 15 cm**

62. **Answer: c**

Explanation:

Concept Used:

Follow the BODMAS rule according to the table given below:

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

Calculation:

$(5 + 4^2) \div 3$ of $x − 2 \times 4 = −7$

$\Rightarrow (5 + 16) \div 3$ of $x − 2 \times 4 = −7$

$\Rightarrow 21 \div 3$ of $x − 2 \times 4 = −7$

$\Rightarrow 21 \div 3x − 2 \times 4 = −7$

$\Rightarrow 21 \times 1/3x − 2 \times 4 = −7$

$\Rightarrow 7/x − 2 \times 4 = −7$

$\Rightarrow 7/x − 8 = −7$

$\Rightarrow 7/x = −7 + 8$

$\Rightarrow 7/x = 1$

$\Rightarrow x = 7$

∴ The required value of x is 7

---

63. **Answer: c**

Explanation:

Given:

Volume of the sphere = $65\frac{10}{21}$ cm^3

Formula used:

Volume of the sphere = 4/3πr^3

Surface area of the sphere = 4πr^2

Calculation:

Volume of the sphere = $65\frac{10}{21}$ cm^3 = 1375/21 cm^3

⇒ 4/3 × 22/7 × r^3 = 1375/21

⇒ 88r^3/21 = 1375/21

⇒ r^3 = (1375/88)

⇒ r^3 = 125/8

⇒ r = 5/2

Now,

Surface area of the sphere = (4 × 22/7 × 25/4) cm^2

⇒ 550/7 cm^2

⇒ $78\frac{4}{7}$ cm^2

∴ The required surface area is $78\frac{4}{7}$ cm^2

64. **Answer: b**

Explanation:

⭐ <u>Shortcut Trick</u>

The rate is increased by 3% and the given time is 5 years.

The new amount = Previous amount + [(3 × 5)% of 8500]

⇒ 11900 + 1275

⇒ Rs. 13,175

∴ The increased amount is Rs. 13,175.

Traditional method:

Given:

Principal = Rs. 8500

Amount = Rs. 11900

Time = 5 years

Formula used:

$SI = (P × R × T)/100$

$SI = A − P$

Calculation:

According to the question

$SI = A − P$

⇒ SI = Rs. (11900 − 8500) = Rs. 3400

Now,

SI = (P × R × T)/100

⇒ Rs. 3400 = (8500 × R × 5)/100

⇒ R = (680/85)

⇒ R = 8%

Now,

The rate of interest is increased by 3% = (8 + 3)% = 11%

SI = Rs. (8500 × 11 × 5)/100

⇒ SI = Rs. 4675

Now,

A = P + SI

⇒ Rs. (8500 + 4675)

⇒ Rs. 13175

∴ The required amount is Rs. 13,175

---

65. **Answer: c**

Explanation:

Given:

A certain number of persons can complete a piece of work = 46 days

If there were 8 persons more, the work could be finished = 16 days less

Calculation:

Let there be x men originally

x men finish the work = 46 days

And, (x + 8) persons finish the work = (46 – 16) = 30 days

x men finish the work = 46

1 man finish the work = 46x

(x + 8) persons finish the work = 30

1 man finish the work = 30(x + 8)

Now,

⇒ 46x = 30(x + 8)

⇒ 46x = 30x + 240

⇒ 16x = 240

⇒ x = 15

∴ There were 15 persons

66. **Answer: a**

Explanation:

Given:

The average of seven consecutive odd numbers = 27

Formula used:

Average = sum of observations/Number of observations

Calculation:

Let the 7 numbers are (x – 6), (x – 4), (x – 2), x, (x + 2), (x + 4), (x + 6)

Now, the sum = 7x

27 = 7x/7

x = 27

The last number is removed from the list, that means (x + 6) is removed

New sum = (x – 6) + (x – 4)+(x – 2)+ x +(x + 2) + (x + 4)

Average = (6x – 6)/6 = (162 – 6)/6 = 26

⭐ **Alternate Method**

Given:

The average of seven consecutive odd numbers = 27

Formula used:

Average = sum of observations/Number of observations

Calculation:

Let the 7 numbers are (n), (n + 2), (n + 4), (n + 6), (n + 8), (n + 10), (n + 12)

$$27 = \frac{(n)+(n+2)+(n+4)+(n+6)+(n+8)+(n+10)+(n+12)}{7}$$

n = 21

If the last number is removed from the list,

$$Average = \frac{(n)+(n+2)+(n+4)+(n+6)+(n+8)+(n+10)}{6}$$

$$Average = \frac{21+23+25+27+29+31}{6}$$

Average = 26

67. **Answer: d**

Explanation:

Given:

Length of the cuboid = 36 cm

Breadth of the cuboid = 54 cm

Height of the cuboid = 24 cm

It is melted and recast into 8 cubes of same volume

Formula used:

Volume of the cuboid = lbh

Volume of the cube = a^3

Surface area of cube = $6a^2$

Calculation:

According to the question

$\Rightarrow (36 \times 54 \times 24) = 8 \times a^3$

$\Rightarrow 46{,}656 = 8a^3$

$\Rightarrow a^3 = 5832$

$\Rightarrow a = 18$

Now,

The sum of the surface areas of these 8 cubes = $8 \times (6a^2)$

$\Rightarrow (8 \times 6 \times 18 \times 18)\ cm^2$

$\Rightarrow 15552\ cm^2$

∴ The required surface area is 15552 cm^2

NOTE:

Whenever a question asks about the surface area you have to assume it is total surface area unless the lateral surface area is not written.

