SSC CHSL 2020 Official Paper 27 (Held on: 9 Aug 2021 Shift 3) (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 correct indirect form of the given sentence.

The supervisor said to the staff, "Make sure that every room is disinfected properly."

(a) The supervisor instructed the staff to make sure that every room was disinfected properly.
(b) The supervisor instructed the staff to make sure that every room was being disinfected properly.
(c) The supervisor instructs the staff to make sure that every room is disinfected properly.
(d) The supervisor instructed the staff to make sure that every room had been disinfected properly.

Q2. Select the most appropriate word to fill in the blank.

The prisoner was very upset and angry and there was _____ in her voice.

(a) stillness
(b) thickness
(c) bitterness
(d) eagerness

Q3. Select the most appropriate ANTONYM of the given word.

COMPLETE

(a) partial
(b) bulky
(c) plentiful
(d) vacant

Q4. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select ‘No substitution’.

Ashoka was one of the greater king of India.

(a) No substitution
(b) the more great kings
(c) the greatest kings
(d) the greater kings

Q5. In the given sentence, identify the segment which contains a grammatical error.

We've decided to spend our time play online games as we will not go out on a vacation this year.

(a) not go out
(b) to spend our time
(c) we've decided
(d) play online games

Q6. Select the INCORRECTLY spelt word.

(a) convert
(b) converse
(c) convean
(d) convent

Q7. Select the INCORRECTLY spelt word.

(a) collide
(b) existence
(c) conscious
(d) grammer

Q8. Select the correct passive form of the given sentence.

We mow the lawn once every month.

(a) The lawn was mowed once every month.
(b) The lawn is mowed once every month.
(c) The lawn will be mowed once every month.
(d) The lawn has been mowed once every month.

Q9. Select the option which means the same as the group of words given.

One who cannot be reformed or changed

(a) infallible
(b) invincible
(c) incorrigible
(d) indelible

Q10. Select the most appropriate synonym of the given word.

DELECTABLE

(a) horrible
(b) offensive
(c) unpleasant
(d) luscious

Q11. Select the word which means the same as the group of words given.

A person who pretends to have morals and beliefs that he or she doesn't believe in

(a) versatile
(b) radical
(c) hypocrite
(d) communal

Q12. Select the most appropriate option to fill in the blank.

With a lot of difficulty, he could _____ only two tickets for the train from Mumbai to Ranchi.

(a) incur
(b) attain
(c) gain
(d) procure

Q13. Select the most appropriate meaning of the given idiom.

Needle in a haystack

(a) Something impossible to find
(b) Something very trivial
(c) Someone in trouble
(d) Someone having vast opportunities

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Q14. Given below are four jumbled sentences. Out of the given options, pick the one that gives their correct order.

A. They were covered with mud from head to foot.

B. Two men were fighting, crying out and cursing, at the bottom of the ditch.

C. “Stop that!” shouted the sergeant.

D. Three or four soldiers, holding torches, were standing around a ditch.

(a) BACD
(b) DCBA
(c) BDAC
(d) DBAC

Q15. Given below are four jumbled sentences. Out of the given options, select the one that gives their correct order.

A. It becomes evident from their stories that their desire to succeed became their driving force, their purpose in life.

B. We read many stories of people who overcame serious disabilities.

C. This is what made a paralytic, Wilma Rudolf, win three gold medals on the track in the 1960 Olympics.

D. They wanted to prove to themselves that they could do it in spite of all odds - and they did it.

(a) ADBC
(b) BCDA
(c) BADC
(d) ACBD

Q16. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select ‘No substitution’.

Just like a spider that spins its own web and later destroys it, human beings can also destroy the web of desires that engulfs it.

(a) engulfing it
(b) No substitution
(c) engulf it
(d) engulfs them

Q17. Select the most appropriate meaning of the given idiom.

A blessing in disguise

(a) something good that isn’t recognised at first
(b) a person who blesses others quietly
(c) an event that is unknown
(d) someone who comes disguised

Q18. Select the most appropriate synonym of the given word.

COMPLICATED

(a) complex
(b) simplified
(c) plain
(d) painful

Q19. Select the most appropriate ANTONYM of the given word.

NONDESCRIPT

(a) distinguished
(b) vague
(c) common
(d) ordinary

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Q20. In the given sentence, identify the segment which contains the grammatical error.

Amphan, the more severe cyclone in the Bay of Bengal since the super cyclone of1999, made landfall in the afternoon on Wednesday.

(a) the more severe cyclone
(b) since the super cyclone
(c) made landfall
(d) in the afternoon

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.

Students in the sixth grade of a certain school in Navi Mumbai love (1) ____ History lessons, thanks to a novel teaching aid. It (2) __ not surprising given the fact that their study material (3) __ comic books and they use their textbooks for (4) __ to put things into perspective. Besides, students are (5) ____ to tap other sources of information as well.

Q21. Select the most appropriate option for blank no.1.

(a) them
(b) her
(c) their
(d) our

Q22. Select the most appropriate option for blank no.2.

(a) was
(b) are
(c) is
(d) were

Q23. Select the most appropriate option for blank no.3.

(a) includes
(b) has included
(c) is including
(d) include

Q24. Select the most appropriate option for blank no.4.

(a) reference
(b) suggestion
(c) indication
(d) practice

Q25. Select the most appropriate option for blank no.5.

(a) cheered
(b) boosted
(c) encouraged
(d) heartened

GENERAL INTELLIGENCE

Q26. Arrange the following words in a logical and meaningful order.

1. Plan
2. Shop
3. Mall
4. Drive
5. Return

(a) 3, 4, 5, 2, 1

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

Q27. Select the correct combination of mathematical signs that can sequentially replace the* signs and balance the given equation.

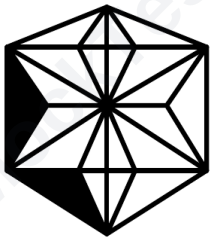
7 * 96 * 8 * 39 * 25 = 70

(a) -, ×, ÷, +
(b) +, ÷, -, ×
(c) ×, -, ÷, +
(d) ×, ÷, -, +

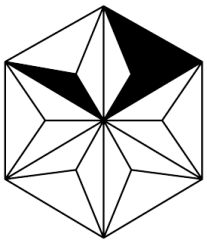
Q28. Select the figure that will come next in the following figure series.



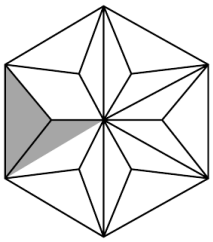
(a)



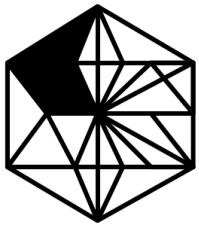
(b)



(c)



(d)



Q29. Rohit is three times the age of his son Rishabh. Five years ago, he was four times older than Rishabh. What is Rohit's age at present?

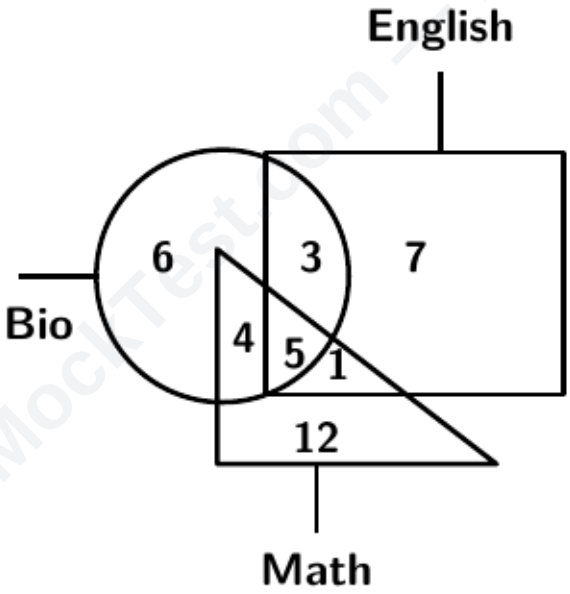
(a) 45 years
(b) 30 years

(c) 60 years
(d) 15 years

Q30. Three of the following four number triplets are alike in a certain way and one is odd one out. Select the one which is different.

(a) (4, 8, 16)
(b) (2, 4, 8)
(c) (3, 6, 9)
(d) (1, 2, 1)

Q31. Observe the following diagram and answer the question that follows.



Find the number of students who study two or more subjects.

(a) 13
(b) 9
(c) 5
(d) 7

Q32. Five of the following six numbers are alike in a certain way and one is different. Select the number that is different from the rest.

8, 24, 125, 343, 1331, 2197

(a) 24
(b) 125
(c) 1331
(d) 2197

Q33. Read the given statements and conclusions carefully. Assuming that the information given in the statements 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.

Statements:

Some magicians are psychologists.

All psychologists are tourists.

Conclusions:

I. All tourists are psychologists.

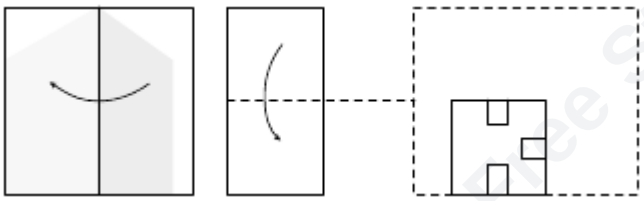
II. All magicians are tourists.

(a) Only conclusion I follows
(b) Only conclusion II follows

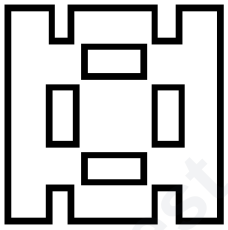
(c) Both conclusions I and II follow

(d) Neither conclusion I nor II follows

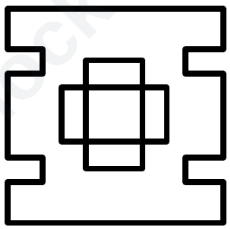
Q34. The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown in the following figures. How would this paper look when unfolded?



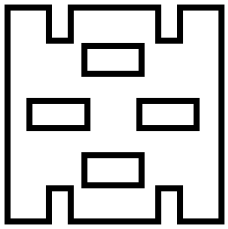
(a)



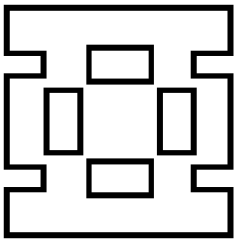
(b)



(c)



(d)



Q35. Select the correct mirror image of the given combination when the mirror is placed at 'PQ' as shown.



(a)



(b)

(c)



(d)



Q36. Select the option that is related to the third term in the same way as the second term is related to the first term.
RIGHT : UGKKR :: CHAOS : ?

(a) FEFRQ
(b) FFERQ
(c) FREFQ
(d) FQREF

Q37. Select the number from among the given options that can replace the question mark(?) in the following series.
5, 9, 16, 31, 60, 119, ?

(a) 236
(b) 346
(c) 436
(d) 326

Q38. Pointing to a lady, Raj said, "She is the only daughter of the brother of my mother's father-in-law". How is the lady related to Raj?

