SSC CHSL Previous Paper 20 (Held On: 10 July 2019 Shift 1) (Previous Year Paper)

SSC Combined Higher Secondary Level (CHSL) • 2019 • 100 questions • 60 minutes • Answer key and solutions

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ENGLISH LANGUAGE

Q1. Select the most appropriate synonym of the given word.

IDENTICAL

(a) legible
(b) perfect
(c) detailed
(d) similar

Q2. Select the correct passive form of the given sentence.

You have made a mistake in writing your answer.

(a) A mistake have been made by you in writing your answer.
(b) A mistake has been made by you in writing your answer.
(c) A mistake is being made by you in writing your answer.
(d) A mistake had been made by you in writing your answer.

Q3. Select the most appropriate word to fill in the blank.

Necessary support to _____ the process of sale is being extended by the banks in the consortium.

(a) complicate
(b) confuse
(c) felicitate
(d) facilitate

Q4. Select the most appropriate synonym of the given word.

OSTENTATIOUS

(a) flashy
(b) distinct
(c) disturb
(d) complete

Q5. Select the most appropriate word for the given group of words

A group of stars found close together

(a) confederation
(b) constellation
(c) conflagration
(d) concoction

Q6. Select the correctly spelt word.

(a) quallification
(b) queiten
(c) questionnaire

(d) quantefy

Q7. Select the most appropriate meaning of the given idiom

bolt from the blue

(a) someone who runs fast and wins a race
(b) something sudden that happens unexpectedly
(c) locking the doors to keep the rain out
(d) winning after losing a game many times

Q8. Select the wrongly spelt word.

(a) adjacent
(b) contiguous
(c) spectaculer
(d) whimsical

Q9. Select the most appropriate word for the given group of words.

Place for collection of dried plant specimens

(a) herbarium
(b) warehouse
(c) green house
(d) nursery

Q10. Select the most appropriate word to fill in the blank.

Any account of the reign of King Harsha would remain _____ without a reference to Hiuen Tsang.

(a) unknown
(b) eminent
(c) incomplete
(d) famous

Q11. Select the correct indirect form of the given sentence.

Hemant said to the hotel receptionist, "Please tell Bharat I will come to see him tomorrow at 10 am."

(a) Hemant requested the hotel receptionist to inform Bharat that he would come to see him the next day at 10 am.
(b) Hemant requested to the hotel receptionist please inform Bharat I will come to see him tomorrow at 10 am.
(c) Hemant said to the hotel receptionist to please tell Bharat that I will come to see him tomorrow at 10 am.
(d) Hemant said to the hotel receptionist please to tell Bharat he will come to see me tomorrow at 10 am.

Q12. 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.

A spokesperson of the company explained that the media had misrepresented the facts about the accident in their building.

(a) misrepresents the facts for an accident
(b) misrepresenting the facts about the accident
(c) No improvement
(d) misrepresent the facts on the accident

Q13. Identify the segment in the sentence which contains the grammatical error.

In spite Smita having taken part in many television serials earlier, this was the first time she was going to host a live show.

(a) this was the first time
(b) in many television serials earlier
(c) she was going to host
(d) In spite Smita having taken part

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Q14. 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.

There was a long queue at the post office and by the time I have reached the counter I was told the printer was not working.

(a) I am reaching the counter
(b) I reached the counter
(c) I reach the counter
(d) No improvement

Directions

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.

It's turning out to be a tough summer for the State. With an alarming dip (1) ____ groundwater levels across (2) __ state, experts fear residents (3) __ soon have to battle an (4) __ water crisis, along (5) ____ extremely high temperatures.

Q15. Select the most appropriate option to fill in blank No.5.

(a) from
(b) with
(c) to
(d) by

Q16. Select the most appropriate option to fill in blank No.4.

(a) unlikely
(b) acute
(c) average
(d) unknown

Q17. Select the most appropriate option to fill in blank No.3.

(a) shall
(b) should
(c) might
(d) can

Q18. Select the most appropriate option to fill in blank No.2.

(a) all
(b) nearby
(c) every
(d) an

Q19. Select the most appropriate option to fill in blank No.1.

(a) with
(b) from
(c) on
(d) in

Q20. Select the most appropriate meaning of the given idiom

left-handed compliment

(a) making fun of someone to tease them
(b) praise that is given directly
(c) insulting remark appearing as praise
(d) insulting someone in front of others

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Q21. Select the most appropriate antonym of the given word.

SALIENT

(a) prominent
(b) negligible
(c) clear
(d) striking

Q22. Select the most appropriate synonym of the given word.

COMPLACENT

(a) humble
(b) confident
(c) trusted
(d) satisfied

Q23. Identify the segment in the sentence which contains the grammatical error.

The lady listened carefully to my complaint but I doubt she will do anything about it.

(a) The lady listened carefully
(b) to my complaint
(c) but I doubt she
(d) will do anything about it

Q24. Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.

A. I should have charged double the amount, but it didn't occur to me then.

B. Now, after all the expenses and the gardener's salary, I made a profit of only five hundred rupees.

C. The jasmine plants flowered twice and I sold 250 grams of buds just for ten rupees.

D. Had I charged at least twenty rupees I would have made a good profit.

(a) BCDA
(b) ADCB
(c) CADB
(d) BDAC

Q25. Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.

A. Gone are the days when you stayed with one firm for your entire career and made lifelong friends in the office.

B. This phenomenon was noted in a recent research report which found that the median tenure for employees below the age of 30 is just two years.

C. The research report stated that young people today are tempted to switch jobs quickly.

D. As job longevity becomes a phenomenon of the past, there is a change in attitude in the modern generation towards employment.

(a) BADC
(b) DBCA
(c) CDAB
(d) DCBA

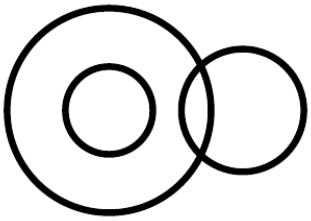
GENERAL INTELLIGENCE

Q26. Select the Venn diagram that best illustrates the relationship between the following classes.

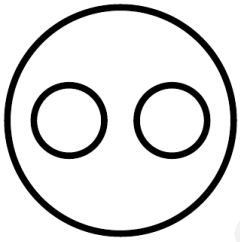
Pi, Theta, Symbols

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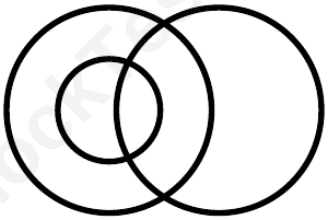
(a)



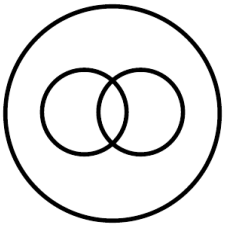
(b)



(c)



(d)



Q27. Arrange the following words in a logical sequence as they would appear in the English dictionary.

1. Examine
2. Excited
3. Exclaim
4. Example
5. Execute

(a) 5, 3, 4, 1, 2
(b) 1, 4, 2, 5, 3
(c) 1, 4, 2, 3, 5
(d) 4, 1, 3, 5, 2

Q28. Select the set in which the numbers are related in the same way as are the numbers of the following set.

(24, 48, 36)

(a) (25, 49, 37)
(b) (45, 49, 77)
(c) (26, 58, 46)
(d) (15, 49, 37)

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Q29. If it was a Monday on 1 January 2018, what was the day of the week on 31 December 2018?

(a) Monday
(b) Tuesday
(c) Sunday
(d) Friday

Q30. Three of the following four numbers are alike in a certain way and one is different.
Pick the number that is different from the rest.

(a) 325
(b) 425
(c) 145
(d) 235

Q31. Select the number-pair in which the two numbers are related in the same way as are the two numbers of the following number-pair.
6 : 40

(a) 15 : 45
(b) 5 : 25
(c) 7 : 53
(d) 9 : 72

Q32. Select the option that is related to the third letter-pair in the same way as the second letter-pair is related to the first letter-pair.
DH : HL : : GK : ?

(a) LM
(b) KL
(c) LO
(d) KO

Q33. If BUS is coded as 126 and FUEL is coded as 176, then how will SHRUB be coded as?

(a) 272
(b) 68
(c) 340
(d) 204

Q34. Which letter-pair will replace the question mark (?) in the following series?
GD, IF, ?, SP, AX

(a) MN
(b) JK
(c) NM
(d) MJ

Q35. Select the correct mirror image of the given figure when the mirror is placed tot the right of the figure.



(a)



(b)



(c)



(d)



Q36. Three 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.

Statements:

All hens are eggs.

All eggs are birds.

Some eggs are lions.

Conclusions:

I. Some lions are eggs.

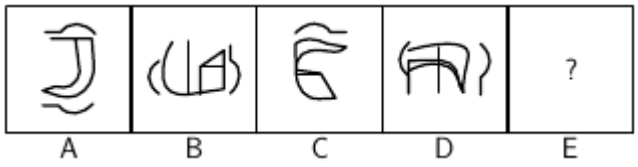
II. Some eggs are hens.

III. Some eggs are birds.

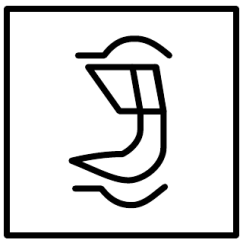
(a) All the conclusions follow.
(b) Either conclusion II or III follows.
(c) Only conclusion I follows.
(d) Only conclusions I and II follow.

Q37. Select the Answer Figure that will come next in the following Problem Figure series.

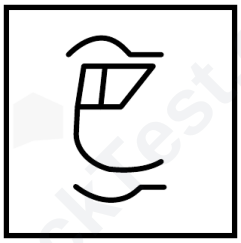
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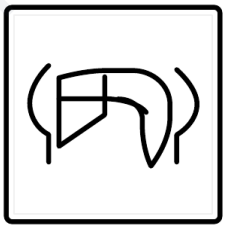
(a)



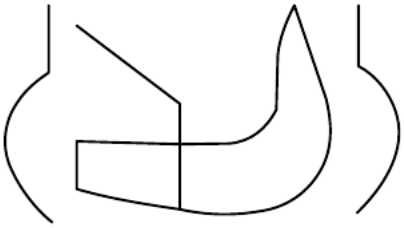
(b)



(c)



(d)



Q38. Which two signs and numbers should be interchanged in the following equation to make it correct?