---

68. Answer: c

Explanation:

Given:

The income of a company increases = 25% per year

The income in the year 2017 = Rs. 31,25,000

Calculation:

Let the income in the year 2015 be x

According to the question

⇒ x × 125/100 × 125/100 = 31,25,000

⇒ x × 5/4 × 5/4 = 31,25,000

⇒ 25x/16 = 31,25,000

⇒ 25x = (31,25,000 × 16)

⇒ x = (31,25,000 × 16)/25

⇒ x = (125,000 × 16)

⇒ x = Rs. 20,00,000

∴ The income in 2015 is Rs. 20,00,000

---

69. Answer: c

Explanation:

Given:

Discount = 22% and 14.5%

The difference = Rs. 285

Calculation:

Let the Marked price be 100x

According to the question

$\Rightarrow (22x - 14.5x) = 285$

$\Rightarrow 7.5x = 285$

$\Rightarrow x = 38$

Now,

The Marked price = 100x = Rs. (100 × 38)

$\Rightarrow$ Rs. 3800

$\therefore$ The marked price of the article Is Rs. 3800

---

70. **Answer: d**

Explanation:

Given:

A man covered a distance of 280 km in 8 hours on a motorcycle.

He rides the bicycle at $\frac{3}{14}$ of the speed of the motorcycle

Formula used:

Speed = Distance/Time

Distance = Speed × Time

Calculation:

Speed of a motorcycle = (280/8) = 35 km/hr

Now,

He rides the bicycle at $\frac{3}{14}$ of the speed of the motorcycle

⇒ (3/14 × 35) km/hr

⇒ 15/2 km/hr

Now,

Distance covered by bicycle = (15/2 × 2) km

⇒ 15 km

∴ **The required distance covered by bicycle is 15 km**

---

71. **Answer: b**

Explanation:

Given:

Time taken by A to complete the work = 15 days

Time taken by B to complete the work = 25 days

A and B worked together = 5 days

The remaining work was completed by A and C = 4 days

Formula used:

Work = Efficiency × Time

Calculation:

LCM of 15 and 25 is 75

Efficiency of A = (75/15) = 5 unit/days

Efficiency of B = (75/25) = 3 unit/days

Time taken by A and B together = [5 × (5 + 3)]

⇒ 40 days

The Remaining work = (75 − 40) = 35 unit

The remaining work was completed by A and C = (35/4) = 8.75

Now,

1 day work of C = (8.75 − 5) = 3.75

Time taken by C alone to complete the work = (75/3.75)

⇒ 20 days

∴ The time taken by C to complete the work is 20 days

72. **Answer: a**

Explanation:

Given:

Principal = Rs. 4800

Amount = Rs. 5547

Time = 2 years

Formula used:

$A = P(1 + r/100)^t$

Calculation:

According to the question

$A = P(1 + r/100)^t$

$\Rightarrow 5547 = 4800 \times (1 + r/100)^2$

$\Rightarrow (1 + r/100)^2 = (5547/4800)$

$\Rightarrow (1 + r/100)^2 = (1849/1600)$

$\Rightarrow (1 + r/100)^2 = (43/40)^2$

$\Rightarrow (100 + r)/100 = 43/40$

$\Rightarrow (100 + r)/5 = 43/2$

$\Rightarrow 200 + 2r = 215$

$\Rightarrow 2r = (215 - 200)$

$\Rightarrow 2r = 15$

$\Rightarrow r = 7.5\%$

$\therefore$ The rate of percent is 7.5%

---

73. **Answer: d**

Explanation:

Given:

The mean of 25 numbers = 14.

3 is added to every number

Formula used:

Mean = Total number of observation/Number of observation

Calculation:

The mean of 25 numbers = (25 × 14) = 350

If 3 is added to every number

⇒ New total = 350 + 25 × 3

⇒ 350 + 75

⇒ 425

Now,

New mean = 425/25

⇒ 17

∴ **The new mean is 17**

---

74. **Answer: c**

Explanation:

Given:

Walking at his usual speed = 3/5

A man covers a certain distance = 1 hour 40 min more than the time he takes to cover the distance at his usual speed.

Calculation:

Let the distance and usual speed be x and y respectively

According to the question

$\Rightarrow x/(3/5 \times y) - (x/y) = (1\ hr + 40/60)$

$\Rightarrow x/(3y/5) - (x/y) = 5/3$

$\Rightarrow 5/3(x/y) - (x/y) = 5/3$

$\Rightarrow x/y \times (5/3 - 1) = 5/3$

$\Rightarrow x/y \times (5 - 3)/3 = 5/3$

$\Rightarrow x/y \times 2/3 = 5/3$

$\Rightarrow 2x/3y = 5/3$

$\Rightarrow 6x = 15y$

$\Rightarrow 2x = 5y$

$\Rightarrow x/y = 5/2$

∴ **The time taken by him to cover the same distance at is usual speed is 5/2 hours**

Short trick

since the distance is same,

let initial speed = V

initial time = t min

final speed is = 3/5 V = 0.6V

Final time = t +100

As we know,

Distance = speed × time

D = V × t = 0.6 V × (t + 100)

t = 150 min = 5/2 hrs

75. Answer: d

Explanation:

Calculation:

Total number of workers = 200

The workers whose daily wages are less than Rs. 500 = (20 + 25) = 45

The percentage of workers whose daily wages are less than Rs. 500 = (45/200 × 100)

⇒ 22.5%

The workers whose daily wages are Rs. 600 and above = (40 + 60) = 100

The percentage of workers whose daily wages are Rs. 600 and above = (100/200 × 100)

⇒ 50%

Now,

The difference between the percentage of workers whose daily wages are less than Rs. 500 and the percentage of workers whose daily wages are Rs. 600 and above = (50 − 22.5)%

⇒ 27.5%

∴ The required difference is 27.5%

76. Answer: b

Explanation:

The correct answer is <u>Maharashtra</u>.

