SSC CHSL Previous Paper 31 (Held On: 21 Oct 2020 Shift 1) (Previous Year Paper)

SSC Combined Higher Secondary Level (CHSL) • 2020 • 100 questions • 60 minutes • Answer key and solutions

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ENGLISH LANGUAGE

Q1. Select the word which means the same as the group of words given:

Satisfied, with no desire to change or improve

(a) Beneficent
(b) Innocent
(c) Complacent
(d) Adolescent

Q2. Select the most appropriate meaning of the given idiom:

Sleep on it

(a) To make a decision immediately
(b) To make a wrong decision
(c) To prefer to sleep than take action
(d) To wait before making a decision

Q3. Select the most appropriate synonym of the given word:

Fraudulent

(a) Repellent
(b) Prevalent
(c) Deceitful
(d) Genuine

Q4. Select the most appropriate word(s) to fill in the blank:

My family is my priority but there were times when I had to _____ because of work pressures.

(a) look into
(b) sit in
(c) pull away
(d) put off

Directions

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.

One day Willy stumbled upon a novel in a (1)____ bookshop-a Perry Mason book written by Erle Stanley Gardner. He (2)__ the book simply because the title of the book cover looked (3)__. Although it was an unabridged book Willy was able (4)__ it with sufficient comprehension. This was partly because the novel contained (5)____ written in simple, conversational language.

Q5. Select the most appropriate option for blank No.5.

(a) prologue
(b) epilogue
(c) monologues

(d) dialogues

Q6. Select the most appropriate option for blank No. 4.

(a) to read
(b) read
(c) to reading
(d) reading

Q7. Select the most appropriate option for blank No. 3.

(a) attraction
(b) attract
(c) attractive
(d) attracted

Q8. Select the most appropriate option for blank No. 2.

(a) picked in
(b) picked up
(c) picked on
(d) picked at

Q9. Select the most appropriate option for blank No. 1.

(a) local
(b) location
(c) localize
(d) locals

Q10. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select No improvement.

The film by itself was good but the bit long than I had expected.

(a) the bit longest
(b) No Improvement
(c) a bit long
(d) a bit longer

Q11. Given below are four jumbled sentences. Pick the option that gives their correct order.

A. It is played by turning around while reciting a rhyme.

B. The circling motion is like that of a Sufi dervish.

C. Fahim Irshad has made a film called ‘Aani Maani’.

D. The movie title is based on a game popular among little children in Uttar Pradesh.

(a) CDAB
(b) BDCA
(c) ACDB
(d) CBAD

Q12. Select the most appropriate antonym of the given word:

BUOYANT

(a) Cheerful
(b) Neutral
(c) Gloomy
(d) Bouncy

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Q13. Select the correct Indirect form of the given sentence.

"It is a fact that kids model parental behaviour," said the researcher.

(a) The researcher said that it is a fact that kids model parental behaviour.
(b) The researcher has said that it is a fact that kids have modeled parental behaviour.
(c) The researcher has been saying that kids model parental behaviour.
(d) The researcher says that it is a fact that kids model parental behaviour.

Q14. Select the wrongly spelt word.

(a) Deterent
(b) Irreverent
(c) Different
(d) Transparent

Q15. Select the word which means the same as the group of words given:

To make perfect or complete

(a) Complement
(b) Attainment
(c) Impediment
(d) Deportment

Q16. In the sentence identify the segment which contains the grammatical error.

People with full-time sedentary jobs who commuting long distances, may have sleep problems due to lack of exercise.

(a) due to lack of exercise
(b) may have sleep problems
(c) People with full time sedentary jobs
(d) who commuting long distances

Q17. Select the most appropriate synonym of the given word:

Indomitable

(a) Justifiable
(b) Changeable
(c) Accessible
(d) Invincible

Q18. Select the most appropriate meaning of the given idiom:

Keep your shirt on

(a) To keep busy
(b) To remain cool
(c) To work hard
(d) To celebrate

Q19. Direction: Given below is a sentence with the underlined word followed by four words. Select the option that is opposite in meaning to the underlined word and mark your response accordingly.

Her speech was a caustic attack on government officials.

(a) Scary
(b) Kind
(c) Sarcastic
(d) Bitter

Q20. Given below are four jumbled sentences. Pick the option that gives their correct order.

A. Since then, Pathak has performed in several plays and films.

B. While studying there, he saw 'Equus,' a play that changed his life forever.

C. Vinay Pathak was pursuing MBA in New York.

D. He decided to change tracks and study drama.

(a) CBDA
(b) BACD
(c) DCAB
(d) CADB

Q21. In the sentence identify the segment which contains the grammatical error.

According to a recent study, drinking green tea thrice a week is associated with a longest and healthy life.

(a) drinking green tea thrice a week
(b) a longest and healthy life
(c) is associated with
(d) According to a recent study

Q22. Select the wrongly spelt word.

(a) Circueteous
(b) Delicious
(c) Momentous
(d) Courteous

Q23. Select the most appropriate word to fill in the blank.

Shivangini, the 12-year-old archer who _____ an injury has been successfully operated on by a team of doctors at A.I.I.M.S.

(a) sustained
(b) ordained
(c) maintained
(d) pertained

Q24. Select the correct passive form of the given sentence.

Dr. Verma advised patients to try out a new medicine for migraine.

(a) The patients were being advised to try out a new medicine for migraine by Dr. Verma.
(b) The old patients had been advised to try out a new medicine for migraine by Dr. Verma.
(c) Patients were advised to try out a new medicine for migraine by Dr. Verma.
(d) Patients have been advised to try out a new medicine for migraine by Dr. Verma.

Q25. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select No improvement.

I like the place which I live but it would be wonderful to live in the mountains.

(a) who
(b) when
(c) where
(d) No Improvement

GENERAL INTELLIGENCE

Q26. Four letter - clusters have been given, out of which three are alike in some manner and one is different. Select the odd one.

(a) EIMQ
(b) CGKO
(c) DHLN
(d) BFJN

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Q27. Select the option that is related to the third number in the same way as the second number is related to the first number.

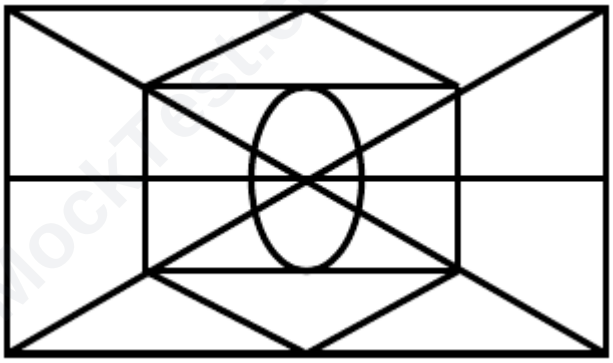
6 : 252 : : 5 : ?

(a) 150
(b) 125
(c) 25
(d) 100

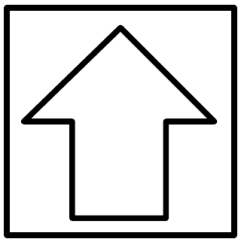
Q28. Select the term that will replace the question mark (?) in the following series. BK, FJ, JI, NH, ?, VF

(a) SE
(b) SG
(c) RG
(d) RE

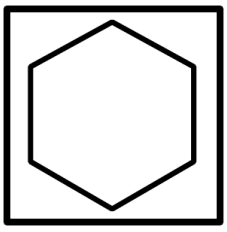
Q29. Select the option that is embedded in the figure (rotation is NOT allowed).



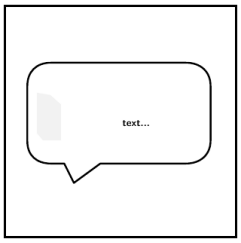
(a)



(b)

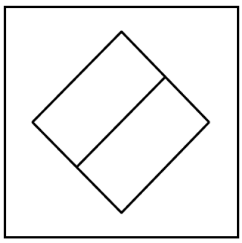


(c)

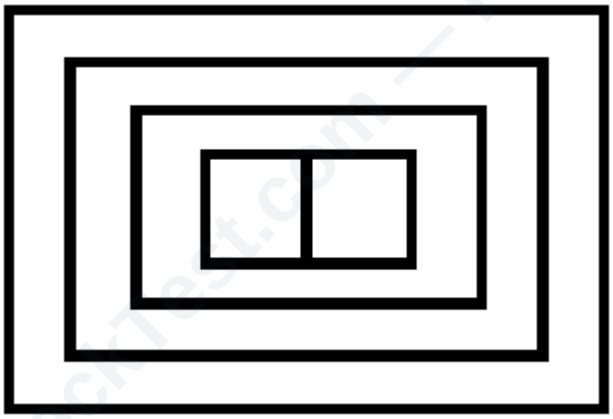


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(d)

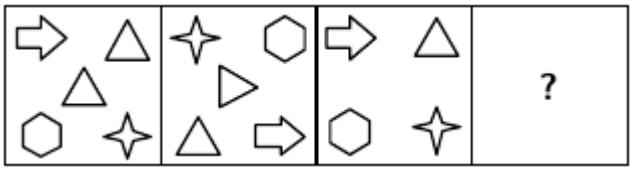


Q30. Find the number of rectangles in the given figure.

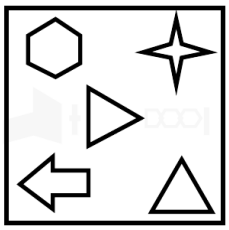


(a) 3
(b) 6
(c) 4
(d) 5

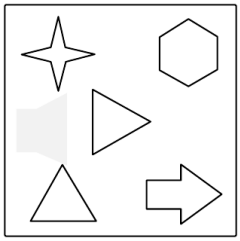
Q31. Select the figure that will fill in the blank and complete the given figure series.



(a)

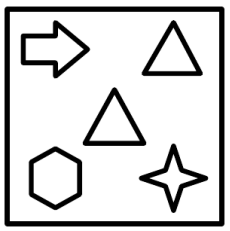


(b)

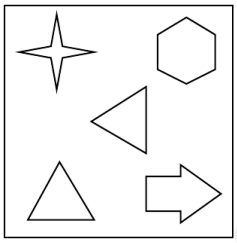


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(c)



(d)



Q32. Select the option figure that will come next in the following figure series.

386, 401, 417, 434, ?

(a) 552
(b) 351
(c) 451
(d) 452

Q33. Study the given patter carefully and select the number that can replace the question mark (?) in it?

2	10	18
3	30	84
4	68	?

