SSC CHSL Previous Paper 53 (Held On: 26 March 2018 Shift 1) (Previous Year Paper)

SSC Combined Higher Secondary Level (CHSL) • 2018 • 100 questions • 60 minutes • Answer key and solutions

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ENGLISH LANGUAGE

Q1. In the following question, four words are given out of which one word is correctly spelt. Select the correctly spelt word.

(a) imparsonators
(b) impersonaters
(c) impersonators
(d) imparsonaters

Q2. The question below consists of a set of labelled sentences. Out of the four options given, select the most logical order of the sentences to form a coherent paragraph.

Contrast this with

A-the attitude of the general

B-public in the advanced

C-countries towards senior citizens

(a) ABC
(b) CBA
(c) CAB
(d) BCA

Q3. In the following question, out of the four alternatives, select the alternative which will improve the bracketed part of the sentence. In case no improvement is needed, select "no improvement".

We, on the other hand, (is amused) by the number of channels it had to offer.

(a) was amused
(b) were amused
(c) were amusing
(d) no improvement

Q4. In the following question, out of the four alternatives, select the alternative which will improve the bracketed part of the sentence. In case no improvement is needed, select "no improvement".

The news (had appeared) irrelevant at that time, but now it directly affects us.

(a) have appeared
(b) is appeared
(c) had appears
(d) no improvement

Q5. In the following question, out of the four alternatives, select the alternative which is the best substitute of the words/sentence.

Give strength or energy to

(a) Narcoleptic
(b) Invigorate
(c) Prostrate

(d) Exasperate

Q6. In the following question, out of the four alternatives, select the alternative which is the best substitute of the phrase.

A transcendent state in which there is neither suffering, desire, nor sense of self

(a) Woe
(b) Nirvana
(c) Depression
(d) Despondency

Q7. In the following question, but of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.

As high as a kite

(a) Intoxicated with alcohol
(b) Feel light after meditation
(c) Fell jubilant after victory
(d) Behave arrogantly

Q8. In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.

Pull the plug

(a) Behave greedily and take the most of the shared things for oneself.
(b) Do something to stop the persistent losses.
(c) Prevent something from happening or continuing.
(d) Play loud irritating music.

Directions

In the following passage, some of the words have been left out. Read the passage carefully and select the correct answer for the given blank out of the four alternatives.

If there is a subject of really _____ interest and utility, it is the art of writing and speaking one's own language ___. It is the basis of culture, as we all know; but it is infinitely more ___ that, it is the basis of business. ___ salesman can sell anything unless he can explain the merits of his goods in effective language, or can write _____ advertisement equally effective, or present his ideas, and the facts, in a letter.

Q9. can write _____ advertisement equally

(a) a
(b) an
(c) the
(d) it

Q10. of business. _____ salesman can sell

(a) None
(b) Never
(c) Neither
(d) No

Q11. is infinitely more _____ that, it is the basis

(a) then
(b) such
(c) so
(d) than

Q12. One's own language _____. It is the basis

(a) Effective
(b) Effectiveness
(c) Effectivity

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(d) Effectively

Q13. Subject of really _____ interest and utility

(a) Universe
(b) Universally
(c) Universality
(d) Universal

Q14. In the following question, a word has been written in four different ways out of which only one is correctly spelt. Select the correctly spelt word.

(a) Intreference
(b) Interfrence
(c) Interfrrence
(d) Interference

Q15. A sentence has been given in Direct/Indirect Speech. Out of the four given alternatives, select the one which best expresses the same sentence in Indirect/Direct Speech.

He says, “I am a little bit afraid.”

(a) He was a little bit afraid, he said
(b) He said he was afraid
(c) He says that he is a little bit afraid
(d) He says that he was a little bit afraid

Q16. A sentence has been given in Active/Passive Voice. Out of the four given alternatives, select the one which best expresses the same sentence in Passive/Active Voice.

The people considered him an outcast.

(a) He was an outcast for the people
(b) He is considered by the people as an outcast
(c) He was considered an outcast by the people
(d) He was considered as an outcast by the people

Q17. Rearrange the parts of the sentence in correct order.

Daily pricing

P: is being seen as a ploy

Q: government to escape any political backlash

R: to increase prices while allowing the

(a) RQP
(b) PRQ
(c) QPR
(d) PQR

Q18. In the following question, out of the given four alternatives, select the one which is opposite in meaning of the given word.

Allergic

(a) Affected
(b) Immune
(c) Sensitive
(d) Afraid

Q19. In the following question, out of the given four alternatives, select the one which is opposite in meaning of the given word.

Clamorous

(a) Noisy
(b) Confusion

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(c) Disturbance
(d) Suppression

Q20. Out of the four alternatives, choose the one which best expresses the meaning of the given word.

Mundane

(a) Bounteous
(b) Heavenly
(c) Exciting
(d) Humdrum

Q21. In the following question, out of the given four alternatives, select the one which best expresses the meaning of the given word.

Pithy

(a) Verbose
(b) Brief
(c) Lengthy
(d) Unabridged

Q22. In the following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.

A thorough search at _____ 's home produced stolen items.

(a) thief
(b) their
(c) him
(d) his

Q23. In The following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.

Priya sat _____ a sofa at the Opera.

(a) in
(b) under
(c) into
(d) on

Q24. In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the approximate option. If a sentence is free from, select 'No Error'.

The first demonstration of the live (1)/ transmission of images were given by Georges Rignoux (2)/ and A. Fourier in Paris in 1909. (3)/ No error (4)

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

Q25. In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free form error, select 'No Error'.

A rainbow is cause by reflection, refraction, and dispersion (1)/ of light among water droplets resulting in a (2)/ spectrum of light appearing in the sky. (3)/ No error (4).

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

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GENERAL INTELLIGENCE

Q26. In the following question, select the related word pair from the given alternatives.

Paper : Pulp : : ? : ?

(a) Sack : Jute
(b) Gold : Jewellery
(c) Cloth : Garment
(d) Car : Vehicle

Q27. In the following question, select the related number pair from the given alternatives.

48 : 41 : : ? : ?

(a) 68 : 63
(b) 84 : 75
(c) 74 : 67
(d) 92 : 87

Q28. In the following question, select the related letter/letters from the given alternatives.

DLQ : XFK : : RGM : ?

(a) LBH
(b) MBG
(c) LAG
(d) MAH

Q29. In the following question, select the odd word from the given alternatives.

(a) Valley
(b) Lake
(c) Ocean
(d) Creek

Q30. In the following question, four number pairs are given. The number on left side of (–) is related to the number on the right side of (–) with some Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives.

(a) 16 - 5
(b) 24 - 6
(c) 32 - 8
(d) 88 - 22

Q31. In the following question, select the odd letter/letters from the given alternatives.

(a) ORU
(b) CFI
(c) HKN
(d) FJM

Q32. Arrange the given words in the sequence in which they occur in the dictionary.

1. Frantic
2. Fraud
3. Fountain
4. Frank
5. Frail

(a) 54321
(b) 52314
(c) 35412
(d) 24153

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Q33. In the following question, select the missing number from the given series.

43, 58, 88, 133, ?, 268

(a) 193
(b) 203
(c) 163
(d) 218

Q34. A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

FJ, GK, HL, ?, JN

(a) HN
(b) HL
(c) LN
(d) IM

Q35. Among four boys, age of Ashish is thrice the age of Varun. Age of Arvind is 1/2 of the age of Varun. Amit is 8 years elder to Varun, but 8 years younger to Ashish. Who is the second eldest?

(a) Amit
(b) Ashish
(c) Arvind
(d) Varun

Q36. From the given alternatives, select the word which CANNOT be formed using the letters of the given word.

Travelling

(a) Train
(b) Rain
(c) Van
(d) Track

Q37. In a certain code language, “TUBE” is written as “202125” and “PINCH” is written as “1691438”. How is “MARC” written in that code language?

(a) 131183
(b) 141162
(c) 131184
(d) 121183

Q38. In a certain code language, '-' represents '+', '+' represents 'x', 'x' represents '÷' and '÷' represents '-'. Find out the answer to the following question.

8 ÷ 6 - 5 + 70 x 10 = ?

(a) 37
(b) 9
(c) 17
(d) 10

Q39. The following equation is incorrect. Which two signs should be interchanged to rectify the equation?

16 ÷ 6 + 35 x 9 - 15 = 31

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

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Q40. If 70$7 = -10, 50$5 = -10 and 40$8 = -5, then find the value of 10$2 = ?

(a) 50
(b) -10
(c) 16
(d) -5

Q41. Which of the following terms follows the trend of the given list?