- **Powada is the traditional folk art from Maharashtra.**

⭐ **Key Points**

- The word **Powada** itself means "the narration of a story in glorious terms".
  - The narratives are always odes in praise of an individual hero or an incident or place.
  - The chief narrator is known as the Shahir who plays the duff to keep the rhythm.
  - The tempo is fast and controlled by the main singer who is supported by others in the chorus.
  - The earliest notable Powada was the Afzal Khanacha Vadh (The Killing of Afzal Khan) (1659) by Agnidas which recorded Shivaji's encounter with Afzal Khan.

⭐ **Additional Information**

- **List of folk dances of different states in India:**
  - **Gujarat** - Garba, Dandiya Ras, Tippani Juriun, Bhavai.
  - **Rajasthan** - Ghumar, Chakri, Ganagaur, Jhulan Leela, Jhuma, Suisini, Ghapal, Kalbeliya.
  - **Kerala** - Kathakali (Classical), Ottam Thulal, Mohiniattam, Kaikottikali.
  - **Maharashtra** - Lavani, Nakata, Koli, Lezim, Gafa, Dahikala Dasavtar or Bohada.

---

77. **Answer: c**

Explanation:

The correct answer is <u>Haryana</u>.

- **Haryana** has been home to different kinds of terracotta art and sculpture since the Harappan times.
  - Besides, the youth from the State have also been experimenting with various forms of contemporary art.
  - <u>Bhiti Chitra (fresco painting) of Haryana is also quite famous</u>.

⭐ <u>Important Points</u>

- **Mata Mansa Devi Temple, Kalayat Kapil Muni Temple and Havelis at Bhiwani** possess illustrious examples of such paintings, which portray stories from the Jatakas through folk motives and also tell the stories of social development of that time.
- **Haryana** is also famous for its handloom products like **shawls, durries, and lungis** .
  - The **durries from Haryana** often come embellished with spectacular geometric designs.
  - Durries with white triangles set against blue backgrounds are especially quite popular.
  - Panipat is an important centre of durrie making in the State.

---

78. **Answer: d**

Explanation:

The correct answer is <u>**Adam's apple**</u>.

- <u>**The growing voice box in boys can be seen as a protruding part of the throat called Adam's apple**</u>.
  - When the larynx enlarges during puberty, it sticks to the front of the throat.
  - This is the enlarged voice box or larynx that enlarges at the beginning of puberty and is visible from the outside.
  - Everyone's larynx grows during puberty, but a girl's larynx does not grow as much as a boy's.

⭐ <u>Additional Information</u>

| Parts	Description
Bronchi	- The **bronchi** are two large tubes that carry air from your trachea to your lungs. - A left and right main bronchus in each lung. - After the main bronchi, these ducts divide into segments that look like branches of trees. - Many respiratory conditions, such as asthma or bronchitis, can affect your bronchi.
Thyroid cartilage	- A small organ in the front of your neck that produces substances (hormones) that control the way your body moves and functions.
Trachea	- The **trachea** is the long tube that connects your larynx (voice box) to your bronchi. - Bronchi send air to your lungs. - **Trachea** is an important part of your **respiratory system** . - The trachea is made up of **rings of cartilage** . - It is lined with cells that produce mucus.

79. **Answer: c**

Explanation:

The correct answer is <u>Thallophyta</u>.

- <u>Litmus solution is a purple dye, extracted from lichens, a plant belonging to the Thallophyta division</u>, and is commonly used as an indicator.
  - When litmus solution is neither acidic nor alkaline, its color is purple.

- The main use of litmus is to test whether a solution is acidic or alkaline, as blue litmus paper turns red under acidic conditions, and red litmus paper turns blue under alkaline or alkaline conditions.
- Neutral litmus paper is purple.
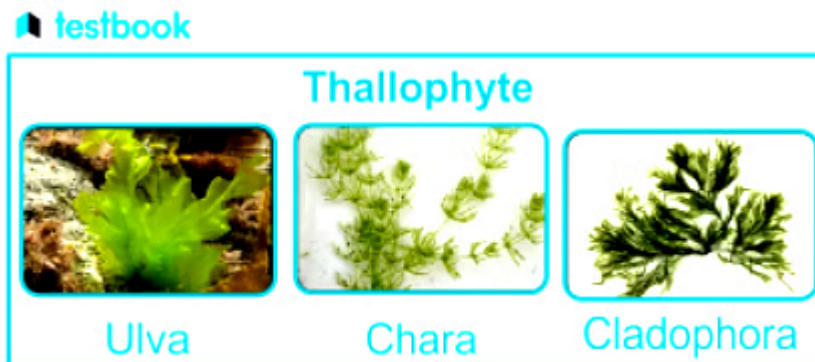
⭐ <u>Additional Information</u>

- **Classification of Kingdom Plantae**
  - The plant kingdom is classified into five subgroups according:
    - **Thallophyta**: Thallophyta includes plants with primitive and simple body structure.
      - The plant body is a thallus, they can be filamentous, colonial, branched or unbranched.
      - Examples include green algae, red algae and brown algae.
      - **Common examples are** Volvox, Fucus, Spirogyra, Chara, Polysiphonia, Ulothrix etc.
    - **Bryophyta**: Bryophytes do not have vascular tissue.
      - The plant body consists of **root-like, stem-like and leaf-like structures**.
      - Bryophytes are terrestrial plants but are known as "**amphibians of the plant kingdom**" because they require water for sexual reproduction.
      - They are present in moist and shady places. Bryophyta includes mosses, hornworts and liverworts.
      - **Some common examples are** Marchantia, Funaria, Sphagnum, Anthoceros etc.
    - **Pteridophyta**: Pteridophytes consist of a **well differentiated plant body** in root, stem and leaves.