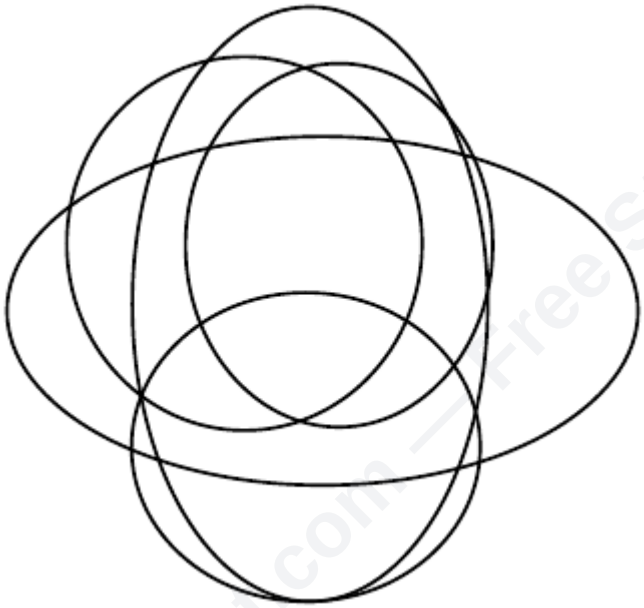
(a) Sister
(b) Cousin
(c) Sister-in-law
(d) Aunt

Q39. If in a code language, DISK is coded as 65 and WIRE is coded as 53, then how will you code CELL?

(a) 32
(b) 82
(c) 76
(d) 46

Q40. Find the number of circles in the following figure.

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(a) 8
(b) 6
(c) 11
(d) 10

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

Dolphins : Click :: Jackals : ?

(a) Scream
(b) Squeak
(c) Bleat
(d) Howl

Q42. 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.

Bread : Wheat

(a) Sauce : Tomato
(b) Book : Library
(c) Meal : Flour
(d) Zoo : Animal

Q43. Select the option in which the numbers are related in the same way as are the numbers of the following set.

(3, 3, 11)

(a) (5, 8, 26)
(b) (6, 15, 47)
(c) (4, 5, 18)
(d) (7, 11, 35)

Q44. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series.

k l _ p n _ k l m p _ b _ l m _ n b k _ m p n b

(a) m, n, b, p, k, l
(b) n, m, b, l, p, k
(c) m, b, n, k, p, l
(d) k, l, m, n, b, p

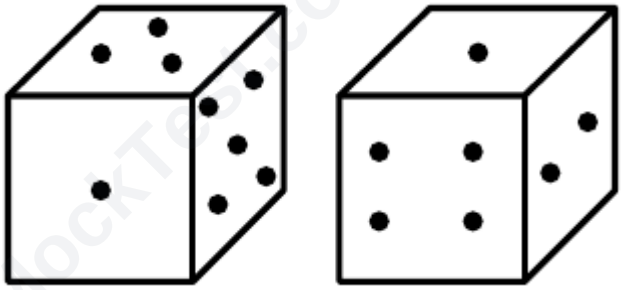
Q45. Three of the following four letter-clusters are alike in a certain way and one is different. Select the odd one.

(a) ILO
(b) ULO
(c) ENO
(d) UOD

Q46. Four words have been given, out of which three are alike in some manner and one is different. Select the word that is different.

(a) Piglet
(b) Horde
(c) Herd
(d) Ambush

Q47. Two different positions of the same dice are given below. How many dots will be on the face opposite to the face having 1 dot?



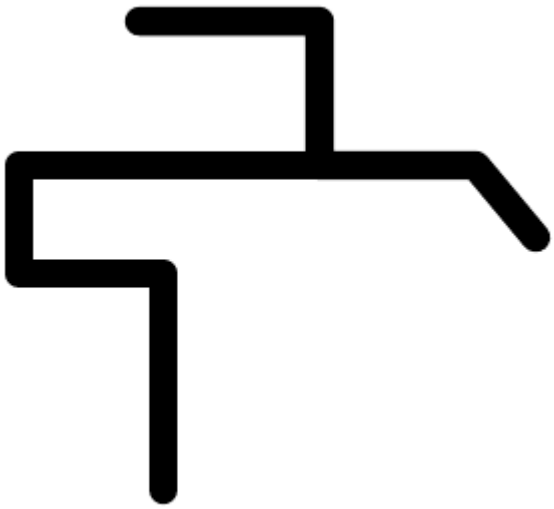
(a) 4
(b) 2
(c) 5
(d) 6

Q48. Select the option that is related to the third number in the same way as the second number is related to the first number.

27 : 702 :: 12 : ?

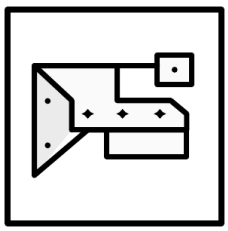
(a) 341
(b) 103
(c) 132
(d) 402

Q49. Select the option in which the given figure is embedded (rotation is NOT allowed).

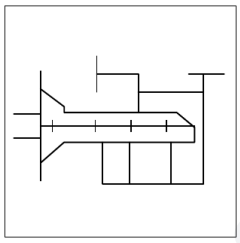


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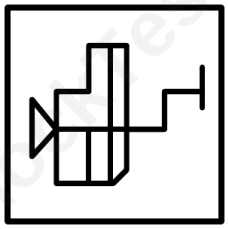
(a)



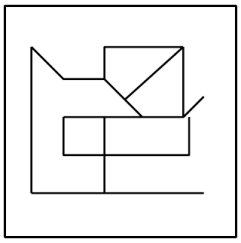
(b)



(c)



(d)



Q50. In a certain code language, VIRTUE is written as XCBYAN. How will MODEST be written in that language?

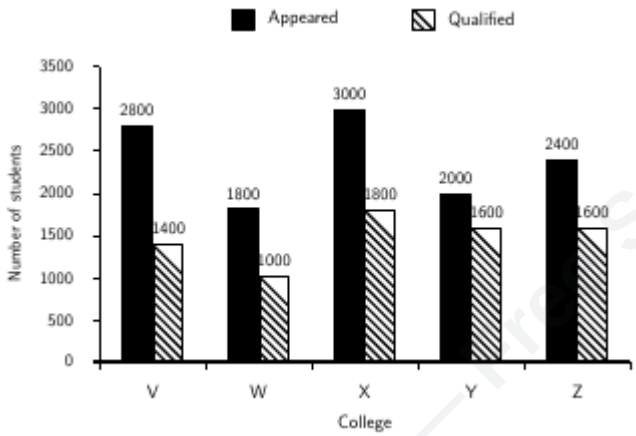
(a) IJNYYS
(b) INYJYS
(c) JISNYY
(d) JISYNY

QUANTITATIVE APTITUDE

Q51. Study the following graph and answer the question that follows.

Number of students that appeared and qualified, from various colleges, at a scholarship examination.

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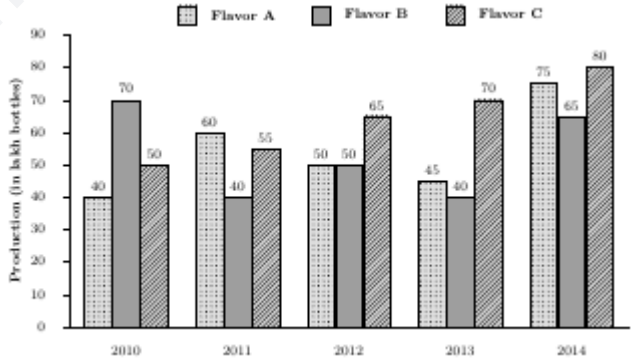
The average number of students that qualified in the examination from Colleges X and Y is what percentage of the average number of students that appeared for the examination from the same colleges?

(a) 64
(b) 68
(c) 62
(d) 66

Q52. Study the given bar graph and answer the question that follows.

A soft drink company prepares drinks of three different flavours A, B and C. The bar graph shows the production of three flavours over a period of five years from 2010 to 2014.

Production of three different flavours A. B and C by a company over the five years (in lakh bottles).



What percentage of the total production of soft drink of flavour A in 2013 and 2014 is the total production of soft drink of flavour B in 2011 and 2012?

(a) 75%
(b) 70%
(c) 55%
(d) 60%

Q53. A buys an article for Rs.900 and sells it to B at a profit of 25%. B sells it to C, who sells it for Rs.1,350, at a loss of 10%. What profit percent (to the nearest integer) did B make?

(a) 35
(b) 33
(c) 34
(d) 30

Q54. For what value of θ (in degrees) is the following equation true?

$\sin 3\theta \cos\theta - \cos 3\theta \sin\theta = 1/2, 0 < \theta < \pi/2$

(a) 45
(b) 60
(c) 15
(d) 30

Q55. If x : y = 4 : 5, then the value of (8x - 6y) : (9x - 7y) is:

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

Q56. The value of (cos 8° cos 24° cos 60° cos 66° cos 82°)/(sin 82° sin 66° sin 60° sin 8° sin 24°) is:

(a) 1/√3
(b) 1
(c) 0
(d) 1/√2

Q57. Two trains X and Y of lengths 450 meters and 550 meters, respectively, are running in the same direction on parallel tracks. If the speeds of X and Y are 58 km/h and 86 km/h, respectively, then what will be the time taken by then to cross each other?

(correct to one decimal place)

(a) 128.6 seconds
(b) 126.6 seconds
(c) 124.6 seconds
(d) 122.6 seconds

Q58. A dealer allows his customer a discount of 35% and still gains 30%. If the cost price of an article is Rs.950, then what is its marked price (in Rs.)?

(a) 1,750
(b) 1,800
(c) 1,900
(d) 1,500

Q59. If $a^2 + b^2 + c^2 = 576$ and $(ab + bc + ca) = 50$, then what is the value of $(a + b + c)$, if $(a + b + c) < 0$?

(a) ±24
(b) -24
(c) -26
(d) ±26

Q60. The value of

28 ÷ [25 + 8 ÷ 4 - {25 + (25 of 8 ÷ 20) - (125 ÷ 5 of 25)}] + (25 × 5) is:

(a) -121
(b) 129
(c) 121
(d) -4

Q61. If sin B = 9/41, then what is the value of cot B, where 0° < B < 90°?

(a) 41/9
(b) 40/9
(c) 9/40
(d) 9/41

Q62. If 3x + y = 12 and xy = 9, then the value of (3x - y) is:

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

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Q63. In what time will a sum of Rs.1,25,000 amount to Rs.1,48,877 at 12% per annum, if interest is being compound half-yearly?

(a) 1 year
(b) 3 years
(c) 21/2 years
(d) 11/2 year

Q64. If 31^(47) + 43^(47) is divided by 37, the remainder is:

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

Q65. A can complete one-sixth of a work in 5 days and B can complete one-fourth of the same work in 15 days. In how many days, will both working together complete the work?