YXYXYZXY, YXYZXYXY, YZXYXYXY, YXYXYXZY, YXYXZYXY, _____.

(a) ZYXYXYXY
(b) YXYXYZXY
(c) YXZYXYXY
(d) YXYZXYXY

Q42. A brother and sister leave home for school. The brother goes 0.5 km East, then turns right and goes 3.5 km and reaches his school. The sister goes 2.5 km North, then 1 km West, then turns left and goes 6 km and reaches her school. Where is the brother's school with respect to the sister's school?

(a) 0.5 km East
(b) 1.5 km West
(c) 0.5 km West
(d) 1.5 km East

Q43. In the question, two statements are given, followed by two conclusions, I and II. You have to consider the statements to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.

Statement I: Some beverages are juices.

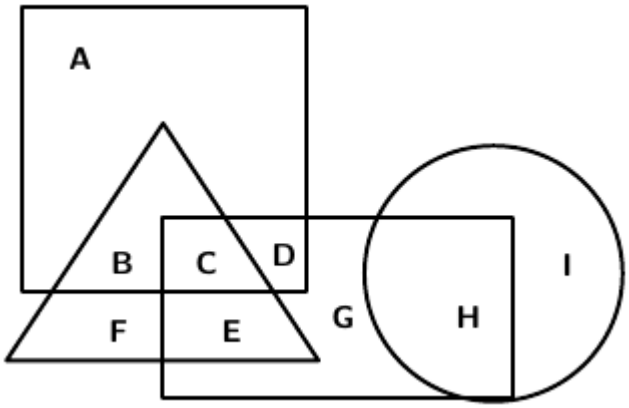
Statement II: No drinks are beverages.

Conclusion I: Some juices are drinks.

Conclusion II: No beverages are juices.

(a) Only conclusion I follows.
(b) Only conclusion II follows.
(c) Both conclusions I and II follow.
(d) Neither conclusion I nor conclusion II follows.

Q44. In the following figure, rectangle represents Lawyers, circle represents Athletes, triangle represents Gardeners and square represents Mothers. Which set of letters represents Lawyers who are either Athletes or Gardeners?



(a) HCE
(b) DG
(c) BFI
(d) CDH

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Q45. Series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

RLN, SNQ, TPT, URW, ?

(a) VUA
(b) VTZ
(c) WSA
(d) WTA

Q46. In the following question, select the missing number from the given series.

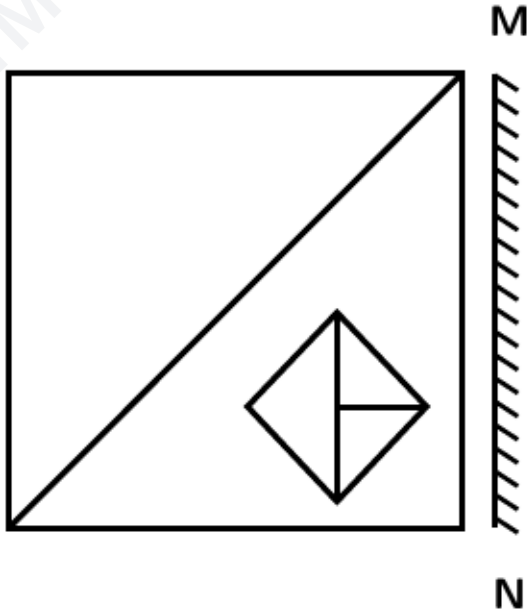
42, 47, 52, 57, ?, 67

(a) 60
(b) 62
(c) 65
(d) 63

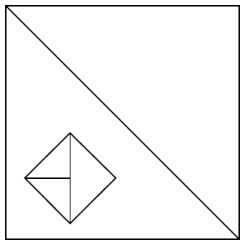
Q47. In the following question, four groups of three numbers are given. In each group the second and third number are related to the first number by a Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives.

(a) (17, 84, 35)
(b) (12, 59, 23)
(c) (7, 34, 13)
(d) (11, 54, 21)

Q48. If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure?

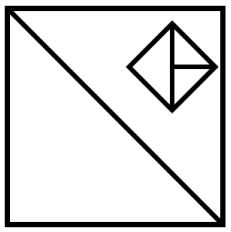


(a)

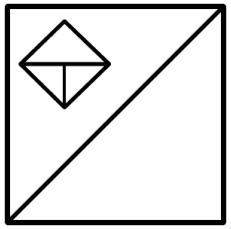


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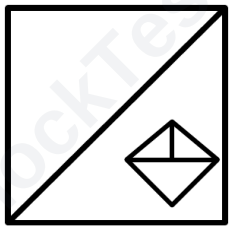
(b)



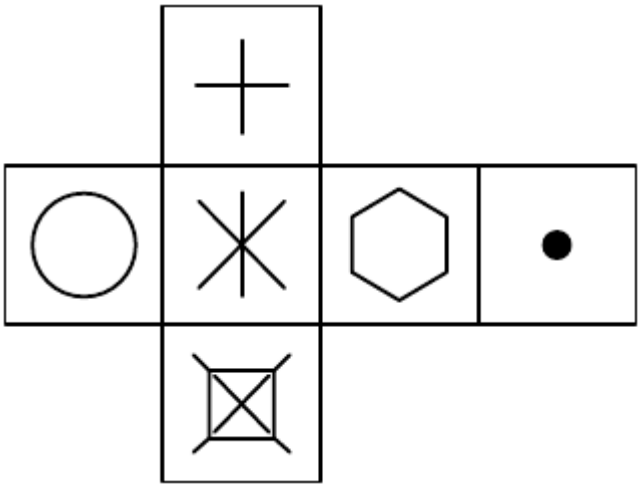
(c)



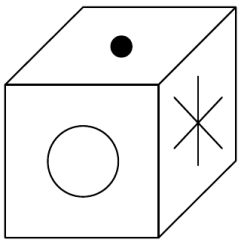
(d)



Q49. Which of the following cube in the answer figure cannot be made based on the unfolded cube in the question figure?

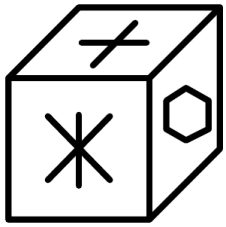


(a)

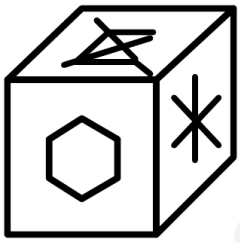


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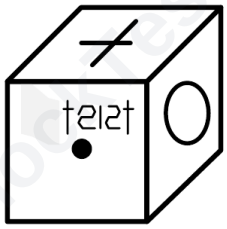
(b)



(c)



(d)



Q50. A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are resented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix-I are numbered from 0 to 4 and that a Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and row and next by its column, for example, 'J' can be represented by 42, 34 etc and 'U' can be represented by 55, 96 etc. Similarly, you have to identify the set for the word "SEND".

Matrix-I		**Matrix-II**									
	0	1	2	3	4		5	6	7	8	9
0	K	E	A	G	A	5	U	X	P	O	Z
1	L	C	G	I	C	6	S	W	V	P	O
2	C	L	E	I	L	7	P	T	N	W	T
3	I	G	B	H	J	8	Z	Z	W	N	Y
4	G	M	J	D	B	9	T	S	U	R	O

(a) 65, 22, 77, 43
(b) 43, 75, 12, 69
(c) 21, 65, 12, 89
(d) 13, 96, 30, 78

QUANTITATIVE APTITUDE

Q51. Find the number of prime factor of 1024.

(a) 9
(b) 10
(c) 11
(d) 12

Q52. Which of the following is NOT prime number?

(a) 251
(b) 571
(c) 331
(d) 341

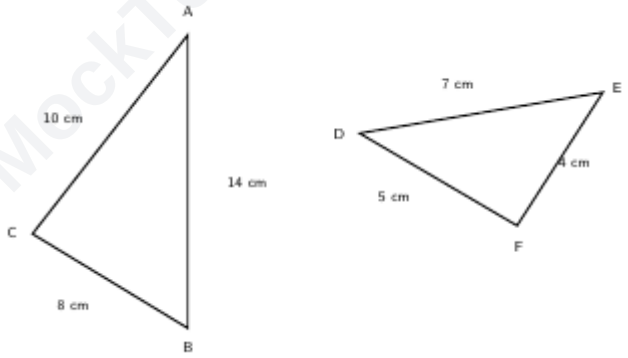
Q53. What is the value of x^4 + y^4 when the value of $x^3 + y^3 = 8$ and x + y = 2?