10 + 8 - 200 × 15 ÷ 5 = 407

(a) • and ÷, 200 and 10
(b) × and ÷, 8 and 5
(c) × and -, 5 and 15
(d) • and -, 15 and 10

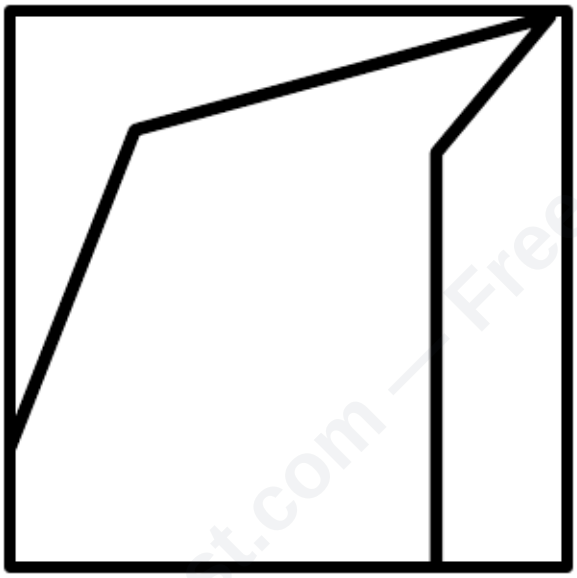
Q39. Select the set in which the numbers are related in the same way as are the numbers of the following set.

(16, 25, 82)

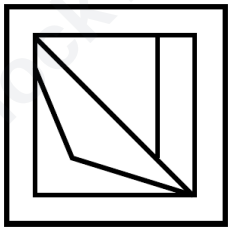
(a) (36, 49, 170)
(b) (25, 49, 81)
(c) (25, 36, 51)
(d) (11, 121, 110)

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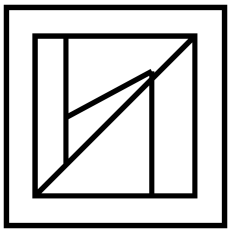
Q40. Select the option in which the given figure (X) is embedded.



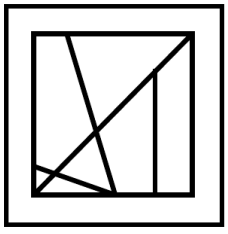
(a)



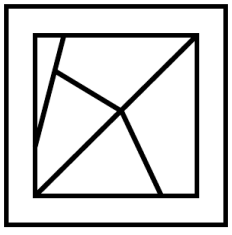
(b)



(c)

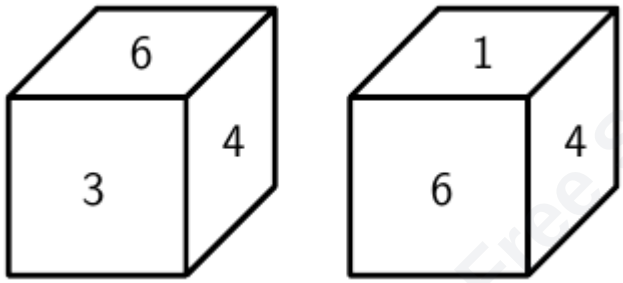


(d)



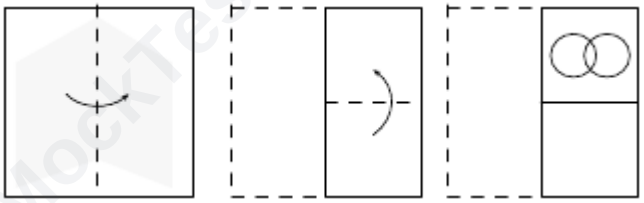
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Q41. Two positions of a dice are shown below. When the number 3 is at the top. Which number would appear at the bottom?

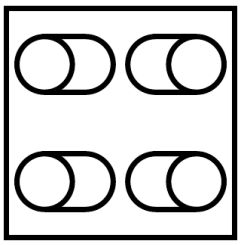


(a) 4
(b) 1
(c) 2
(d) 5

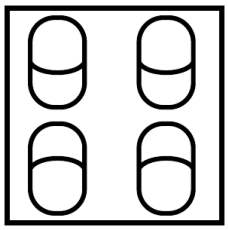
Q42. A paper is folded and cut as shown in the following figures (X, Y and Z). Select the option that depicts how this paper will appear when unfolded?



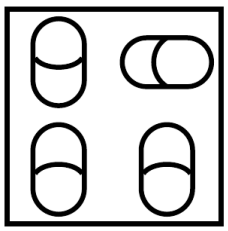
(a)



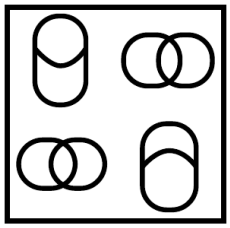
(b)



(c)



(d)



Q43. Three of the following four words are alike in a certain way and one is different.
Pick the odd word out.

(a) Lucknow
(b) Patna
(c) Punjab
(d) Mumbai

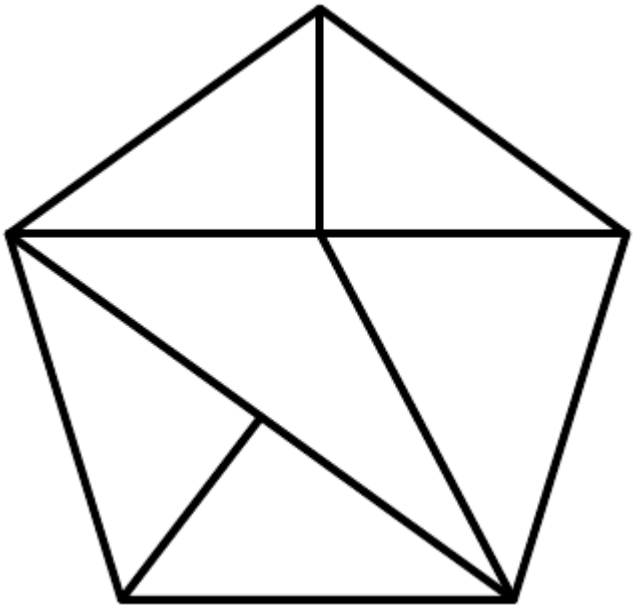
Q44. In a code language, TRILOGY is written as OGYLTRI. How will FRAGILE be written as in that language?

(a) ALEGFRI
(b) ALEGFRA
(c) ILEGFRA
(d) ILEGFRB

Q45. Three of the following four letter-clusters are alike in a certain way and one is different. Pick the odd one out.

(a) IKM
(b) BDH
(c) DFJ
(d) EGK

Q46. How many triangles are represent in the following figure?



(a) 11
(b) 9
(c) 7
(d) 8

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Q47. 'Man' is related to 'Crowd' in the same way as 'Student' is related to _____.

(a) Gang
(b) Class
(c) Cinema
(d) Family

Q48. Select the word-pair in which the two words are related in the same way as are the two words in the following word-pair.

Paper : Pen

(a) Wood : Table
(b) Chalk : Duster
(c) Curd : Milk
(d) Blackboard : Chalk

Q49. Manju introduced Sushma to her friend, "Her (Sushma's) father's only son's wife is my mother-in-law." How is Manju's husband related to Sushma?

(a) Brother
(b) Son
(c) Father
(d) Nephew

Q50. Which number will replace the question mark (?) in the following series?

1, 2, 6, 24, 120, ?

(a) 360
(b) 570
(c) 240
(d) 720

QUANTITATIVE APTITUDE

Q51. A boy standing by the side of a railway track finds that an Up train crosses him in 8 seconds and a Down train of twice the length of that of the Up train crosses him in 20 seconds. How long (in seconds) will the two trains take to cross each other?

(a) 20 sec
(b) 15 sec
(c) 121/3 sec
(d) 131/3 sec

Q52. If (x + y)^(1/3) + (y + z)^(1/3) = -(z + x)^(1/3), then (x^3+ y^3 + z^3) can be expressed as:

(a) 3xyz
(b) 1/8xyz
(c) 3/8(x + y) (y + z) (z + x)
(d) (x + y) (y + z) (z + x)

Q53. Twelve sticks, each of length one unit, are used to form an equilateral triangle. The area of the triangle is:

(a) 3√3 sq units
(b) 8√3 sq units
(c) 2√3 sq units
(d) 4√3 sq units

Q54. If a + 1/a = 2, What is the value of a^4 – 1/a^4?

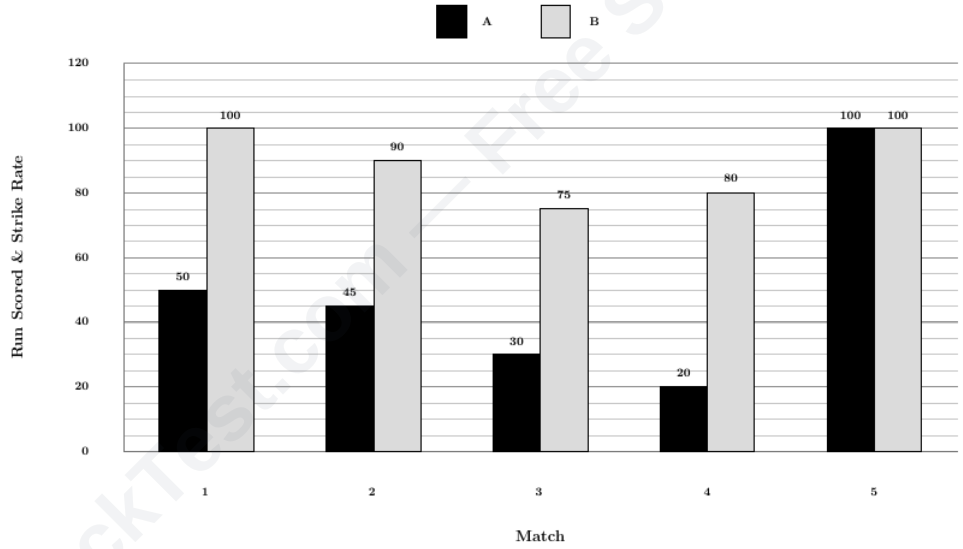
(a) 14
(b) 4
(c) 1

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(d) 0

Directions

Directions: The given Bar Graph presents the runs scored (A) and strike rate (B) of a batsman in five matches. Strike Rate is the number of runs scored per 100 balls faced. The strike rate (B) is taken on record only when the batsman scores at least 20 runs in match.