(a) 264
(b) 256
(c) 260
(d) 512

Q34. Read the given statements and conclusions carefully. Assuming that the information given in the statement is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statement:

I. All keyboards are mouse.

II. Some mouse are printer.

Conclusion:

1. No printer is keyboard.
2. Some printers are mouse.
3. All printers are mouse.
4. No keyboards are printer.

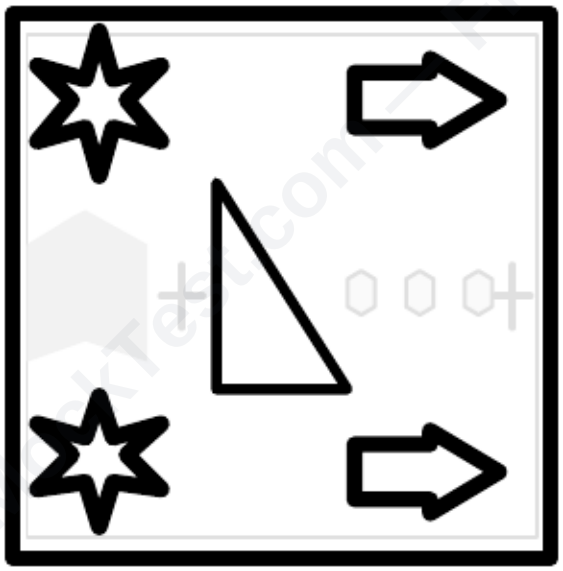
(a) Only conclusion 1 follows
(b) Only conclusion 3 follows
(c) Only conclusion 2 follows
(d) Only conclusion 4 follows

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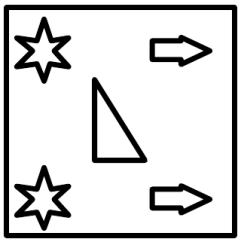
Q35. Jay is husband of Getanjali who is sister of Deepali. Deepali is daughter of Vijay. Sarita is mother - in - law of Rohit. Harish chander is father of Jay and Sarita is wife of Vijay. Vijay and Sarita have only two daughters. How is Rohit related to Vijay?

(a) Son
(b) Father
(c) Brother
(d) Son - in - law

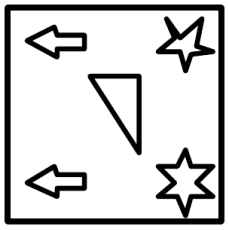
Q36. Select the correct mirror image of the given figure when a mirror is placed on the right of the figure.



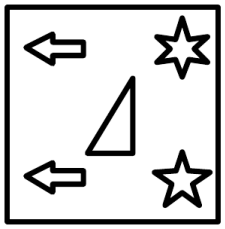
(a)



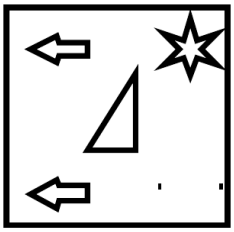
(b)



(c)



(d)



Q37. Three different positions of the same dice are shown. Select the letter that will be on the face opposite to the one having 'f'.



(a) a
(b) d
(c) g
(d) h

Q38. Select the option figure that will come next in the following figure series.

EB, HC, KD, NE, QF,?

(a) SG
(b) TG
(c) UH
(d) VH

Q39. Choose the correct option that arranges the following words in a logical and meaningful order.

1. Wheat plant
2. Bread
3 seeds
4 flour

(a) 1, 2, 4, 3
(b) 1, 3, 4, 2
(c) 2, 1, 3, 4
(d) 3, 1, 4, 2

Q40. Four letter - pairs have been given, out of which three are alike in some manner and one is different. Select the odd one.

(a) 182 : 13
(b) 156 : 12
(c) 309 : 17
(d) 132 : 11

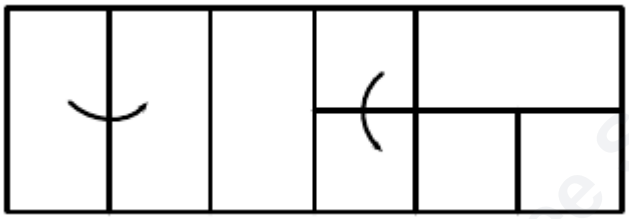
Q41. Select the option that is related to the third term in the same way as the second term is related to the first term.

Shoe : Leather : : Paper : ?

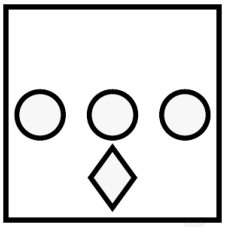
(a) Book
(b) Wood
(c) Printer
(d) Plastic

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Q42. The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown in the following figures. How would this paper look when unfolded?



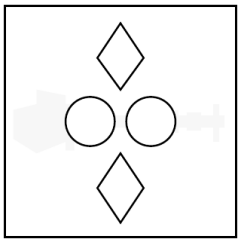
(a)



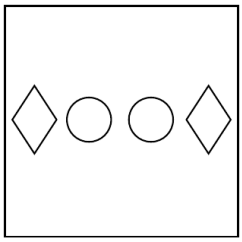
(b)



(c)



(d)



Q43. Select the number that will replace the question mark (?) in the following figure series.

0, 2, 10, 30,?, 130, 222

(a) 68
(b) 72
(c) 60
(d) 64

Q44. Four words have been given, out of which three are alike in some manner and one is different. Select the odd one.

(a) Radish
(b) Potato
(c) Peas
(d) Carrot

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Q45. Study the given pattern carefully and select the number that can replace the question mark (?) in it.

9	12	48
17	20	80
33	36	?

(a) 118
(b) 144
(c) 110
(d) 120

Q46. Which two signs need to be interchanged to make the following equation correct? 5 × 4 + 12 - 3 ÷ 6 = 18

(a) • and -
(b) ÷ and -
(c) ÷ and ×
(d) × and +

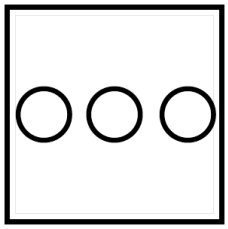
Q47. Select the letters that can replace the question mark (?) in the following series respectively.

AG, GL, MQ, S?, ?A

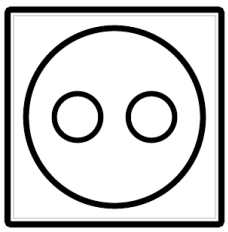
(a) V and Y
(b) V and Z
(c) T and Y
(d) U and Y

Q48. Select the Venn diagram that best illustrates the relationship between the following classes. Devanagari, Hindi, Sanskrit

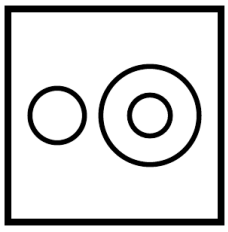
(a)



(b)

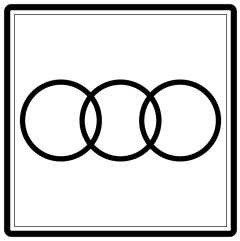


(c)



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(d)



Q49. Four words have been given, out of which three are alike in some manner and one is different. Select the odd one.

(a) Kelvin
(b) Celcius
(c) Pascal
(d) Fahrenheit

Q50. In a company there are 3 departments - IT, HR and Help Desk. In the IT department there are 125 employees and in the HR department the number of employees is 1/5th of IT. The helpdesk department has 20 employees less than total employees in IT and HR together. What is the total number of employees working in all three departments?

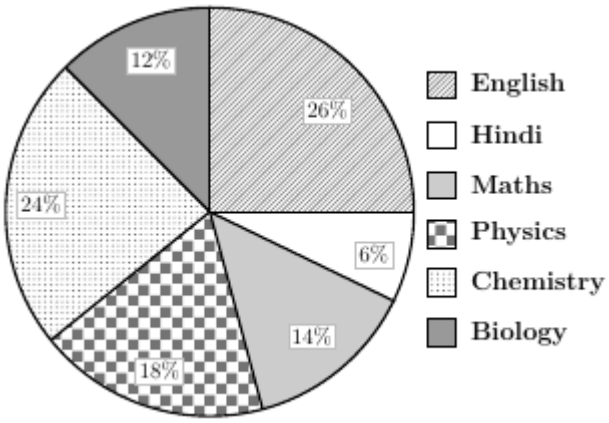
(a) 150
(b) 170
(c) 280
(d) 180

QUANTITATIVE APTITUDE

Q51. If x = cbrt5 + 2, then the value of $x^3 - 6x^2 + 12x - 12$ is equal to:

(a) 0
(b) 2
(c) 1
(d) -1

Q52. The pie - chart shows percentage - wise distribution of teachers who teach six different subjects. Study the pie chart and answer the question:



Total number of teachers = 1650

What is the total number of teachers teaching English, Maths and Physics?

(a) 857
(b) 950
(c) 975
(d) 957

Q53. In ΔABC, If AB = 7 cm and AC = 25 cm, then the length of BC is equal to:

(a) 24 cm
(b) 32 cm
(c) 26 cm
(d) 12 cm

Q54. If 8 - digit number 4432A43B is divisible by 9 and 5, then the sum of A and B is equal to:

(a) 12
(b) 5
(c) 7
(d) 8

Q55. A train covers a distance of 2 km in 2 minutes. If its speed is decreased by 5 km/h, then the time taken by it to cover the distance of 22 km will be:

(a) 24 minutes
(b) 20 minutes
(c) 22 minutes
(d) 18 minutes

Q56. If $(\sin\theta + \cos\theta)/(\sin\theta - \cos\theta)=3$ and θ is an acute angle, then the value of $(3\sin\theta + 4\cos\theta)/(8\cos\theta - 3\sin\theta)$ is:

(a) 10
(b) 1/2
(c) 5
(d) 2

Q57. The ratio of the present ages of A and B is 1 : 3. After 10 years, the ratio of their ages will be 2 : 5. Find B's present age.

(a) 70 years
(b) 85 years
(c) 90 years
(d) 80 years

Q58. A can do a work in 15 days and B can do it in 10 days. If they work together for 4 days, then the fraction of the work left is:

(a) 3/4
(b) 2/3
(c) 1/3
(d) 1/4

Q59. If $x(5 - 2/x) = 5/x$, then the value of $x^2 + 1/(x^2)$ is equal to:

(a) 24/25
(b) 21/25
(c) 4/25
(d) 23/25

Q60. The perimeter of a rectangle is 80 cm and its area is 375 cm^2. What is the difference between the length and the breadth of the rectangle?

(a) 12 cm
(b) 20 cm
(c) 10 cm
(d) 16 cm

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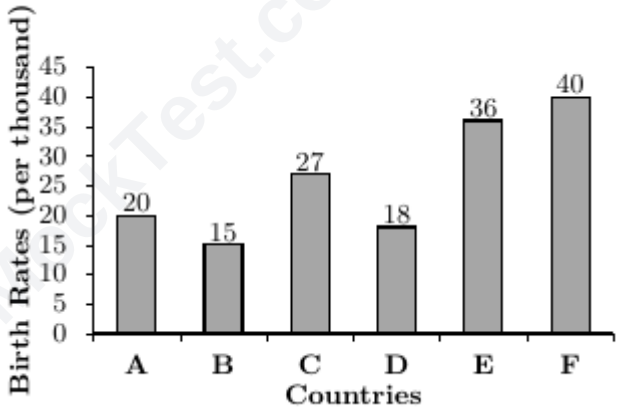
Q61. If sin 7 x = cos 11x, 0° < x < 90°, then the value of tan 9x is:

(a) √3/2
(b) 1
(c) 1/√3
(d) √3

Q62. AB is the diameter of a circle. A point C is situated on the tangent drawn on point A. If AB = 24 cm, and AC = 7 cm then find the length of BC:

(a) 50 cm
(b) 15 cm
(c) 25 cm
(d) 26 cm

Q63. The following bar chart represents the birth rate (per thousand) of six different countries. Study the bar chart and answer the question given below:



The birth rate of country E is what per cent of the birth rate of the Country A?