(a) 2
(b) 8
(c) 16
(d) 32

Q54. Determine the value of $(y - 1/y)^2$ when y^4 + 1/(y^4) = 34

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

Q55. Which of the following condition is TRUE about the similarity of triangle ABC and DEF given below?



(a) angle A = angle D, angle B = angle E, angle C = angle F
(b) angle A = angle E, angle B = angle D, angle C = angle F
(c) angle A = angle F, angle B = angle D, angle C = angle E
(d) None of these

Q56. The radius of the circle is 14 cm, an arc is subtend an angle 54 degree at center. Find the length of the arc (in cm).

(a) 12.8
(b) 13.2
(c) 13.8
(d) 14.2

Q57. If 5% of (P + Q) = 20% of (P – Q), then P is what percentage of Q?

(a) 133.33
(b) 166.66
(c) 150
(d) 171.33

Q58. What number should be added to each of 4, 16, 18 and 58 so that the resulting numbers will be in proportion in the given order?

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

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Q59. In 250 litres mixture of soda and water the ratio of amount of soda to that of water is 7 : 18. In order to make this ratio 2 : 3, how many more litres of soda should be added?

(a) 37.5
(b) 42.5
(c) 45
(d) 50

Q60. The average of three numbers is 40. The first number is 4/3 of the third number. If the third number is 20 less than the second number, then what is the value of the second number?

(a) 60
(b) 50
(c) 10
(d) 20

Q61. A sum of Rs. 4000 becomes Rs. 6000 in 1 year at a certain rate of compound interest. What will be the sum (in Rs.) after 4 years?

(a) 16250
(b) 12000
(c) 20250
(d) 19500

Q62. Mukesh sells two shirts. The cost price of the first shirt is equal to the selling price of the second shirt. The first shirt is sold at a profit of 30% and the second shirt is sold at a loss of 30%. What is the ratio of the selling price of the first shirt to the cost price of the second shirt?

(a) 91 : 100
(b) 100 : 91
(c) 31 : 50
(d) 50 : 31

Q63. The marked price of an article is 60% more than its cost price. What maximum discount percentage can be offered by the shopkeeper to sell his article at no profit or no loss?

(a) 37.5
(b) 62.5
(c) 50
(d) 25

Q64. If 169 is subtracted from the square of a number, then the result obtained is 7056. What is the number?

(a) 75
(b) 78
(c) 85
(d) 87

Q65. Working 5 hours a day, Shivam can read a book in 24 days. How many hours a day should he work so as to finish the same work in 8 days?

(a) 12
(b) 18
(c) 15
(d) 21

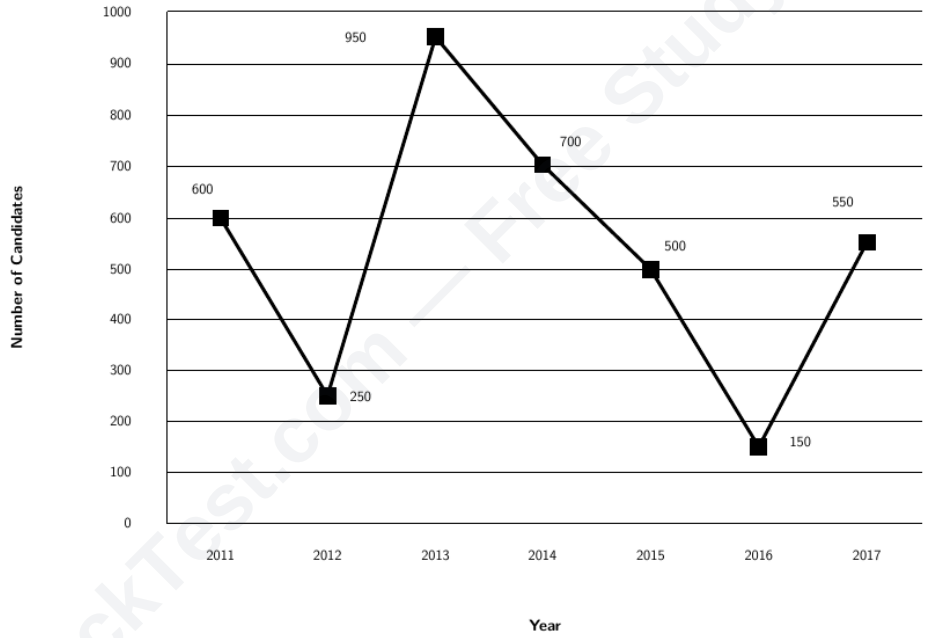
Q66. Two trains are moving in opposite directions with the same speed. If the length of each train is 120 metres and they cross each other in 12seconds, then what is the speed (in km/hr) of each train?

(a) 36
(b) 45
(c) 80
(d) 60

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Directions

Direction: The line graph shows the number of candidates who applied for admission to a certain college. Study the diagram and answer the following questions.



Q67. In which year were applications greater than that of the previous year?

(a) 2012
(b) 2014
(c) 2015
(d) 2013

Q68. What was the difference in applications between the years 2017 and 2012?

(a) 3500
(b) 2000
(c) 2500
(d) 3000

Q69. Applications in 2014 were greater than that in 2015 by _____.

(a) 50%
(b) 20%
(c) 28.5%
(d) 40%

Q70. If each applicant has to submit Rs. 500 as application fees, how much did the college collect (in Rs. lakhs) as application fees in the last three years?

(a) 6
(b) 50
(c) 60
(d) 5

Q71. The area of a square is 72.25 cm^2. Find its perimeter (in cm).

(a) 68
(b) 44
(c) 34
(d) 88

Q72. Find the circumference (in cm) of a circle of radius 17.5 cm.

(a) 140
(b) 110
(c) 38
(d) 76

Q73. The curved surface area and the diameter of a right circular cylinder are 352 cm² and 14 cm respectively. Find its height (in cm).

(a) 9
(b) 8
(c) 10
(d) 11

Q74. ΔXYZ is right angled at Y. If mangle Z = 60°, then find the value of (cot X – 1/3).

(a) (3√3 – 1)/3
(b) (2√3 – √6)/2√2
(c) -5/3
(d) (2 – √3)/2√3

Q75. ΔPQR is right angled at Q. If sin P = 12/13, then what is the value of tan R?

(a) 5/13
(b) 13/5
(c) 13/12
(d) 5/12

GENERAL AWARENESS

Q76. The marginal propensity to consume, lies between _____.

(a) 0 to Infinity
(b) 0 to 1
(c) 1 to Infinity
(d) 0 to 10

Q77. In India, which of the following is regulated by the Forward Markets Commission?

(a) Currency Futures Trading
(b) Commodities Futures Trading
(c) Equity Futures Trading
(d) Both Commodities Futures and Financial Futures Trading

Q78. Which of the following ruling dynasty's capital is NOT correctly matched?

(a) Pratihara - Kannauj
(b) Pallava - Kanchi
(c) Chalukya - Tanjore
(d) Sen - Lakhnauti

Q79. Which of the following land revenue arrangement is called 'Todarmal System'?

(a) Zabti System
(b) GallaBakshi System
(c) Kankut System
(d) Nasaq System

Q80. What is the approximate length of the ‘Suez Canal’?

(a) 64.8 Km
(b) 106.5 Km
(c) 178 Km

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(d) 193 Km

Q81. The 'Ukai' project is situated _____.

(a) On Tapti river in Madhya Pradesh
(b) On Tapti river in Gujarat
(c) On Sabarmati river in Gujarat
(d) On Narmada river in Madhya Pradesh

Q82. Who was the exponent of 'Lokayata Darshana'?

(a) Kapil
(b) Badarayan
(c) Charvak
(d) Ramanuja

Q83. What was the theme of the 5th Global Conference on Cyber Space (GCCS), held in November, 2017?

(a) Cyber4All: An Inclusive, Sustainable, Developmental, Safe and Secure Cyberspace.
(b) Cyber for Better Life
(c) Cyber for Better Future
(d) Cyber for World

Q84. Who among the following is NOT a Miss World?

(a) Manushi Chhillar
(b) Yukta Mookhey
(c) Sushmita Sen
(d) Diana Hayden

Q85. Which is the chief crop of Sri Lanka in which the country is self-sufficient?

(a) Rice
(b) Sugarcane
(c) Rubber
(d) Cocoa

Q86. In a nuclear reactor, 'cadmium rods' are used as which of the following?

(a) Fuel
(b) Moderator
(c) Controller
(d) Lubricant

Q87. Which of the following is used in gunpowder?