- They have a vascular system for conducting water and other substances.
  - **Some common examples** are Selaginella, Equisetum, Pertis etc.
- **Gymnosperms**: Gymnosperms have a well differentiated plant body and vascular tissue.
  - They bear naked seeds, i.e. the seeds are not enclosed within a fruit.
    - **Some common examples** of gymnosperms are Cycas, Pinus, Ephedra, etc.
- **Angiosperms**: Angiosperms are seed-bearing vascular plants with a well-differentiated plant body.
  - The seeds of angiosperms are enclosed within the fruits.

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80. **Answer: b**

Explanation:

The correct answer is <u>Stigma</u>.

- <u>The stigma is the sticky surface at the top of the pistil; it traps and holds the pollen</u>.
  - The style is the tube-like structure that holds up the stigma.

⭐ <u>Key Points</u>

- The **carpel** is the fourth whorl of the flower present in the center.
  - The carpels contain the pistil, the **female reproductive part of the flower** .
  - It comprises the **ovary, style, and stigma** .
  - The egg or the ovule is present in the ovary.
  - After fertilization, sometimes the ovary turns into the fruit to keep the seed.
  - At the top of the ovary is a vertical structure called style that supports the stigma.
  - The dispersed pollens stick to the stigma and travel down to the ovary through the style.

⭐ <u>Additional Information</u>

Flower Parts	Description
Style	• It is the long tube-like slender stalk that connects the stigma and the ovary.
Stigma	• It is the topmost part or receptive tip of carpels in the gynoecium of a flower.
Sepal	• The sepal is the green part on the underside of the petals to protect the growing buds.
Ovary	• It is the ductless reproductive gland that holds a lot of ovules. • It is the part of the plant where the **seed formation takes place** .

Stamen	• It is the **male reproductive organ** and is also known as the **androecium** .
	• It consists of two parts:
	  ○ **The anther** is a yellow-colored, sac-like structure, which is involved in the production and storage of pollen.
	  ○ The **filament** is a thin, thread-like object that functions by supporting the anther.

81. Answer: a

Explanation:

The correct answer is <u>Kauna</u>.

- <u>Imphal valley of Manipur is the centre for kauna crafts</u>.

⭐ <u>Key Points</u>

- The **Imphal Valley (or Manipur Valley)** is located in the Indian state of Manipur and is an irregular almost oval-shaped valley that was formed as a result of several small rivers that originate from the hilly areas surrounding the valley and flow through it.
  - Water in the Imphal valley is brought by several rivers that flow through the valley, such as the **Imphal River, Iril River, Thoubal River, Khuga River and Sekmai River** .

⭐ <u>Additional Information</u>

- **Tattooing is an age-old tradition of India** in general and tribal societies in particular. In Northern and Central India, tattooing is popularly known as '**Godna** .
- Mishing Tribe (Traditional Items)
  - Ganro Ugan – Dhuti
  - Mibo Galuk – Half Jacket
  - Gero – Riha
  - Ribi Gaseng – Scarf
  - **Gadu (Mirijims) – Blanket**

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82. **Answer: c**

Explanation:

The correct answer is <u>Aluminium</u>.

- <u>**Aluminium smelting is the second most important metallurgical industry in India**</u>.
  - It is lightweight, resistant to corrosion, a good conductor of heat, malleable and becomes strong when mixed with other metals.
  - It is used for the manufacture of aircraft, utensils and wires.
  - There are 8 aluminium smelting plants in the country located in **Odisha (formerly Orissa) (Nalco and Balco), West Bengal, Kerala, Uttar Pradesh, Chhattisgarh, Maharashtra and Tamil Nadu** .

○ Bauxite: It is used as raw material.

⭐ Key Points

- Major Aluminium Producing Plant in India
  ○ The Indian Aluminium Company Ltd. (INDAL), Hirakud
  ○ The Aluminium Corporation of India, Jaykaynagar (near Asansol)
  ○ The Hindustan Aluminium Corporation Ltd. (HINDALCO), Renukoot
  ○ The Madras Aluminium Company Ltd. (MALCO), Mettur
  ○ The Bharat Aluminium Company Ltd. (BALCO), Korba
  ○ The National Aluminium Company Ltd. (NALCO), Koraput

⭐ Important Points

- The iron and steel industry is the most significant industries in India .

83. **Answer: b**

Explanation:

The correct answer is 1961.

- The annexation of Goa was the process in which the Republic of India annexed the erstwhile Portuguese Indian territories of Estado da India, Goa, Daman and Diu, beginning with an armed action by the Indian Armed Forces in December 1961.
  ○ In India, this action is known as the " **liberation of Goa** ".
  ○ In Portugal, this is known as the "Invasion of Goa".
  ○ Dadra and Nagar Haveli had already been declared independent by the local people.

⭐ Additional Information

- Goa :
  ○ Formation of state -30 May 1987
  ○ Capital -Panaji (Panjim)
  ○ Largest city - Vasco da Gama

- Districts -2
- Parliamentary constituency -Rajya Sabha (1), Lok Sabha (2)

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84. **Answer: a**

Explanation:

The correct answer is <u>Prof. Balram Bhargava</u>.