(a) 25 days
(b) 20 days
(c) 10 days
(d) 12 days

Q66. Chords AB and CD of a circle intersect externally at P. If AB = 8.8 cm, PB = 7.2 cm, PD = 6.4 cm, then CD is equal to:

(a) 10.8 cm
(b) 11.6 cm
(c) 10.6 cm
(d) 11.4 cm

Q67. In a circle, two chords UV and WX intersect each other at a point Z within the circle. If UV = 18 cm, ZV = 6 cm and WZ = 9 cm, then the length of ZX is:

(a) 8 cm
(b) 10 cm
(c) 6 cm
(d) 4 cm

Q68. The perimeter of an isosceles triangle is 220 cm. If the base is 40 cm, then the length of each of the other sides is:

(a) 80 cm
(b) 85 cm
(c) 95 cm
(d) 90 cm

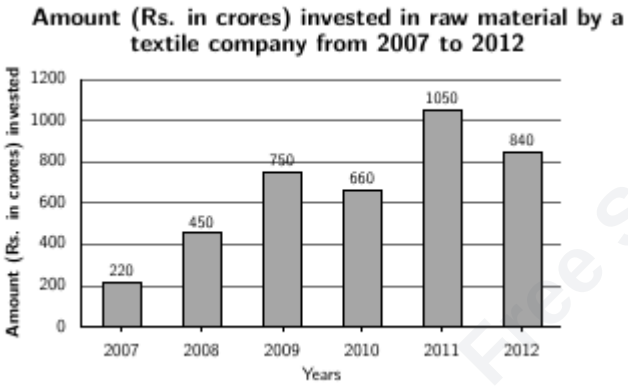
Q69. The list price of coconut oil is 15% more than its cost price. At what per cent less should it be sold for no profit and no loss?

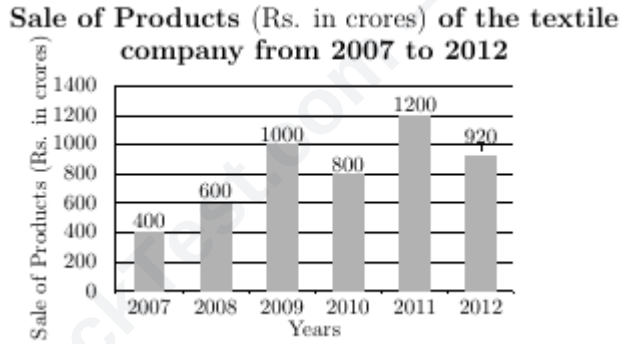
(a) 13 3/23 %
(b) 13 2/23 %
(c) 13 4/23 %
(d) 13 1/23 %

Q70. Study the given bar graphs and answer the question that follows.

The bar graphs represent the amount invested in raw materials (in Rs. crore) and the sale of the products, by a textile company in the year 2007 - 2012. The X-axis represents the years. The Y-axis represents the amount invested in raw materials (in Rs. crore) in figure 1 and sale of products in figure 2, respectively.

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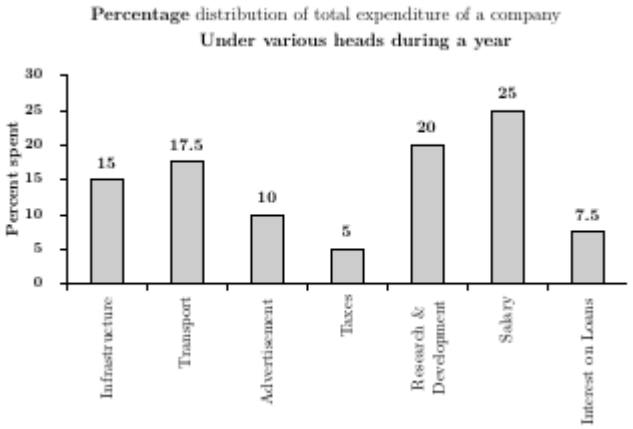




In which two years was the difference of the amount invested and the sales of products the same?

(a) 2007 and 2009
(b) 2009 and 2012
(c) 2008 and 2011
(d) 2010 and 2011

Q71. Study the given graph and answer the question that follows.



What is the ratio of the total expenditure on Infrastructure and Transport to the total expenditure on Taxes and Interest on Loans?

(a) 13 : 8
(b) 13 : 6
(c) 13 : 5
(d) 13 : 7

Q72. The difference between the two perpendicular sides of a right-angles triangle is 17 cm and its area is 84cm². What is the perimeter (in cm) of the triangle?

(a) 65
(b) 49
(c) 72

(d) 56

Q73. The average of 29 number is 38. The average of the first 19 numbers is 34 and that of the last 9 numbers is 48. The 20^(th) number is.

(a) 24
(b) 28
(c) 22
(d) 26

Q74. The total surface area of a solid cube is 4.86 m^2. It is melted and recast into a right circular cylinder of radius 0.3 m. What is the height (in m) of the cylinder (correct to one decimal place)? Take π = 22/7.

(a) 2.6
(b) 2.8
(c) 1.8
(d) 3.5

Q75. If $(2x + 1/2x) = 5$, then what is the value of $(8x^3 + 1/(8x^3))$?

(a) 120
(b) 110
(c) 125
(d) 100

GENERAL AWARENESS

Q76. Which of the following recommends Minimum Support Prices for crops in India?

(a) Indian Council of Agricultural Research
(b) Commission for Agricultural Costs & Prices
(c) Fiscal Prudence Commission
(d) NITI Aayog

Q77. Who was the President of the Indian National Congress when India won its freedom in the year 1947?

(a) Vallabhbhai Patel
(b) J. B. Kripalani
(c) Jawaharlal Nehru
(d) Abul Kalam Azad

Q78. In 711 CE, Arab general _____ conquered Sind, which became a part of the Caliph's domain.

(a) Muhammad Bin Qasim
(b) Muhammad Ghori
(c) Qutub-ud-din Aibak
(d) Muhammad-Bin-Tughlaq

Q79. Which of the following was included as an official Olympic sport in December 2020?

(a) Chess
(b) Breakdancing
(c) Bowling
(d) Cricket

Q80. Who among the following won the Golden Globe 2020 award for 'Best Performance by an Actor in a Motion Picture - Drama'?

(a) Joaquin Phoenix
(b) Jonathan Pryce
(c) Lucas Hedges
(d) John David Washington

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Q81. A message that tries to trick a person into providing information such as his social security number, bank account information or login username and password for a website is a type of cyber attack called:

(a) Macro Virus
(b) Phishing
(c) Zombie
(d) Worms

Q82. Which of the following is the largest river island in India?

(a) Gundu island
(b) Diu island
(c) Divar island
(d) Majuli island

Q83. Which of the following festivals is called the month of merits and is celebrated between May and June?

(a) Bhanu Jayanti
(b) Saga Dawa
(c) Losoong
(d) Losar

Q84. On which of the following days is World Computer Literacy Day observed?

(a) 5 June
(b) 13 May
(c) 2 December
(d) 30 September

Q85. A mass of snow and ice that moves slowly under the influence of gravity along a confined course away from its place of accumulation is called a _____.

(a) glacier
(b) plateau
(c) lagoon
(d) block mountain

Q86. As of December 2020, under the Startup India Initiative, the monthly allowance for startups with women as founders/co-founders was _____ per month for a period of one year.

(a) Rs. 40,000
(b) Rs. 30,000
(c) Rs. 20,000
(d) Rs. 50,000

Q87. Which of the following is NOT one of the three parallel ranges of the Himalayas in its longitudinal extent?

(a) Shiwaliks
(b) Himshikha
(c) Himadri
(d) Himachal

Q88. Who became the Chief Justice of Jammu and Kashmir High Court in December 2020?

(a) Pankaj Mithal
(b) Umesh Sinha
(c) Sanjib Banerjee
(d) Hemant Kumar Pandey

Q89. Who among the following is the author of ‘The Brahma Sutra - The Philosophy of Spiritual life’?

(a) Sarvepalli Radhakrishnan
(b) Indira Gandhi
(c) Sarojini Naidu

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(d) Rajendra Prasad

Q90. As of January 2021, how many Olympic medals did India win in the sport of field hockey?

(a) 9
(b) 11
(c) 12
(d) 8

Q91. Who among the following was adjudged as the 'Player of the Series' in the Australia versus India T20I series played in December 2020?

(a) Mitchell Swepson
(b) Matthew Wade
(c) Hardik Pandya
(d) T Natarajan

Q92. ISRO launched _____, it's 42nd communication satellite, in December 2020.

(a) CMS - 01
(b) GSAT - 31
(c) INSAT - 4CR
(d) GSAT - 30

Q93. Who among the following was appointed as the Chairman of the National Stock Exchange (NSE) in December 2019?

(a) Ashok Chawla
(b) Ashishkumar Chauhan
(c) Girish Chandra Chaturvedi
(d) Vikramajit Sen

Q94. From which of the following sources does the brain get energy?

(a) Glucose
(b) Fatty acids
(c) Amino acids
(d) Nucleic acids

Q95. Which company invested Rs. 11,400 crores during the financial year 2019-2020 across its market payments and wholesale business units in India to strengthen its foothold in India?

(a) Walmart Inc.
(b) Amazon.com, Inc.
(c) Apple Inc.
(d) eBay Inc.

Q96. With which of the following musical instruments is the musician Pandit Shiv Kumar Sharma associated?

(a) Dholak
(b) Sarod
(c) Sarangi
(d) Santoor

Q97. Who among the following is one of the seven winners of the Young Champions of the Earth 2020 prize given by UNEP?

(a) Vidyut Mohan
(b) Khushi Chindaliya
(c) Suchi Chaudhary
(d) Veer Vikram Singh

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Q98. What is the molecular formula for hydrochloric acid?

(a) H2SO4
(b) HCl
(c) KOH
(d) HNO3

Q99. What is the minimum age requirement for appointment as a Governor?

(a) 25 years
(b) 26 years
(c) 42 years
(d) 35 years

Q100. Mount Jopuno is situated in which of the following states?

(a) Uttarakhand
(b) Himachal Pradesh
(c) Sikkim
(d) Andhra Pradesh

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (a) The supervisor instructed the staff to make sure that every room was disinfected properly.

The correct answer is- The supervisor instructed the staff to make sure that every room was disinfected properly.

Key Points

• An imperative sentence always indicates command, request or advise. So, we have to use appropriate Verb according to command, request or advise.

• The given sentence is an imperative sentence as it starts with the verb i.e. Make.

• In Indirect Speech, the Verb of the Reported Speech in an Imperative Sentence is changed into the Infinitive (to + V1)

• In the given sentence, 'make' will be replaced it into 'to make' and the tense of the sentence will change into the past tense.

Hence, the correct answer is Option 1.

Q2. Answer: (c) bitterness

The solution is in Hindi. Read it online.

Q3. Answer: (a) partial

The solution is in Hindi. Read it online.

Q4. Answer: (c) the greatest kings

The correct answer is the greatest kings.

Key Points

• The underlined phrase is to be replaced with 'the greatest kings'

• In the given sentence, there is a comparison of one king with the many kings of India. Hence, we need to use a superlative degree of an adjective instead of comparative degree.

• So the correct sentence is- Ashoka was one of the greatest kings of India.

Additional Information

• We can use the definite article with the comparative degree when we want to choose something from the two things i.e. we can use 'the better"

Q5. Answer: (d) play online games

The erroneous part is "play online games"

Key Points

• In the given sentence, the usage of play online games is incorrect instead of this we need to use playing online games.

• Let's see the structure of the sentence-

• In the given sentence, the subject of the sentence is 'we' and decided is the main verb the subject of an infinitive verb is same as the main verb i.e. We obviously we can interpret that the subject 'We' has decided to spend their time.

• Now we need to locate an object for the verbs. The object of the verb spend is 'our time' but we don't have an object for the main verb i.e. 'decided' hence, we need to use an objective case of word 'play' so we need to use a gerund form i.e. playing.

• So we can read this sentence like this- We have decided playing online games and we spend our time.