(a) Potassium Bromide
(b) Potassium Nitrate
(c) Monopotassium Tartrate
(d) Potassium Sulphate

Q88. According to Indian Constitution, there are three organs of government. Which among the following is/are NOT an organ/organs of it?

I. The legislature
II. The Media
III. The Judiciary

(a) Only I
(b) Only II
(c) Only III
(d) Only I and III

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Q89. The sperms formed in the testes are delivered through the _____, which unites with a tube coming from the urinary bladder.

(a) ureter
(b) seminal vesicle
(c) vas deferens
(d) urethra

Q90. Which of the following is NOT a constituent of 'Xylem'?

(a) Tracheids
(b) Companion cells
(c) Vessels
(d) Xylem parenchyma

Q91. In November 2017, under the Credit Linked Subsidy Scheme (CLSS) increase in the carpet area for Middle Income Group I (MIG-I) wasapproved. The carpet area for MIG-I will be increased to _____.

(a) 150 square metre
(b) 120 square metre
(c) 100 square metre
(d) 110 square metre

Q92. Which country is constructing a DNA sequencing platform to store ethnic data of about 80 million people?

(a) India
(b) United States of America
(c) China
(d) Indonesia

Q93. As per a report released by the Bank of America 'Merrill Lynch' in November 2017, India is likely to overtake Japan in nominal GDP to become world's third-largest economy by which year?

(a) 2025
(b) 2020
(c) 2028
(d) 2050

Q94. On the basis of whose recommendations the Union Ministry of Minority Affairs has ended the 'Haj subsidy' from 2018?

(a) Afzal Amanullah Committee
(b) Umesh Sinha Committee
(c) Mukhtar Abbas Naqvi Committee
(d) Shahnaz Hussain Committee

Q95. Calculate the frequency (in Hz) of a sound wave of wavelength 5 m travelling with a speed of 360 m/s.

(a) 1800
(b) 36
(c) 900
(d) 72

Q96. In a sound wave compressions are regions where density _____.

(a) as well as pressure is high.
(b) as well as pressure is low.
(c) is high and pressure is low
(d) is low and pressure is high

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Q97. Soil contains decayed remains of living organisms. This is called _____.

(a) Minerals
(b) Biosphere
(c) Saline Soil
(d) Humus

Q98. Which of the statements given below are correct?

A) Sebastian Vettel won the Formula One 2017 Mexican Grand Prix.
B) In 2017, Per Mertesacker captained the Premier League team Arsenal.
C) Tan Zhongyi won the 2017 Women's World Chess Championship.

(a) Only C
(b) Only B
(c) Both B and C
(d) Both A and C

Q99. _____ among the following is a Language of JavaScript.

(a) text/JavaScript
(b) text/ECMAScript
(c) text/VBScript
(d) JavaScript VBScript

Q100. Where was the 7th edition of Rashtriya Sanskriti Mahotsav held from 14 January to 20 January, 2018?

(a) New Delhi
(b) Bengaluru
(c) Jaipur
(d) Kanpur

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (c) impersonators

The correctly spelt word is impersonators. It means a person who pretends to be someone else for fraud or entertainment.

Example : He is a famous Jackie Chan impersonator.

Thus, the correct answer is option 3.

Q2. Answer: (a) ABC

We need to contrast something with something else. So, we can have A as the first part of the sequence. ‘Contrast this with the attitude of the general…’ seems logically correct. Now, the next question arises : attitude of whom? Part B gives the answer and hence it can follow A. C can form the ending part of the sentence.

Contrast this with the attitude of the general public in the advanced countries towards senior citizens

Thus, the correct sequence is ABC, making option 1 the correct answer.

Q3. Answer: (b) were amused

The subject here is we which is plural. So, is/was is incorrect which points towards the need to improve the sentence. Also, we can eliminate option 1 based on the same reason.

The correct form of verb to be used is its past participle. 'We were amused…' is correct and not 'We were amusing…' because the sentence tells us they were entertained / delighted by the number of channels (and not they were entertaining by the number of channels)

Thus, the correct answer is option 2.

We, on the other hand, were amused by the number of channels it had to offer.

Q4. Answer: (d) no improvement

The sentence uses the phrase at that time which means that the first part of the sentence deals with something in the past. 'The news had appeared …'seems correct. Have / is cannot be used since the tense is not present.

Thus, no improvement is required, making option 4 the correct answer.

Q5. Answer: (b) Invigorate

Let us look into the meaning of the given words:

Narcoleptic – marked by a neurological disorder that affects the control of sleep-wake cycles

Invigorate – to make someone feel more energetic, fresher and healthier

Prostrate – lying flat with the face down and arms stretched out, especially as a sign of respect

Exasperate – to make someone annoyed or frustrated

Therefore, the correct answer is option 2.

Q6. Answer: (b) Nirvana

Let us look into the meaning of the given words:

Woe – great sorrow or sadness

Nirvana – a state of freedom in which one is free from suffering and desires.

Depression – a mood disorder marked by low mood and feeling of sadness

Despondency – unhappy with no hope (similar to depression)

Thus, the correct answer is option 2. (Here, transcendent means higher / superior)

Q7. Answer: (a) Intoxicated with alcohol

'As high as a kite' means to be greatly excited or affected by alcohol / drugs.

Example : after the party, I was as high as a kite.

Therefore, the correct answer is option 1. (intoxicated means to lose control especially because of consumption of alcohol)

Q8. Answer: (c) Prevent something from happening or continuing.

The meaning of the phrase pull the plug means to prevent an activity from continuing; to put a stop to something.

Example : The agency pulled the plug on this deal.

Thus, the correct answer is option 3.

Q9. Answer: (b) an

'A'/ 'An' are articles used for singular nouns. We use 'a' in front of consonant sounds and 'an' before vowel sounds.

In English alphabets, A ,E, I, O and U are vowels and the rest are consonants.

Examples : She is eating an apple.

A boy came to meet me.

In the given sentence, advertisement starts with a vowel sound. So, an will be the most appropriate choice. (We cannot use the here as we are not referring to a specific advertisement but a general one)

Thus, the correct answer is option 2.

Q10. Answer: (d) No

Here, the correct word is no. 'No salesman can sell anything unless…' is grammatically correct.

Neither is generally used to make negative statements when we refer to two things. None is used when referring to more than two things.

Neither of his two brothers came to meet the professor.

None of his friends were able to help him.

As the blank is not followed by the preposition of, we cannot use none. No is the most appropriate choice (No is followed by a noun – here salesman is the noun)

Thus, the correct answer is option 4.

Q11. Answer: (d) than

Than is used to make comparisons.

She is more understanding than I am.

He has more friends than I have.

Then is used when we are talking about time (to mean at that time)

I was busy then.

It can also be used to indicate the next action in order.

We will deal with your problem and then we will head out for dinner.

In the given question, the sentence is making a comparison. So, we need to use than and not then.

…is infinitely more than that, it is the basis…

Thus, the correct answer is option 4.

Q12. Answer: (d) Effectively

We are looking for an adverb – a word that describes an action (verb). Here, we are looking for a word that suitably describes the action 'writing and speaking one's own language'. Effectively is an adverb whereas Effective is an adjective. We will understand the fundamental difference between these two words from the following examples:

The problem has some effective solutions (here, effective describes the noun solutions)

The problem should be solved effectively (here, effectively describes the verb solved)

Thus, effectively will fit into the blank appropriately, making option 4 the correct answer.

…One's own language effectively. It is the basis…

Q13. Answer: (d) Universal

The word we are looking for is an adjective (which describes the noun interest). Universe is a noun itself so it will not fit into the blank. Universally is an adverb which describes a verb (and not a noun). Example : Development is not universally welcome.

The most appropriate word is universal which means existing everywhere or involving everyone.

…subject of really universal (common) interest and utility…

Thus, option 4 is the correct answer.

Q14. Answer: (d) Interference

The correctly spelt word is interference. It means a situation in which a person unnecessarily gets involved.

Example : I do not like my neighbour's interference in my private life.

Thus, the correct answer is option 4.

Q15. Answer: (c) He says that he is a little bit afraid

The correct answer is option 3.

In Direct speech, the actual words of the speaker are quoted within quotation marks.

In Indirect speech, we report someone else's words in our own words.

When we change the speech from Direct to Indirect, we do not use the quotation marks. Also, we use 'that' before the Indirect statement. We make suitable changes in tenses as well.

The most important point to be noted here is that if the reporting verb is in the present tense, the tenses of the verbs in the reported speech remain unchanged.