- **<u>As of July 2020, Prof. Balram Bhargava was the Director-General of the Indian Council of Medical Research (ICMR)</u>.**

⭐ <u>Key Points</u>

- **Professor Balram Bhargava,** Secretary, Department of Health Research, (Ministry of Health and Family Welfare), Government of India and Director General, Indian Council of Medical Research (ICMR) joined on April 16, 2018.
  - Professor Bhargava is a Professor of Cardiology. Also serves as Executive Director of All India Institute of Medical Sciences (AIIMS), New Delhi and Stanford India Biodesign Centre, School of International Biodesign (
    -).
  - Professor (Dr) Balram Bhargava is an outstanding cardiologist, one of the foremost leaders in biomedical innovation, public health, medical education and medical research.

⭐ <u>Additional Information</u>

- **The Indian Council of Medical Research (ICMR)** , the apex body in India for the formulation, coordination and promotion of biomedical research, is one of the oldest and largest medical research bodies in the world.
  - Predecessor: Indian Research Fund Association (IRFA)
  - **Formation :**
    - 1911 (as IRFA)
    - **In 1949, renamed as ICMR**
  - **Parent organization:** Ministry of Health and Family Welfare

85. **Answer: c**

Explanation:

The correct answer is <u>Anupam Kher</u>.

- <u>Anupam Kher wrote the book 'The best thing about you is you'</u>.
  - The book was published in 2011.
  - The idea behind the book is to inculcate positive thinking in daily life.

⭐ <u>Key Points</u>

- In 2011, Anupam Kher released his first book The Best Thing About You is You!, which was a best-seller.
  - His biography **Lessons Life Taught Me Unknowingly** was published on 5 August 2019 by Penguin Random House.
  - In 2020, he wrote **Your Best Day Is Today!,** based on his experiences of COVID-19 crisis.

⭐ <u>Additional Information</u>

List of our books and autobiographies are written by Indians:

Author	Title of book	Year
Ranjan Gogoi	Justice for the Judge	2021
Sonu Sood	I Am No Messiah	2020
P. V. Raghunathan	My Many Trysts with God	2019
Sania Mirza	Ace Against Odds	2016

86. **Answer: a**

Explanation:

The correct answer is <u>Bhanu Athaiya</u>.

- <u>**Bhanu Athaiya became the first Indian to win an Academy Award in 1983 for designing the costumes for Richard Attenborough's Gandhi**</u>.
  - She jointly won the Academy Award for Best Costume Design with John Mollo for Richard Attenborough's "Gandhi".

⭐ <u>Key Points</u>

- At the 30th Academy Awards, Mehboob Khan's 1957 Hindi-language film Mother India was India's first submission for the Academy Award for the Best International Feature Film category.
  - It was nominated along with four other films and lost by one vote to the Italian film Knights of Cabiria (1957).
  - In 1982, the National Film Development Corporation of India was instrumental in co-producing the Richard Attenborough biographical film Gandhi.
  - Bhanu Athaiya became the first Indian to win an Academy Award for costume design at the 55th Academy Awards.
  - Ravi Shankar was nominated for Best Original Score for the same film. As of 2021, apart from Mother India, only two Indian films have been nominated for an Oscar – Salaam Bombay! (1988) and Lagaan (2001).

⭐ <u>Additional Information</u>

- The Academy Awards , popularly known as the Oscars, are awards given for artistic and technical merit in the film industry.
  - First awarded May 16, 1929
  - Oscars 2021 Winners List
    - Best Picture: Nomadland
    - Best Actor: Anthony Hopkins – The Father
    - Best Actress: Frances McDormand – Nomadland
- **Full list of winners of the Oscars 2022:**
  - Best picture- CODA
  - Best Cinematography- Dune
  - Best Director- Jane Campion for The Power of the Dog
  - Best actress - Jessica Chastain in The Eyes of Tammy Faye

- Best actor- Will Smith in King Richard
- Best supporting actress- Ariana DeBose in West Side Story
- Best supporting actor- Troy Kotsur in CODA
- Best animated feature film- Encanto
- Best documentary feature- Summer of Soul
- Best international feature film- Drive My Car from Japan
- Best original song- No Time To Die by Billie Eilish and Finneas O'Connell
- Best original music score- Dune
- Best original screenplay- Belfast
- Best adapted screenplay- CODA
- Best short documentary- The Queen of Basketball

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87. Answer: b

Explanation:

The correct answer is <u>Rajiv Gandhi Khel Ratna Award</u>.

- <u>**In June 2020, Boxing Federation of India has nominated Amit Panghal and Vikas Krishan for the Rajiv Gandhi Khel Ratna award**</u>.
  - Amit Panghal (52kg), also an Asian Games champion, has not won any national sports award.
  - Commonwealth and Asian Games gold-medallist Vikas Krishan won the **Arjuna award in 2012** .
  - BFI: Headquarters - New Delhi.

⭐ <u>Additional Information</u>

- The **Padma Bhushan** is the third highest civilian award in the Republic of India, preceded by the **Bharat Ratna and Padma Vibhushan and followed by the Padma Shri** .
  - Established on **2 January 1954** , the award is given for "distinguished service of a high order without distinction of race, occupation, status or sex".

- The award criteria include "service in any field including service rendered by government servants" including doctors and scientists, but excludes those working with public sector undertakings.
- **Major Dhyan Chand Khel Ratna Award**, formerly known as Rajiv Gandhi Khel Ratna Award in sports and games, is India's highest sporting honor.
  - It is awarded annually by the **Ministry of Youth Affairs and Sports**.
- **Padma Shri** is the fourth highest civilian award of the Republic of India after **Bharat Ratna, Padma Vibhushan, and Padma Bhushan**.
  - It is provided by the Government of India every year on the Republic Day of India.
- **Arjuna Award**, officially known as the Arjuna Award for outstanding performance in sports and games, is India's second-highest sports honor.
  - The award is named after Arjuna, one of the characters from the Sanskrit epic Mahabharata of ancient India.