(a) 120%
(b) 180%
(c) 150%
(d) 160%

Q64. The average of A, B and C is 18 and that of C, D and E is 12 and that of E and F is 6.5 and that of E and C is 3.5. What is the average of A, B, C, D, E and F?

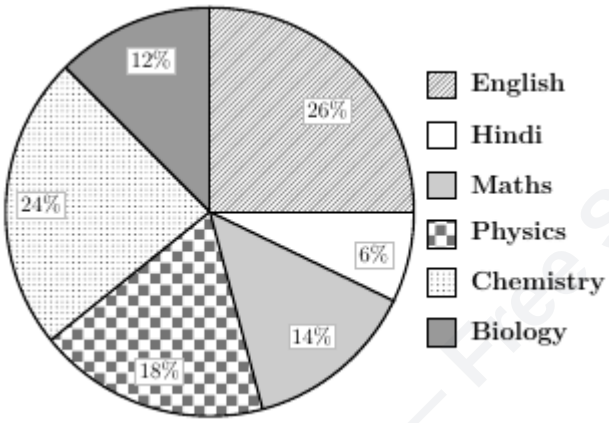
(a) 24
(b) 16
(c) 18
(d) 22

Q65. If $a^2 + 1/(a^2) = 98$, a > 0, then the value of $a^3 + 1/(a^3)$ will be:

(a) 960
(b) 950
(c) 970
(d) 870

Q66. The pie - chart shows percentage - wise distribution of teachers who teach six different subjects. Study the pie chart and answer the question:

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Total number of teachers = 1650

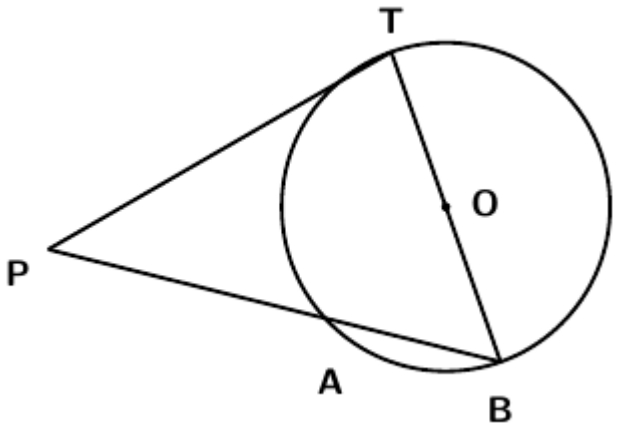
What is the total number of teachers teaching chemistry and biology?

(a) 600
(b) 760
(c) 594
(d) 568

Q67. When an article is sold for Rs. 720, there is a profit of x%. When the same article is sold for Rs. 750, profit is (x + 5)%. What is the value of is the value of x?

(a) 20
(b) 18
(c) 25
(d) 15

Q68. In the given figure, TB is a chord which passes through the centre of the circle. PT is a tangent to the circle at the point T on the circle. If PT = 10 cm, PA = 5 cm and AB = x cm, then the radius of the circle is:



(a) 5√3 cm
(b) 6√3 cm
(c) 3√3 cm
(d) 10 √3 cm

Q69. ΔABC is an isosceles triangle with AB = AC = 13 cm. AD is the median on BC from A such that AD = 12 cm. The length of BC is equal to:

(a) 5 cm
(b) 7.5 cm
(c) 10 cm
(d) 6 cm

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Q70. If (cos A)/(cos ecA + 1) + (cos A)/(cos ecA - 1) = 2,0° ≤ A ≤ 90°, then A is equal to:

(a) 60°
(b) 45°
(c) 90°
(d) 30°

Q71. A discount of 30% on the marked price of a book enables Arun to get a pen worth Rs. 60 free. How much did Arun pay for the book?

(a) Rs. 140
(b) Rs. 160
(c) Rs. 150
(d) Rs. 130

Q72. The value of (1/5 ÷ 1/5 × 1/5)/(1/5 ÷ 1/5of1/5) - 4 1/5 ÷ 105 is

(a) 0
(b) 2
(c) 10
(d) 5

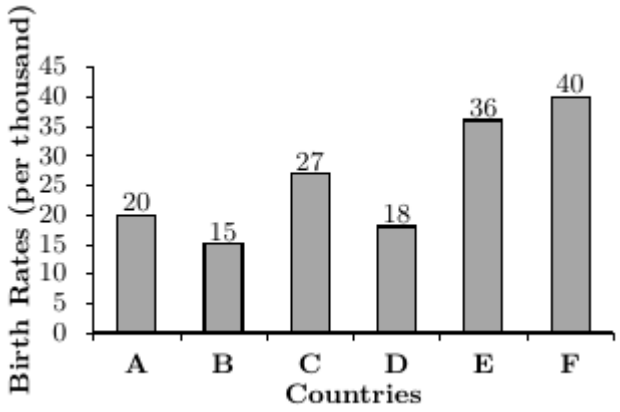
Q73. A sum of money amounts to Rs. 7,500 in 5 years, and to Rs. 8,500 in 7 years at simple interest at the same rate of interest. The rate of interest per annum is:

(a) 12%
(b) 9%
(c) 8%
(d) 10%

Q74. Bala decided to donate 10% of his salary to PM Care Fund. On the day of donation, he changed his mind and donated Rs. 1,800 which was 60% of what he had decided earlier. How much is his salary?

(a) Rs. 36,000
(b) Rs. 32,000
(c) Rs. 30,000
(d) Rs. 40,000

Q75. The following bar chart represents the birth rate (per thousand) of six different countries. Study the bar chart and answer the question given below.



The birth rate of which country is exactly 50% more than that of Country D?

(a) Country F
(b) Country C
(c) Country A
(d) Country E

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GENERAL AWARENESS

Q76. Which Indian Institute of Technology launched the country's first indigenously designed standing wheelchair in collaboration with Phoenix Medical Systems?

(a) IIT Kharagpur
(b) IIT Delhi
(c) IIT Bombay
(d) IIT Madras

Q77. The 'Loor dance' is a traditional folk dance, performed only by women, in the state of:

(a) Haryana
(b) Madhya Pradesh
(c) Punjab
(d) Rajasthan

Q78. What does HLL stand for in computing?

(a) High Low Language
(b) Hyper Level Language
(c) High Level List
(d) High Level Language

Q79. In which of the following cities was the 4th edition of the India International Cherry Blossom Festival 2019 organized in November 2019?

(a) Shillong
(b) Dharamshala
(c) Darjeeling
(d) Imphal

Q80. Who among the following was honoured with the prestigious 27th Ekalabya Puraskar for the year 2019?

(a) Jhilli Dalabehera
(b) Sneha Soren
(c) Saraswati Rout
(d) Purnima Hembram

Q81. Lines joining places located at equal travel time from a common centre are called:

(a) isohalines
(b) isochrones
(c) isonomal
(d) isobronts

Q82. Maps showing natural feature of the earth such as mountains, plateaus, rivers, plains, oceans, etc. are known as _____.

(a) Relief Map
(b) Topographic Map
(c) Political map
(d) Thematic Map

Q83. Which state secured the top rank in the Swachh Survekshan Grameen Awards, 2019?

(a) Tamil Nadu
(b) Uttar Pradesh
(c) Sikkim
(d) Madhya Pradesh

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Q84. Who among the following cricketers has become the youngest Indian cricketer to score a half-century in international cricket?

(a) Virat Kohli
(b) Amita Sharma
(c) Shafali Verma
(d) Hardik Pandya

Q85. Who was conferred with the Italian Golden Sand Art Award, 2019?

(a) Sarvam Patel
(b) Vinay Shetty
(c) Nitish Bharti
(d) Sudarsan Pattnaik

Q86. Which India-born businessperson occupied the top spot in Fortune's Businessperson of the Year 2019 list?

(a) Indra Nooyi
(b) Satya Nadella
(c) Sundar Pichai
(d) Chanda Kochhar

Q87. National Highway 18 does NOT pass through which of the following states?

(a) Bihar
(b) West Bengal
(c) Odisha
(d) Jharkhand

Q88. On 14 January 2020, with which Indian bank did the South-Central Railways sign an MoU to implement door-step banking at 585 railway stations?

(a) Punjab National Bank
(b) HDFC
(c) Syndicate Bank
(d) State Bank of India

Q89. Which one of the following is not a constellation?

(a) Vesta
(b) Ursa Major
(c) Hydra
(d) Virgo

Q90. Who among the following was conferred with the 28th Bihari Puraskar for 2018 for the novel 'Swapnapash', in November 2019?

(a) Usha Kiran Khan
(b) Prabhat Ranjan
(c) Suresh Krishna
(d) Manisha Kulshreshtha

Q91. Who among the following was one of the founders of the Congress Socialist Party?

(a) C Natarajan Annadurai
(b) SK Patil
(c) Atulya Ghosh
(d) Ram Manohar Lohia

Q92. Who among the following did Babur defeat in the year 1528 at Chanderi?

(a) Muhammad Lodhi
(b) Ibrahim Lodi
(c) Bappa Rawal

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(d) Medini Rai

Q93. Which wrestler claimed the second silver medal for India after going down to Japan's Haruna Okuno in the finals of UWW Under-23 World Championships at Budapest in 2019?

(a) Sakshi Malik
(b) Pooja Gehlot
(c) Kavita Devi
(d) Vinesh Phogat

Q94. Who was the founder of the Ramakrishna Mission?

(a) Debendranath Tagore
(b) Atmaram Pandurang
(c) Swami Vivekananda
(d) Swami Dayanand

Q95. The 5th International Film Festival with the theme 'Comedy' was organized by the Culture and Tourism Departments in collaboration with Prayas Production (Mumbai) in which city?

(a) Khajuraho
(b) Mumbai
(c) Gurugram
(d) Puri

Q96. Which of the following is NOT a scalar quantity?

(a) Volume
(b) Temperature
(c) Torque
(d) Time

Q97. Which of the following is NOT unicellular?

(a) Amoeba
(b) Spirogyra
(c) Plasmodium
(d) Paramecium

Q98. Which of the following viruses is responsible for causing influenza?

(a) Varicella virus
(b) Rubeola virus
(c) Myxovirus
(d) Poliovirus

Q99. In which of the following countries was the first Electronic Numerical Integrator and Computer, the first programmable general-purpose electronic digital computer, developed?

(a) United Kingdom
(b) China
(c) Japan
(d) United States of America

Q100. Under which Article of the Indian Constitution are Indian citizens guaranteed the right to six fundamental freedoms?