Since the reporting verb is 'says', the first person singular verb 'am' in the direct speech becomes 'is' in the third person singular.

Q16. Answer: (c) He was considered an outcast by the people

Active Voice – the subject does the action on an object

Passive Voice – Something is done on the subject

In the given sentence, the part people are considering indicates that the subject is the people who are the doer of the action. So, the sentence is in it active voice.

In order to change it into passive voice, the object in the active voice becomes the subject in the passive voice – the object is used

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in the beginning of the sentence. A suitable tense of the verb is followed. The following example will help us to get more clarity.

Active voice : The chef is cooking a delicious meal. (‘A delicious meal’ is the object here)

Passive voice : A delicious meal is being cooked by the chef. (‘A delicious meal’ is used in the beginning of the sentence)

While doing the conversion, the meaning conveyed should not be changed.

Keeping these points in mind, the given sentence when converted in its passive voice is :

He was considered an outcast by the people.

Thus, the correct answer is option 3.

Q17. Answer: (b) PRQ

The phrase Daily pricing is singular. So, is can follow which means the first part of the sequence is part P. Now, the next question arises : Daily pricing is seen as a ploy to do what? This is answered by part R. So, we can have R to follow P with Q as the suitable ending part.

Thus, the correct sequence is PRQ making option 2 the correct answer.

Daily pricing is being seen as a ploy to increase prices while allowing the government to escape any political backlash.

Q18. Answer: (b) Immune

Here the correct answer is Immune.

Key Points

• The option that is opposite in meaning to the word "allergic" is option 2, "immune."

• The word "allergic" refers to a condition where a person's body reacts adversely to a substance that is normally harmless, such as pollen or certain foods.

• For example, "I am allergic to peanuts" means that if the person eats peanuts, their body will have an adverse reaction.

• Option 1, "affected," is not the opposite of "allergic." "Affected" means to be influenced or impacted by something, while "allergic" refers specifically to a negative bodily reaction to a substance.

• Option 3, "sensitive," is not the opposite of "allergic." "Sensitive" refers to having a heightened or acute awareness of something, while "allergic" refers specifically to a negative bodily reaction to a substance.

• Option 4, "afraid," is not the opposite of "allergic." "Afraid" means to be fearful or intimidated, and is not related to bodily reactions.

• Option 2, "immune," is the opposite of "allergic." "Immune" refers to being resistant to a substance or disease.

• For example, "She is immune to the flu" means that her body can resist the flu virus.

• Therefore, the correct answer is option 2, "immune."

Q19. Answer: (d) Suppression

Clamorous means making a loud and confused noise. As we are looking for the word expressing opposite meaning, we can eliminate options 1 and 2. Clamorous can also mean demanding something loudly. Suppression seems to be opposite to this meaning as it means to prevent something forcefully from continuing.

Therefore, the correct answer is option 4.

Note - Even if we did not know the other meaning of clamorous related to demanding in loud manner, we could have used the method of elimination here because all other options are similar in meaning.

Q20. Answer: (d) Humdrum

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

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

• Mundane - lacking interest or excitement; dull.

• Humdrum - lacking excitement or variety; boringly monotonous.

• So both word Mundane and humdrum have similar meaning.

• Thus, option 4 is the most appropriate answer here.

WORDS	MEANING
Bounteous	large or generous in the amount
Heavenly	of or from heaven, or giving great pleasure
Exciting	causing great enthusiasm and eagerness.

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Q21. Answer: (b) Brief

The word pithy means to express an idea clearly in a few words.

Let us look into the meaning of the given words:

Verbose – containing more words than necessary

Brief – containing few words

Lengthy – of considerable length, very long

Unabridged – something containing the original content without cutting it short.

Thus, the word brief is closer in meaning, making option 2 the correct answer.

Q22. Answer: (a) thief

Using a pronoun like their or his is not suitable here because the word in the blank will use an apostrophe mark (-'s).

's is used to show possession. Only nouns will use the 's form. Example – Rahul's car refers to the car belonging to Rahul. Their and his highlight the possessive feature already, so we don't use 's in these words. (Her/ Their/ His car is correct and not Her's/ Their's/ His's car).

Only option 1 will suit the grammatical structure of the sentence.

Complete sentence - A thorough search at thief's home produced stolen items.

Therefore, the correct answer is option 1.

Q23. Answer: (d) on

The correct preposition to be used here is on. When we refer to a large or general place, we use in. When we refer to a specific smaller place / street (especially a surface), we use on.

I met her in the city.

I met her on the Paul street in New York.

Now, a person sits on the surface of the sofa (and not inside it or under it).

Complete sentence - Priya sat on a sofa at the Opera.

So, the correct answer is option 4.

Q24. Answer: (b) 2

The error lies in the part 2of the sentence. Therefore, the correct answer is option 2.

In order to decide whether was or were will be used, we should find out the subject first. (the noun)

In the given sentence, the subject is demonstration of the live transmission of images (and not images). The demonstration of any xyz is singular (even if xyz is plural). So, we should use was and not were.

Correct Sentence - The first demonstration of the live transmission of images was given by Georges Rignoux and A. Fourier in Paris in 1909.

Q25. Answer: (a) 1

The error lies in the part 1 of the sentence. Therefore, the correct answer is option 1.

Instead of cause, we should use caused. Whenever a verb follows is, it should be used in its past participle form.

Examples: She is worried, He is concerned, Rakhi is loved by everyone.

Correct Sentence - A rainbow is caused by reflection, refraction, and dispersion of light among water droplets resulting in a spectrum of light appearing in the sky.

Q26. Answer: (a) Sack : Jute

As 'Paper' is made from 'Pulp'. Similarly, 'Sack' is made from 'Jute'

Hence, the correct answer is, "Sack : Jute".

Q27. Answer: (c) 74 : 67

The logic followed here is:

First Number - 7 = Second Number

48 : 41 → 48 – 7 = 41

Similarly,

74 – 7 = 67

Hence, the correct answer is '74 : 67'.

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Q28. Answer: (c) LAG

The logic followed here is:

Similarly,

Hence, the correct answer is 'LAG'.

Q29. Answer: (a) Valley

All options except 'Valley' contain stagnant water.

Q30. Answer: (a) 16 - 5

The logic followed here is:

(First Number) ÷ 4 = Second Number

Checking each option as per the above logic, we get

1. 16 - 5 → 16 ÷ 4 => 4 ≠ 5.

2. 24 - 6 → 24 ÷ 4 => 6 = 6.

3. 32 - 8 → 32 ÷ 4 => 8 = 8.

4. 88 - 22 → 88 ÷ 4 => 22 = 22.

Thus, we can see '16 - 5' does not follow the logic and is the odd one out.

Hence, the correct answer is, "16 - 5".

Q31. Answer: (d) FJM

The logic followed here is:

1) ORU → O + 3 = R; R + 3 = U

2) CFI → C + 3 = F; F + 3 = I

3) HKN → H + 3 = K; K + 3 = N

4) FJM → F + 4 = J; J + 3 = M

As, 'FJM' does not follow the logic and thus it is the odd one out.

Hence, the correct answer is, "FJM".

Q32. Answer: (c) 35412

Dictionary sequence is as follows:

3. Fountain

5. Frail

4. Frank

1. Frantic

2. Fraud

Hence, the correct answer is '35412'.

Q33. Answer: (a) 193

The logic followed here is as shown below,

Hence, the correct answer is '193'.

Q34. Answer: (d) IM

The logic followed here is,

The First letter and the second letter of each set are shifted forward by one place respectively as per the English alphabetical order.

Hence, the correct answer is 'IM'.

Q35. Answer: (a) Amit

Given:

Age of Ashish = 3 × Age of Varun → Ashish > Varun _____ (1)

Age of Arvind = 1/2 × Age of Varun → Arvind < Varun _____ (2)

Amit is 8 years older than Varun but 8 years younger than Ashish:

Ashish > Amit > Varun _____ (3)

On combining (1), (2) and (3), we get:

Ashish > Amit > Varun > Arvind

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Thus, ‘Amit’ is the second eldest.

Hence the correct answer is, "Amit".

Q36. Answer: (d) Track

Checking each option for possible word formation, we get

1) Train → TRAVELLING

2) Rain → TRAVELLING

3) Van → TRAVELLING

4) Track → TRAVELLING (can’t be formed using the word ‘Travelling’ as there is no ‘C and K’ in it).

Hence, the correct answer is, "Track".

Q37. Answer: (a) 131183

Alphabets are coded as per their positional values in the alphabetical series.