• So the correct sentence is- We have decided to spend our time playing online games as we will not go out on a vacation this year.

Q6. Answer: (c) convean

The solution is in Hindi. Read it online.

Q7. Answer: (d) grammer

The correct spelling is "grammer".

Key Points

• The correct spelling is "grammar," not "grammer."

• Example: "Studying English grammar can help improve your writing and speaking skills."

• The other three options: "collide," "existence," and "conscious" are all spelled correctly.

• Therefore, the word that is spelled incorrectly is- "grammer."

Hence, the correct answer is 'Option 4'.

Additional Information

• "collide" - This is the correct spelling of the word which means to come into conflict or opposition.

• Example: "The two cars collided at the intersection due to the foggy weather."

• "existence" - This is the correct spelling of the word which refers to the state or fact of living or being present.

• Example: "The existence of extraterrestrial life has been a subject of debate among scientists."

• "conscious" - This is the correct spelling of the word which refers to being aware of and responding to one's surroundings.

• Example: "He was conscious that his decision could create many issues."

Q8. Answer: (b) The lawn is mowed once every month.

The solution is in Hindi. Read it online.

Q9. Answer: (c) incorrigible

The solution is in Hindi. Read it online.

Q10. Answer: (d) luscious

The solution is in Hindi. Read it online.

Q11. Answer: (c) hypocrite

The solution is in Hindi. Read it online.

Q12. Answer: (d) procure

The solution is in Hindi. Read it online.

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Q13. Answer: (a) Something impossible to find

The correct answer is Something impossible to find.

Key Points

• The meaning of the idiom 'Needle in a haystack' is- Something or someone that is difficult and nearly impossible to find.

• Let's see an example-

• Finding the piece of paper I need in this huge pile of documents is like looking for/trying to find a needle in a haystack

• So the correct answer is Option 1.

Q14. Answer: (d) DBAC

The correct answer is DBAC

Key Points

• On reading the sentences, we can comprehend that the passage is talking about the conversation between the soldiers.

• The first sentence will be D as it tells that how many soldiers are standing around a ditch.

• The second sentence will be B as it gives the further information that two men are fighting at the bottom of the ditch.

• The third sentence will be A as it gives the information about the soldiers how they look.

• The fourth sentence will be C.

So the correct passage will be- Three or four soldiers, holding torches, were standing around a ditch. Two men were fighting, crying out and cursing, at the bottom of the ditch. They were covered with mud from head to foot. “Stop that!” shouted the sergeant.

Q15. Answer: (c) BADC

The correct answer is BADC.

Key Points

• On reading the sentences, we can comprehend that the passage is all about the leaving the odds and work hard to make a purposeful life also the speaker gives the example of Wilma Rudolf.

• The first sentence will be B as it gives the introduction of the passage by saying that people read many stories of success who overcame physical disabilities.

• The second sentence will be A as it gives the evidence and tells what is the driving force behind their purpose.

• The third sentence will D it tells us that the people who suffer from physical disabilities they wanted to prove themselves that they could do it whatever they want to achieve.

• The fourth sentence will be C.

So the correct passage is- We read many stories of people who overcame serious disabilities. It becomes evident from their stories that their desire to succeed became their driving force, their purpose in life. They wanted to prove to themselves that they could do it in spite of all odds - and they did it. This is what made a paralytic, Wilma Rudolf, win three gold medals on the track in the 1960 Olympics.

Q16. Answer: (d) engulfs them

The solution is in Hindi. Read it online.

Q17. Answer: (a) something good that isn’t recognised at first

The correct answer is something good that isn't recognised at first.

Key Points

• The meaning of the idiom 'A blessing in disguise' is- an apparent misfortune that eventually has good results.

• Let's see an example-

• Losing that job was a blessing in disguise really.

• Hence, the correct answer is Option 1.

Q18. Answer: (a) complex

The solution is in Hindi. Read it online.

Q19. Answer: (a) distinguished

The solution is in Hindi. Read it online.

Q20. Answer: (a) the more severe cyclone

The erroneous part is 'the more severe cyclone'

Key Points

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• In the given sentence, the usage of 'the more' is incorrect instead use 'the most'

• In the given sentence, the cyclone is compared with every cyclone that comes since 1999 hence, we need to use a superlative degree of adjective.

• So the correct sentence is- Amphan, the most severe cyclone in the Bay of Bengal since the super cyclone of1999, made landfall in the afternoon on Wednesday.

Q21. Answer: (c) their

The correct answer is 'their'

Key Points

• Students in the sixth grade of a certain school in Navi Mumbai love (1) _____ History lessons, thanks to a novel teaching aid.

• In the given blank, we need a pronoun for the subject 'students' it is a plural noun hence, we need to use a plural subjective pronoun so the correct answer is Option 3 i.e. their.

So the correct sentence is- Students in the sixth grade of a certain school in Navi Mumbai love their History lessons, thanks to a novel teaching aid.

Q22. Answer: (c) is

The correct answer is 'is'

Key Points

• It (2) _____ not surprising given the fact that their study material

• In the given sentence, we need a verb for the subject 'it' hence, the correct verb is 'is' as we need to use a singular verb in the present tense as the given passage in the present tense.

• So the correct tense is- It is not surprising given the fact that their study material

Q23. Answer: (a) includes

The correct answer is 'includes'

Key Points

• It is not surprising given the fact that their study material (3) _____ comic books

• In the given sentence, we need a verb for the noun study material as it is a subject of the subordinate clause. As it is a singular noun hence, we are going to use a singular verb so the correct verb is 'includes'

So the correct sentence is- It is not surprising given the fact that their study material includes comic books

Q24. Answer: (a) reference

The solution is in Hindi. Read it online.

Q25. Answer: (c) encouraged

The solution is in Hindi. Read it online.

Q26. Answer: (d) 1, 4, 3, 2, 5

Arranging in a meaningful order of going for a shopping,

1. Plan → first we do planning about what to shop for and where to go.

4. Drive → then drive to the mall.

3. Mall → then we reach the mall.

2. Shop → then we do shopping.

5. Return → and in last we return.

So, the logical and meaningful order will be 1 → 4 → 3 → 2 → 5.

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

Q27. Answer: (d) ×, ÷, -, +

Given: 7 * 96 * 8 * 39 * 25 = 70

By checking options and substituting signs accordingly,

(1) -, ×, ÷, +

LHS = 7 - 96 × 8 ÷ 39 + 25

= 7 - 96 × 0.205 + 25

= 7 - 19.68 + 25

= 32 - 19.68

= 12.32

≠ 70
LHS ≠ RHS
(2) +, ÷, -, ×
LHS = 7 + 96 ÷ 8 - 39 × 25
= 7 + 12 - 39 × 25
= 7 + 12 - 975
= 19 - 975
= 956
≠ 70
LHS ≠ RHS
(3) ×, -, ÷, +
LHS = 7 × 96 - 8 ÷ 39 + 25
= 672 - 0.205 + 25
= 697 - 0.205
= 696.795
≠ 70
LHS ≠ RHS
(4) ×, ÷, -, +
LHS = 7 × 96 ÷ 8 - 39 + 25
= 7 × 12 - 39 + 25
= 84 - 39 + 25
= 109 - 39
= 70
LHS = RHS
Hence, ×, ÷, -, + is the correct answer.

Q28. Answer: (c) [figure]

Given:
The logic followed here is:
(1) Leaf shading in moving in an anti-clockwise direction and leaving leaves in increasing order (+1, +2, +3, +4, +5).
(2) Edges shading is moving in a clockwise direction.
The pattern is shown below,
Hence, option (3) is the correct answer.

Q29. Answer: (a) 45 years

Given: Rohit is three times the age of his son Rishabh. Five years ago, he was four times older than Rishabh.
Let the age of Rohit be 'A' and that of his son Rishabh's be 'B'.
Then, according to the question,
A = 3B, implies B = A/3
and,
A - 5 = 4 × (B - 5)
A - 5 = 4B - 20
4B = A - 5 + 20
4B = A + 15
By substituting above equation,
4/3A = A + 15
4/3A - A = 15
(4A -3 A)/3 = 15
A = 15 × 3
A = 45
Hence, Rohit's present age is 45 years.

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Q30. Answer: (b) (2, 4, 8)

By checking options:

(1) (4, 8, 16) → 4 × 2 = 8, $4^2 = 16$

(2) (2, 4, 8) → 2 × 2 = 4, $2^2 = 4 \neq 8$

(3) (3, 6, 9) → 3 × 2 = 6, $3^2 = 9$

(4) (1, 2, 1) → 1 × 2 = 2, $1^2 = 1$

Hence, (2, 4, 8) is the odd one.

Q31. Answer: (a) 13

The logic followed here is: students who study two or more subjects implies common part of any two shapes and the common part of all the three shapes as shown below,

Thus, the number of students who study two or more subjects = 3 + 4 + 1 + 5 = 13

Hence, 13 is the correct answer.

Q32. Answer: (a) 24

Given: 8, 24, 125, 343, 1331, 2197

The logic followed here is the Cube of prime numbers, as shown below,

Hence, 24 is the wrong term.

Q33. Answer: (d) Neither conclusion I nor II follows

The least possible Venn diagram is:

Conclusions:

I. All tourists are psychologists → False (it is possible but not definite as shown in the diagram above)

II. All magicians are tourists → False (it is possible but not definite as shown in the diagram above)

Hence, neither conclusion I not II follows.

Q34. Answer: (a) [figure]

The logic followed here is:

The paper when unfolded will look like this:

Hence, option (1) is the correct answer.

Q35. Answer: (b) [figure]

Given:

The logic followed here is: The line AB is the mirror,

Detailed Explanation:

• The line PQ is the mirror

• The given word "GOVERNMENT" ends with T. So the mirror image will start with 'T' => Option 3 and 4 are eliminated.

• The given word "GOVERNMENT" has fourth last letter "M", So the forth letter of the mirror image should be "M" => Option 1 is eliminated.

Hence, option (2) is the correct answer.

Additional Information

Q36. Answer: (b) FFERQ

Given: RIGHT : UGKKR :: CHAOS : ?

The logic followed here is:

Similarly,

Hence, FFERQ is the correct answer.

Q37. Answer: (a) 236

Given: 5, 9, 16, 31, 60, 119, ?

The logic followed here is:

Hence, 236 is the correct answer.

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Q38. Answer: (d) Aunt

From the given information,

She (lady) is the only daughter of the brother of my (Raj) mother's father-in-law, implies that lady is the cousin sister of Raj's father as shown below,

Hence, the lady is the aunt of Raj.

Q39. Answer: (c) 76

Given: DISK is coded as 65 and WIRE is coded as 53.

The logic followed here is:

Sum of opposite positional value of letters = number code.

DISK = 65

And,

WIRE = 53

Similarly,

CELL = ?

Hence, 76 is the correct answer.

Q40. Answer: (b) 6

By counting the circles:

Thus there are 6 circles in the figure.

Hence, 6 is the correct answer.

Q41. Answer: (d) Howl

Given: Dolphins : Click :: Jackals : ?

The logic followed here is:

Dolphins make Click sound.

Similarly,

Jackal make Howl sound.

Hence, howl is the correct answer.

Additional Information

Sound	Animal
Bleat	Lamb or calf
Squeak	Rabbit or Rat
Whistles and clicks	Dolphins
Scream	Someone is shot, falls from a great height or is thrown from an explosion.