(a) Article 1
(b) Article 31
(c) Article 26
(d) Article 19

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ANSWER KEY

1	c	2	d	3	c	4	c	5	d	6	a	7	c	8	b	9	a	10	d
11	a	12	c	13	a	14	a	15	a	16	d	17	d	18	b	19	b	20	a
21	b	22	a	23	a	24	c	25	c	26	c	27	a	28	c	29	b	30	b
31	d	32	d	33	c	34	c	35	d	36	c	37	a	38	b	39	d	40	c
41	b	42	d	43	a	44	c	45	b	46	b	47	a	48	b	49	c	50	c
51	c	52	d	53	a	54	c	55	a	56	c	57	c	58	c	59	a	60	c
61	b	62	c	63	b	64	b	65	c	66	c	67	a	68	a	69	c	70	b
71	a	72	a	73	d	74	c	75	b	76	d	77	a	78	d	79	a	80	a
81	b	82	a	83	a	84	c	85	d	86	b	87	a	88	d	89	a	90	d
91	d	92	d	93	b	94	c	95	a	96	c	97	b	98	c	99	d	100	d

SOLUTIONS

Q1. Answer: (c) Complacent

The correct answer is Complacent.

Key Points

• Let's look at the meaning of the marked option:

• Complacent- showing smug or uncritical satisfaction with oneself or one's achievements

• Let's look at the meanings of the other given options:

• Beneficent- (of a person) generous or doing good

• Innocent- not guilty of a crime or offense

• Adolescent- (of a young person) in the process of developing from a child into an adult

• Hence, from the given meanings, we find that Complacent is the correct one-word substitute.

Q2. Answer: (d) To wait before making a decision

The correct answer is To wait before making a decision.

Key Points

• Let's look at the meaning of the given idiom:

• Sleep on it- delay making a decision on something until the following day

• Example:

• Don’t give me an answer now – sleep on it and tell me whenever you’re ready.

• **Thus from the explanation given above, we find that the 4th option is the correct choice.

Additional Information

• Let's look at the origin of the idiom:

• It is not known where this idiom originated from but people often believe that if they do not have the solution to a problem straight away, good sleep will help.

Q3. Answer: (c) Deceitful

The solution is in Hindi. Read it online.

Q4. Answer: (c) pull away

The correct answer is pull away.

Key Points

• Let's look at the meanings of the given options:

• look into- to try to discover the facts about something such as a problem or a crime

• sit in- attend a meeting or discussion without taking an active part in it

• pull away- to draw oneself back or away

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• put off- postpone something
• As per the context of the sentence, the subject had to draw himself away from his family sometimes because of work pressures.
• Hence, from the given meanings, we find that the 3rd option i.e. pull away is the correct choice.
Correct Sentence: My family is my priority but there were times when I had to pull away because of work pressures.

Q5. Answer: (d) dialogues

The solution is in Hindi. Read it online.

Q6. Answer: (a) to read

The correct answer is- to read.
Key Points
• There are some verbs/nouns/adjectives which are followed by fixed preposition given below:
• Exonerate from, refrain from, accused of, able to do something, aptitude for, inured to, accused of, predilection for, respite from, vexed at, etc.
• Example:
• After spending some time on the island, they were able to explore it properly.
• Hence, according to the phrases given above, 'to read' will be the correct choice as the 4th blank is preceded by 'able'.
• The given phrase 'able to do something' means having the power, skill, means, or opportunity to do something.

Q7. Answer: (c) attractive

The correct answer is attractive.
Key Points
• Let's look at the meanings of the given nouns:
• attraction (noun)- the action or power of evoking interest, pleasure, or liking for someone or something.
• attract (verb)- cause to come to a place or participate in a venture by offering something of interest, favorable conditions, or opportunities.
• attractive (adjective)- (of a thing) pleasing or appealing to the senses.
• Thus the blank must contain an adjective which qualifies the noun 'book cover'.
• Hence, from the given meanings, we find that the 3rd option i.e. attractive is the correct choice in the 3rd blank.

Q8. Answer: (b) picked up

The correct answer is picked up.
Key Points
• Let's look at the meanings of the given options:-
• Pick up- to buy or get something.
• Pick on- to bully or to single one person out.
• Pick at- to irritate, to bother.
• **As per the possible context of the sentence, the subject bought the book as the book cover was fascinating.
• Hence, from the given meanings, we find that the 2nd option i.e. picked up is the correct choice in the 2nd blank.

Q9. Answer: (a) local

The correct answer is local.
Key Points
• Let's look at the meanings of the given nouns:-
• local (adjective)- belonging or relating to a particular area or neighborhood.
• location (noun)- a particular place or position.
• localize (verb)- restrict (something) to a particular place or part of the body.
• locals (noun)- an inhabitant of a particular area or neighborhood.
• The given blank is succeeded by a noun i.e. bookshop.
• Thus the blank must contain an adjective which qualifies the noun 'bookshop'.
• Hence, from the given meanings, we find that the 1st option i.e. local is the correct choice in the 1st blank.

Q10. Answer: (d) a bit longer

The correct answer is a bit longer.

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Key Points

• The three words—good, better, and best—are examples of the three forms of an adjective or adverb: positive, comparative, and superlative.

• The positive form of an adjective or adverb is the basic form listed in a dictionary.

• The comparative form (followed by 'than') is used when there is a comparison between two or more things.

• The superlative form is used for a thing which is better than any other of the same category.

• Example:

• She is a good Cricketer.

• Rohit is a better human being than his brother.

• He is the best singer in our class.

• Since there is a comparison (as suggested by the usage of the word 'than') being made in the given question, the comparative form of the given adjective i.e. longer must be used.

• As the required structure is followed in the given question, the 4th option will be the correct choice.

Correct Sentence: The film by itself was good but a bit longer than I had expected.

Q11. Answer: (a) CDAB

The correct answer is CDAB.

Key Points

• While arranging the parts of the passage, we should find some grammatical or contextual connections between them:

• Sentence C introduces us to the movie 'Aani Maani'. It is the introductory sentence and will be put in the first place.

• Sentence D tells us about the origin of the title of the above-mentioned movie. It will be put in second place.

• Sentence A tells us further about the game and how it is played. It will be put in third place.

• The last sentence is B as it mentions the comparison made with Sufi dervish.

Thus, the correct order is - Fahim Irshad has made a film called ‘Aani Maani’. The movie title is based on a game popular among little children in Uttar Pradesh. It is played by turning around while reciting a rhyme. The circling motion is like that of a Sufi dervish.

Q12. Answer: (c) Gloomy

The solution is in Hindi. Read it online.

Q13. Answer: (a) The researcher said that it is a fact that kids model parental behaviour.

The correct answer is The researcher said that it is a fact that kids model parental behaviour.

Key Points

• Let's look at the steps to change the sentence from direct to indirect speech:

• When the direct speech is in an assertive form, we follow the steps given below:

• The reporting verb said will remain the same.

• Connector 'that' is used in place of comma and inverted commas.

• In the case of a general truth or universal fact (general truth in this case), there will be no change in the tense of reported speech.

• At last line up the remaining part.

Following these steps, we finally get - The researcher said that it is a fact that kids model parental behaviour.

Additional Information

• In the case of a permanent state or condition, there will be no change in the tense of reported speech.

Q14. Answer: (a) Deterent

The correct answer is Deterent.

Key Points

• Let's look at the correct spelling and meaning of the marked option:

• Deterrent- a thing that discourages or is intended to discourage someone from doing something

• Example:

• Some people say that capital punishment acts as a deterrent.

Let's look at the meanings of the other given options:

• Irreverent- not feeling or showing respect

• Different- not the same as another or each other; unlike in nature, form, or quality
• Transparent- (of a material or article) allowing light to pass through so that objects behind can be distinctly seen

Q15. Answer: (a) Complement

The correct answer is Complement.

Key Points

• Let's look at the meaning of the marked option:
• Complement- a thing that completes or brings to perfection
• Let's look at the meanings of the other given options:
• Attainment- the action or fact of achieving a goal toward which one has worked
• Impediment- a hindrance or obstruction in doing something
• Deportment- a person's behavior or manners
• Hence, from the given meanings, we find that Complement is the correct one-word substitute.

Q16. Answer: (d) who commuting long distances

The correct answer is who commuting long distances.

Key Points

• The simple present tense is used when an action is happening right now, to state or ask about things in general, or when it happens regularly or unceasingly.
• The structure is given below:
• Subject + V1 + object.
• The verb will take 's/es' if the given noun/pronoun (3rd person) is singular.
• Example:
• He plays badminton daily.
• Since a regular action is being talked about in the question, 'commute' will replace 'commuting' in the part given in the 4th option.

Correct Sentence: People with full-time sedentary jobs who commute long distances, may have sleep problems due to lack of exercise.

Additional Information

• Certain verbs used only in the simple present tense are given below:
• verbs of perception (see, hear, smell, etc.), think, know, has/have, possess, like, want, desire, hate, seem, imagine, etc.
• Example:
• My brother is owning a car. (incorrect)
• My brother owns a car. (correct)

Q17. Answer: (d) Invincible

The correct answer is Invincible.

Key Points

• Let's look at the meanings of the given word and marked option:
• Indomitable- impossible to subdue or defeat
• Invincible- too powerful to be defeated or overcome
• Let's look at the meanings of the other given options:
• Justifiable- able to be shown to be right or reasonable; defensible
• Changeable- able to change or be changed
• Accessible- (of a place) able to be reached or entered
• Hence from the given meanings, we find that Indomitable and Invincible are synonyms.

Q18. Answer: (b) To remain cool

The correct answer is To remain cool.

Key Points

• Let's look at the meaning of the given idiom:
• Keep your shirt on- said to tell someone to stop being so angry or upset
• Example:
• Keep your shirt on! Your car isn't even scratched!

• **Thus from the explanation given above, we find that the 2nd option is the correct choice.

Additional Information

• Let's look at the origin of the idiom:

• This idiom originated in America in the 1800s. At that time, clothes were expensive and men often only owned one or two shirts.

• Therefore, they would remove their shirt before getting into a fight to stop it from getting ruined.

Q19. Answer: (b) Kind

The correct answer is Kind.

Key Points

• Let's look at the meanings of the given word and marked option:-

• Caustic- sarcastic in a scathing and bitter way.

• Kind- having or showing a friendly, generous, and considerate nature.

• Let's look at the meanings of the other given options: -

• Scary- frightening.

• Sarcastic- marked by or given to using irony in order to mock or convey contempt.

• Bitter- painful or unpleasant to accept or contemplate.

• Hence from the given meanings, we find that Caustic and Kind are antonyms.

Q20. Answer: (a) CBDA

The correct answer is CBDA.

Key Points

• While arranging the parts of the passage, we should find some grammatical or contextual connections between them:

• Sentence C introduces us to the subject 'Vinay Pathak'. It is the introductory sentence and will be put in the first place.

• Sentence B tells us about the play 'Equus'. It will be put in second place.

• Sentence D tells us the effect the above-mentioned play had on the subject. It will be put in third place.

• The last sentence is A as it mentions the career chosen by the subject.

Thus, the correct order is- Vinay Pathak was pursuing MBA in New York. While studying there, he saw ‘Equus,’ a play that changed his life forever. He decided to change tracks and study drama. Since then, Pathak has performed in several plays and films.

Q21. Answer: (b) a longest and healthy life

The correct answer is a longest and healthy life.

Key Points

• The three words—good, better, and best—are examples of the three forms of an adjective or adverb: positive, comparative, and superlative.

• The positive form of an adjective or adverb is the basic form listed in a dictionary.

• The comparative form is used when there is a comparison between two or more things.

• The superlative form is used for a thing that is better than any other of the same category.