Letter	**T**	**U**	**B**	**E**
Code	20	21	2	5

Letter	**P**	**I**	**N**	**C**	**H**
Code	16	9	14	3	8

Similarly,

Letter	**M**	**A**	**R**	**C**
Code	13	1	18	3

Hence, the correct answer is ‘131183’.

Q38. Answer: (a) 37

Given equation: 8 ÷ 6 - 5 + 70 x 10 = ?

Symbol	**•**	**•**	**×**	**÷**
Meaning	•	×	÷	•

Interchanging the symbols as per the table shown above, we get

8 - 6 + 5 × 70 ÷ 10 = ?

Solving the above equation as per the BODMAS rule,

8 - 6 + 5 × 70 ÷ 10

= 8 - 6 + 5 × 7

= 8 - 6 + 35

= 43 - 6

= 37

Hence, the correct answer is ‘37’.

Q39. Answer: (c) ÷ and -

Given equation: 16 ÷ 6 + 35 x 9 - 15 = 31

After interchanging ‘÷ and -’ we get:

16 - 6 + 35 x 9 ÷ 15 = 31

L.H.S of equation: 16 - 6 + 35 x 9 ÷ 15

=> 16 - 6 + 21

=> 37 - 6

=> 31 = R.H.S

Hence, the correct answer is ‘÷ and -’.

Q40. Answer: (d) -5

The logic/rule followed here is:

70$7 = -10 → -(70 ÷ 7) = -10

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50$5 = -10 → -(50 ÷ 5) = -10

40$8 = -5 → -(40 ÷ 8) = -5

Similarly,

10$2 → -(10 ÷ 2) = -5

Hence, the correct answer is '-5'.

Q41. Answer: (c) YXZYXYXY

The logic followed here is,

Z is shifting two places to its left in each set of letters, which is shown in the table below,

Y	X	Y	X	Y	Z	X	Y
Y	X	Y	Z	X	Y	X	Y
Y	Z	X	Y	X	Y	X	Y
Y	X	Y	X	Y	X	Z	Y
Y	X	Y	X	Z	Y	X	Y
Y	X	Z	Y	X	Y	X	Y

Hence, the correct answer is 'YXZYXYXY'.

Q42. Answer: (d) 1.5 km East

Given :-

1) A brother and sister leave home for school. The brother goes 0.5 km East.

2) Then turns right and goes 3.5 km and reaches his school.

3) The sister goes 2.5 km North.

4) Then 1 km West.

5) Then turns left and goes 6 km and reaches her school.

As can be seen clearly from above that the Brother's school is 1.5 km to the East of Sister's school.

Hence, the correct answer is "1.5 km East".

Q43. Answer: (d) Neither conclusion I nor conclusion II follows.

The least possible Venn diagram of the given statements is :-

Conclusion:

I) Some juices are drinks → Doesn't follow (As no direct relationship is given between juices and drinks so it is not definite that some juices are drinks.)

II) No beverages are juices → Doesn't follow (As it is given that some beverages are juices so, it is not possible that no beverages are juices.)

Hence, the correct answer is "Neither conclusion I nor conclusion II follows".

Q44. Answer: (a) HCE

Given:-

Letters present in Rectangle that represents Lawyers → C, D, E, G, H

Letters present in circle that represents Athletes are → H, I

Letters present in triangle that represents Gardeners are → B, C, F, E

Letters present in Square that represents Mothers are → A, B, C, D

Shaded region shows the Set of letters that represents Lawyers who are either Athletes or Gardeners = Common part of Lawyers and athletes (H) and Common part of Lawyers and Gardeners (C, E)

Hence, the correct answer is "HCE".

Q45. Answer: (b) VTZ

The pattern followed here is:-

Hence, the correct answer is "VTZ".

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Q46. Answer: (b) 62

The logic followed here is:

Hence, the correct answer is "62".

Q47. Answer: (a) (17, 84, 35)

The logic followed here is :-

(First number × 5) - 1 → Second number

(First number × 2) - 1 → Third number

1) In (17, 84, 35)

[17, {(17 × 5) - 1}, {(17 × 2) - 1}]

[17, {85 - 1}, {34 - 1}] → (17, 84, 33) not (17, 84, 35)

2) In (12, 59, 23)

[12, {(12 × 5) - 1}, {(12 × 2) - 1}]

[12, {60 - 1}, {24 - 1} → (12, 59, 23)

3) In (7, 34, 13)

[7, {(7 × 5) - 1}, {(7 × 2) - 1}]

[7, {35 - 1}, {14 - 1}] → (7, 34, 13)

4) In (11, 54, 21)

[11, {(11 × 5) - 1}, {(11 × 2) - 1}]

[11, {55 - 1}, {22 - 1}] → (11, 54, 21)

Hence, the correct answer is "(17, 84, 35)".

Q48. Answer: (a) [figure]

The correct mirror image of the given figure when a mirror is placed on the line MN is as shown below:-

Hence, the correct answer is "Option 1".

Additional Information

1) The mirror image always forms the laterally inverted images i.e. left changes to right and vice-versa.

2) The reflection of an object in the water is called its water image.

3) The water image of an object in the water is always vertically inverted, i.e. upside changes to downside and vice-versa.

4) The water image is the mirror image in case if the mirror is placed horizontally below the object.

Q49. Answer: (a) [figure]

Given: - Unfolded cube

When the cube is folded, the opposite faces of the cubes are:-

1) The face of the dice with dot will be opposite to the face with *.

2) The face of the dice with + will be opposite to the face with a cross and square.

3) The face of the dice with hexagon will be opposite to the face with circle.

Now, Checking options one by one:-

1) Cube in the Option figure 1 → cannot be formed (as the two opposite faces of the cube i.e. dot and * are shown adjacent to each other.)

2) Cube shown in option figure 2 → can be formed (as no two opposite faces are present together.)

3) Cube shown in option figure 3 → can be formed (as no two opposite faces are present together.)

4) Cube shown in option figure 4 → can be formed (as no two opposite faces are present together.)

Hence, the correct answer is "Option 1".

Q50. Answer: (a) 65, 22, 77, 43

The pattern followed here is :-

A letter in the matrices is represented first by its row and then by its column.

Checking options one by one to identify the set for the word 'SEND'

1) 65 → S ; 22 → E ; 77 → N ; 43 → D (so, the word formed is 'SEND')

2) 43 → D ; 75 → P ; 12 → G ; 69 → O (so, the letter cluster formed is DPGO)

3) 21 → L ; 65 → S ; 12 → G ; 89 → Y (so, the letter cluster formed is LSGY)

4) 13 → I ; 96 → 30 ; → ; 78 → W (so, the letter cluster formed is ISIW)

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Hence, the correct answer is "65, 22, 77, 43".

Q51. Answer: (b) 10

Calculation:

Prime factor of 1024

=> 2 × 2 × 2 × 2 × 2 × 2 × 2 × 2 × 2 × 2

=> 2^(10)

Therefore the number of prime factor of 1024 is 10.

Q52. Answer: (d) 341

Calculation:

We know that, number divisible by 1 and itself is called prime numbers

Factors of options:

251 = 1 × 251

571 = 1 × 571

331 = 1 × 331

341 = 11 × 31 × 341 × 1

Therefore The correct answer is 341.

Q53. Answer: (c) 16

Given:

=> x3 + y3 = 8

=> x + y = 2

Formula used:

(x + y)2 = x2 + y2 + 2xy

x3 + y3 = (x + y) (x2 + y2 – xy)

Calculation:

=> $x^3 + y^3 = (x + y) (x^2 + y^2 – xy)$

=> $8 = 2 × \{(x + y)^2 – 2xy – xy\}$

=> $4 = \{2^2 – 3xy\}$

=> 3xy = 0

=> xy = 0

Now, $(x + y)^2 = x^2 + y^2 + 2xy$

=> $2^2 = x^2 + y^2 + 2 × 0$

=> $4 = x^2 + y^2$

=> $x^2 + y^2 = 4$

Squaring both sides, we get

=> $(x^2 + y^2)^2 = x^4 + y^4 + 2x^2y^2$

=> $4^2 = x^4 + y^4 + 2 × 0$

=> x^4 + y^4 = 16

Therefore The correct answer is 16.