Q55. What is the average strike rate of the batsman?

(a) 89
(b) 91.25
(c) 90.75
(d) 95.5

Q56. What is the average runs scored by the batsman in the five matches?

(a) 50
(b) 45
(c) 49
(d) 56.25

Q57. How many runs the batsman should have scored in the fifth match in as many balls he had faced in that match so that the average strike rate of the seconds and the fifth match becomes 120?

(a) 150
(b) 160
(c) 120
(d) 240

Q58. How many balls did the batsman face in the third match?

(a) 60
(b) 50
(c) 30
(d) 40

Q59. The point A of a triangle ABC moves parallel to the straight-line BC. Which one among the following also moves along a straight line parallel to BC?

(a) The circumcenter (b) the centroid (c) the incentre (d) the orthocenter.

(a) (d)
(b) (b)
(c) (c)
(d) (a)

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Q60. If 16 men working 12 hours a day can complete a work in 27 days, then working for how many hours a day can 18 men complete the work in 24 days?

(a) 9
(b) 16
(c) 12
(d) 18

Q61. The simplified value of [11/5 of {3/7 - (14/15 - 13/15) × 5/7}] ÷ (6/7 ÷ 5) is:

(a) 15
(b) 215
(c) 415
(d) 1

Q62. For θ being an acute angle, $4(2\sin^2\theta + 7\cos^2\theta) = 13$, what is the value of θ?

(a) 60°
(b) 0°
(c) 45°
(d) 30°

Q63. Two circles of diameters 4.8 cm and 8 cm are such that the distance between their centres is 6.5 cm. What is the length of a common tangent to the circles that does not intersect the line joining the centres?

(a) 6.3 cm
(b) 6.1 cm
(c) 6.2 cm
(d) 6.0 cm

Q64. A borrows a sum of Rs. 1,000 from his friends B on 31 December 2015 on the condition that he will return the same after one year with simple interest at 12%. However, A gets position of returning the money on 1 May 2016. How much amount he has to return to B?

(a) Rs. 1,040
(b) Rs. 1,045
(c) Rs. 1,120
(d) Rs. 1,331.5

Q65. Which among the following numbers is exactly divisible by 7, 11 and 13?

(a) 14993
(b) 15004
(c) 15015
(d) 14982

Q66. If sin θ + cosec θ = 2, then what is the value of sin^(153)θ + cosec^(253)θ?

(a) 1/153 × 253
(b) 253/153
(c) 153/253
(d) 2

Q67. In a ΔABC, AD is perpendicular to BC from A. if angle BAC = 90°, then $AB^2 : AC^2$ is equal to:

(a) $BD^2 : CD^2$
(b) CD : BD
(c) $CD^2 : BD^2$
(d) BD : CD

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Q68. a, b, c are three positive numbers, such that, a + b + c = 20, $a^2 + b^2 + c^2 = 152$.

The value of (ab + bc + ca) is equal to:

(a) 110
(b) 112
(c) 102
(d) 124

Q69. The average of the first 1234 _____ numbers is equal to 1234.

Fill in the blank.

(a) even
(b) natural
(c) odd
(d) prime

Q70. The total cost price of two articles is Rs. 2,000. One of them is sold at a profit of 12% and the other at a loss of 12% The overall gain in the transaction is 1.2% The cost price of the article for which there was a profit was?

(a) Rs. 1,120
(b) Rs. 1,080
(c) Rs. 1,050
(d) Rs. 1,100

Q71. If (cosα/(sinα + cosβ)) + (cosβ/(sinβ – cosα)) = (x/(sinα – cosβ)) + (cosβ/(sinβ + cosα)) then x is equal to:

(a) sinβ
(b) cosβ
(c) sin∝
(d) cos∝

Q72. Rs. 8,000 is distributed among A, B and C such that they receive notes of Rs. 500 Rs. 200 and Rs. 100 respectively. The amounts received by them are in the ratio 15 : 2 : 3. What was the ratio fo the number of notes of Rs. 500 Rs. 200 and Rs. 100?

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

Q73. Three successive discounts on the marked price of an article turns out to be equivalent to a single discount of 19%. If the rates of the first and second discount are 10% and 4% respectively, what is the rate of the third discount?

(a) 7.50%
(b) 6.25%
(c) 6.00%
(d) 5.25%

Q74. Price of tea has increased by 20% but I have decided to increase my expenditure towards tea by 15% only. By what percentage should I reduce my consumption (correct to one place of decimal) in order to be able to maintain the same level of expenses towards tea?

(a) 4.2
(b) 4.8
(c) 5.6
(d) 5.4

Q75. A regular hexagon is inscribed in a circle. Find the ratio of area of circle to the area of that portion which is not covered by the hexagon?

(a) 2π/(2π – 3√3)
(b) π/(π – 3√3)
(c) 2π/√3

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(d) π/√3

GENERAL AWARENESS

Q76. The first complete census in India was held in the year _____.

(a) 1873
(b) 1891
(c) 1881
(d) 1885

Q77. In the field of information and communication technology, what is the full form of FDD?

(a) Floppy Data Drive
(b) Folder Data Drive
(c) Floppy Disk Drive
(d) Folder Disk Drive

Q78. _____ Bank has become the first bank in the country to introduce Iris Scan Authentication feature for Aadhaar-based transactions through its micro ATM tablets.

(a) Yes
(b) Bandhan
(c) Canara
(d) Axis

Q79. The Khurja pottery is associated to which state of India?

(a) Madhya Pradesh
(b) Andhra Pradesh
(c) Himachal Pradesh
(d) Uttar Pradesh

Q80. In the context of plate tectonics, which of the following statements is NOT correct?

(a) The major tectonic plates are surrounded by young fold mountain ridges, trenches, and/or faults.
(b) Eurasian plate is largely an oceanic plate.
(c) Earth's surface is divided into seven major plates.
(d) Tectonic plates move horizontally over the asthenosphere

Q81. _____ won the women’s singles title at Italian Open 2019.

(a) Karolina Pliskova
(b) Simona Halep
(c) Naomi Osaka
(d) Johanna Konta

Q82. Who has been given the 'Yashwantrao Chavan National Award 2018' for his contribution to economic development?

(a) Amartya Sen
(b) Arvind Subramanian
(c) Raghuram Rajan
(d) Bimal Jalan

Q83. Who of the following players was named Wisden’s Leading T20 Cricketer of the Year for 2018?

(a) Virat Kohli
(b) Sam Curran
(c) Rashid Khan
(d) Rohit Sharma

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Q84. In 1918, Mahatma Gandhi organised a Satyagraha in the Kheda district of Gujarat in support of the _____.

(a) peasants who were affected by crop failure and a plague epidemic
(b) tribals whose customary rights were being violated
(c) cotton mill workers who were demanding better wages
(d) women who were struggling against the oppressive patriarchal system

Q85. _____ is Google's new app aimed at helping children in primary school learn to read in Hindi and English.

(a) Khelo
(b) Seekho
(c) Bolo
(d) Padho

Q86. Which of the following Parliamentary Committees does NOT draw any member from Rajya Sabha?

(a) Committee on Public Undertakings
(b) Committee on Estimates
(c) Committee on Petitions
(d) Committee on Public Accounts

Q87. The rate of interest on which commercial banks borrow money from RBI to meet their short term credit needs is known as:

(a) Statutory Lending Rate
(b) Bank Rate
(c) Prime Lending Rate
(d) Sub-Prime Lending Rate

Q88. Which of the following Harappan sites has provided the evidence of a ploughed field?

(a) Harappa
(b) Mohenjo Daro
(c) Kalibangan
(d) Chanhudaro

Q89. In the context of digital computer, which of the following pairs of digits is referred to as binary code?

(a) 1 and 2
(b) 0 and 1
(c) 2 and 3
(d) 3 and 4

Q90. _____ was named ICC Emerging Player of the Year 2018.

(a) Aaron Finch
(b) Calum McLeod
(c) Rishabh Pant
(d) Rohit Sharma

Q91. Which of the following states has received the GI tag for Kasuti Embroidery?

(a) Rajasthan
(b) Telangana
(c) Bihar
(d) Karnataka

Q92. A nuclear-powered Arctic icebreaker recently launched by Russia has been named:

(a) Lenin
(b) Elbrus
(c) Volga
(d) Ural

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Q93. Which of the following is the SI unit of temperature?

(a) Ampere
(b) Réaumur scale
(c) Candela
(d) Kelvin

Q94. Ram Nath Kovind is the _____ President of India.

(a) 16th
(b) 14th
(c) 15th
(d) 13th

Q95. The Hill station of Matheran is located in _____.

(a) Manipur
(b) Kerala
(c) Madhya Pradesh
(d) Maharashtra

Q96. Ghumot is indigenous traditional percussion instrument of _____.

(a) Assam
(b) Andhra Pradesh
(c) Punjab
(d) Goa

Q97. Which of the following statements about the Himalayan Mountains is NOT correct?

(a) The range lying to the immediate south of the Himadri is called the Shiwaliks.
(b) Its northernmost part is called the Himadri.
(c) The core of the Himadri is made of granite.
(d) The Shiwalik ranges are composed of unconsolidated sediments that have been brought down

Q98. The audible range of sound for an average adult human being is _____.

(a) 20 Hz - 20000 Hz
(b) 20 Hz - 2000 Hz
(c) 2 Hz - 2000 Hz
(d) 2 Hz - 20000 Hz

Q99. In the context of Man Booker International Prize, 2019, which of the following statements is NOT correct?

(a) The prize was begged by Jokha Alharthi.
(b) The prize was awarded to her for the novel titled Celestial Bodies.
(c) Alharthi is the second Arabic author to win this prize.
(d) Alharthi hails from Oman.

Q100. The waves used in radar systems are _____ waves.