• Example:

• She is a good Cricketer.

• Rohit is a better human being than his brother.

• He is the best singer in our class.

• Since there is no comparison whatsoever made in the given question, 'long' will be used instead of 'longest' in the 2nd part.

Correct Sentence: According to a recent study, drinking green tea thrice a week is associated with a long and healthy life.

Additional Information

• Whenever we see the structure like 'as....as' and 'so....as', we will use a positive degree of adjective/adverb.

• For example:

• The thief ran as faster as he could.

• The thief ran as fast as he could.

Q22. Answer: (a) Circueteous

The correct answer is Circueteous.

Key Points

• Let's look at the correct spelling and meaning of the marked option:
• Circuitous- (of a route or journey) longer than the most direct way
• Example:
• The canal followed a circuitous route.
Let's look at the meanings of the other given options:
• Delicious- highly pleasant to the taste
• Momentous- (of a decision, event, or change) of great importance or significance, especially in its bearing on the future
• Courteous- polite, respectful, or considerate in manner

Q23. Answer: (a) sustained

The correct answer is sustained.
Key Points
• Let's look at the meanings of the given options:-
• sustained- strengthen or support physically or mentally.
• ordained- make (someone) a priest or minister; confer holy orders on.
• maintained- cause or enable (a condition or state of affairs) to continue.
• pertained- be appropriate, related, or applicable.
• As per the context of the sentence, a team of doctors operated on an injury sustained by the subject who is a 12-year-old archer.
• Hence, from the given meanings, we find that the 1st option i.e. sustained is the correct choice.
Correct Sentence: Shivangini, the 12-year-old archer who sustained an injury has been successfully operated on by a team of doctors at A.I.I.M.S.

Q24. Answer: (c) Patients were advised to try out a new medicine for migraine by Dr. Verma.

The correct answer is Patients were advised to try out a new medicine for migraine by Dr. Verma.
Key Points
• The given sentence is in an active voice form, hence we need to convert it into a passive voice form.
• Find the subject (Dr. Verma) and object (Patients) of the sentence and exchange their places.
• The given sentence is in the simple past tense. The passive verb form for simple past is:
• was/were + past participle form of the verb.
• So, 'advised' changes to 'were advised'.
• At last line up the remaining part.

Following these steps, we get - Patients were advised to try out a new medicine for migraine by Dr. Verma.

Q25. Answer: (c) where

The correct answer is where.
Key Points
• The pronoun that connect a clause or phrase to a noun or a pronoun, is called a relative pronoun.
• The most common relative pronouns are:
• who, whom, whose, where, which, that.
• Example:
• We don’t know the person who donated this money.
• You need to tick the box which says yes.
• We use 'who' in relative clauses to refer to people, and sometimes to pet animals. (refer to the above example)
• We use 'which' in relative clauses to refer to animals and things, to introduce defining and non-defining relative clauses.
• We use 'where' to find out the place or position.
• As 'place' is being talked about in the question, 'where' will be used in the underlined part of the sentence.
Correct Sentence: I like the place where I live but it would be wonderful to live in the mountains.

Additional Information
• We use the objective case of pronoun after all the prepositions.
• Example:
• I believe in him. (Him-Objective case of 'He')

Q26. Answer: (c) DHLN

Except for DHLN, in all other set of letters, a letter is the fourth successor of the previous letter as per the English alphabetical series as shown below:

In the case of DHLN,

Hence, DHLN is difference from the others.

Q27. Answer: (a) 150

6 × 6 × 7 = 252

Similarly,

5 × 5 × 6 = 150

Hence, 150 is related to 5 the same way 252 is related to 6.

Alternate Method

$6^2 + 6^3 = 36 + 216 = 252$

Similarly,

$5^2 + 5^3 = 25 + 125 = 150$

Q28. Answer: (c) RG

The given series: BK, FJ, JI, NH, ?, VF

Clearly, RG will come in place of the question mark to complete the series.

Q29. Answer: (b) [figure]

The given figure:

As shown in the image below, the second image is hidden in the given figure:

Hence, the second figure is hidden in the given image.

Q30. Answer: (b) 6

Rectangle: A rectangle is a four-sided figure or shape and all angles should be right angle.

Square: A square, there are 4 sides and all the four angles are right angles.

Right Angle*:* A right angle is an angle of exactly 90°, The angle bounded by two lines perpendicular to each other.

A square is a special type of rectangle because it possesses all the properties of a rectangle. Similar to a rectangle, a square has:

• Opposite sides that are parallel and equal.

• Two diagonals that bisect each other and are equal.

Thus, a square is a rectangle.

The given figure:

The rectangles in the figure: 1, 2, 3, 4, 5, (1, 2)

Hence, there are 6 rectangles in the figure.

Additional Information

Squares are a subset of rectangles, hence, all squares are also rectangles.

Q31. Answer: (d) [figure]

The given figure:

The triangle in the middle is rotated by 90 degrees in the clockwise direction, also, the position of the four shapes at the corners are interchanged diagonally with respect to the previous figure each time. Thus, in the next figure, the triangle in the middle will be facing the west direction as shown below.

Hence, the fourth figure is the answer figure.

Q32. Answer: (d) 452

The given series: 386, 401, 417, 434, ?

Hence, the next term in the series is 452.

Q33. Answer: (c) 260

The logic follows here is:

In rows:

(3rd number ÷ 1st number) + (1st number - 1) = middle number

In 1st row,

(18 ÷ 2) + (2 - 1) = 9 + 1 = 10

In 2rd row,

(84 ÷ 3) + (3 - 1) = 28 + 2 = 30

In 3rd row,

(? ÷ 4) + (4 - 1) = 68

? ÷ 4 = 68 - 3 = 65

? = 65 × 4 = 260

Hence, "260" is the correct answer.

Q34. Answer: (c) Only conclusion 2 follows

The least possible Venn Diagram for the given data:

Conclusions:

1. No printer is keyboard → it is possible but not definite, hence false.
2. Some printers are mouse → true
3. All printers are mouse → it is possible but not definite, hence false.
4. No keyboards are printer → it is possible but not definite, hence false.

Hence, only conclusion 2 follows.

Q35. Answer: (d) Son - in - law

The family tree diagram for the given data:

Clearly, Rohit is the son-in-law of Vijay.

Q36. Answer: (c) [figure]

The given figure:

If we place a mirror to the right of the image then in the reflection, the shapes will be rotated by 180 degrees on their vertical axis and the resultant will look like the image below:

Hence, the third figure is the reflection of the given figure.

Q37. Answer: (a) a

• When an equal digit is on an equal surface, the remaining equal surface is opposite each other.

• When no common numbers/symbols in 2 dices, the equal surface is opposite to each other

The given position of the dice:

In the second and the third figure, 'e', 'd', 'g', and 'h' are adjacent to 'f'. Thus, 'a' must be opposite 'f' as it is the only left.

Hence, 'a' is opposite 'f'.

In the First Dice and Second dice,

Number d is common.

The left letter will be opposite to each other writing them clockwise starting from d.

Letter	Opposite
h	e
a	f
d	g

Hence, the correct answer is "a".

• Dices are of two types :

1. Standard Dice
2. Non-Standard Dice.

• Dice has:-

1. faces = 6
2. sides = 12
3. corners = 8

• Two opposite faces are never seen together.

• Adjacent faces are never opposite to each other.

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Q38. Answer: (b) TG

The given series: EB, HC, KD, NE, QF, ?

Clearly, TG will be the next term in the series.

Q39. Answer: (d) 3, 1, 4, 2

We first sow the seeds then the wheat plants come out from which we get wheat which finally gives us bread or 'roti'.

Hence, the logical order is 3, 1, 4, 2.

Q40. Answer: (c) 309 : 17

As shown below, except for 309 : 17, in all other pairs, the first number is the product of the second number and its successor.

13 ×14 = 182

12 × 13 = 156

11 × 12 = 132

17 × 18 = 306

Hence, 309 : 17 is different from the other three.

Q41. Answer: (b) Wood

Shoes are made from leather, similarly, paper is made from wood.

Hence, 'wood' is related to 'paper' the same way 'leather' is related to 'shoe'.

Q42. Answer: (d) [figure]

The given figure:

When we will unfold the paper for the first time, we will get a rhombus and a circle. When we will unfold it for the second time, we will get two circles and two rhombus as shown below.

Hence, the fourth figure is the answer figure.

Q43. Answer: (a) 68

The given series: 0, 2, 10, 30,?, 130, 222

$0^3 + 0 = 0$

$1^3 + 1 = 2$

$2^3 + 2 = 10$

$3^3 + 3 = 30$

$4^3 + 4 = 68$

$5^3 + 5 = 130$

$6^3 + 6 = 222$

Hence, 68 is the missing term.

Q44. Answer: (c) Peas

Except for Peas, all other vegetable grow underground.

Hence, 'Peas' is different from the other three.

Q45. Answer: (b) 144

The given series:

9	**12**	**48**
17	20	80
33	36	?

Logic: Row → First number + 3 = Second Number × 4 = Third number

9 + 3 = 12 → 12 × 4 = 48

17 + 3 = 20 → 20 × 4 = 80

33 + 3 = 36 → 36 × 4 = 144

Hence, 144 is the missing term.

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Q46. Answer: (b) ÷ and -

The given equation: 5 × 4 + 12 - 3 ÷ 6 = 18

On interchanging + and -, we get:

5 × 4 - 12 + 3 ÷ 6 = 18

=> 8 + 0.5 = 18 (false)

On interchanging ÷ and ×, we get:

5 ÷ 4 + 12 - 3 × 6 = 18

=> 1.25 - 6 = 18 (false)

On interchanging × and +, we get:

5 + 4 × 12 - 3 ÷ 6 = 18

=> 5 + 48 - 0.5 = 18 (false)

On interchanging ÷ and -, we get:

5 × 4 + 12 ÷ 3 - 6 = 18

=> 20 + 4 - 6 = 18

=> 18 = 18

Hence, we need to interchange ÷ and - to make the situation correct.

Q47. Answer: (a) V and Y

The given series: AG, GL, MQ, S?, ?A

Clearly, V and Y will replace the question marks.

Q48. Answer: (b) [figure]

Devanagari is a script while Hindi and Sanskrit are languages which are written in Devanagari script.

Hence, the second Venn Diagram best represents the relationship between Devanagari, Hindi and Sanskrit.

Q49. Answer: (c) Pascal

Except for Pascal, all others are the units of temperature. Pascal is the unit of pressure.

Hence, 'Pascal' is different from the others.

Q50. Answer: (c) 280

Employees in the IT department = 125

Employees in the HR department = 125 ÷ 5 = 25

Employees in the Helpdesk department = 125 + 25 - 20 = 130

Total number of employees in the company = 125 + 25 + 130 = 280

Hence, there are 280 employees in the company.

Q51. Answer: (c) 1

Given

x = cbrt5 + 2

Formula Used

$(a + b)^3 = a^3 + b^3 + 3a^2b + 3ab^2$

Calculation

=> x = cbrt5 + 2

=> x - 2 = cbrt5

=> $(x- 2)^3 = (cbrt5)^3$

=> $x^3 - 6x^2 + 12x - 8 = 5$

=> $x^3 - 6x^2 + 12x - 13 = 0$

=> x3 - 6x2 + 12x - 13 + 1 = 1

=> x3 - 6x2 + 12x - 12 = 1

Therefore The answer is 1.