Q42. Answer: (a) Sauce : Tomato

Given: Bread : Wheat

The logic followed here is:

Wheat is the key ingredient to make Bread.

Similarly,

Tomato is the key ingredient to make Sauce.

Hence, sauce : tomato is the correct answer.

Q43. Answer: (d) (7, 11, 35)

Given: (3, 3, 11)

The logic followed here is:

(3, 3, 11) → 3 + 3 = 6 → 6 × 2 - 1 = 12 - 1 = 11

By checking options:

(1) (5, 8, 26) → 5 + 8 = 13 → 13 × 2 - 1 = 26 - 1 = 25 ≠ 26

(2) (6, 15, 47) → 6 + 15 = 21 → 21 × 2 - 1 = 42 - 1 = 41 ≠ 47

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(3) (4, 5, 18) → 4 + 5 = 9 → 9 × 2 - 1 = 18 - 1 = 17 ≠ 18

(4) (7, 11, 35) → 7 + 11 = 18 → 18 × 2 - 1 = 36 - 1 = 35

Hence, (7, 11, 35) is the correct answer.

Q44. Answer: (c) m, b, n, k, p, l

Given: k l _ p n _ k l m p _ b _ l m _ n b k _ m p n b

By checking options and substituting accordingly,

1) m, n, b, p, k, l → k l m p n n / k l m p b b / p l m k n b / k l m p n b

2) n, m, b, l, p, k → k l n p n m / k l m p b b / l l m p n b / k k m p n b

3) m, b, n, k, p, l → k l m p n b / k l m p n b / k l m p n b / k l m p n b

4) k, l, m, n, b, p → k l k p n l / k l m p m b / n l m b n b / k p m p n b

♦ Option (3) gives a pattern of k l m p n b - k l m p n b - k l m p n b - k l m p n b.

Hence, m, b, n, k, p, l is the correct answer.

Q45. Answer: (d) UOD

By checking options:

(1) ILO

(2) ULO

(3) ENO

(4) UOD

Hence, UOD is the odd one.

Q46. Answer: (a) Piglet

The logic followed here is:

All options are the groups whereas piglet is a single young pig.

By checking options:

1) Piglet → a young pig.

2) Horde → a large group of people.

3) Herd → a large group of animals, especially hoofed mammals, that live together or are kept together as livestock.

4) Ambush → A group of tigers

Hence, piglet is the odd one.

Q47. Answer: (d) 6

Given:

The logic followed here is:

Logic: If two dice have same face value in given image than their clockwise or anticlockwise wise number/letter are know as opposite number/letter in dice.

While moving in clockwise direction from common face (1 dot) of dice (1) and dice (2):

From the both dices:

Dice 1	**1**	**3**	**5**
Dice 2	1	2	4

As it is a dice so it Implies that 6 will be on the opposite face of 1.

Hence, 6 is the correct answer.

Q48. Answer: (c) 132

The logic followed here is:

2nd number = 1st number × (1st number - 1)

27 : 702 → 27 × 26 = 702

Similarly,

12 : ? → 12 × 11 = 132

Hence, 132 is the correct answer.

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Q49. Answer: (b) [figure]

Given:

The logic followed here is: the given image is embedded as shown below,

Hence, option (2) is the correct answer.

Q50. Answer: (c) JISNYY

Given: :VIRTUE is written as XCBYAN.

The logic followed here is:

Similarly,

MODEST = ?

Hence, JISNYY is the correct answer.

Q51. Answer: (b) 68

Calculation:

Average number of students that qualified in the examination from Colleges X and Y = [1800 + 1600]/2 = 1700

Average number of students that appeared for the examination from Colleges X and Y = [3000 + 2000]/2 = 2500

=> Required % = 1700/2500 × 100 = 68%

Q52. Answer: (a) 75%

Given:

Production of soft drink of flavour A in 2013 and 2014 is 45 and 75 resp.

Production of soft drink of flavour B in 2011 and 2012 is 40 and 50 resp.

Calculation:

Total production of soft drink of flavour A in 2013 and 2014 = 45 + 75 = 120

Total production of soft drink of flavour B in 2011 and 2012 = 40 + 50 = 90

Therefore Required % = (90/120) × 100 = 75%

Q53. Answer: (b) 33

Given:

A buys an article for Rs.900 and sells it to B at a profit of 25%. B sells it to C, who sells it for Rs.1,350, at a loss of 10%.

Formula used:

SP = [(100 + profit%) / 100] × CP = [(100 - loss%) / 100] × CP

Profit% = [SP - CP]/CP × 100

Calculation:

ATQ, SP for A = CP for B

Now, SP for A = 125/100 ×900 = 1125 = CP for B

ATQ, B sells it to C, who sells it for Rs.1,350, at a loss of 10%

=> SP for B × 90/100 = 1350

=> SP for B = 1350 × 100/90

=> SP for B = 1500

Therefore Profit% for B = (1500 - 1125)/1125 = 33.33% ≈ 33%

Q54. Answer: (c) 15

Given:

$\sin 3\theta \cos\theta - \cos 3\theta \sin\theta = 1/2$, $0 < \theta < \pi/2$

Formula used:

$\sin A \cos B - \cos A \sin B = \sin(A - B)$

Calculation:

Using formula, $\sin 3\theta \cos\theta - \cos 3\theta \sin\theta = \sin(3\theta - \theta) = \sin(2\theta)$

=> $\sin(2\theta) = 1/2$

=> $\sin(2\theta) = 1/2 = \sin 30°$ [Because $0 < \theta < \pi/2$]

=> $2\theta = 30°$

=> $\theta = 15°$

Q55. Answer: (d) 2 : 1

Given:

x : y = 4 : 5

Calculation:

x = 4a, y = 5a

On putting values, we get,

(8x - 6y) : (9x - 7y) = (8 × 4a - 6 × 5a) : (9 × 4a - 7 × 5a)

= (32a - 30a) : (36a - 35a)

= 2a : a

= 2 : 1

Therefore (8x - 6y) : (9x - 7y) = 2 : 1

Q56. Answer: (a) 1/√3

Formula used:

cos(90 - A) = sinA

Calculation:

=> (cos 8° cos 24° cos 60° cos 66° cos 82°)/(sin 82° sin 66° sin 60° sin 8° sin 24°) = (cos (90 - 82)° cos (90 - 66)° cos 60° cos (90 - 24)° cos (90 - 8)°)/(sin 82° sin 66° sin 60° sin 8° sin 24°)

= (sin 82° sin 66° cos 60° sin 24° sin 8°)/(sin 82° sin 66° sin 60° sin 8° sin 24°) = cos 60° / sin 60°

= (1/2) / (√3 /2)

= 1/√3

Q57. Answer: (a) 128.6 seconds

Given:

Two trains X and Y of lengths 450 meters and 550 meters, respectively, are running in the same direction on parallel tracks.

Speeds of X and Y are 58 km/h and 86 km/h, respectively

Formula used:

When trains are running in the same direction on parallel track, Relative Speed = S1 - S2

Calculation:

Relative Speed = 86 - 58 = 28 km/h = 28 × 5/18 m/sec = 70/9 m/sec.

=> Time taken by them to cross each other = Distance/Relative Speed = (450 + 550)m / [70/9 m/sec]

= 9000/70 seconds

= 128.6 seconds

Q58. Answer: (c) 1,900

Given:

A dealer allows his customer a discount of 35% and still gains 30%.

Cost price of the article is Rs.950

Formula used:

CP/MP = (100 - discount%)/(100 + profit%)

Calculation:

=> Rs. 950/MP = (100 - 35)/(100 + 30)

=> MP = Rs. 950 × 130 × 1/65

=> MP = Rs. 1900

Q59. Answer: (c) -26

Given:

a2 + b2 + c2 = 576 and (ab + bc + ca) = 50

Formula used:

$(a + b + c)^2 = a2 + b2 + c2 + 2(ab + bc + ca)$

Calculation:

=> $(a + b + c)^2 = 576 + 2 \times 50 = 676$

=> (a + b + c) = ±26

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But, given (a + b + c) < 0 => (a + b + c) = -26

Q60. Answer: (c) 121

Using BODMAS rule,

28 ÷ [25 + 8 ÷ 4 - {25 + (25 of 8 ÷ 20) - (125 ÷ 5 of 25)}] + (25 × 5) = 28 ÷ [25 + 8/4 - {(25 + 25 × 8× 1/20) - (125 / (5 × 25))}] + 125

= 28 ÷ [25 + 2 - {(25 + 10) - 1}] + 125

= 28 ÷ [27 - 34] + 125

= 28/(-7) + 125

= -4 + 125

= 121

Q61. Answer: (b) 40/9

Given:

sin B = 9/41

Formula used:

$\text{cosec}^2 B - \cot^2 B = 1$

Calculation:

sin B = 9/41

=> cosec B = 41/9

=> cot2 B = cosec2 B - 1 = $(41/9)^2 - 1$

= 1681/81 - 1

= 1600/81

=> cot2 B = $(40/9)^2$

Therefore cot B = 40/9

Q62. Answer: (d) 6

Given:

3x + y = 12 and xy =9

Formula used:

$(a + b)^2 + (a - b)^2 = 2(a2 + b2)$

And $(a + b)^2 - (a - b)^2 = 4ab$

Calculation:

Taking, a = 3x and b = y, we get, $(3x + y)^2 – (3x - y)^2 = 4 \times 3x \times y$

=> $(12)^2 – (3x - y)^2 = 4 \times 3 \times 9$

=> $(3x - y)^2$= 144 – 108 = 36

=> 3x – y = 6

Q63. Answer: (d) 11/2 year

Given:

P = Rs. 125000

Amount after interest compounded half yearly = Rs. 148877

Rate = 12%

Formula used:

For ‘t’ years, on C.I., Amount = Principal × (1 + rate%/100)^t

When interest compounded half yearly, yearly Rate = 12%/2 = 6%, yearly time ‘t’ = 2 × (half yearly time = T)

Calculation:

Putting values, we get, 148877 = 125000 × (1 + 6/100)^t

=> 148877 / 125000 = (1 + 3/50)^t

=> $(53/50)^3 = (53/50)^t$

=> t = 3 i.e. 3 cycles of six months

Therefore T = 3/2 years = 1.5 years

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Q64. Answer: (c) 0

Formula used:

Divisibility rule of ($a^n + b^n$)

If n is an odd number, then (an + bn) is divisible by (a + b)

Calculation:

So, 3147 + 4347 is divisible by (43 + 31) = 74

and 37 is multiple of 74, so 3147 + 4347 is divisible by 37 also.

Therefore If 3147 + 4347 is divided by 37, the remainder is 0.

Q65. Answer: (b) 20 days

Given:

A can complete one-sixth of a work in 5 days and B can complete one-fourth of the same work in 15 days.

Formula used:

If, A can complete a work in 't1' time and B can complete a work in 't2' time

then, A and B together can complete total work in ' t1 × t2 × 1/(t1 + t2) ' time

Calculation:

A can complete one-sixth of a work in 5 days

=> A can complete total work in 5 × 6 days = 30 days

B can complete one-fourth of the same work in 15 days

=> B can complete total work in 15 × 4 days = 60 days

Therefore A and B together can complete total work in 30 × 60 × 1/(30 + 60) days = 30 × 60 × 1/90

= 20 days

Q66. Answer: (b) 11.6 cm

Given:

Chords AB and CD of a circle intersect externally at P.