(a) infrared
(b) micro
(c) ultraviolet
(d) radio

ANSWER KEY

1	d	2	b	3	d	4	a	5	b	6	c	7	b	8	c	9	a	10	c
11	a	12	c	13	d	14	b	15	b	16	b	17	c	18	c	19	d	20	c
21	b	22	d	23	c	24	c	25	b	26	b	27	c	28	a	29	a	30	b
31	c	32	d	33	c	34	d	35	c	36	a	37	a	38	d	39	a	40	a

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41	b	42	a	43	c	44	c	45	a	46	b	47	b	48	d	49	d	50	d
51	d	52	c	53	d	54	d	55	a	56	c	57	a	58	d	59	b	60	c
61	d	62	a	63	a	64	a	65	c	66	d	67	d	68	d	69	c	70	d
71	d	72	b	73	b	74	a	75	a	76	c	77	c	78	d	79	d	80	b
81	a	82	c	83	a	84	a	85	c	86	b	87	b	88	c	89	b	90	c
91	d	92	d	93	d	94	b	95	d	96	d	97	a	98	a	99	c	100	d

SOLUTIONS

Q1. Answer: (d) similar

The correct answer is option 4 i.e. similar.

Explanation:

Identical- similar in every detail; exactly alike.

• legible- (of handwriting or print) clear enough to read.

• perfect- having all the required or desirable elements, qualities, or characteristics; as good as it is possible to be.

• detailed- having many details or facts; showing attention to detail.

• similar- having a resemblance in appearance, character, or quantity, without being identical.

Option 4 expresses the same meaning as the given word.

Q2. Answer: (b) A mistake has been made by you in writing your answer.

The correct answer is option 2.

The tense here is Present Perfect Tense.

Active voice- Subject + Have/has + v3 + object + other word.

Passive voice- Object + Have/has + been + v3 +By + subject + other word.

The structure will be followed by the given sentence.

Passive structure of this sentence is followed only by option 2.

So, this will be the right choice as the correct answer.

Q3. Answer: (d) facilitate

The correct answer is option 4 i.e. facilitate.

Meanings of the given words:

• complicate- make (something) more complicated.

• confuse- make (someone) bewildered or perplexed.

• felicitate- congratulate.

• facilitate- make (an action or process) easy or easier.

Option 4 fits the sentence contextually.

Q4. Answer: (a) flashy

The correct answer is option 1 i.e. flashy.

Explanation:

OSTENTATIOUS-characterized by pretentious or showy display; designed to impress.

• flashy- ostentatiously attractive or impressive.

• distinct- recognizably different in nature from something else of a similar type.

• disturb- interfere with the normal arrangement or functioning of.

• complete- having all the necessary or appropriate parts.

Option 1) express the same meaning as the given word.

Q5. Answer: (b) constellation

The solution is in Hindi. Read it online.

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Q6. Answer: (c) questionnaire

The correct answer is option 3 i.e. questionnaire.

The correct word will be-

qualification- a condition that must be fulfilled before a right can be acquired; an official requirement.

quieten- make or become quiet and calm.

questionnaire- a set of printed or written questions with a choice of answers, devised for the purposes of a survey or statistical study.

quantify- express or measure the quantity of.

Q7. Answer: (b) something sudden that happens unexpectedly

The correct answer is option 2 i.e. something sudden that happens unexpectedly.

The meaning of the given idiom- A sudden, unexpected event.

The meaning of the idiom is the same as the chosen option.

Q8. Answer: (c) spectaculer

The correct answer is option 3 i.e. spectaculer.

adjacent- next to or adjoining something else.

contiguous- sharing a common border; touching.

whimsical- playfully quaint or fanciful, especially in an appealing and amusing way.

The correct word will be-

spectacular- beautiful in a dramatic and eye-catching way.

Q9. Answer: (a) herbarium

The correct option is 1 i.e. herbarium.

Let's look at the meaning of given options-

• Herbarium- a systematically arranged collection of dried plants.

• warehouse- a large building where raw materials or manufactured goods may be stored prior to their distribution for sale.

• Greenhouse- a glass building in which plants that need protection from cold weather are grown.

• Nursery- a place where young plants are grown and sold or a room in a house for the special use of young children.

Hence from the above-given meanings, we find that the correct answer is Option 1 i.e. herbarium.

Q10. Answer: (c) incomplete

The correct answer is incomplete.

Key Points

• The given sentence is talking about the reign of Harsha and its incompleteness without the mention of Hiuen Tsang.

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

• Incomplete: not full or finished.

• Here, it means that Hiuen Tsang was an integral part of King Harsha's reign and without a reference to Tsang, an account of the reign of Harsha would be incomplete or unfinished.

• Thus, the only word from the option that fits in the blank is 'Incomplete'.

• Thus, the correct answer is Option 3.

Additional Information

WORD	MEANING
Unknown	not known or familiar
Eminent	famous and respected within a particular sphere
Famous	celebrated, eminent, distinguished

Q11. Answer: (a) Hemant requested the hotel receptionist to inform Bharat that he would come to see him the next day at 10 am.

The correct answer is option 1.

We need to change Please Into Requested that is done only in option 1 & 2.

We need to change will into Would and this is done in the only option 1.

Both conditions are fulfilled by option 1 so, this is the correct answer.

Q12. Answer: (c) No improvement

The correct answer is option 3 i.e. No improvement.

Had + v3 is construction makes it grammatically correct.

No option contains this structure.

Q13. Answer: (d) In spite Smita having taken part

The correct answer is option 4.

We need to replace in spite with in spite of because 'in spite' is always followed by 'of'

Otherwise, we may use despite at this place.

Q14. Answer: (b) I reached the counter

• The correct answer is Option 2.
• The given sentence is in Past tense, use of 'have' becomes an error. The underlined phrase should also be in the past tense.
• Option 1 is wrong because it is in present continuous tense.
• Option 3 is in present indefinite tense.
• Option 2 is in past tense and substitutes the underlined sentence.

Q15. Answer: (b) with

• The correct answer is Option 2.
• The following prepositions mean:
• Preposition 'From' is used to indicate source or origin.
• Preposition 'with' is used to imply some particular relation especially when implying interaction, company, association.
• Preposition 'to' is used for expressing motion or direction toward a point, person, place, or thing approached and reached.
• Preposition 'in' is used to indicate inclusion within space, a place, or limits.
• Therefore, the most suitable blank is preposition 'with', also the word 'along' takes the preposition 'with'.

Q16. Answer: (b) acute

• The correct answer is Option 2.
• The passage is talking about the residents facing the extreme water crisis because of the dip in the ground water level.
• Therefore, 'acute' is the suitable word which means 'High, intense sharp'.
• The other words mean:
• Unlikely: Not likely, likely to fail.
• Average: neither very good nor very bad.
• Unknown: no known, unidentified.
• All other options except 'acute' do not give a proper meaning in the blank.

Q17. Answer: (c) might

• The correct answer is Option 3.
• Here the modal 'might' fits the blank because in passage the writer has just expressed an assumption of residents facing water crisis.
• 'Might' is used to express the possibility.
• 'Shall' is used to to express the command and strong possibility of an action which is to take place in the near future
• 'Should' is used to express the duty/obligation.
• 'Can' is used to express the ability.
• Therefore, the correct answer is Option 3 'might'.

Q18. Answer: (c) every

• The correct answer is Option 3.
• In passage, the word immediately after the blank is singular i.e. 'state' which means the determiner before it should also be in singular form.
• Therefore, option 1 gets eliminated.
• Option 2 is wrong because the use of 'across' and 'nearby' together doesn't make any sense.
• Option 4 is wrong because the article 'an' is used only before the vowel sounding words.

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• Therefore option 3 is the suitable word that fits in the blank.

Q19. Answer: (d) in

• The correct answer is Option 4.
• The following prepositions mean:
• Preposition 'with' is used to imply some particular relation especially when implying interaction, company, association.
• Preposition 'From' is used to indicate source or origin.
• Preposition 'on' is used to express the contact between two things.
• Preposition 'in' is used to indicate inclusion within space, a place, or limits.
• The word 'dip' means 'to lower or inclination downward' which is in the groundwater levels. 'In' is the suitable preposition to be used.

Q20. Answer: (c) insulting remark appearing as praise

• The correct answer is Option 3.
• The meaning of the given idiom 'left-handed compliment' is 'An insulting or negative comment disguised/appeared as praise'.
• Therefore, only option 3 conveys the meaning of the given idiom and all other options are not relevant.

Q21. Answer: (b) negligible

The solution is in Hindi. Read it online.

Q22. Answer: (d) satisfied

The correct answer is Option 4.
Explanation:
Complacent: Uncritically satisfied with oneself or one's achievements.
• Humble: Not pretentious, magnificent.
• Confident: very sure of something.
• Trusted: belief, faith, hope.
• Satisfied: pleased, happy, content.
• Therefore, the best alternative to the given word is 'satisfied'.

Q23. Answer: (c) but I doubt she

• The correct answer is Option 3.
• As we know there are two clauses and there should be an appropriate conjunction to join them.
• Therefore, 'whether' should be used before 'she'.
• The correct sentence is 'The lady listened carefully to my complaint but I doubt whether she will do anything about it.'

Q24. Answer: (c) CADB

• The correct answer is Option 3.
• There is only one independent sentence in the given sentences i.e. C, so sentence C is our first sentence.
• Sentence C says that the person sold the jasmine flowers for some rupees later he feels he should have sold it for more amount which is in sentence A.
• Sentence D is the continuation of sentence A that if he had sold it for more mount he would have made a good profit.
• His overall profit is said in sentence B which is the last sentence.
• Therefore, option 3 CADB is the correct answer.

Q25. Answer: (b) DBCA

• The correct answer is Option 2 DBCA.
• Option 1 gets eliminated because the sentence B is beginning with a determiner.
• Sentence D is the first sentence as it is an independent sentence which is talking about a phenomenon of the job longevity.
• This is continued in sentence B which says that this phenomenon was noted in a recent research report.
• Sentence C talks about what the research report stated so C is the third sentence. The only remaining sentence i.e. A is our last sentence.
• Therefore, this sequence is followed in Option 2

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Q26. Answer: (b) [figure]

Pi and Theta are the type of symbols.

Hence, the correct answer is figure 2.

Q27. Answer: (c) 1, 4, 2, 3, 5

The pattern followed here is,

Examine

Example

Excited

Exclaim

Execute

Hence, the correct answer is 1, 4, 2, 3, 5.