Q54. Answer: (d) 4

We know $(x – y)^2 = x^2 + y^2 – 2xy$

And, $(x + y)^2 = x^2 + y^2 + 2xy$

Given, y^4 + 1/(y^4) = 34

$(y^2 + 1/(y^2))^2 = y^4 + 1/(y^4) + 2 × y^2 × 1/(y^2)$

=> $(y^2 + 1/(y^2))^2 = 34 + 2 = 36$

=> $y^2 + 1/(y^2) = 6$

Now, $(y - 1/y)^2 = y^2 + 1/(y^2) - 2 × y × 1/y$

Therefore $(y - 1/y)^2 = 6 - 2 = 4$

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Q55. Answer: (a) angle A = angle D, angle B = angle E, angle C = angle F

We know, two triangle are similar, if their corresponding angles are equal and their corresponding sides are in the same ratio or proportion.

If angle A = angle D, then

=> AB/AC = DE/DF

=> 14/10 = 7/5

=> 7/5 = 7/5

So, option 1 is right

Q56. Answer: (b) 13.2

We know, angle (radian) = arc/radius

=> 54 × π/180 = arc/14

=> 54 × 22/7 × 1/180 = arc/14

Therefore arc = 13.2 cm

Q57. Answer: (b) 166.66

According to the question

=> 5% of (P + Q) = 20% of (P- Q)

=> 5/100 × (P + Q) = 20/100 × (P – Q)

=> (P + Q) = 4 × (P – Q)

=> P + Q = 4P – 4Q

=> 3P = 5Q

=> P/Q = 5/3

Let P = 5 & Q = 3

Therefore Required % = 5/3 × 100 = 166.66%

Q58. Answer: (a) 2

Let number x be added to each so that the resulting numbers will be in proportion.

(4 + x)/(16 + x) = (18 + x)/(58 + x)

Using dividendo and componendo

=> (4 + x + 16 + x)/(4 + x - 16 - x) = (18 + x + 58 + x)/(18 + x - 58 - x)

=> (20 + 2x)/(- 12) = (76 + 2x)/(- 40)

Therefore x = 2

Q59. Answer: (d) 50

Shortcut Trick

Initial Soda : Water = 7 : 18 (Total 25 parts = 250 litres => 1 part = 10 litres)

Final Soda : Water = 2 : 3 => Multiply by 6 to equalise Water parts => 12 : 18

Increase in Soda ratio parts = 12 − 7 = 5 parts.

Amount of Soda added = 5 × 10 = 50 litres.

Therefore The correct answer is 50 litres.

Alternate Method

Given:

=> Total initial mixture = 250 litres

=> Ratio of Soda to Water = 7 : 18

Initial Mixture (250 L)

Soda: 70 L (7 parts)

Water: 180 L (18 parts)

• x L Soda

Final Mixture

Soda: 120 L (2 parts)

Water: 180 L (3 parts)

=> Total ratio parts = 7 + 18 = 25 parts

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=> 25 parts = 250 litres

=> 1 part = 250 ÷ 25 = 10 litres

=> Initial Soda amount = 7 × 10 = 70 litres

=> Initial Water amount = 18 × 10 = 180 litres

Let the amount of extra soda added be x litres.

=> New Soda amount = (70 + x) litres

Since the new ratio of Soda to Water is 2 : 3:

=> (70 + x) / 180 = 2 / 3

=> 3 × (70 + x) = 2 × 180

=> 210 + 3x = 360

=> 3x = 360 − 210

=> 3x = 150

=> x = 50

Therefore The correct answer is 50 litres.

Additional Information

Constant Quantity Method

When only one component of a mixture is altered (added or removed), the absolute quantity of the other component remains unchanged. Equating its ratio parts in the initial and final states is the fastest way to solve the question without using heavy variables.

Rule of Alligation

A rapid cross-multiplication technique used to find the specific ratio in which two quantities of known concentrations or prices must be mixed to produce a desired average concentration. Ratio = (Dearer − Mean) : (Mean − Cheaper).

Mixture Replacement

When a certain volume is drawn off from a homogeneous mixture and replaced with one of its pure components, the ratio of the ingredients in the remaining mixture exactly matches the original mixture before the final pure addition is made.

Q60. Answer: (b) 50

Let the third number be 3x

So, the first number is 4x

And the second number = 3x + 20

We know, average = sum of all the observation/total number of observation

According to the question

Average = (4x + 3x + 20 + 3x)/3

=> (4x + 3x + 20 + 3x) = 40 × 3 = 120

=> 10x = 100

=> x = 10

Therefore Second number = 3x + 20 = 3 × 10 + 20 = 30 + 20 = 50

Q61. Answer: (c) 20250

A sum of Rs. 4000 becomes Rs 6000 in 1 year

So, Principal = 4,000 and SI = 6,000 – 4,000 = 2,000

We know, SI = (P × r × t) /100

=> 2,000 = (4,000 × r × 1) /100

=> r = 50%

According to the question

A = P(1 + r/100)^4

=> A = 4,000 × 3/2 × 3/2 × 3/2 × 3/2

=> A = 20250

Therefore After 4 years, the sum will be Rs. 20250.

Q62. Answer: (a) 91 : 100

First shirt is sold at a profit of 30%

We write 30% = 3/10

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Let CP of the first shirt be 10 and profit be 3
So, SP of the first shirt = 10 + 3 = 13
(CP)1/(SP)1 = 10/13 ----(1)
Similarly second shirt is sold at a loss of 30%
We write 30% = 3/10
Let CP of the second shirt be 10 and loss be 3
So, SP of the second shirt be = 10 – 3 = 7
(CP)2/(SP)2 = 10/7 ----(2)
Given, CP of the first shirt is equal to the SP of the second shirt.
Multiply by 7 in equation (1) and multiply by 10 in equation (2) we get
CP)1/(SP)1 = 70/91
(CP)2/(SP)2 = 100/70
Therefore ratio of the selling price of the first shirt to the cost price of the second shirt is 91 : 100

Q63. Answer: (a) 37.5

Let the CP of the article be 100
So, MP of the article = 100 × 160/100 = 160
If no profit or no loss, then discount % = (MP – CP) /MP × 100
Therefore Required discount % = (160 – 100) /160 × 100 = 37.5%

Q64. Answer: (c) 85

Let the number be x
According to the question
=> a^2 – 169 = 7056
=> a^2 = 7056 + 169
=> a^2 = 7225
=> a = 85
Therefore Number is 85

Q65. Answer: (c) 15

We know, h1 × d1 = h2 × d2
So, h1 = 5 hr, d1 = 24 hr, d2 = 8 & h2 = ?
=> 5 × 24 = h2 × 8
=> h2 = 15 hours
Therefore 15 hours a day he should work.

Q66. Answer: (a) 36

If opposite directions then,
Total Speed = S1 + S2
Given S1 = S2
Total distance = 120 + 120 = 240
Total time = 12 sec
We know, speed = distance/time
So, total speed = 240/12 = 20 m/sec
S1 + S2 = 20 m/sec
=> 2S1 = 20 m/sec
=> S1 = 10 × 18/5 = 36 km/hr
Therefore The speed of each train is 36 km/hr

Q67. Answer: (d) 2013

Number of students applied in 2011 = 6,000
Number of students applied in 2012 = 2,500
Number of students applied in 2013 = 9,500
Number of students applied in 2014 = 7,000

Number of students applied in 2015 = 5,000

Therefore We can say in 2013 applications were greater than that of the previous year.

Q68. Answer: (d) 3000

Number of students applied in 2017 = 5,500

And number of students applied in 2012 = 2,500

Therefore Difference in applications between the years 2017 and 2012 = 5500 – 2500 = 3000

Q69. Answer: (d) 40%

Number of students applied in 2014 = 7,000

Number of students applied in 2015 = 5,000

Therefore Required % = (7,000 – 5,000)/5,000 × 100 = 2,000/5,000 × 100 = 40%

Q70. Answer: (c) 60

Number of students who applied in 2015 = 5,000

Number of students who applied in 2016 = 1,500

Number of students who applied in 2017 = 5,500

Total applications in 2015, 2016 and 2017 = 5,000 + 1500 + 5500 = 12,000

If application fees submitted by each applicant = Rs. 500

Then, the total fees collected by the college in the last three years = 12,000 × 500 = 60,00,000

Hence, the correct answer is "60".