AB = 8.8 cm, PB = 7.2 cm and PD = 6.4 cm

Formula used:

When chords AB and CD of a circle intersect externally at P then PB × PA = PD × PC

Calculation:

Putting values, we get,

=> 7.2 (8.8 + 7.2) = 6.4(x + 6.4)

=> 7.2 × 16 = 6.4 × PC

=> PC = 18 cm

Therefore Length of CD = 18 - 6.4 = 11.6 cm

Q67. Answer: (a) 8 cm

Given:

In a circle, two chords UV and WX intersect each other at a point Z within the circle.

UV = 18 cm, ZV = 6 cm and WZ = 9 cm

Formula used:

In a circle, when two chords UV and WX intersect each other at a point Z within the circle then UZ × ZV = XZ × WZ

Calculation:

As UV = UZ + ZV

=> UZ = 18 - 6 = 12 cm

Putting values in UZ × ZV = XZ × WZ, we get, 12 × 6 = XZ × 9

=> XZ = 8 cm

Q68. Answer: (d) 90 cm

Given:

The perimeter of an isosceles triangle is 220 cm

Formula used:

perimeter of an isosceles triangle = 2a + b, where, a = length of equal sides

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Calculation:

=> 220 = 2a + 40

=> 2a = 180

=> a = 90 cm

Q69. Answer: (d) 13 1/23 %

Given:

The list price of coconut oil is 15% more than its cost price

Calculation:

Let cost price of coconut oil = Rs. x

Therefore List price of coconut oil = x × (115)/100 = 23 x/20

=> Required % = [(23x/20 - x) / (23x/20)] × 100 = 3/23 × 100 = 13 1/23 %

Q70. Answer: (c) 2008 and 2011

Calculation:

In 2007, difference between amount invested and sales of products = 400 - 220 = 180

In 2008, difference between amount invested and sales of products = 600 - 450 = 150

In 2009, difference between amount invested and sales of products = 1000 - 750 = 250

In 2010, difference between amount invested and sales of products = 800 - 660 = 140

In 2011, difference between amount invested and sales of products = 1200 - 1050 = 150

In 20012, difference between amount invested and sales of products = 920 - 840 = 80

From calculation above, the difference of the amount invested and the sales of products are same in 2008 and 2011.

Q71. Answer: (c) 13 : 5

Given:

Expenditure on Infrastructure = 15

Expenditure on Transport = 17.5

Expenditure on Taxes = 5

Expenditure on Interest on loans = 7.5

Calculation:

Total expenditure on Infrastructure and transport = 15 + 17.5 = 32.5

Total expenditure on taxes and interest on loans = 5 + 7.5 = 12.5

Therefore Required ratio = 32.5 : 12.5 = 13 : 5

Q72. Answer: (d) 56

Given:

The difference between the two perpendicular sides of a right-angles triangle is 17 cm and its area is 84cm2

Formula used:

$H^2 = P2 + B2$

Area of right angled triangle = 1/2 × base × height

Calculation:

Let one side of triangle = x cm => other perpendicular side = x - 17 (Because difference between the two perpendicular sides of a right-angles triangle is 17 cm)

Area of right angled triangle = 1/2 × x × (17 - x) = 84

=> x^2 - 17x - 168 = 0

=> x2 - 24x + 7x - 168 = 0

=> x (x - 24) +7 (x - 24) = 0

=> (x +7) (x - 24) = 0

=> x = 24 (Because side cannot be negative)

Thus, $H^2 = (24)^2 + (7)2 = 625 = (25)2$

Therefore 3 sides of triangle are x = 24 cm, x - 17 = 7 cm and H = 25 cm

Therefore Perimeter of triangle = 24 + 7 + 25 = 56 cm

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Q73. Answer: (a) 24

Shortcut Trick

Overall average of 29 numbers = 38

Total deviation of first 19 numbers = 19 × (34 − 38) = −76

Total deviation of last 9 numbers = 9 × (48 − 38) = +90

Net deviation = −76 + 90 = +14

Required 20^(th) number = Average − Net deviation = 38 − 14 = 24

Therefore The correct answer is 24.

Alternate Method

Given: Average of 29 numbers = 38, Average of first 19 = 34, Average of last 9 = 48.

Formula: Sum of numbers = Average × Total count

=> Sum of all 29 numbers = 29 × 38 = 1102

=> Sum of first 19 numbers = 19 × 34 = 646

=> Sum of last 9 numbers = 9 × 48 = 432

=> Sum of 28 numbers (excluding 20^(th)) = 646 + 432 = 1078

=> 20^(th) number = Total Sum − Sum of 28 numbers

=> 20^(th) number = 1102 − 1078 = 24

Therefore The correct answer is 24.

Additional Information

General Average Formula

The average of a set of values is the sum of the values divided by the number of values: Average = (Sum of observations) ÷ (Number of observations).

Net Deviation Concept

For any set of numbers, the sum of deviations of all individual values from the arithmetic mean is always zero. This property is used to find missing values efficiently.

Weighted Average

When groups with different sizes and averages are combined, the combined average A_w = (n1A1 + n2A2 + ...) ÷ (n1 + n2 + ...).

Q74. Answer: (a) 2.6

Given:

Total surface area of a solid cube is 4.86 m2

Radius of cylinder is 0.3 m.

Formula used:

Total surface area of cube = $6a^2$

Volume of cube = a^3

Volume of cylinder = Πr^2h

Calculation:

According to formula, 6a2 = 4.86

=> $a^2 = 0.81$

=> a = 0.9 m

ATQ, Volume of cube = volume of cylinder

=> $(0.9)^3 = 22/7 \times (0.3)^2 \times h$

=> h = 2.57 m ~ 2.6 m

Q75. Answer: (b) 110

Given:

2x + 1/2x = 5

Formula used:

x + 1/x = K then $x^3 + 1/x^3 = K^3 - 3K$

Calculation:

=> 8x3 + 1/8x3 = 53 - 3 × 5 = 125 - 15

Therefore 8x3 + 1/8x3 = 110

Q76. Answer: (b) Commission for Agricultural Costs & Prices

The correct answer is Commission for Agricultural Costs & Prices.

Key Points

• Commission for Agricultural Costs & Prices

• It was formed in January 1965.

• It recommends the minimum support prices (MSP) and issues prices for paddy and wheat.

• It is a joint office of the ministry of agriculture & farmers welfare.

• It raises productivity and overall grain production in line with the emerging demand patterns in the country.

• It recommends MSPs of 23 commodities, are following:

• 7 oilseeds including groundnut, rapeseed-mustard, soybean, sesamum, sunflower, safflower, and nigerseed.

• 7 kinds of cereal including paddy, wheat, maize, sorghum, pearl millet, barley, and ragi.

• 5 pulses including gram, tur, moong, urad, and lentil.

• 4 commercial crops include copra, sugarcane, cotton, and raw jute.

Additional Information

• Indian Council of Agricultural Research

• ICAR was first reorganized in 1965.

• The Indian Council of Agricultural Research is an autonomous organization.

• It is under the Department of Agricultural Research and Education (DARE), Ministry of Agriculture and Farmers Welfare, Government of India.

• Headquarters- New Delhi.

• There is a total of 101 ICAR institutes and 71 agricultural universities spread across the country.

• NITI Aayog

• NITI Aayog is not a constitutional body.

• It was established on January 1, 2015.

• It is formed in place of the Planning Commission. o The ex-officio Chairman of this is the Prime Minister.

• It is the premier policy Think Tank of the Government of India, providing both directional and policy inputs.

Q77. Answer: (b) J. B. Kripalani

The correct answer is J. B. Kripalani.

Key Points

• J. B. Kripalani

• He was the president of the Indian National Congress in 1947.

• He was popularly known as Acharya Kripalani.

• From 1920 to 1927, he worked as the principal of Gujarat Vidyapeeth which was an educational institution set up by Gandhi. There he earned the Epithet 'Acharya'.

• He was elected the General Secretary of the Indian National Congress (INC) in 1934 and continued to serve in the post for a long time till 1945.

• In November 1946, he was elected the President of the Congress Party.

Additional Information

• Jawaharlal Nehru

• He was the first Prime minister of India.

• He was also India's longest-serving prime minister (15 Aug 1947 to 27 May 1964)

• Jawaharlal Nehru along with Srinivasa Iyengar and Subhash Chandra Bose founded the Independence for India League in the year 1928 which put forth the demand for complete independence.

• Books were written by him: The Discovery of India, Letters from a Father to his Daughter, Glimpses of World History etc.

• Vallabhbhai Patel

• He was popularly known as Sardar Patel, Bismarck of India, Iron Man of India, Strong Man.

• He was the first Deputy Prime Minister of India.

• Sardar Vallabhbhai Patel's statue or known as the Statue of Unity is situated in Gujarat India. It is the world's tallest statue standing at a height of 182 meters.

• Indian National Trade Union Congress was founded in 1947 by him.

• In 1928, he led the peasant movement in Bardoli, a taluka in Gujarat, against the enhancement of land revenue.

• Abul Kalam Azad

• He was an Indian independence activist, Islamic theologian, writer, and senior leader of the Indian National Congress.
• He was the First Education Minister in the Indian government.
• He is commonly remembered as Maulana Azad.
• His contribution to establishing the education foundation in India is recognised by celebrating his birthday as National Education Day across India.

Q78. Answer: (a) Muhammad Bin Qasim

The correct answer is Muhammad Bin Qasim.

Key Points

• In 711 CE, Arab General Muhammad Qasim conquered the Sind province.
• It was the first Arab victory in India and it led to the foundation for Arab invasion in India.
• He succeeded in conquering Sind in his third attempt in which he defeated Dahir, the King of Sind.
• Muhammad Bin Qasim
• He is also known as Laquab of Imad-ad-Din.
• He was born on 31st December, 695 AD.
• He was the first Muslim to invade India and was the commander of the Umayyad Caliphate.
• He was sent as a prisoner to Mesopotamia.
• In 711 AD he defeated Raja Dahir.

Additional Information

• Muhammad Ghori
• He was the third Muslim ruler who invaded India.
• His real name was Shahabuddin allas Muizudin Muhammad Ghori.
• He was defeated by Prithviraj in the First Battle of Tarain in 1191 AD and recovered Bhatinda.
• In the second battle of Tarain (1192AD) the joined forces of the Rajput rulers under Prithviraj were defeated by Muhammad Ghori. Prithviraj was held as a prisoner and later put to death.
• Qutb-Ud-din Aibak was appointed as the commander by Muhammad of Ghori.
• Qutub-ud-din Aibak
• He was the first Sultan of Delhi in 1206 AD.
• He was in charge of the Ghurid territories and later became the ruler of the Delhi Sultanate ruled by the Mamluk Dynasty 1,1210.
• He is known for commissioning the Qutub Minar in Delhi.
• Muhammad-Bin-Tughlaq
• He was the Sultan of Delhi from 1325 to 1351.
• He was the eldest son of Ghiyas-ud-din Tughlaq the founder of the Tughlaq dynasty.
• In 1327, he shifted his capital from Delhi to Daulatbad in the Deccan, in present-day Maharashtra.

Q79. Answer: (b) Breakdancing

The correct answer is Breakdancing.