Q28. Answer: (a) (25, 49, 37)

Given series

(24, 48, 36)

The pattern followed here is,

= 48 - 24 = 24 and 48 - 36 = 12

Option 1:

(25, 49, 37)

= 49 - 25 = 24 and 49 - 37 = 12

Option 2:

(45, 49, 77)

= 49 - 45 = 4 and 77 - 49 = 28

Option 3:

(26, 58, 46)

= 58 - 26 = 32 and 58 - 46 = 12

Option 4:

(15, 49, 37)

= 49 - 15 = 34 and 49 - 37 = 12

Therefore, only option 1 is followed the given series.

Hence, the correct answer is (25, 49, 37).

Q29. Answer: (a) Monday

1 January 2018 to 1 January 2019 = 365 days i.e. 52 weeks and 1 odd day i.e. Tuesday.

So the day before one day of 1 January 2019 is 31 December 2018 is Monday.

Hence, the correct answer is Monday.

Q30. Answer: (b) 425

The pattern followed here is,

325 = 3 + 2 + 5 = 10;

425 = 4 + 2 + 5 = 11(odd number)

145 = 1 + 4 + 5 = 10;

235 = 2 + 3 + 5 = 10;

Hence, 425 is the odd one out..

Q31. Answer: (c) 7 : 53

Given series

6 : 40

The pattern followed here is,

(First term)^2 + 4 = Second term

= 6^2 = 36; 36 + 4 = 40

Option 1:

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15 : 45
= 15^2 = 225; 225 + 4 = 229 ≠ 45
Option 2:
5 : 25
= 5^2 = 25; 25 + 4 = 29 ≠ 25
Option 3:
7 : 53
= 7^2 = 49; 49 + 4 = 53
Option 4:
9 : 72
= 9^2 = 81; 81 + 4 = 85 ≠ 72
Hence, the correct answer is 7 : 53.

Q32. Answer: (d) KO

According to the alphabetical positions of the letters,
DH = D + 4 = H
HL = H + 4 = L
Similarly,
GK = G + 4 = K
K + 4 = O
Hence, the correct answer is KO.

Q33. Answer: (c) 340

According to the alphabetical positions of the letters,
The code for BUS = 2 + 21 + 19 = 42; 42 × 3 = 126 (as 3 letters are present)
FUEL = 6 + 21 + 5 + 12 = 44; 44 × 4 = 176 (as 4 letters are present)
Similarly, the code for
SHRUB = 19 + 8 + 18 + 21 + 2 = 68; 68 × 5 = 340 (as 5 letters are present)
Hence, the correct answer is 340.

Q34. Answer: (d) MJ

The pattern followed here is,
Hence, the correct answer is MJ.

Q35. Answer: (c) [figure]

The mirror image will be:
Hence, the correct answer is figure 3.

Q36. Answer: (a) All the conclusions follow.

The least possible Venn diagram is as follows:
Conclusions:
I. Some lions are eggs → True (as per diagram, some lions is eggs)
II. Some eggs are hens → True (as per diagram, some eggs are hens)
III. Some eggs are birds → True (as per diagram, some eggs are birds)
Hence, all the conclusions follow.
Important Points
Some is a subset of all.
If it is given that, 'All A are B' then the conclusion 'Some A are B' will always follow.

Q37. Answer: (a) [figure]

In this series, the image is rotating in a 90-degree clockwise direction.
Hence, the correct answer is figure 1.

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Q38. Answer: (d) • and -, 15 and 10

The given series is

10 + 8 - 200 × 15 ÷ 5

Option 1:

• and ÷, 200 and 10

200 ÷ 8 - 10 × 15 + 5

= 25 – 10 × 15 + 5

= 25 – 150 + 5

= 30 -150

= -120 ≠ 407

Option 2:

10 + 8 - 200 × 15 ÷ 5

× and ÷, 8 and 5

= 10 + 5 - 200 ÷ 15 × 8

= 10 + 5 – 13.33 × 8

= 10 + 5 – 106.64

= 15 - 106.64

= 91.64 ≠ 407

Option 3:

10 + 8 - 200 × 15 ÷ 5

× and -, 5 and 15

10 + 8 × 200 - 5 ÷ 15

= 10 + 8 × 200 - 0.33

= 10 + 1600 - 0.33

= 1610 - 0.33

= 1609.67 ≠ 407

Option 4:

10 + 8 - 200 × 15 ÷ 5

• and -, 15 and 10

= 15 - 8 + 200 × 10 ÷ 5

= 15 - 8 + 200 × 2

= 15 - 8 + 400

= 415 - 8

= 407 (follows the series)

Hence, the correct answer is '+ and -, 15 and 10'.

Q39. Answer: (a) (36, 49, 170)

Given series

(16, 25, 82)

(Product of first and second term) × 2 Third term

= 16 + 25 = 41; 41 × 2 = 82

Option 1: (36, 49, 170)

= 36 + 49 = 85; 85 × 2 = 170 (it follows)

Option 2: (25, 49, 81)

= 25 + 49 = 74; 74 × 2 = 148 ≠ 81

Option 3: (25, 36, 51)

= 25 + 36 = 61; 61 × 2 = 122 ≠ 81

Option 4: (11, 121, 110)

= 121 + 11 = 132 × 2 = 264 ≠ 110

Hence, the correct answer is (36, 49, 170).

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Q40. Answer: (a) [figure]

The option in which the given figure is embedded is,

Hence, the correct answer is option 1.

Q41. Answer: (b) 1

6 is a consant number in two both dice so if we rotate from 6 to anticlockwise or clockwise direction then we get “3 is the opposite site of 1”

Hence, the correct answer is 1.

Q42. Answer: (a) [figure]

The paper is unfolded in the manner given below,

Hence, the correct answer is figure 1.

Q43. Answer: (c) Punjab

Except Punjab, all other are capital of different cities.

Hence, Punjub is the odd one out.

Q44. Answer: (c) ILEGFRA

The pattern followed here is,

Hence, the correct answer is ILEGFRA.

Q45. Answer: (a) IKM

The pattern followed here is,

Option 1 does not follow the order.

Hence, 'IKM' is the odd one out.

Q46. Answer: (b) 9

The triangles are

ADC, ADB, ACB, CDE, CGF, GFE, CEF, DBE, CBE.

Hence, the correct answer is 9

Q47. Answer: (b) Class

Man is present in crowd,

Similarly,

Student is present in class.

Hence, the correct answer is class.

Q48. Answer: (d) Blackboard : Chalk

Pen is used to write on paper,

Similarly,

Chalk is used to write on Blackboard.

Hence, the correct answer is Blackboard : Chalk.

Q49. Answer: (d) Nephew

According to given information,

As per diagram, Susma’s brother is the father of Manju’s husband so Manju’s husband is the nephew of Susma.

Hence, the correct answer is nephew.

Q50. Answer: (d) 720

The pattern followed here is,

Hence, 720 is the correct answer.

Q51. Answer: (d) 131/3 sec

Let the length of up train = D

Then the length of down train = 2D

Speed of up train = D/8

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Speed of down train = 2D/20 = D/10

Time the two trains take to cross each other = (D + 2D)/(D/8) + (D/10)

=> 3D/(9D/40) = (3D × 40)/9D = 40/3

Therefore Time the two trains take to cross each other = 131/3 sec

Q52. Answer: (c) 3/8(x + y) (y + z) (z + x)

Given

(x + y)^(1/3) + (y + z)^(1/3) = -(z + x)^(1/3)

=> (x + y)^(1/3) + (y + z)^(1/3) + (z + x)^(1/3) = 0

Suppose (x + y) = a, (y + z) = b, (z + x) = c

=> a1/3 + b1/3 + c1/3 = 0

Cubing both sides

Formula: (a + b + c)3 = a3 + b3 + c3 + 3 (a +b) (b + c) (a+ c)

(a1/3 + b1/3 + c1/3)³= a + b + c + 3(a1/3 + b1/3)(b1/3 + c1/3)(c1/3 + a1/3) = 0

=> a + b + c + 3(-c1/3)(-a1/3)(-b1/3) = 0

=> a + b + c = 3c1/3a1/3b1/3

Cubing both sides

=> (a + b + c)³= 27abc

=> {(x + y) + (y + z) + (z + x)}3 = 27(x + y)(y + z)(z + x)

=> {2(x + y + z)}3 = 27(x + y)(y + z)(z + x)

=> (x + y + z)3 = (27/8)(x + y)(y + z)(z + x)

=> x3 + y3 + z3 + 3(x + y)(y + z)(z + x) = (27/8)(x + y)(y + z)(z + x)

=> x3 + y3 + z3 = {(27/8) - 3}(x + y)(y + z)(z + x)

= (3/8)(x + y)(y + z)(z + x)

Q53. Answer: (d) 4√3 sq units

There are twelve sticks each of length one unit

Therefore Perimeter of equilateral triangle = 12 unit

=> 3 × side = 12

=> side = 4 unit

Therefore Area of equilateral triangle = (√3/4) (side)² = (√3/4) × 4 × 4 = 4√3 sq. units

Q54. Answer: (d) 0

Calculation:

=> a + 1/a = 2

=> a + 1/a

=> 1 + 1

=> a = 1

=> a^4 – 1/a^4

=> 1 – 1

=> 0

Therefore The answer is 0.

Q55. Answer: (a) 89

Total strike rate in all 5 match = 100 + 90 + 75 + 80 + 100 = 445

Average = 445/5 = 89

Q56. Answer: (c) 49

Total runs in all 5 matches = 50 + 45 + 30 + 20 + 100 = 245

Average = 245/5 = 49

Q57. Answer: (a) 150

Average strike rate of the seconds and the fifth match = 120

The total strike rate of the seconds and the fifth match = 2 × 120 = 240

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Strike rate of the seconds match = 90

=> Required strike rate of the fifth match = 240 - 90 = 150

Q58. Answer: (d) 40

Let total number of balls faced be x

Now

x × 75/100 = 30

Therefore x = 40

Q59. Answer: (b) (b)

Centroid is the point where three medians meet. So, when point A of a triangle ABC moves parallel to the straight-line BC. Centroid will also move along a straight-line parallel to BC.