Q52. Answer: (d) 957

From Pie chart,

=> English teacher = 26% of total number of teacher

=> (26/100) × 1650 = 429
=> Maths teacher = 14% of total number of teacher
=> (14/100) × 1650 = 231
=> Physics teacher = 18% of total number of teacher
=> (18/100) × 1650 = 297
=> Total number of teacher of English, Maths and Physics = 429 + 231 + 297 = 957
Therefore Total number of teachers teaching English, Maths and Physics is 957

Q53. Answer: (a) 24 cm

Given
AB= 7 cm
AC = 25 cm
Concept Used
we know the triplet of the right angle triangle
Calculation
=> we know the some triplet of right angle triangle are
=> (3,4,5), (6, 8, 10), (5, 12, 13), (7, 24, 25)
=> In Question, we have already two side of triangle i.e. 7 and 25
=> so, third side is 24 cm
Therefore the length of BC is 24 cm

Q54. Answer: (c) 7

Given
Number = 4432A43B
Concept used
divisibility rule of 9 = sum of all digit should be divisible by 9, then whole number will be divide by 9
divisibility rule of 5 = unit digit should be 0 and 5, whole number will be divide by 5
Calculation
=> according to rule of divisibility of 5, then B = 0 or 5
=> sum of digit when B = 0, sum = 4 + 4 + 3 + 2 + A + 4 + 3 + 0 = 20 + A
=> sum of digit, when B = 5, sum = 4 + 4 + 3 + 2 + A + 4 + 3 + 5 = 25 + A
=> we need sum of digit is 27 to divide by 9
=> so, sum A and B = 7

Q55. Answer: (a) 24 minutes

Given
Train cover distance in 2 minutes = 2 km
Formula Used
Speed = Distance/time
Calculation
=> Actual speed of train = (2/2) × 60 = 60 km/hr
=> Speed of train decreases by = 5 km/hr
=> Now speed of train = 55 km/hr
=> Time taken by train to cover 22 km = (22/55) × 60 = 24 minutes
Therefore Time taken by train to cover 22 km is 24 minutes

Q56. Answer: (c) 5

Given
$(\sin\theta + \cos\theta)/(\sin\theta - \cos\theta)=3$
Calculation
=> $(\sin\theta + \cos\theta)/(\sin\theta - \cos\theta)=3$
=> By using componendo and dividendo
=> $2\sin\theta /2\cos\theta = 4/2$

=> sin θ /cosθ = 2

=> so sinθ : cosθ = 2 : 1

=> (3sin θ + 4 cos θ)/(8cos θ - 3 sin θ) = {3(2) + 4}/{8(1) - 3(2)}

=> 10/2 = 5

Therefore the value of (3sin θ + 4 cos θ)/(8cos θ - 3 sin θ) is 5

Q57. Answer: (c) 90 years

Given

The ratio of present age A and B = 1 : 3

Calculation

Let the present age of A and B be x and 3x

After 10 years

=> (x + 10)/(3x + 10) = 2/5

=> 5x + 50 = 6x + 20

=> x = 30

=> Present age of B = 3 × 30 = 90

Therefore the present age of B is 90 years

Q58. Answer: (c) 1/3

Given

A can do work = 15 days

B can do work = 10 days

Formula

Work = time × Efficiency

Calculation

=> Take LCM of (10,15) = 30

=> Let the total work be 30

=> Efficiency of A = 30/15 = 2

=> Efficiency of B = 30/10 = 3

=> A and B can do work in 4 days = 5 × 4 = 20

=> Remaining work = 30 - 20 = 10

=> Fraction of the left work = 10/30 = 1/3

Therefore The fraction of the remaining work is 1/3

Q59. Answer: (a) 24/25

Given

x(5 - 2/x) = 5/x

Formula Used

If x - 1/x =a

then $x^2 + 1/(x^2) = a^2 + 2$

Calculation

=> 5x - 2 = 5/x

=> x - 1/x = 2/5

=> then, $x^2 + 1/x^2 = (2/5)^2 + 2$

=> (4/25) + 2 = 54/25 = 24/25

Q60. Answer: (c) 10 cm

Given

Perimeter of rectangle = 80 cm

Area of rectangle = 375 cm^2

Formula Used

Perimeter of rectangle = 2(l + b)

Area of rectangle = length × breadth

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Calculation

=> Let the length and breadth of rectangle be l and b

=> perimeter = 80

=> 2(l + b) = 80

=> l + b = 40 ----(i)

=> area = 375

=> l× b = 375 -----(ii)

=> From (i) and (ii)

=> l = 25, b = 15

=> so difference between the length and breadth = 25 - 15 = 10

Q61. Answer: (b) 1

Given

sin 7 x = cos 11x

Calculation

=> If sin A = cos B

=> then A + B = 90°

=> from Question

=> 7x + 11x = 90°

=> x = 5°

=> tan 9x = tan 45° = 1

Therefore the value of tan 9x is 1

Q62. Answer: (c) 25 cm

Given

AB = 24 cm

AC = 7 cm

Formula Used

(Hypotnuese)² = (perpendicular)² + (base)²

Calculation

=> we now that tangent makes a right angle with radius

=>so, ΔABC is right angle triangle

=> $(BC)^2 = (AB)^2 + (AC)^2$

=> $BC = \sqrt{(24^2 + 7^2)}$

=>$BC = \sqrt{625} = 25$

Therefore The length of BC is 25 cm

Q63. Answer: (b) 180%

From the Bar Graph

=> Birth rate of country A = 20/thousand

=> Birth rate of country E = 36/thousand

=> Percentage = (birth rate of country E)/(birth rate of country A) × 100

=> Percentage = (36/20) × 100 = 180%

Therefore The Birth rate of country E is 180% of birth rate of country A

Q64. Answer: (b) 16

Given

The average of A, B and C = 18 years

The average of C, D and E = 12 years

Formula Used

Average = (sum of observation)/(No. of observation)

Calculation

=> Total age of A, B and C = 18 × 3 = 54 -----(i)

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=> Total age of C, D and E = 12 × 3 = 36 ------(ii)
=> E + F = 13 ---(iii)
=> E + C = 7 ----(iv)
=> from iii and iv
=> F - C = 6 -----(v)
=>Adding (i), (ii) and (v)
=> A + B + C + C + D + E + F - C = 54 + 36 + 6
=> A + B + C + D + E + F = 96
=> the average = 96/6 = 16
Therefore the average of A, B, C, D, E and F is 16 years

Q65. Answer: (c) 970

Given
$a^2 + 1/(a^2) = 98$
Formula Used
If $a^2 + 1/a^2 = b$
then $a + 1/a = \sqrt{(b + 2)}$
Calculation
=> $a^2 + 1/(a^2) = 98$
=> then $a + 1/a = \sqrt{(98 + 2)} = \sqrt{100} = 10$
=> $a + 1/a = x$, then $a^3 + 1/a^3 = x^3 - 3x$
=> so, $a3 + 1/a3 = 100^3 - 3 \times 10 = 970$

Q66. Answer: (c) 594

From the pie chart,
=> Number of teacher of chemistry = 24% of total number of teacher
=> (24/100) × 1650 = 396
=> NUmber of teacher of biology = 12% of total number of teacher
=> (12/100) × 1650 = 198
=> Total number of teacher teaching chemistry and biology = 396 + 198 = 594
Therefore the total number of teachers teaching chemistry and biology is 594

Q67. Answer: (a) 20

Given
Selling price of article at x% profit = Rs 720
Selling price of article at (x + 5)% profit = Rs 750
Formula Used
Profit % = (profit/cp) × 100
Profit = sp - cp
Calculation
=> difference in profit = 5%
=> [(750 - cp)/cp] - [(720 - cp)/cp] = 5/100
=> 30/cp = 5/100
=> cp = Rs 600
=> x = (720 - 600)/600 × 100
=> x = 20%
Therefore the value of x is 20

Q68. Answer: (a) 5√3 cm

Given
PT = 10 cm
PA = 5 cm
Formula Used

$PT^2 = AP \times PB$

$(Hypotnuese)^2 = (Perpendicular)^2 + (Base)^2$

Calculation

=> $PB = PA + AB = 5 + x$

=> $100 = 5 \times (5 + x)$

=> $x = 15$

=> $PB = 20$

=> In ΔPTB is right angle triangle (tangent makes a right angle with diameter of circle)

=> angle $PTB = 90°$

=> $20^2 = 10^2 + BT^2$

=> $BT = 10\sqrt{3}$

=> Radius of circle $= BT/2 = 5\sqrt{3}$

Therefore the radius of circle is $5\sqrt{3}$

Q69. Answer: (c) 10 cm

Given

Δ ABC is an isosceles triangle

AB = AC = 13 cm

AD is median, AD = 12 cm

Formula Used

$(Hypotnuese)^2 = (perpendicular)^2 + (Base)^2$

Median and Altitude is same in isosceles triangle

Calculation

Let the length of BC = 2x

=> so, BD = CD = x

=> AD is altitude also, Δ ADC is right angle triangle

=> $AC^2 = AD^2 + CD^2$

=> $13^2 = 12^2 + x^2$

=> $x = 5$

=> $2x = 10$

Therefore the length of BC is 10 cm

Q70. Answer: (b) 45°

Calculation

=> $\cos A/(\text{cosec } A + 1) + \cos A/(\text{cosec} A - 1) = 2$

=> $[\cos A(\text{cosec } A - 1) + \cos A(\text{cosec } A + 1)]/[\text{cosec}^2 A - 1] = 2$

=> $(2 \cos A \text{ cosec } A)/\cot^2 A = 2$

=> $\cos A \text{ cosec } A/(\cos^2/\sin A) = 1$ [$\cot A = \cos A/\sin A$]

=> $\tan A = 1$

=> $\tan A = \tan 45°$

=> $A = 45°$

Q71. Answer: (a) Rs. 140

Shortcut Trick

The 30% discount on the Marked Price is equivalent to the value of the free pen.

=> 30% of Marked Price = Rs. 60

=> 1% of Marked Price = Rs. 2

Arun pays 100% − 30% = 70% of the Marked Price for the book.

=> Amount paid = 70 × 2 = Rs. 140.

Therefore The correct answer is Rs. 140.

Alternate Method

Given: Discount % = 30%, Discount Value = Rs. 60 (Value of the free pen).

Formula Used: Selling Price (SP) = Marked Price (MP) − Discount; Discount = (Discount% ÷ 100) × MP.

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=> Discount = 30% of MP = 60
=> (30 ÷ 100) × MP = 60
=> MP = (60 × 100) ÷ 30
=> MP = Rs. 200
=> Amount paid (SP) = MP − Discount
=> Amount paid = 200 − 60 = Rs. 140
Therefore The correct answer is Rs. 140.
Additional Information
Marked Price (MP)
It is the price printed on the label of an article. Discount is always calculated on this price.
Selling Price (SP)
The actual price paid by the customer after deducting the discount from the MP. SP = MP × (100 − D%) ÷ 100.
Discount Percentage
The ratio of discount to the marked price expressed as a percentage. Discount % = (Discount ÷ MP) × 100.
Net Profit with Discount
Profit = SP − CP. If an item is marked up by M% and discounted by D%, net profit % = M − D − (MD ÷ 100).