88. Answer: b

Explanation:

The correct answer is <u>Kandla</u>.

⭐ <u>Key Points:</u>

- <u>Kandla is a tidal port, acknowledged as a Trade Free Zone, the largest port by volume of cargo handled</u>.
  - Kandla, officially Deendayal Port, is a port and city in Kutch district in the state of Gujarat in western India, near the city of Gandhidham.
  - Situated on the Gulf of Kutch, it is one of the major ports of India on the west coast.
  - It is approximately 256 nautical miles southeast of Karachi port in Pakistan and about 430 nautical miles north-northwest of Mumbai port.
  - The Kandla port was constructed in the 1950s as the main port serving western India.

⭐ <u>Additional Information</u>

State	Port	Features
Tamil Nadu	Chennai	• Artificial Port • Second busiest port
Gujarat	Kandla	• Known as **Tidal Port** • Acknowledged as Trade Free Zone • Largest port by volume of cargo handled.
Tamil Nadu	Tuticorin	• A major port in south India • Deals with **fertilizers and petrochemical products** .
Andhra Pradesh	Visakhapatnam	• Deepest port of India • Deals with the export of iron ore to Japan. • Amenities for building and fixing of ships are available

89. **Answer: d**

Explanation:

The correct answer is <u>20 July 2020</u>.

- **Provisions of the Consumer Protection Act, 2019:**
  - The bill received assent from President Ram Nath Kovind on 9 August, and was notified in the Gazette of India on the same date.
  - <u>The Act came into force till 20 July 2020</u>, while some other provisions of the Act such as the establishment of the Central Consumer Protection Authority came into force from 24 July 2020.

⭐ <u>Important Points</u>

- The **Consumer Protection Act,1986** was an Act of the Parliament of India enacted to protect the interests of consumers in India.
  - It was replaced by the Consumer Protection Act, 2019.
- **World Consumer Rights Day** , celebrated on March 15 every year, is a global event that aims to raise awareness about consumer rights and needs.
- **Human Rights Day** is celebrated annually around the world on 10 December every year.

⭐ <u>Additional Information</u>

- **The National Human Rights Commission of India** is a statutory public body constituted on 12 October 1993 under the Protection of Human Rights Ordinance of 28 September 1993.
  - It was given a statutory basis by the Protection of Human Rights Act, 1993.

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90. **Answer: d**

Explanation:

The correct answer is <u>Mandal Commission</u>.

- <u>In the year 1990, the then Prime Minister VP Singh accepted the Mandal Commission report, which recommended a 27% reservation for OBC candidates at all levels of its services</u>.

⭐ <u>Key Points</u>

- The **Mandal Commission** , the Socially and Educationally Backward Classes Commission (SEBC), was established in India in 1979 by the Janata Party government under Prime Minister Morarji Desai to "identify the socially or educationally backward classes" of India.
  - It was headed by **B.P. Mandal** , an Indian parliamentarian, used eleven social, economic, and educational indicators to consider the question of

reservation for people to prevent caste discrimination, and to determine backwardness.

⭐ Additional Information

- **Sarkaria Commission** was established in **1983** by the Central Government of India.
  - The charter of the Sarkaria Commission was to examine center-state relations on various departments and suggest changes within the framework of the Constitution of India.
- **The Balwant Rai Mehta Committee** was originally a committee appointed by the Government of India on **16 January 1957** to examine the working of the Community Development Program and the National Extension Service and suggest measures for their better functioning.
  - Balwantrai G Mehta was the chairman of this committee.
- **The Kothari Commission** was appointed by the Government of India to reform the Indian education sector.
  - Its objectives and important recommendations.
  - Kothari Commission was formed on **14 July 1964** .

---

91. **Answer: c**

Explanation:

The correct answer is <u>Silica</u>.

- <u>The main mineral constituents of the continental mass are silica and alumina</u>.
  - It is thus called **sial (si-silica and al-alumina)** .

⭐ Key Points

- **Crust** :
  - The top layer of the earth's surface is called the crust.
  - It is the thinnest of all the layers.
  - It is about 35 km on the continental mass and only 5 km on the bottom of the ocean.

- Continental Mass and Mineral Component of Oceanic Crust
    - The main mineral components of continental mass are **silica and alumina** .
    - Thus it is called sial (Si-silica and Al-alumina).
    - The o **ceanic crust consists mainly of silica and magnesium** ; Hence it is called the limit (**Si-silica and Ma-magnesium**).
- **Mantle** :
  - Just beneath the crust is the mantle which extends up to a depth of **2900 km** below the crust.
- **Core** :
  - The innermost layer is the core with a radius of about 3500 km.
  - It is mainly composed of nickel and iron and is called a **knife (Ni-nickel and Fe-ferrous i.e. iron)** .
  - The central core has a very high temperature and pressure.

---

92. Answer: d

Explanation:

The correct answer is **Silver**.

- **The most electrically conductive element is silver, followed by copper and gold**.
  - Silver also has the highest thermal conductivity of any element and the highest light reflectance.

⭐ **Key Points**

- **Thermal conductivity** refers to the inherent ability of a material to transmit or direct heat energy to it.
  - Thermal conductivity is one of three ways of transferring thermal energy, the other two being convection and radiation.
  - Thermal conductivity calculates the ability of a metal to conduct heat energy.
  - This property varies between different types of metal and is important to consider in implementations where high working temperatures are

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common.