Q60. Answer: (c) 12

m1 d1 h1w2 = m2 d2 h2w1

Where m = man, d = day, h = hour, w = work

16 × 12 × 27 = 18 × 24 × h2

Therefore h2 = 12

Q61. Answer: (d) 1

Follow the BODMAS rule as given in the below table:

[11/5 of {3/7 - (14/15 - 13/15) × 5/7}] ÷ (6/7 ÷ 5)

=> [6/5 of {3/7 - (19/15 - 13/15) × 5/7}] ÷ (6/7 × 1/5)

=> [6/5 of {3/7 - 6/15 × 5/7} ÷ 6/35]

=> [6/5 of {3/7 - 2/7} × 35/6]

=> [6/5 × 1/7 × 35/6]

=> 1

Q62. Answer: (a) 60°

Given

$4(2\sin^2\theta + 7\cos^2\theta) = 13$

$\Rightarrow 4[(2\sin^2\theta + 7(1 - \sin^2\theta)] = 13$

$\Rightarrow 4[2\sin^2\theta + 7 - 7\sin^2\theta] = 13$

$\Rightarrow 4[7 - 5\sin^2\theta] = 13$

$\Rightarrow 28 - 20\sin^2\theta = 13$

$\Rightarrow 20\sin^2\theta = 15$

$\Rightarrow \sin^2\theta = 15/20 = 3/4$

$\Rightarrow \sin\theta = \sqrt{3}/2 = \sin 60°$

Therefore $\theta = 60°$

Q63. Answer: (a) 6.3 cm

Given

r1= 2.4 cm, r2 = 4 cm and d = 6.5 cm

common tangent = $\sqrt{(d^2 - (r1 - r2)^2)} = \sqrt{((6.5)^2 - (2.4 - 4)^2)} = \sqrt{(42.25 - 2.56)} = \sqrt{39.69}$

Therefore Common tangent = 6.3 cm

Q64. Answer: (a) Rs. 1,040

Here P = 1000

Rate = 12%

Number of days from 31 december 2015 to 1 may 2016 = 31 + 29 + 31 + 30 = 121

SI = (p × r × t)/100 = (1000 × 12 × 121)/(366 × 100) = 40 approx

Therefore The amount A has to return to B = 1000 + 40 = 1040 rupees

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Q65. Answer: (c) 15015

LCM of 7, 11 and 13 = 1001

14993/1001 = 14.97

15004/1001 = 14.98

15015/1001 = 15

14982/1001 = 14.96

Therefore 15015 is exactly divisible by 7, 11 and 13

Q66. Answer: (d) 2

Shortcut Trick

For any positive real number and its reciprocal, if x + 1/x = 2, then x = 1 is the only possible real solution.

Since cosec θ = 1/sin θ, we have sin θ + 1/sin θ = 2, which directly gives sin θ = 1 and cosec θ = 1.

Substituting these values: sin^(153)θ + cosec^(253)θ = (1)^(153) + (1)^(253) = 1 + 1 = 2.

Therefore The correct answer is 2.

Alternate Method

Given:

sin θ + cosec θ = 2

Formula Used:

cosec θ = 1 ÷ sin θ

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

Calculations:

=> sin θ + 1 ÷ sin θ = 2

Let sin θ = x

=> x + 1 ÷ x = 2

=> $x^2 + 1 = 2x$

=> $x^2 - 2x + 1 = 0$

=> $(x - 1)^2 = 0$

=> x − 1 = 0

=> x = 1

Therefore:

=> sin θ = 1

Since cosec θ = 1 ÷ sin θ:

=> cosec θ = 1 ÷ 1 = 1

Substitute the values into the target expression:

=> sin^(153)θ + cosec^(253)θ = (1)^(153) + (1)^(253)

=> sin^(153)θ + cosec^(253)θ = 1 + 1 = 2

Therefore The correct answer is 2.

Additional Information

Reciprocal Trigonometric Identities

Trigonometric functions cosec θ, sec θ, and cot θ are reciprocal to sin θ, cos θ, and tan θ respectively. Specifically, cosec θ = 1 ÷ sin θ.

Algebraic Property of x + 1/x

For any real number x, if x + 1 ÷ x = 2, then x must be equal to 1. If x + 1 ÷ x = −2, then x must be equal to −1.

Powers of 1

Any real power of 1 is always 1, i.e., $1^n = 1$ for any real exponent n.

Q67. Answer: (d) BD : CD

In ΔABC and Δ DBA

angle ABC = angle DBA

angle ACB = angle DAB

Therefore Δ ABC ~ Δ DBA

Therefore AB/BD = BC/AB

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=> $AB^2 = BD \times BC$ …(1)
In Δ ABC and Δ CAD
angle ABC = angle CAD
angle ACB = angle DCA
Therefore Δ ABC ~ Δ CAD
Therefore AC/CD = BC/AC
=> $AC^2 = CD \times BC$ …(2)
Dividing eq..(1) by eq..(2)
$AB^2/AC^2 = (BD \times BC)/(BC \times CD)$
=> $AB^2/AC^2 = BD/CD$
Therefore $AB^2 : AC^2 = BD : CD$

Q68. Answer: (d) 124

Given
a + b + c = 20
squaring both sides
$a^2 + b^2 + c^2 + 2(ab + bc + ca) = 400$
=> $152 + 2(ab + bc + ca) = 400$
=> $2(ab + bc + ca) = 400 – 152 = 248$
Therefore ab + bc + ca = 124

Q69. Answer: (c) odd

We know that total first n natural odd number is n^2
Therefore The average of first n natural odd number = $n^2/n = n$
Therefore The average of the first 1234 odd numbers is equal to 1234

Q70. Answer: (d) Rs. 1,100

Let the cost price of profit article be 11x and loss article be 9x
The total cost price of two articles = 2000
=> 11x + 9x = 2000
=> 20x = 2000
=> x = 100
Therefore The cost price of profit article = $11x = 11 \times 100 = 1100$ rupees

Q71. Answer: (d) cos∝

Given, $(\cos\alpha/\sin\alpha + \cos\beta) + \cos\beta/(\sin\beta – \cos\alpha) = (x/\sin\alpha – \cos\beta) + (\cos\beta/\sin\beta + \cos\alpha)$
=> $\cos\beta/(\sin\beta – \cos\alpha) - (\cos\beta/\sin\beta + \cos\alpha) = (x/\sin\alpha – \cos\beta) - (\cos\alpha/\sin\alpha + \cos\beta)$
=> $\cos\beta\ (\sin\beta + \cos\alpha\ -\sin\beta + \cos\alpha)/(\sin^2\beta - \cos^2\alpha) = [x(\sin\alpha + \cos\beta) - \cos\alpha\ (\sin\alpha - \cos\beta)]/(\sin^2\alpha - \cos^2\beta)$
=> $\cos\beta\ (\sin\beta + \cos\alpha\ -\sin\beta + \cos\alpha)/(1 - \cos 2\beta - 1 + \sin^2\alpha) = [x(\sin\alpha + \cos\beta) - \cos\alpha\ (\sin\alpha - \cos\beta)]/(\sin 2\alpha - \cos 2\beta)$
=> $\cos\beta\ (\sin\beta + \cos\alpha\ -\sin\beta + \cos\alpha) = [x(\sin\alpha + \cos\beta) - \cos\alpha\ (\sin\alpha - \cos\beta)]$
=> $2\cos\alpha\ .\cos\beta = x(\sin\alpha + \cos\beta) - \sin\alpha.\cos\alpha + \cos\alpha.\ \cos\beta$
=> $\cos\alpha.\ \cos\beta = x(\sin\alpha + \cos\beta) - \sin\alpha.\cos\alpha$
=> $\cos\alpha.\ \cos\beta + \sin\alpha.\cos\alpha = x(\sin\alpha + \cos\beta)$
=> $\cos\alpha(\sin\alpha + \cos\beta) = x(\sin\alpha + \cos\beta)$
=> $\cos\alpha = x$

Q72. Answer: (b) 3 : 1 : 3

Ratio of amounts received by A, B and C = 15 : 2 : 3
Let amounts received by A, B and C be 15x, 2x and 3x respectively
According to question
15x + 2x + 3x = 8000
=> 20x = 8000
=> x = 400
Now,

Amounts received by A = 15x = 15 × 400 = 6000
Amounts received by B = 2x = 2 × 400 = 800
Amounts received by C = 3x = 3 × 400 = 1200
Ratio of number of notes of A, B and C = 6000/500 : 800/200 : 1200/100 = 12 : 4 : 12
Therefore Ratio of number of notes of A, B and C = 3 : 1 : 3

Q73. Answer: (b) 6.25%

Let cost price of an article be 100
After 19% discount cost price will be = 100 – 100 × 19% = 81
Let the third discount be x
Therefore 100 × 90% × 96% × (100 – x)% = 81
=> 100 × 90/100 × 96/100 × (100 – x)/100 = 81
=> 100 × 9/10 × 96/100 × (100 – x)/100 = 81
=> 96/1000 × (100 - x) = 9
=> 96 × (100 - x) = 9000
=> 32(100 – x) = 3000
=> 3200 – 32x = 3000
=> 32x = 3200 – 3000 = 200
=> x = 200/32
Therefore x = 6.25%

Q74. Answer: (a) 4.2

Let initial price of tea be Rs. 100
After increasing the price of tea = 100 + 100 × 20% = 100 + 20 = 120
But it is decided that expenditure towards tea in increase by 15%
Therefore New expenditure = 100 + 100 × 15% = 115
Decrease in consumption = 120 – 115 = 5
Percentage decrease in consumption = (5/120) × 100 = 4.2%

Q75. Answer: (a) 2π/(2π – 3√3)

Shortcut Trick
Radius of circumcircle = side of inscribed regular hexagon = r
Area of circle = πr^2
Area of regular hexagon = $(3\sqrt{3}/2)r^2$
Uncovered Area = $\pi r^2 - (3\sqrt{3}/2)r^2 = r^2(2\pi - 3\sqrt{3}) / 2$
Ratio = Area of circle ÷ Uncovered Area = $2\pi / (2\pi - 3\sqrt{3})$
Therefore The correct answer is $2\pi/(2\pi - 3\sqrt{3})$.
Alternate Method
Given:
A regular hexagon is inscribed in a circle.
Formula Used:
Area of a circle = πr^2
Area of a regular hexagon = $6 \times (\sqrt{3} / 4)a^2$ (where a is the side length)
For a regular hexagon inscribed in a circle, the side length (a) equals the radius (r).
O
r
Shaded blue region = Area not covered by hexagon
Calculations:
=> Let the radius of the circle be r.
=> Side of the inscribed regular hexagon = r
=> Area of the circle = πr^2
=> Area of the hexagon = $6 \times (\sqrt{3} / 4)r^2 = (3\sqrt{3} / 2)r^2$
=> Area not covered by hexagon = Area of circle − Area of hexagon

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=> Area not covered = $\pi r^2 - (3\sqrt{3} / 2)r^2$

=> Area not covered = $r^2(2\pi - 3\sqrt{3}) / 2$

=> Required Ratio = (Area of circle) ÷ (Area not covered)

=> Ratio = $\pi r^2 \div [r^2(2\pi - 3\sqrt{3}) / 2]$

=> Ratio = $2\pi / (2\pi - 3\sqrt{3})$

Therefore The correct answer is $2\pi/(2\pi - 3\sqrt{3})$.