Q72. Answer: (a) 0

Given
(1/5 ÷ 1/5 × 1/5)/(1/5 ÷ 1/5of1/5) - 4 1/5 ÷ 105
Concept Used
Using BODMAS Rule,
B - bracket, O - of, D- divide, M - multiplication, A - addition, S - substraction
Calculation
=> (1/5 ÷ 1/5 × 1/5)/(1/5 ÷ 1/5of1/5) - 4 1/5 ÷ 105
=> (1 × 1/5)/(1/5 ÷ 1/25) - 21/5 ÷ 105
=> 1/25 - 21/5 ÷ 105
=> 1/25 - 1/25 = 0

Q73. Answer: (d) 10%

Given
Amount after 5 years = Rs 7500
Amount after 7 years = Rs 8500
Formula Used
Simple Interest = principal × rate × time/100
Amount = Principal + (n) S.I { n = no. of years)
Calculation
Let the principal and simple interest for one year be x and y respectively
=> 7500 = x + 5y -----(i)
=> 8500 = x + 7y ------(ii)
=> Substract eq (ii) and (i)
=> 2y = 1000
=> y = 500
=> Put the value of y in eq (i)
=> x = 5000
=> 500 = 5000 × r × 1/100
=> r = 10%
Therefore the rate of interest per annum is 10%

Q74. Answer: (c) Rs. 30,000

Given
Bala donated money = Rs 1800
Formula Used

Percentage = (required/actual) × 100

Calculation

=> Let the Bala's salary is 100x

=> he decide to donate his salary = 10% of 100x = 10x

=>But, he donate money = 60% of 10x = 6x

=> 6x = Rs1800

=> x = 300

=> 100x = 100 × 300 = Rs 30000

Therefore the Bala's salary is Rs 30000

Q75. Answer: (b) Country C

Given

From the graph, birth rate of country D = 18/ thousand

Formula Used

Percentage = (required no. /actual no) × 100

Calculation

=> let the birth rate of country which is 50% more than birth rate of country D be x

=> 150 = (x/18) × 100

=> x = 27

Therefore the birth rate of country C is 27 which is 50% more than birth rate of country D

Q76. Answer: (d) IIT Madras

The correct answer is IIT Madras.

Key Points

• IIT Madras launched the country's first indigenously designed standing wheelchair in collaboration with Phoenix Medical Systems.

• A 'standing wheelchair' called 'Arise', was developed at the TTK Center for Rehabilitation Research and Device Development (R2D2) at the Indian Institute of Technology, Madras.

• Arise was formally launched by Thaawarchand Gehlot, Union Minister for Social Justice and Empowerment, at IIT-Madras Research Park.

• The price of the wheelchair 'Arise' is about Rs. 15,000.

Additional Information

• There are a total of 23 IITs in India of which 16 IITs are established after 2004.

• According to QS ranking 2021, IIT Bombay is among the top 50 Engineering Institutes of the world.

• IIT Delhi Develops EV Charging Station with Inbuilt Solar PV Interface Capability.

Q77. Answer: (a) Haryana

The correct answer is Haryana.

Key Points

• This dance is named so because the word Loor means girl in the Bhangra area of Haryana.

• It is specially performed during the Holi festival.

• Performance-Girls usually participate in this dance wearing their traditional dress of Ghagra, Kurti, Chundri, and Chunda.

• Girls perform the Loor during the month of Phalguna (February/March).

• This dance marks the arrival of the pleasant spring season and with it the harvesting of the Rabi crops in the farms.

Additional Information

Some important dances of other states:

States	Dance
Madhya Pradesh	• Sela - Selalarki - Selabhadoni - Matki
Punjab	• Bhangra - Giddha - Malwai Giddha
Rajasthan	• Ghoomar - Kalbelia

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Q78. Answer: (d) High Level Language

The correct answer is High-Level Language.

Key Points

• Computer programming languages are broadly categorized into 2 types namely – High-Level Language and Low-Level Language.

• The abbreviation for High-Level Language is HLL and Low-Level Language is LLL.

• A high-level language (HLL) is a programming language such as C, FORTRAN, or Pascal that enables a programmer to write programs that are more or less independent of a particular type of computer.

• Such languages are considered high-level because they are closer to human languages and further from machine languages.

Important Points

• Lisp, Prolog, Python, and R are the main AI programming languages that are best suited for development and design for different kinds of software.

• C language is developed by Dennis M. Ritchie in the early 1970s.

• Father of Computer - Charles Babbage

• Mother of Computer - Ada Lovelace

• The first computer programming language was created in 1883 by Ada Lovelace.

Q79. Answer: (a) Shillong

The correct answer is Shillong.

Key Points

• India International Cherry Blossom Festival celebrated in Shillong.

• The 4th edition of India International Cherry Blossom Festival, 2019 was celebrated in Shillong, Meghalaya from 13 to 16 November 2019.

• It was inaugurated by Meghalaya Chief Minister, Conrad K Sangma.

• The festival is a great example of how natural resources and sustainable tourism can be utilized in an effective manner and create the value of something which already exists.

• The festival celebrates the unique autumn flowering of Himalayan Cherry Blossoms with several cultural events.

Important Points

Some other important festivals celebrated in North-East India:

• Losar - Arunachal Pradesh

• Saga Dawa - Sikkim

• Ambubachi Mela - Assam

• Dree Festival - Arunachal Pradesh

• Anthurium - Mizoram

Q80. Answer: (a) Jhilli Dalabehera

The correct answer is Jhilli Dalabehera.

Key Points

• Jhilli Dalabehera, Odisha weightlifter has been awarded the 27th Ekalabya Award 2019, the annual award organized by Indian Metals Public Charitable Trust (IMPaCT)

• This award was managed by IMFA (Indian Metals and Ferro Alloys limited) group.

• The award comprises a cash prize of Rs.5 lakhs along with citation.

• She has won two gold, three silver, and a bronze medal in different International weightlifting events held between April 1, 2017, and March 31, 2019.

Additional Information

• The award is given to encourage and inspire young sportspersons to perform on National and International platforms.

• Ekalabya award was instituted in 1993.

Q81. Answer: (b) isochrones

The correct answer is isochrones.

Key Points

• Isobronts - A line drawn through geographical points at which a given phase of thunderstorm activity occurred simultaneously.

• Isohaline - These are the lines (or contours) that join points of equal salinity in an aquatic system.

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• Isochrones -Lines joining places located at the equal travel time from a common centre

Important Points

• Iso-Seismal Line - An isoseismal (line) is a contour or line on map bounding points of equal intensity fo.r a particular earthquake.

• Home-Seismal Line - Line on the Earth's surface connecting points where the seismic wave arrives, generated by an earthquake, at the same time.

• Seismic gap - It is a gap of places in a seismic zone where no earthquake occurs.

• Isogonal line - It is a line joining places with the same magnetic declination.

Q82. Answer: (a) Relief Map

The correct answer is Relief Map.

Key Points

• A raised-relief map or terrain model is a three-dimensional representation, usually of terrain, materialized as a physical artefact.

• When representing terrain, the vertical dimension is usually exaggerated by a factor between five and ten.

• This facilitates the visual recognition of terrain features.

Additional Information

• Political Map - A Political Map represents countries, states, and towns. Often they are painted in different colours so we can see them better. This map shows names and boundaries.

• Topographic Map - Topography concerns the shape and character of the Earth's surface, and maps were among the first artefacts to record these observations.

• Thematic Map - A thematic map is a type of map that portrays the geographic pattern of a particular subject matter (theme) in a geographic area like temperature, language, or population.

Source:

https://ncert.nic.in/ncerts/l/fess204.pdf

Q83. Answer: (a) Tamil Nadu

The correct answer is Tamil Nadu.

Key Points

• The top-ranked state – Tamil Nadu

• The top-ranked district – Peddapalli (Telangana),

• Top state with the maximum citizen participation – Uttar Pradesh

Additional Information

• This Swachh Survekshan Grameen Award felicitated on the occasion of World Toilet Day at Pravasi Bhartiya Kendra, New Delhi.

• World Toilet Day - 19 November

• The theme of World Toilet Day 2020 - Sustainable sanitation and climate change

• Corporates were also felicitated for their contribution under the Swachhata Hi Seva campaign this year, for their efforts towards effective plastic waste management.

Q84. Answer: (c) Shafali Verma

The correct answer is Shafali Verma.

Key Points

• Shafali Verma became the youngest Indian cricketer to score a half-century in international cricket(2019)

• She is only 15 years old when she scored a half-century.

• She scored 49-ball 73 in the first T20 International against West Indies surpassing Sachin Tendulkar's 30-year-old record.

Important Points

• Kushal Malla is the youngest cricket who scored a half-century in men's International cricket.

• He scored a half-century in 15 years and 340 days of age.

• Sachin Tendulkar is the youngest cricketer who scored a century in Test cricket.

• Sachin Tendulkar was 18 years 256 days old when he scored test century.

Q85. Answer: (d) Sudarsan Pattnaik

The correct answer is Sudarsan Pattnaik.

Key Points

• Acclaimed Indian sand artist Sudarsan Pattnaik has been conferred the Italian Golden Sand Art Award, 2019 at a ceremony in

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Rome.

• Becoming the first Indian to win the prestigious award for his contribution to sand art.

• Representing India at the International Scorrano Sand Nativity event held in Lecce from November 13 to 17.

• Mr. Pattnaik created a 10-foot high sand sculpture of Mahatma Gandhi along with Russian artist Pavel Minilkov.

Additional Information

• Sudarsan Pattnaik has also won the People's Choice Award at a prestigious sand sculpting festival in the U.S.

• Sudarsan Pattnaik won Padma Shree award.

• He also won the gold medal for the People's Choice Award at the 3rd Moscow World Sand Sculpture Championship.

Q86. Answer: (b) Satya Nadella

The correct answer is Satya Nadella.

Key Points

• Microsoft's India-born Chief Executive Officer Satya Nadella has occupied the top spot in Fortune's Businessperson of the Year 2019 list.

• It is an annual compilation that also includes Mastercard CEO Ajay Banga and Arista head Jayshree Ullal.

• Banga is ranked 8th, while Ullal comes in at the 18th spot in the list for which Fortune looked at 10 financial factors ranging from a total return to shareholders to return on capital.

• Both Banga and Ullal are of Indian-origin.

Additional Information

Some Indian-origin CEOs of top MNCs:

• Google - Sundar Pichai

• Rajeev Suri - Nokia

• Shantanu Narayen - Adobe System

• Arvind Krishna - IBM

• Satya Nadella - Microsoft

Q87. Answer: (a) Bihar

The correct answer is Bihar.

Key Points

• National Highway 18 (a combination of old NH 32, NH 33, and NH 5) is a National Highway in India.

• It originates from Gobindpur, Dhanbad, and terminates at Balasore, Odisha.