Key Points

• Breakdancing
• It is an athletic style of street dance originating from the African American and Puerto Rican communities in the US.
• IT is typically set to songs containing drum breaks, especially in hip-hop, funk, soul music, and breakbeat music.
• A practitioner of this dance is called a b-boy, b-girl, breakdancer, or breaker.

Additional Information

• Olympic 2020:
• The 2020 summer Olympics is an international sports event that will be held from 23 July to 8 August 2021, in the city of Tokyo, Japan. As the name suggests, this summer Olympics were originally intended to be held from 24 July to 9 August 2020, but due to the ongoing Covid-19 Pandemic, Tokyo 2020 Olympics was postponed.
• The name Tokyo 2020' is not changed to Tokyo 2021' because of marketing and branding reasons.
• This is also the first time in history when an Olympic games event is postponed instead of being cancelled.
• The motto of summer Olympic 2020 is Faster, Higher, Stronger Together. Hence, Statement 1 is not correct.
• Six new sports are added at the Tokyo summer Olympics 2020 baseball, softball, karate, skateboarding, sport climbing, and surfing.
• Tokyo has hosted the Summer Olympic Games in 1964 thereby becoming the first Asian city to host Summer Olympics twice.

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• India won 7 medals (1 Gold, 2 Silver, 4 Bronze) in Tokyo Olympics 2020.
• Upcoming Olympic(2024) will be held in Paris.

Q80. Answer: (a) Joaquin Phoenix

The correct answer is Joaquin Phoenix.

Key Points

• The 77th annual Golden Globes Awards were held on 5 Jan 2020 in Beverly Hills, California.
• Best motion picture - Drama was won by '1917.
• Best performance by an actress in a motion picture - Drama was won by Renee Zellweger for "Judy".
• Best performance by an actor in a motion picture - Drama was won by Joaquin Phoenix for "Joker".
• Best Director was won by Sam Mendes for '1917'.

Additional Information

• Highlights of the Golden Globe Awards 2020
• Movie to receive highest nominations (6) Marriage Story.
• Movie to receive maximum awards (3) Once Upon a Time in Hollywood.
• Movie to win the Best Motion Picture - Musical or Comedy Once Upon a Time in Hollywood
• Movie to win the Best Motion Picture - Drama 1917.
• Best Actor in a Motion Picture - Drama Joaquin Phoenix for 'Joker'.
• Best Actress in a Motion Picture - Drama Renée Zellweger for Judy'.
• Best Actor in a Motion Picture - Musical or Comedy Taron Egerton for 'Rocketman'.
• Best Actress in a Motion Picture - Musical or Comedy Awkwafina for 'The Farewell'.
• Best Director - Sam Mendes for '1917'.
• Best Screenplay- Quentin Tarantino for 'Once Upon a Time in Hollywood'.

Q81. Answer: (b) Phishing

The correct answer is Phishing.

Key Points

• Phishing:
• Phishing is the attempt to acquire sensitive information such as usernames, passwords, and credit card details (and sometimes, indirectly, money), often for malicious reasons, by masquerading as a trustworthy entity in an electronic communication.
• The first recorded use of the term "phishing" was in the cracking toolkit AOHell created by Koceilah Rekouche in 1995.
• Types of phishing:
• Email phishing
• Spear pishing
• Whaling and CEO Fraud
• Clone phishing
• Voice phishing SMS phishing
• Calendar phishing
• Page hijacking.

Additional Information

• Macro Virus
• A macro virus is a piece of malicious code written in the same macro language used in everyday applications, such as Microsoft Word, Excel, and Powerpoint.
• The attack code commonly hides in documents and spreadsheets and is activated as soon as you open the file.
• Once the macro virus has infected one of your applications, it triggers malware designed to cause damage to your computer and further spread the virus.
• Since the code runs on software and not on operating systems, it can infect any computer, even your Mac.
• Zombie
• A Zombie is a fictional character that can replicate itself.
• Worm
• A computer worm is a malicious program that replicates itself in order to spread to other computers.

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Q82. Answer: (d) Majuli island

The correct answer is Majuli Island.

Key Points

• Majuli Island:

• Majuli is the largest inhabited riverine island in the world located in the Brahmaputra River.

• It is India's first Island district consisting of nearly 144 villages with a population of approximately 1.6 lakh.

• It is a centre of Neo Vaishnavite culture initiated by Saint reformer Srimanta Sankardev in the 15th century.

• It has nearly 65 Sattras which is a religious and cultural institution.

• It is surrounded by the Subhasini river in the north, Brahmaputra river in the south, and Kherkutia islands in the northeast.

• It is mostly inhabited by the 'Mishing tribe'.

• Mishing, Assamese, and Deori are popular languages used on this Island.

Additional Information

• Gundu Island

• Gundu is the smallest island around Kochi with an area of 5 acres.

• It is surrounded by coconut trees.

• It can be reached from Vypin island only by boat.

• Divar Island

• The Divar Island lies in the Mandovi river in the Indian state of Goa.

• It is located approx upriver 10 km from Panjim.

• Diu Island

• It is an island off the southern coast of Gujarat's Kathiawar peninsula.

• The island lies 5 km to the east of Diu Head.

Q83. Answer: (b) Saga Dawa

The correct answer is Saga Dawa.

Key Points

• Saga Dawa:

• Saga Dawa is celebrated to mark the birth, enlightenment, and attainment of Nirvana of Gautam Buddha.

• Buddha Jayanti in the Bhutia language is called Saga Dawa.

• The period for celebrating it was officially decided only in 1950, and since then, the festival has been celebrated on an annual basis.

• The highlight of the festival is giving alms to the needy; a virtue practiced throughout the month, conforming to the message of Buddha's life.

• Masks play an important role in Saga Dawa.

Additional Information

Bhanu Jayanti	**• It is celebrated in the state to commemorate the birth anniversary of Bhanubhakta Acharya Adikavi**
Lossong	• It is the most popular festival in Sikkim. - It is usually celebrated at the end of the tenth Tibetan lunar month (usually December). - It is the most important festival among the Bhutias in India and is marked by traditional Chaan dancing and merrymaking.
Losar	• It is celebrated in the Ladakh region. - The festival is celebrated on the 1st day of the eleventh month of the Tibetan Calendar.

Q84. Answer: (c) 2 December

The correct answer is 2 December.

Key Points

• World Computer Literacy Day is observed on 2 December every year to create awareness about the growing use and importance of computers.

• It was first observed in 2001 on the occasion of the 20th anniversary of the renowned Indian computer company, National Institute of Information Technology (NIIT).

• The theme for 2021 is "Literacy for human-centered recovery: Narrowing the digital divide".

Additional Information

• World Environment Day is celebrated every year on June 5 to raise awareness and generate action on a pressing environmental issue.
• May 13th is celebrated as International Hummus Day.
• 30th September is celebrated as International Translation Day.

Q85. Answer: (a) glacier

The correct answer is Glacier.

Key Points

• The moving ice mass downslope under the impact of gravity is called a glacier.
• About 10% of the earth's surface is now covered by the glacier.
• Glacier is formed due to the accumulation of ice above snow-line under extreme cold climate.
• Glaciers begin forming in places where more snow piles up each year than melts. Soon after falling, the snow begins to compress or become denser and tightly packed.
• The process of snow compacting into glacial firn (dense, grainy ice) is called firnification.
• Different parts of a glacier move at different speeds. The flowing ice in the middle of the glacier moves faster than the base.

Additional Information

• Plateau
• A plateau is a flat-topped tableland.
• Plateaus occur in every continent and take up a third of the Earth's land.
• They are one of the four major landforms, along with mountains, plains, and hills.
• Plateaus, like mountains, may be young or old. The Deccan plateau in India is one of the oldest plateaus.
• Lagoon
• A lagoon is a body of water separated from larger bodies of water by a natural barrier.
• There are two types of lagoons: Atoll and coastal.
• Block Mountain
• Block mountains are formed due to the upward movement of the middle block between two normal faults.
• The upthrown block is also called a horst.
• Block mountains are generally formed in high plateaux or broad domes.

Q86. Answer: (c) Rs. 20,000

The correct answer is Rs. 20,000.

Key Points

• A monthly allowance of 20,000 INR per month is given to startups by women for a period of one year.
• It is the startup policy of Andaman and Nicobar Islands for Women.

Additional Information

• Startup India Scheme
• The startup India was a campaign that was first addressed by the Pm Narendra Modi on 15th August 2015.
• This campaign was introduced under the Government of India as an initiative to develop over 75 startup hubs in the country.
• It was launched on 16th January 2016 with the aim to promote and support the startups in India by providing bank finances.
• It was inaugurated by the former finance minister, Arun Jaitley.
• Women Entrepreneurs in India.
• Of all the directors of startups, 35 percent are women.
• 14% of all entrepreneurs in India are women.
• About 58% of women started their companies by the time they turned 25.
• About 73% of women entrepreneurs reported a turnover of around 10 Lakh INR in a financial year.
• Top 5 Indian cities with maximum women entrepreneurs: Bangalore, Delhi-NCR, Chennai, Mumbai, and Hyderabad.

Q87. Answer: (b) Himshikha

The correct answer is Himshikha.

Key Points

• Himshikha is not one of the three parallel ranges of the Himalayas in its longitudinal extent.
• The three parallel ranges of the Himalayas are:
• Himadri

• Himachal
• Shivaliks
• Himadri (Great or Inner Himalayas)
• It is the most continuous range with an average height of 6000 meters.
• It remains covered with snow throughout the year.
• Himachal (Lesser Himalayas)
• It lies to the south of Himadri.
• The average height of these mountains is between 3,700 to 4,500 meters.
• Famous ranges are the Pir Panjal range, Dhaula Dhar, and Mahabharat ranges.
• Famous valleys like Kangra, Kullu, and Kashmir are situated in this valley.
• Shivalik (Outer Himalayas)
• These are the outermost ranges of the Himalayas and have an average height between 900 to 1100 meters.
• These ranges are mainly composed of unconsolidated rock material, so these ranges are prone to earthquakes and landslides.
• The longitudinal valleys lying between lesser Himalayas and Shiwaliks are called 'Duns' like Dehra Dun, Kotli Dun, Patlin Dun, etc.

Q88. Answer: (a) Pankaj Mithal

The correct answer is Pankaj Mithal.

Key Points

• Pankaj Mithal:
• He is Chief Justice of Jammu & Kashmir and Ladakh High Court.
• He is a former Judge of the Allahabad High Court.
• He served as the Standing Counsel for the Uttar Pradesh Awas Evam Vikas Parishad and Dr B. R. Ambedkar University, Agra.
• He had participated in the Philately exhibition MTPEX 1976 held in Meerut and JUDIPEX 2016 held in Allahabad on the inauguration of the Sesquicentennial Celebrations of the Allahabad High Court.

Additional Information

• Jammu & Kashmir
• Governor - Manoj Sinha (As of March 2022).
• State bird - Black Necked Crane
• State animal - Kashmir Stag
• State flower - Lotus
• State tree - Chinar
• National Parks - City Forest National Park, Dachigam National Park, Kishtwar National Park.

Q89. Answer: (a) Sarvepalli Radhakrishnan

The correct answer is Sarvepalli Radhakrishnan.