- In pure metals, the thermal conductivity remains almost the same with an increase in temperature.

⭐ Additional Information

- **Conductivity** : The measure of the ease at which an electric charge can pass through a material is called electrical conductivity.
- **Conductor** : The material which has high conductivity is called the conductor.
- **Non-conductor** : The material which has very low conductivity is called a non-conductor.

⭐ Important Points

- Metal has high conductivity and non-metal has very low conductivity.

---

93. **Answer: c**

Explanation:

The correct answer is 1782.

- **The "Treaty of Salbai" was signed on 17 May 1782** by representatives of the **Maratha Empire and the British East India Company** after lengthy negotiations to settle the outcome of the First Anglo-Maratha War.
  - It was signed between **Warren Hastings and Mahadaji Shinde** .

⭐ Additional Information

- Anglo-Maratha War:
  - First Anglo-Maratha War (1775–1782):
    - The First Anglo-Maratha War (1775–1782) was the first of three Anglo-Maratha wars fought in India between the British East India Company and the Maratha Empire.
    - The war began with the Treaty of Surat and ended with the **Treaty of Salbai** .
  - Second Anglo-Maratha War (1803–1806):

- Scindia signed the **Treaty of Surji-Anjangaon in 1803**, through which the British got the territories of Rohtak, Ganga-Yamuna Doab, Gurgaon, Delhi Agra region, Broach, some districts of Gujarat, parts of Bundelkhand and Ahmednagar Fort.
- Bhonsle signed the **Treaty of Deogaon in 1803**, according to which the British acquired Cuttack, Balasore and the area west of the Wardha river.
- The Holkars signed the **Treaty of Rajghat in 1805**, according to which they handed over Tonk, Bundi and Rampura to the British.
  - Third Anglo-Maratha War (1817–1818):
    - The **Treaty of Gwalior** was signed between Shinde and the British in 1817, even though it was not involved in the war. According to this treaty, Shinde handed over Rajasthan to the British. The princely states remained until 1947 after the Rajas of Rajputana accepted British sovereignty.
    - In 1818 the **Treaty of Mandsaur** was signed between the British and the Holkar chief.

---

94. **Answer: b**

Explanation:

The correct answer is <u>Rs. 8 lakh</u>.

- Individuals who are not covered under the scheme of reservation for SC, ST, and OBC and whose family's gross annual income is less than Rs.8 lakh (Rs.8 lakh only) are to be identified as EWS.

⭐ <u>Key Points</u>

- The government has set certain eligibility conditions for the candidates to be able to claim reservations under this new category. The full form of EWS is the 'Economically Weaker Section'. **To be eligible for an EWS certificate, you must fulfill all the conditions mentioned below:**

- You must be a 'General' candidate (not covered under reservation for SC, ST or OBC).
- Your family's gross annual income should be less than **Rs. 8 lakhs** . It includes income from all sources like agriculture, salary, business etc for the financial year before applying for the exam.
- Your family should not have agricultural land of size **5 acres or more** .
- Your family should not own a residential flat of **1000 square feet or more area** .
- Your family should not have a residential plot of area (in notified municipalities) of **100 square yards or more** .
- Your family should not have a residential plot (other than notified municipalities) of area **200 square yards or more** .

⭐ Additional Information

- 103rd Amendment) Act ,
  - The Parliament amended the Constitution of India (**103rd Amendment) Act, 2019** to provide for a 10% reservation in education and government jobs in India for a section of the General category candidates.
  - The amendment introduced economic reservation by amending Articles 15 and 16. It inserted Article 15 (6) and Article 16 (6) in the Constitution to allow reservation for the economically backward in the unreserved category.
    - **Article 15(6):** Up to 10% of seats may be reserved for EWS for admission in educational institutions. Such reservations will not apply to minority educational institutions.
    - **Article 16(6):** It permits the government to reserve up to 10% of all government posts for the EWS.

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95. **Answer: a**

Explanation:

The correct answer is <u>Ovum</u>.

- <u>The largest cell is the ovum in the human body</u>.
  - The ovum also called the egg cell is the reproductive cell in the female body.
  - Ovum is 20 times bigger than the sperm cells and has a diameter of about 0.1 mm.

⭐ <u>Important Points</u>

- The **human egg (ovum)** is the largest cell in the body and a n **erve cell is the longest cell in the human body** .
- The **sperm is the smallest cell** in the human body, but also one of the most complex.

⭐ <u>Additional Information</u>

- The **cell** is the basic structural and functional unit of life.
  - Cell biology is the study of cells, which were discovered by **Robert Hooke in 1665** .
  - Each cell consists of a cytoplasm enclosed within a membrane, which contains many biomolecules such as proteins and nucleic acids.
  - **The cell theory** , first developed in 1839 by **Matthias Jakob Schleiden and Theodor Schwann** , states that all organisms are composed of one or more cells, that cells are the fundamental unit of structure and function in all living organisms. , and all cells come from pre-existing cells.

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96. **Answer: d**

Explanation:

The correct answer is <u>Cauvery</u>.

- <u>The sharing of the waters of the Cauvery River has been the source of a serious conflict between the two Indian states of Tamil Nadu and Karnataka</u>.
  - The origins of this conflict lie in two agreements between the Madras Presidency and the Kingdom of Mysore in 1892 and 1924.