Additional Information

Circumcircle of a Regular Hexagon

The circumcenter and incenter of a regular hexagon coincide. The radius of the circumscribed circle is exactly equal to the side length of the hexagon (R = a).

Incircle of a Regular Hexagon

The radius of a circle inscribed inside a regular hexagon is given by $r = (a\sqrt{3})/2$. The ratio of the area of the circumcircle to the incircle is 4:3.

Area of an Equilateral Triangle

A regular hexagon is composed of exactly 6 identical equilateral triangles. The area of one such triangle with side a is $(\sqrt{3} / 4)a^2$.

Q76. Answer: (c) 1881

The correct answer is option 3, i.e. 1881.

• Census was conducted non-synchronously between 1865 and 1872 in different parts of the country.

• This effort culminating in 1872 has been popularly labelled as the first Census of India.

• However, the first synchronous Census in India was carried out in 1881.

• An unbroken chain of censuses since then gives the Indian Census a unique historical legacy unparalleled in the world.

• Census 2011 is the 15th Census in this continuous series from 1872 and the 7th since Independence.

Q77. Answer: (c) Floppy Disk Drive

The correct answer is option 3, i.e. Floppy Disk Drive.

• FDD stands for Floppy Disk Drive.

• A floppy disk drive (FDD), or floppy drive, is a hardware device that reads data storage information.

• It was invented in 1967 by a team at IBM and was one of the first types of hardware storage that could read/write a portable device.

• FDDs are used for reading and writing on removable floppy discs.

• Floppy disks are now outdated, and have been replaced by other storage devices such as USB and network file transfer.

Q78. Answer: (d) Axis

The correct answer is option 4, i.e. Axis.

• Axis Bank has become the first bank in the country to introduce the Iris Scan Authentication feature for Aadhaar-based transactions through its micro ATM tablets.

• This service, which requires a customer to scan their iris on a tablet, will boost the Bank's Financial Inclusion efforts by making Aadhaar authentication process hassle-free and offering easier access to digital banking for consumers especially in the rural parts of the country.

• Micro ATMs completely eliminate the requirement of debit cards, passwords, PINs, user IDs, etc. and empower consumers to avail banking services using only their Aadhaar numbers and biometrics (iris scan/fingerprint scan).

Q79. Answer: (d) Uttar Pradesh

The correct answer is option 4, i.e. Uttar Pradesh.

• Khurja is a small city (and a municipal board) in the Bulandshah district in Uttar Pradesh.

• It is situated around 200 km from Delhi.

• Khurja supplies a large portion of the ceramics and pottery used in the country, hence it is sometimes called Khurja, The Ceramics City, which has thrived for over 500 years.

• One can find a workshop or a factory with an attached shop in almost every nook and corner of this town.

• Each workshop produces a wide range of ceramic products, which are popular buys among the tourists and businessmen visiting here.

• The products range from everyday items such as crockery and planter pots to decorative miniatures and wind chimes.

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Q80. Answer: (b) Eurasian plate is largely an oceanic plate.

The correct answer is option 2, i.e. Eurasian plate is largely an oceanic plate.

• Plate tectonics is the theory that Earth's outer shell is divided into several plates that glide over the mantle, the rocky inner layer above the core.

• The plates act like a hard and rigid shell compared to Earth's mantle. This strong outer layer is called the lithosphere.

• Volcanic activity, earthquakes, mountain-building and oceanic trench formation occur along these plate boundaries. The relative movement of the plates typically ranges from zero to 100 mm annually.

• Plates move horizontally over the asthenosphere as rigid units.

• The Eurasian Plate has an estimated area of 67,800,000 square kilometers. It is the third-largest of the major tectonic plates. Most of the continents of Europe and Asia are in the Eurasian Plate.

Q81. Answer: (a) Karolina Pliskova

The correct answer is option 1, i.e. Karolina Pliskova.

• Karolina Pliskova (Czech Republic) defeated Johanna Konta (United Kingdom) 6-3, 6-4 to win Women's Single Titles at Women's Tennis Association (WTA) Italian Open 2019.

• Rafael Nadal (Spain) defeated Novak Djokovic (Serbia) 6-0, 4-6, 6-1 to win Men's Single titles at Italian Open 2019.

• The 2019 Italian Open was a professional tennis tournament played on outdoor clay courts in Rome, Italy.

• It was the 76th edition of the Italian Open.

Q82. Answer: (c) Raghuram Rajan

The correct answer is option 3, i.e. Raghuram Rajan.

• Former Reserve Bank of India (RBI) Governor Raghuram Rajan has been chosen for the 'Yashwantrao Chavan National Award 2018' for his contribution towards economic development.

• Raghuram Rajan has presented the award at a function on March 12 on the occasion of 106th birth anniversary of late Yashwantrao Chavan, who was the first chief minister of Maharashtra

• Rajan served as RBI governor between September 2013 and September 2016.

• The award is given every year by the Yashwantrao Chavan Prathisthan to individuals/institutions in recognition of their outstanding contribution towards national integration, democratic values, and social and economic development

Q83. Answer: (a) Virat Kohli

The correct answer is option 1, i.e. Virat Kohli.

• The Five Cricketers of the Year are chosen by Lawrence Booth, the editor of the Wisden Cricketers' Almanack, with the 2019 version serving as the 156th edition.

• Indian captain Virat Kohli was named The Wisden Almanack's Leading Cricketer of the Year for 2018 while Smriti Mandhana won the Women's Leading Cricketer award.

• The Indian skipper was picked as one of the five Wisden Cricketers of the year, along with England's Tammy Beaumont, Jos Buttler, Sam Curran and Rory Burns.

• Kohli topped the run charts in India's 4-1 Test series defeat to England last summer. On the naming of the batsman as one of Wisden's Five Cricketers of the Year.

• Kohli is only the third cricketer ever to have won the award more than three times after Don Bradman (10 times) and Jack Hobbs (8 times) having amassed 2735 runs across the three formats in 2018.

• On October 24, 2018, Kohli became the fastest cricketer to score 10,000 runs in One-Day Internationals.

• In January 2018, Kohli became the first player in the history of the game to win the Sir Garfield Sobers Trophy for ICC Cricketer of the Year

• The Almanack was first introduced in 1889 to recognise the excellence of players who have performed in England during the previous summer and it is considered as one of the more prestigious awards in the sport.

Q84. Answer: (a) peasants who were affected by crop failure and a plague epidemic

The correct answer is option 1, i.e. peasants who were affected by crop failure and a plague epidemic.

• The Kheda Satyagraha of 1918, in the Kheda district of Gujarat, India during the period of the British Raj, was a Satyagraha movement organized by Mohandas Gandhi.

• People of Kheda were unable to pay the high taxes levied by the British due to crop failure and a plague epidemic.

• It was a major revolt in the Indian independence movement. It was the third Satyagraha movement after Champaran Satyagraha and Ahmedabad mill strike.

• Gandhi organised this movement to support peasants of the Kheda district.

Q85. Answer: (c) Bolo

The correct answer is option 3, i.e. Bolo.

• Tech giant Google unveiled a new app 'Bolo' that aims to help children in primary school learn to read in Hindi and English.

• The free app, which is being launched in India first, uses Google's speech recognition and text-to-speech technology.

• The app features an animated character 'Diya', who encourages children to read stories aloud and helps if the child is unable to pronounce a word.

• It also lauds the reader when she completes the reading.

• The Bolo app will be available on Google Play Store in India for all smartphones running Android 4.4 (Kit Kat) and higher, and can also work offline.

Q86. Answer: (b) Committee on Estimates

The correct answer is option 2, i.e. Committee on Estimates.

• The Estimates Committee is a Committee of Lok Sabha.

• The motion for election of the first Estimates Committee was adopted by the Provisional Parliament on 3rd April 1950 and the Committee was elected on 10th April 1950.

• The Committee consists of not more than 30 members from Lok Sabha who shall be elected by the House every year from amongst its members according to the principle of promotional representation by means of a single transferable vote.

• The Speaker is empowered to appoint the Chairman of the Committee from amongst its members.

• Currently, Shri Girish Bhalchandra is the chairperson of the Estimate Committee.

Q87. Answer: (b) Bank Rate

The correct answer is option 2, i.e. Bank Rate.

• A bank rate is the interest rate at which a nation's central bank lends money to domestic banks.

• Managing the bank rate is a method by which central banks affect economic activity. Lower bank rates can help to expand the economy by lowering the cost of funds for borrowers, and higher bank rates help to reign in the economy when inflation is higher than desired.

• Besides CRR, Banks have to invest a certain percentage of their deposits in specified financial securities like Central Government or State Government securities. This percentage is known as SLR.

• This money is predominantly invested in government-approved securities (bonds), Gold, which mean the banks can earn some amount as 'interest' on these investments as against CRR where they do not earn anything.

• Prime Lending rate: The interest rate charged by banks to their largest, more secure and most creditworthy customers on short-term loans.

• Sub-prime lending usually refers to the practice of giving loans to those who do not qualify for regular loans at market interest rates because of their poor credit history.

• Due to the increased risk associated with the takers, sub-prime loans are offered at a rate higher than market rates.

• These loans are risky for both, those who are giving and those who are taking because these combine high-interest rates, bad credit history, and often, murky financial situations of the takers.

Q88. Answer: (c) Kalibangan

The correct answer is option 3, i.e. Kalibangan.

Key Points

• The Indus Valley Civilization sites spread over the whole of Sind, Baluchistan, almost the whole of Punjab, northern Rajasthan, Kathiawar, and Gujarat.

• Kalibangan, is one of the famous Indus cities discovered in 1953 by A Ghosh, is situated in Rajasthan on the banks of River Ghaggar. Kalibangan stands for black bangles.