Key Points

• The book tells about the Hindu Spirit.
• Sarvepalli Radhakrishnan
• He was an Indian philosopher and statesman.
• He was the first Vice President of India (1952-1962) and subsequently the second President of India (1962-1967).
• Among the many honours he received were a knighthood (1931), the Bharat Ratna (1954) and the Order of Merit in 1963.
• His birthday is celebrated in India as Teacher's Day.
• His book, "The Philosophy of Rabindranath Tagore" attracted global attention to Indian philosophy.
• He was elected chairman of UNESCO's executive board in 1948.
• He was the first Indian to hold a chair at the University of Oxford.

Q90. Answer: (b) 11

The correct answer is 11.

Key Points

• India's team won eight gold medals in 1928, 1932, 1936, 1948, 1952, 1956, 1964, and 1980.
• India won one silver medal in the Rome Olympics in the year 1960 and Pakistan won the Gold medal that year.
• India team has won 3 bronze medals in 1968, 1972, and August 2021.

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Year	Medal	Host
1928	Gold	Amsterdam, Netherlands
1932	Gold	Los Angles, US
1936	Gold	Berlin, Germany
1948	Gold	London, Great Britain
1952	Gold	Helsinki, Finland
1956	Gold	Melbourne, Australia
1960	Silver	Rome, Italy
1964	Gold	Tokyo, Japan
1968	Bronze	Mexico City, Mexico
1972	Bronze	Munich, West Germany
1980	Gold	Moscow, Soviet Union
2021 (August)	Bronze	Tokyo, Japan

• India Hockey team
• Indian hockey team Captian (Male) - Manpreet Singh
• Indian Hockey team Captain (Female) - Rani Rampal

Additional Information
• Indian Hockey Federation
• Indian Hockey Federation was the apex governing body of field hockey in India formed on 7 November 1925 in Gwalior.
• It is the first Non-Europian Country that was a part of the International Hockey Federation.

Q91. Answer: (c) Hardik Pandya

The correct answer is Hardik Pandya.

Key Points
• Hardik Pandya
• He is an Indian international cricketer who plays for Baroda in domestic cricket.
• He will captain Gujarat Titans in the Indian Premier League season 15.
• He is an all-rounder who bats right-handed and bowls right-arm fast-medium.

Additional Information
• Board of Control for Cricket in India (BCCI)
• The Board of Control for Cricket in India (BCCI) is the governing body for cricket in India and is under the jurisdiction of the Ministry of Youth Affairs and Sports, the Government of India.
• It was formed in December 1928.
• President: Sourav Ganguly (As of March 2022).
• Secretary: Jay Shah (As of March 2022).

Q92. Answer: (a) CMS - 01

The correct answer is CMS-01.

Key Points
• CMS-01:
• CMS-01 is the name of the satellite launched by ISRO using its PSLV-C50 rocket.
• ISRO launched a communication satellite CMS-01 which was formerly named GSAT-12R using its Polar Satellite Launch Vehicle rocket's XL variant numbered PSLV-C50 from the second launch pad at the rocket port Sriharikota.
• CMS-01 is a communication satellite that will provide services in the Extended-C Band of the frequency spectrum, which would include the Indian mainland, Andaman and Nicobar, and Lakshadweep Islands.
• This is the 42nd communication satellite of India and it is expected to have a mission life of seven years.
• PSLV-C50 ejected CMS-01 Into geosynchronous transfer orbit after 20 minutes into its flight and the satellite was taken up from there and positioned at geosynchronous stationary orbit.

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• The CMS-01 is a replacement for GSAT-12 that was launched in 2011 with a mission life of eight years.

Additional Information

• Indian Space Research Organisation:

• Dr. V. Narayanan (As of March 2022) is the current chairman of the Indian Space Research Organisation (ISRO).

• It is the space agency of the Government of India.

• Formation: 15 August 1969

• Headquarters: Bengaluru

Q93. Answer: (c) Girish Chandra Chaturvedi

The correct answer is Girish Chandra Chaturvedi.

Key Points

• National Stock Exchange(NSE)

• The National Stock Exchange was founded in 1992.

• It was recognized as a stock exchange by SEBI under the Securities Contracts (Regulation) Act, 1956 and the operation commenced in 1994.

• It was the first exchange in India to provide fully computerized electronic trading.

• NSE is one of the pioneers in technology and innovation which ensured the high-end performance of its systems.

• Chairman: Girish Chandra Chaturvedi

• MD and CEO: Vikram Limaye

• The NSE's Stock Index- NIFTY- represents the top 50 stocks on the stock exchange.

Additional Information

• Bombay Stock Exchange(BSE)

• Bombay Stock Exchange is Asia's first stock exchange.

• It was founded on July 9, 18975.

• It has developed an index called S&P BSE SENSEX index (BSE 30).

• BSE has launched India INX (2016). It is the first international exchange in the country.

• Chairman: Justice Vikramajit Sen (As of March 2022).

• MD and CEO: Shri Ashishkumar Chauhan (As of March 2022).

Q94. Answer: (a) Glucose

The correct answer is Glucose.

Key Points

• Glucose:

• Glucose is a form of sugar.

• It is the primary source of energy for every cell in the body.

• Because the brain is so rich in nerve cells, or neurons it is the most energy-demanding organ, using one-half of all the sugar energy in the body.

• Brain functions such as thinking, memory, and learning are closely linked to glucose levels and how efficiently the brain uses this fuel source.

• The effects of glucose and other forms of sugar on the brain may be the most profound in diabetes.

Additional Information

• Fatty acids:

• Fatty acids are the building blocks of the fat in our bodies and in the food we eat.

• During digestion, the body breaks down fats into fatty acids, which can then be absorbed into the blood.

• Fatty acid molecules are usually joined together in groups of three, forming a molecule called a triglyceride.

• Amino acids:

• Amino acids are molecules that combine to form proteins.

• It is the building block of life.

• The human body uses amino acids to make proteins to help the body break down food, grow, repair body tissue, perform many other body functions.

• Nucleic acids:

• Nucleic acids are naturally occurring chemical compounds that serve as the primary information-carrying molecules in cells.

• They play an important role in directing protein synthesis.

• The two main classes of nucleic acids are deoxyribonucleic acid (DNA) and ribonucleic acid (RNA).

Q95. Answer: (b) Amazon.com, Inc.

The correct answer is Amazon.com Inc.

Key Points

• Amazon.com Inc.

• It is an American Multinational Technology company that focuses on e-commerce, cloud computing, digital streaming, and artificial intelligence.

• Headquarters: Seattle, Washington

• Founder: Jeff Bezos

• Founded: 1994

• CEO: Andy Jassy

Additional Information

• Walmart Inc.

• It is an American multinational retail corporation that operates a chain of hypermarkets, discount department stores, and grocery stores.

• Headquarters: Arkansas

• Founder: Sam Walton

• Founded: 1962

• CEO: Doug McMilon

• Apple Inc.

• Apple Inc. is an American multinational technology company that specializes in consumer electronics, software, and online services.

• Headquarters: California

• Founder: Steve Jobs

• Founded: 1976

• CEO: Tim Cook

• eBay Inc.

• It is an American multinational e-commerce corporation that facilitates consumer-to-consumer and business-to-business sales through its website.

• Headquarters: California

• Founder: Pierre Omidyar

• Founder: 1995

• CEO: Jamie Lannon

Q96. Answer: (d) Santoor

The correct answer is Santoor.

Key Points

• Pandit Shiv Sharma:

• He is an Indian Santoor virtuoso who is credited with shifting the instrument from a predominantly accompaniment and ensemble role in the Sufi music of Kashmir to a solo role in the Hindustani classical music tradition of North India.

• He was born on January 13, 1938, in Jammu and Kashmir India.

• He has single-handedly lifted his folk instrument the Santoor to full acceptance within the classical solo field.

• Santoor

• It is a trapezoid-shaped hammered dulcimer and a variation of the Iranian Santoor.

• It is generally made of walnut and has 25 bridges.

• Each bridge has 4 strings, making for a total of 100 strings.

• It is a traditional instrument in Jammu and Kashmir.

Q97. Answer: (a) Vidyut Mohan

The correct answer is Vidyut Mohan.

Key Points

• Vidyut Mohan:

• He is the co-founder of 'Takachar' a social enterprise enabling farmers to prevent the open burning of their waste farm residues.

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• He is among the seven winners of the 'Young Champions of the Earth" prize.

• The prize is given by the UN environment agency to global change-makers using innovative ideas and ambitious actions.

• Young Champions of the Earth 2020:

• Seven Young Champions of the Earth will be selected from each global region: Africa, Europe, Latin America and the Caribbean, North America, West Asia and the Pacific.

• Each winner will receive USD 10,000 in seed funding.

• Seven winners are Fatemah Alzzelzela (Kuwait), Lefteris Arapakis (Greece), Max Hidalgo Quinto (Peru), Niria Alicia Garcia (United States of America), Nzambi Matee (Kenya), Xiaoyuan Ren (China), Vidyut Mohan (India).

Additional Information

• United Nations Environment Programme (UNEP)

• It was established in 1972.

• It is formed to guide and coordinate environmental activities within the United Nations system.

• UNEP promotes international cooperation on environmental issues, provides guidance to UN organizations.

• HQ- Nairobi, Kenya.

• Chairman: Inger Anderson

Q98. Answer: (b) HCl

The correct answer is HCl.

Key Points

• The molecular formula for hydrochloric acid is HCl.

• Properties of Hydrochloric Acid:

• Strongly acidic

• Viscous and colourless

• Highly corrosive acid

• Pungent smell

• Properties dependent upon concentration - Melting and boiling point, pH, and density

• Uses of HCl:

• Used in rubber and textile industries.

• Production of chlorides, fertilizers, dye, and organic compounds Refining of metals.

• Regulate pH of solutions.

• Unblock pores in oil wells.

Q99. Answer: (d) 35 years

The correct answer is 35 years.

Key Points

• The Governor of an Indian state generally holds office for a period of 5 years.

• The Governor of the state is similar (not the same) to the President of the Union.

• Article 157 and Article 158 of the Constitution of India specify eligibility requirements for the post of governor.

• A governor must:

• be a citizen of India.

• be at least 35 years of age.

• not be a member of either house of the parliament or the house of the state legislature.

• not hold any office of profit.

Additional Information

• Article 157

• A person to be eligible for appointment as Governor should be a citizen of India and has completed the age of 35 years.

• Article 158

• The Governor shall not be a member of the Legislature or Parliament; shall not hold any office of profit, shall be entitled to emoluments and allowances.

Q100. Answer: (c) Sikkim

The correct answer is Sikkim.

Key Points

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- Mount Jopuno
- Mount Jopuno is situated in the western part of Sikkim at an elevation of 5603 meters.
- It lies under the Kanchenjunga National Park.
- Sikkim
- Capital: Gangtok
- Chief Minister: Prem Singh Tamang (As of March 2022).
- Governor: Ganga Prasad (As of March 2022).
- National Parks: Kanchenjunga National Park
- Important Peaks: Mt. Kanchenjunga, Mt. Kabru, Mt. Talung, Mt. Simvo, Mt. Rathong, Mt. Kabru Dome, Mt. Kokthang, Mt. Pandim
- State Animal: Red Panda
- State Bird: Blood Pheasant
- State Tree: Rhododen Dron
- State Flower: Noble Dendrobium

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