⭐ <u>Key Points</u>

Major Inter-State River Disputes

River(s)	States
Ravi and Beas	Punjab, Haryana, Rajasthan
Narmada	Madhya Pradesh, Gujarat, Maharashtra, Rajasthan
Krishna	Maharashtra, Andhra Pradesh, Karnataka, Telangana
Vamsadhara	Andhra Pradesh & Odisha
Cauvery	Kerala, Karnataka, Tamil Nadu and Puducherry
Godavari	Maharashtra, Andhra Pradesh, Karnataka, Madhya Pradesh, Odisha
Mahanadi	Chhattisgarh, Odisha
Mahadayi	Goa, Maharashtra, Karnataka
Periyar	Tamil Nadu, Kerala

⭐ <u>Additional Information</u>

- **The Interstate River Water Disputes Act, 1956 (IRWD Act)** is an Act of the Parliament of India enacted under Article 262 of the Constitution.
  - Article 262 of the Indian Constitution provides for the role of the central government in adjudicating conflicts around inter-state rivers that arise between state/territorial governments.
  - The Act underwent subsequent amendments and its most recent amendment was in the year **2002** .

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97. **Answer: d**

Explanation:

The correct answer is <u>1977</u>.

- <u>In 1977, the companies IBM and Coca Cola shut down their operations for not being able to comply with the Foreign Exchange Regulation Act that mandated foreign investors cannot own over 40% in Indian enterprises</u>.
    - The root cause of the dispute between MNCs and the Government of India was the **1973 amendment to the Foreign Exchange Regulation Act (FERA)** which limited foreign equity to 40%.
    - All companies with more than 40% foreign equity had to seek fresh approval from the Reserve Bank of India (RBI) to continue their operations.

⭐ <u>Additional Information</u>

- **International Business Machines Corporation (IBM)** is an American multinational technology corporation headquartered in Armonk, New York, with operations in over 171 countries.
    - Founded: **16 June 1911** , Endicott, New York, United States
- **The Coca-Cola Company** is an American multinational beverage corporation incorporated under the general corporation law of Delaware and headquartered in Atlanta, Georgia.
    - Founder: Asa Griggs Candler
    - Founded: **29 January 1892** , Atlanta, Georgia, United States

98. **Answer: a**

Explanation:

The correct answer is <u>ATK Football Club</u>.

- <u>ATK Football Club won the Indian Super League 2019-2020</u>.
    - ATK (formerly Atlético de Kolkata) was an Indian professional football club based in Kolkata, West Bengal.
    - The club competed in the Indian Super League, the top flight of Indian football and were league champions during the inaugural **2014, 2016 and 2019–20** seasons respectively.

⭐ <u>Additional Information</u>

- **The Indian Super League (ISL)** is a men's professional top-level football league in the Indian football system.
    - Founded on **21 October 2013** .
    - It is organized by the **All India Football Federation (AIFF) and their commercial partners Football Sports Development Limited (FSDL)** .
    - Due to the sponsorship relationship with Hero MotoCorp, it is officially called the **Hero Indian Super League** .

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99. **Answer: a**

Explanation:

The correct answer is <u>Kittur Chennamma</u>.

- <u>The Queen of Kittur, Kittur Chennamma, was one of the first Indian rulers to lead an armed rebellion against the British East India Company in 1824, against the implementation of the Doctrine of Lapse</u>.

⭐ <u>Key Points</u>

- **Rani Chennamma** , the queen of Kitturu was one such warrior who led a war against British forces in early part of 19th Century when not many rulers were familiar with the evil designs of the British.
    - She was the first Indian ruler to lead an armed rebellion against the British East India Company.
    - Chennamma was born in Kakati, a small village in today's Belagavi district of Karnataka.
    - She became queen of Kitturu (now in Karnataka) when she married Raja Mallasarja of the Desai family.
    - They had one son who died in 1824.
    - After the death of her son, she adopted another child, Shivalingappa, and made him heir to the throne.
    - However, the British East India Company did not accept this under the Doctrine of Lapse, a policy of annexation devised by the British East India

Company.

⭐ Additional Information

The Doctrine of Lapse was a merger policy widely followed by Lord Dalhousie as Governor-General of India from 1848 to 1856. The states that were annexed under this policy are given below in chronological order:

States Annexed by Doctrine of Lapse	Year of Annexation
Satara	1848
Jaitpur	1849
Sambalpur	1849
Baghat	1850
Udaipur	1852
Jhansi	1853
Nagpur	1854

100. **Answer: a**

Explanation:

The correct answer is <u>Dhondo Keshav Karve</u>.

⭐ Key Points

- **Dhondo Keshav Karve** was an Indian social reformer and teacher, known for supporting women's education and organizing associations for the remarriage of Hindu widows.
  - <u>Karve founded (1896) the Hindu Widows Home, an educational institution in Poona, to help widows who could not remarry</u>.

⭐ Additional Information

- **Puli Thevar** was a Tamil polygamer who ruled Neerkattumseval located in Sankarankoil taluk, Tenkasi, Tamil Nadu.
  - He is fighting a remarkable battle against the East India Company in India in 1759 - 1761.
  - Ondiviran and Venni Kaladi were the commanders of Thevar's army to fight against the East India Company.
- **Chandikadas Amritrao Deshmukh** , better known as **Nanaji Deshmukh** , was a social reformer and politician from India.
  - He worked in the field of education, health, and rural self-reliance.
  - He was posthumously awarded the Bharat Ratna, India's highest civilian award, in 2019 by the Government of India.
- **Tantia Tope** was a general in the **Indian Rebellion of 1857** and one of its notable leaders.
  - Tantia Tope defeated the Indian troops of the East India Company at Kanpur in **May 1857** .
  - He led the Indians in the Revolt of 1857 and was noted for his guerrilla tactics, which intimidated the British.
  - General Wyndham was forced by them to leave the city of Gwalior.
  - **Sir Colin Campbell (later Baron Clyde)** defeated Tantia Tope on December 6, 1857.

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