• Ploughing field and the bronze figure of a bull have been found at Kalibangan, Indus valley civilization sites.

• Harappa the first Indus site, was discovered by Dayaram Sahni in 1921.

• It is situated in the province of West Punjab, Montgomery district in Pakistan.

Additional Information

Harappa: It is an archaeological site in Punjab, Pakistan, about 24 km west of Sahiwal. The site takes its name from a modern village located near the former course of the Ravi River which now runs 8 km to the north.

Mohenjo Daro: It is an archaeological site in the province of Sindh, Pakistan. Built around 2500 BCE, it was one of the largest settlements of the ancient Indus Valley Civilisation.

Chanhudaro: It is an archaeological site belonging to the Indus Valley Civilization. The site is located 130 kilometers south of Mohenjo-daro, in Sindh, Pakistan.

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Q89. Answer: (b) 0 and 1

The correct answer is option 2, i.e. 0 and 1.

• Binary code, code used in digital computers, based on a binary number system in which there are only two possible states, off and on, usually symbolized by 0 and 1.

• A binary code signal is a series of electrical pulses that represent numbers, characters, and operations to be performed.

• A device called a clock sends out regular pulses, and components such as transistors switch on (1) or off (0) to pass or block the pulses.

• Whereas in a decimal system, which employs 10 digits, each digit position represents a power of 10 (100, 1,000, etc.), in a binary system each digit position represents a power of 2 (4, 8, 16, etc.).

Q90. Answer: (c) Rishabh Pant

The correct answer is option 3, i.e. Rishabh Pant.

• India's fast-rising wicketkeeper-batsman Rishabh Pant named the International Cricket Council's Emerging Player of the Year in the world body's annual awards.

• He became the first Indian wicket-keeper to score a Test century in England and equalled the record for the most catches taken in a Test, with 11 against Australia in Adelaide

• He was also the first Indian wicket-keeper to score a Test hundred in Australia.

• Kohli, who was the ODI Cricketer of the Year and Cricketer of the Year last year, was named the captain of both the Test Team and ODI Team of the Year for the second year in a row.

Q91. Answer: (d) Karnataka

The correct answer is option 4, i.e. Karnataka.

• Kasuti is a traditional form of folk embroidery practiced in the state of Karnataka.

• Kasuti work which is very intricate sometimes involves putting up to 5,000 stitches by hand and is traditionally made on dress wear like Ilkal sarees, Ravike and Angi or Kurta.

• The Karnataka Handicrafts Development Corporation (KHDC) holds a Geographical Indications (GI) protection for Kasuti embroidery which provides Intellectual Property rights on Kasuti to KHDC.

• GI is an indication used on products that have a specific geographical origin and possess the qualities or reputation that are due to that origin.

Q92. Answer: (d) Ural

The correct answer is option 4, i.e. Ural.

• Russia recently launched nuclear-powered Arctic icebreaker named 'Ural' at Baltic Shipyard in St. Petersburg.

• Russian President Vladimir Putin announced in April 2019 that Russia will step up construction of icebreakers with aim of significantly boosting freight traffic along its Arctic coast.

• The ship, named as 'Ural' was floated out from a dockyard at Baltic Shipyard in St Petersburg. It is one of the trio which when completed will be largest and most powerful icebreakers in world.

• Russia launched a nuclear-powered icebreaker, part of an ambitious programme to renew and expand its fleet of the vessels in order to improve its ability to tap the Arctic's commercial potential.

Q93. Answer: (d) Kelvin

CONCEPT:

• The temperature is usually measured with a thermometer which is marked in several temperature scales mainly Celsius, Fahrenheit, and Kelvin.

• The SI unit of temperature as per the International System of Units is Kelvin which is represented by the symbol K.

EXPLANATION:

• Ampere is the SI unit of current. Therefore option 1 is incorrect.

• In certain fields of engineering, there is another absolute temperature scale for temperature measurement and that is the Rankine scale. Therefore option 2 is incorrect.

• The candela is the SI unit of luminous intensity. Therefore option 3 is incorrect.

• From above it is clear that the SI unit of temperature is Kelvin. Therefore option 4 is correct.

Important Points

• All the temperatures are related to each other by the following relationship –

$(F - 32)/9 = C/5 = (K - 273)/5$

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Q94. Answer: (b) 14th

The correct answer is option 2, i.e. 14th.

• In June 2017 the BJP announced Kovind as the party's candidate to succeed Pranab Mukherjee in the ceremonial office of president.

• Ram Nath Kovind became the 14th President of India.

• Chief Justice of India Justice JS Khehar administered the oath of office to Kovind in the historic central hall of parliament.

• He faced Meira Kumar, former speaker of the Lok Sabha (the lower house), and herself a Dalit.

• In spite of the fact that his low-key profile made him relatively unknown, he won nearly two-thirds of the vote. Kovind was sworn in as India's 14th president in July 2017.

Q95. Answer: (d) Maharashtra

The correct answer is option 4, i.e. Maharashtra.

• Matheran, a hill station deep in the forests of the Western Ghats, but just 81 km from Mumbai.

• This 800m high hill station is located in Alibagh district of Maharashtra.

• Automobiles are banned in Matheran, declared an eco-sensitive zone by the by the Ministry of Environment and Forests. in 2003.

• It is appealing to have a view of the valleys from this green and calm hill station.

Q96. Answer: (d) Goa

The correct answer is option 4, i.e. Goa.

• Ghumot is Goa's indigenous traditional percussion instrument made from an earthen vessel.

• This year in February 2019, ghumot was notified as a heritage instrument of Goa, Art, and Culture.

• The instrument was banned due to the use of the skin of the endangered monitor lizard for the drum membrane.

• In recent years, ghumot makers have started using goatskin instead.

• A few years ago, minister Rohan Khaunte had made a case to lift the ban by using permissible material.

• Since the ban is applicable to the use of any animal listed in the Wildlife (Protection) Act, 1972, but the goat is not one of them.

Q97. Answer: (a) The range lying to the immediate south of the Himadri is called the Shiwaliks.

The correct answer is option 1, i.e. The range lying to the immediate south of the Himadri is called the Shiwaliks.

• The Himalayas, which literally means the abode of snow, is the youngest and the highest range of fold mountains in the world, covering a distance of about 2500 km.

• The Himalayas consist of three parallel ranges, the Greater Himalayas known as the Himadri, the Lesser Himalayas called the Himachal, and the Shivalik hills, which comprise the foothills.

• The following are the three major divisions of the Himalayas running from north to south:

• The Himadri: It is the northernmost range of the young Himalayan mountains. It contains most of the highest peaks like Mt Everest, Kanchenjunga, etc.

• The Himachal: It is also known as the lesser Himalayas. This range lies to the south of the Himadri. Almost all the hill stations such as Shimla, Nainital, and Manali are located along with this range. Hence, statement 1 is incorrect, and hence the correct option (the question asks NOT correct)

• The Shiwaliks: This is the outermost range of the Himalayas. These ranges are made up of the sediments which are brought down from the rivers flowing from the northern Himalayan ranges. The valleys which separate the lesser Himalayas and the Siwaliks are called Duns or Doons, like Dehra Dun, Patli Dun, and Kotli Dun.

Q98. Answer: (a) 20 Hz - 20000 Hz

The correct answer is option 1, i.e. 20 Hz - 20000 Hz.

Concept:

Frequency: The number of waves that pass a fixed point in unit time.

The unit of frequency is Hertz (Hz).

• Infrasonic sounds have the frequency of less than 20 Hz and these are generally produced by sources of a bigger size such as earthquakes, volcanic eruptions, etc.

• Sound waves with frequencies below the audible range are called infrasonic.

• Audible sounds have the frequency of 20-20000 Hz since these are sensitive to the human ears

• And if the frequency is greater or less then audible frequency, human ear won't be able to sense it

• Ultrasonic sounds have a frequency greater than 20000 Hz and certain creatures such as dog, cat, a bat can hear this kind of sound.

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Explanation:

From the above explanation, we can see that,

• Humans can detect sounds in a frequency range from about 20 Hz to 20 kHz(20000 Hz).

• The human hearing range depends on both the pitch of the sound – whether it is high or low – and the loudness of the sound. Pitch is measured in Hertz (Hz) and loudness is measured in decibels (dB).

• However, elephants can hear waves as low as 14 Hz, while cats can hear up to 64,000 Hz frequencies, and bats can sometimes pick up noises as high as 200,000 Hz.

Q99. Answer: (c) Alharthi is the second Arabic author to win this prize.

The correct answer is option 3, i.e. Alharthi is the second Arabic author to win this prize.

• Omani author Jokha al-Harthi wins the Man Bookers International Prize 2019.

• She has become the first Arabic-language writer to win the Man Booker International Prize with Celestial Bodies.

• The author plans to split the £50,000 prize money with her translator, US academic professor Marilyn Booth.

• Jokha Alharthi's winning novel tells the story of three sisters and a desert country confronting its slave-owning past and a complex modern world.

Q100. Answer: (d) radio

CONCEPT:

• Electromagnetic spectrum: It is a collection of a range of different waves in sequential order from radio to gamma electromagnetic waves.

EXPLANATION:

• Radar is an acronym for Radio Detection and Ranging. The term "radio" refers to the use of electromagnetic waves with wavelengths in the so-called radio wave portion of the spectrum, which covers a wide range from 10^4 km to 1 cm.

• It is basically an electromagnetic system used to detect the location and distance of an object from the point where the RADAR is placed.

• It works by radiating energy into space and monitoring the echo or reflected signal from the objects.

• Due to their short wavelengths, microwaves are suitable for the radar systems used in aircraft navigation.

• Radar also provides the basis for the speed guns used to time fastballs, tennis serves, and automobiles

Radiation	Range of wavelengths	Typical wavelength		Increasing wavelength Decreasing Energy Decreasing frequency
Gamma	10^(-16) m – 10^(-10) m	10^(-15) m		
X-Rays	10^(-13) m – 10^(-8) m	10^(-10) m		
UV	10^(-8) m – 400 nm	10^(-8) m		
Visible Light	400 nm – 700 nm			
Infra-red	700 nm – 10^(-3) m	10^(-5) m		
Microwaves	10^(-3) m – 10^(-1) m	10^(-2) m		
Radio waves	10^(-1) m – 10^6 m	10^2 m		

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