• It passes through Dhanbad city, Mahuda, Chas, Purulia, Balarampur, Jamshedpur, Ghatshila, Baharagora, Baripada, and Balasore.

• It was earlier NH32 but it got changed in 2012.

• The total length of NH 18 is 361 Kms.

Important Points

• Longest highway of India- NH 44

• Shortest highway of India - NH 47(A)

• Highest highway of India - NH 1(A)

• National Highway Authority of India (NHAI) is responsible for constructing National Highways in India.

• NHAI formed in 1988.

• State Highways are maximum in Maharashtra.

Q88. Answer: (d) State Bank of India

The correct answer is State Bank of India*.*

Key Points

• On January 14, 2020, the South Central Railway (SCR) Zone of Indian Railways has signed an MoU (memorandum of understanding) with the State Bank of India (SBI) for 'doorstep banking'.

• Under which the bank will collect earnings generated from all 585 stations of the zone.

• The key benefit of this MoU is that real-time information will be available about the cash being deposit at various stations, which will facilitate accountability.

Additional Information

About Indian Railways:

• Founded - 16 April 1853.

• Headquarters - New Delhi
• Minister - Piyush Goyal
• CEO of Railways board - VK Tripathi

About State Bank of India:

• Founded - 1 July 1955
• Headquarters - Mumbai
• Chairman - Dinesh Kumar Khara

Q89. Answer: (a) Vesta

The correct answer is Vesta.

Key Points

• A constellation is an area on the celestial sphere in which a group of visible stars forms a perceived outline or pattern, typically representing an animal, mythological person or creature, or an inanimate object.
• Vesta is one of the largest objects in the asteroid belt, with a mean diameter of 525 kilometres (326 mi).
• It was discovered by the German astronomer Heinrich Wilhelm Matthias Olbers on 29 March 1807.
• It is named after Vesta, the virgin goddess of home and hearth from Roman mythology.

Additional Information

Some important constellation which can be visible through naked eyes:

• Aquarius
• Aquila
• Canis Major
• Cassiopeia
• Cygnus
• Leo

Q90. Answer: (d) Manisha Kulshreshtha

The correct answer is Manisha Kulshreshtha.

Key Points

• Manisha Kulshreshtha, the noted writer from Rajasthan, has been conferred the 28th Bihari Puraskar for 2018 for her novel ‘Swapnapash’.
• The award is presented by the KK Birla Foundation and is for writers of Rajasthani origin.
• It is given annually to an outstanding work in Hindi or Rajasthani published in the past 10 years.
• The award is named after famous Hindi poet Bihari.
• It carries a cash prize of Rs 2.5 lakh, a citation, and a plaque.

Additional Information

Some important books that are written by Manisha Kulshreshtha:

• Kuch Bhi to Rumani Nahi
• Kathputliyan
• Gandharva Gatha
• Rang-roop Ras Gandh

Q91. Answer: (d) Ram Manohar Lohia

The correct answer is Ram Manohar Lohia.

Key Points

• Ram Manohar Lohia was one of the founders of the Congress Socialist Party and editor of its mouthpiece Congress Socialist.
• It was founded in May 1934
• In 1936, he was selected by Jawaharlal Nehru as the secretary of the Foreign Department of the All India Congress Committee (A.I.C.C), the highest body of the Congress Party.
• During the last phase of British rule in India, he worked with Congress Radio which was broadcast secretly from various places in Bombay until 1942.
• He was the one who gave the idea of Sapta Kranti.
• He actively participated in Quit India Movement.

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Important Points

Some important events of the Indian freedom Struggle:

• Dandi March - 12 March 1930 – 5 April 1930

• Non-Corporation Movement - September 1920

• Civil Disobedience Movement - March 12, 1930

• Quit India Movement - 8 August 1942

• Jallianwala Bagh Massacre - 13 April 1919

• Simmon Commission - 1927

• Cabinet Mission Plan - 1946

• Chauri Chaura incident - 5 February 1922

Q92. Answer: (d) Medini Rai

The correct answer is Medni Rai.

Key Points

• The Battle of Chanderi took place in the aftermath of the Battle of Khanwa in which the Mughal Emperor Babur had defeated the Rajput Confederacy and firmly established Mughal rule.

• Babur decided to isolate the Rana by inflicting a military defeat on one of his vassals Medini Rai who was the ruler of Malwa.

• Consequently, in December 1527, taking a circumlocutious route Babur marched to the fortress of Chanderi in Malwa which was the capital of the kingdom of Malwa.

• Upon reaching Chanderi, on 20 January 1528, Babur offered Shamsabad to Medini Rai in exchange for Chanderi as a peace overture but the offer was rejected by Rai.

Important Points

• The first battle of Panipat - 21 April 1526

• The second battle of Panipat - 5 November 1556

• The third battle of Panipat - 14 January 1761

• Battle of Khanwa - March 16, 1527.

• Battle of Halighati - 18 June 1576

• Battle of Buxar - 22/23 October 1764

Q93. Answer: (b) Pooja Gehlot

The correct answer is Pooja Gehlot.

Key Points

• Wrestler Pooja Gehlot (53kg) claimed India's second silver medal after going down to Japan's 2017 world champion Haruna Okuno in the finals of the UWW Under-23 World Championships.

• Gehlot lost 0-2 to Okuno in the summit clash to emulate Ravinder (61kg), who also won silver earlier this week.

• This UWW-23 World Championship was held in Budapest.

Additional Information

• 2020 Individual Wrestling World Cup was held in Belgrade, Serbia.

• The 2021 Khelo India Youth Games are scheduled to take place after the 2021 Tokyo Olympics and will be held in Panchkula (Haryana).

• Tokyo will host the Olympic Games 2020.

Q94. Answer: (c) Swami Vivekananda

The correct answer is Swami Vivekananda.

Key Points

• Ramakrishna Mission (RKM) is a Hindu religious and spiritual organization that forms the core of a worldwide spiritual movement known as the Ramakrishna Movement or the Vedanta Movement.

• The mission is named after and inspired by the Indian saint Ramakrishna Paramahamsa and founded by Ramakrishna's chief disciple Swami Vivekananda on 1 May 1897.

• The mission bases its work on the principles of karma yoga, the principle of selfless work done with a dedication to God.

• The Ramakrishna Mission has centred around the world and publishes many important Hindu texts.

Additional Information

• Atmaram Pandurang founded the Prarthana Samaj.

• Debendranath Tagore was a Hindu philosopher and religious reformer, active in the Brahmo Samaj.

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• Brahmo Samaj was founded by Raja Ram Mohan Roy.
• Hindu reform society founded by Dayananda Sarasvati in 1875.

Q95. Answer: (a) Khajuraho

The correct answer is Khajuraho.

Key Points

• The 5th Khajuraho International Festival organized in joint aegis of Culture and Tourism Departments in collaboration with Prayas Production, Mumbai.
• It was inaugurated with the screening of Gandhi Film on the 150th Birth Anniversary of Mahatma Gandhi.
• This year the theme of the Film Festival is 'Comedy'.
• In this 7-Day festival, films were screened and the comedians also gave their performances.

Additional Information

• Minister of Culture and Tourism Department - Prahlad Singh Patel
• The Khajuraho is a city of Group of Monuments is a group of Hindu temples and Jain temples in Chhatarpur district, Madhya Pradesh, India.
• They are a UNESCO World Heritage Site.
• The temples are famous for their nagara-style architectural symbolism and their erotic sculptures.

Q96. Answer: (c) Torque

The correct answer is Torque.

Key Points

• Torque is the measure of the force that can cause an object to rotate about an axis.
• Force is what causes an object to accelerate in linear kinematics.
• Similarly, torque is what causes an angular acceleration.
• Hence, torque can be defined as the rotational equivalent of linear force.
• Since force needs direction as well as magnitude.
• Therefore, it is a vector quantity.
• Hence, Torque is also a vector quantity.

Additional Information

• A quantity that has magnitude but no particular direction is described as a scalar.
• A quantity that has magnitude and acts in a particular direction is described as a vector.
• Some vector quantities are - Acceleration, Velocity, Force, etc.
• Some Scalar quantities are - Distance, time, temperature, Volume, Area, etc.

Q97. Answer: (b) Spirogyra

The correct answer is Spirogyra.

Key Points

• Spirogyra (common names include water silk, mermaid's tresses, and blanket weed) is a filamentous charophyte green alga of the order Zygnematales, named for the helical or spiral arrangement of the chloroplasts that is characteristic of the genus.
• It is commonly found in freshwater habitats, and there are more than 400 species of Spirogyra in the world.
• Spirogyra measures approximately 10 to 100 μm in width and may grow to several centimetres in length.

Additional Information

The characteristics of unicellular organisms are as follows:

• The unicellular organisms usually reproduce by asexual means.
• They can be eukaryotes or prokaryotes.
• They are found in almost all habitats, from hot springs to frozen tundra.
• They possess whip-like structures for movement.

Q98. Answer: (c) Myxovirus

The correct answer is Myxovirus.

Key Points

• Myxovirus can cause Influenza in humans.
• Myxovirus belongs to the families Orthomyxoviridae (agents of influenza) and Paramyxoviridae.
• There are two main types of influenza (flu) virus: Types A and B.

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• The influenza A and B viruses that routinely spread in people (human influenza viruses) are responsible for seasonal flu epidemics each year.

• Influenza A viruses can be broken down into sub-types depending on the genes that make up the surface proteins.

Additional Information

Viruses responsible for several diseases are:

• Smallpox - variola virus

• Polio - poliomyelitis

• Rabies - Lyssavirus

• Mumps - paramyxovirus

Q99. Answer: (d) United States of America

The correct answer is United States of America.

Key Points

• ENIAC, in full Electronic Numerical Integrator and Computer, the first programmable general-purpose electronic digital computer, built during World War II by the United States.

• American physicist John Mauchly, American engineer J. Presper Eckert, Jr., and their colleagues at the Moore School of Electrical Engineering at the University of Pennsylvania led a government-funded project to build an all-electronic computer.

• Under contract to the army and under the direction of Herman Goldstine, work began in early 1943 on ENIAC.

• The next year, mathematician John von Neumann began frequent consultations with the group.

Additional Information

• Frontier is the fastest supercomputer in the World.

• The USA built the Frontier supercomputer.

• PARAM Siddhi – AI is the fastest supercomputer in India 120th in the world.

• Bhatkar is India's first supercomputer.

• For a global context, the USA dominates with 150 supercomputers on the list, followed by China's 134, Germany's 36, and Japan's 33.

Q100. Answer: (d) Article 19

The correct answer is Article 19.

Key Points

• The heart of Article 19 says: "Everyone has the right to freedom of opinion and expression, this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers."

• Right to Freedom is a Fundamental Right which is described under Article 19 to 22.

• Article 19 gives freedom to:

• Right to speech

• Right to Press

• Right to Silence

• Right to Information

• Right to move anywhere and reside anywhere

• Right to form Association and Union

Additional Information

Some important Borrowing of the Indian Constitution:

• Fundamental Rights - USA

• Fundamental Duties - Russia/USSR

• Election of President - Ireland

• Concurrent list - Australia

• Citizenship - Britain

• Republic - France

• Five year Plan - USSR/Russia

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