Q71. Answer: (c) 34

We know, area of the square = a^2

And perimeter of the square = 4a

Area of the given square = 72.25

=> $a^2 = 72.25$

=> a = 8.5

Therefore Perimeter of the given square = 4a = 4 × 8.5 = 34 cm

Q72. Answer: (b) 110

We know, the circumference of the circle = 2πr

Given, radius of the circle = 17.5

Therefore The circumference of the given circle = 2πr = 2 × 22/7 × 17.5 = 110

Q73. Answer: (b) 8

Given: The curved surface area of cylinder = 352 cm2

The diameter of the cylinder = 14 cm

Calculation:

=> The radius of the cylinder = 14/2 = 7 cm

Formula: The curved surface area of the cylinder = 2πrh

=> 2πrh = 352

=> 2 × 22/7 × 7 × h = 352

=> h = 8 cm

Therefore Height of the cylinder is 8 cm

Q74. Answer: (a) (3√3 – 1)/3

We know, the sum of all the three angles of a triangle is 180

Given, angle Z = 60 & angle Y = 90

=> angle X + angle Y + angle Z = 180

=> angle X + 90 + 60 = 180

=> angle X = 30

Therefore cot X – 1/3 = cot30 – 1/3 = √3 – 1/3 = (3√3 – 1)/√3

Thus, the correct answer is option 1.

Q75. Answer: (d) 5/12

Given, sin P = 12/13 & angle Q = 90

Sin P = Perpendicular/hypotenuse = RQ/PR = 12/13

RQ = 12k & PR = 13k

In right angled ΔPQR

By Pythagoras theorem

$(PR)^2 = (PQ)^2 + (RQ)^2$

$\Rightarrow 13k^2 = (PQ)^2 + 12k^2$

$\Rightarrow (PQ)^2 = 25k$ cm

$\Rightarrow PQ = 5k$

Therefore tan R = PQ/RQ = 5/12

Q76. Answer: (b) 0 to 1

The correct answer is 0 to 1

Key Points

• Marginal propensity to consume refers to the ratio of change in consumption expenditure to change in total income.

• MPC = Change in consumption (ΔC) / Change in Income (ΔY)

• The marginal propensity to consume lies between 0 to 1 as we know incremental income is either spent on consumption or saved for future use.

• If the entire income is consumed, i.e. ΔS = 0, then MPC = 1 and if the entire additional income is saved, i.e. ΔC = 0, then MPC = 0. So, 2 is the correct answer.

Q77. Answer: (b) Commodities Futures Trading

• The Forward Markets Commission is the chief regulator of commodity future markets in India. (FMC) is a statutory body set up under the Forward Contracts (Regulation) Act, 1952. It functions under the administrative control of the Department of Economic Affairs, Ministry of Finance since September 2013.

• Forwards Market Commission is an entity monitoring and regulating the operations and activities of commodities future markets in India.

• FMC sources, collects and publishes information concerning trading conditions for different commodities. Hence, 2 is the correct answer.

Q78. Answer: (c) Chalukya - Tanjore

The Correct answer is Chalukya - Tanjore.

Key Points

• Chalukya – Tanjore does not correctly match the given pattern. Hence, 3 is the correct answer.

Dynasties	Capital	Time period	Language
Gurjara - Pratihara	Kannauj	Mid-8^(th) century CE	Sanskrit, Prakrit,
Pallava - Kanchi	Kanchipuram	275 CE – 897 CE	Sanskrit, Prakrit, Tamil, Telugu
Chalukya	Badami	543 CE – 753 CE	Kannada, Sanskrit
Sen - Lakhnauti	Lakhnauti	1070 CE – 1230 CE	Sanskrit

Q79. Answer: (a) Zabti System

The correct answer is Zabti System.

Key Points

• 'Todarmal system' is also known as Zabti or Dahsala system.

• Raja Todar Mal, as finance minister of Akbar, brought a new system of revenue collection known as the 'Zabti system' and 'Dahshala system' which was a system of taxation.

• It was introduced under the reign of Akbar in the year 1580-82 in order to put a check on the problems that were arising due to fixing prices each year and revenue settlement of the last year.

• Provinces were subdivided into 'Dastur' or revenue circles with their own revenue rates.

• This system of land revenue became very popular and continued for a very long time. Hence, 1 is the correct answer.

Additional Information

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• Kankut system

• In Kankut or appraisement, the whole land was measured, either by using the jarib or pacing it, and the standing crops were estimated by inspection.

• It was also known as Danabandi.

• It was also an old prevalent method in which, instead of actually dividing the grain (kan), an estimate (kut) was made on the basis of an actual inspection on the spot and one-third of the estimated produce was fixed as the state demand.

• So, it was a rough estimate of produce on the basis of actual inspection and past experience.

• Nasaq System

• Nasaq System was widely operable in the Mughal Empire, particularly in Bengal. In this system, a rough computation was made on the basis of the past revenue receipts of the peasants.

• It required no actual computation, but the area was diagnosed from the records.

• GallaBakshi System

• Galla Bakshi was also known as Batai-System. Under Galla, Bakshi System Produce after harvest was divided into State and Peasants.

• Under the Galla Bakshi system, Land rent could be paid in cash or produce. Ggalla Bakshi was implemented in Kabul, Thatta and Kashmir.

Q80. Answer: (d) 193 Km

The correct answer is 193 Km.

Key Points

• When built, Suez Canal was 164 km (102 mi) long and 8 m (26 ft) deep.

• After several enlargements, it is 193.30 km (120.11 mi) long, 24 m (79 ft) deep and 205 metres (673 ft) wide.

• The starting point of the canal is ‘Port Said’ and the ending point is ‘Port Suez’.

Additional InformationSuez Canal and Panama Canal Comparision:

Suez canal	Panama canal
• The approximate length is 193 km	• The approximate length is 75 km
• World's first and largest sea canal during the 18^(th) century.	• World's second-largest sea canal – connecting the American continent to the other side of the World.
• Locks = 0 and Depth = 24m	• Locks = 6 and Depth = 18m
• Connects the Mediterranean Sea with the Red Sea.	• Connects the Atlantic and Pacific oceans.

Q81. Answer: (b) On Tapti river in Gujarat

The correct answer is On Tapti river in Gujarat.

Key Points

• The ‘Ukai Dam’ is constructed across the Tapti River.

• It is the second largest reservoir in Gujarat after the SardarSarovar.

• It is also known as ‘Vallabh Sagar’ and was constructed in 1972.

• Having a catchment area of about 62,255 km² and a water spread of about 52,000 hectares.

• Its capacity is almost the same as that of the BhakraNangal Dam.

Additional Information

Other important Dams, Rivers and their states:

Dam	River	State
Paithan dam	Godavari	Maharastra
Hidkal dam	Ghataprabha	Karnataka
Sirpur dam	Bagh	Maharastra
Barna dam	Barna	Madhya Pradesh
Tawa dam	Tawa	Madhya Pradesh
Tehri dam	Ganga/Bhagirathi	Uttrakhand
Wilson dam	Pravara	Maharastra

Q82. Answer: (c) Charvak

The correct answer is Charvak

Key Points

• The exponent of Lokayata Darshana was ‘Charvak’.

• ‘Charvaka’ originally known as Lokāyata and Brhaspatya, is the ancient school of Indian materialism.

• Charvaka holds direct perception, empiricism, and conditional inference as proper sources of knowledge embraces philosophical skepticism, and rejects Vedas, Vedic ritualism, and supernaturalism.

• Its teachings have been compiled from historic secondary literature such as those found in the shastras, sutras, and Indian epic poetry as well as in the dialogues of Gautama Buddha and from Jain literature.

Q83. Answer: (a) Cyber4All: An Inclusive, Sustainable, Developmental, Safe and Secure Cyberspace.

The correct answer is Cyber4All: An Inclusive, Sustainable, Developmental, Safe and Secure Cyberspace.

Key Points

• The theme for the GCCS 2017 is 'Cyber4All: An Inclusive, Sustainable, Developmental, Safe and Secure Cyberspace

• GCCS is a prestigious international conference that aims at encouraging dialogue among stakeholders of cyberspace, which has been taking place since 2011. Incepted in 2011 in London, GCCS witnessed a participation of 700 global delegates.

• The second conference was held in 2012 in Budapest, the third edition of GCCS was held in 2013 in Seoul, the fourth version of GCCS 2015 was held in The Hague, Netherlands and so on.

• The GCCS 2017 took place on the 23rd and 24th of November, 2017 in Aero City, New Delhi.

Hence, 1 is the correct answer.

Q84. Answer: (c) Sushmita Sen

The correct answer is Sushmita Sen

Key Points

Name	Title	Year
Manushi Chhillar	Miss India, Miss World	2017
Yukta Mukhi	Miss India, Miss World	1999
Sushmita Sen	Miss India, Miss Universe	1994
Diana Hayden	Miss India World, Miss World	1997

Q85. Answer: (a) Rice

• Thechief crop of Sri Lanka in which country is self-sufficient is ‘Rice’.

• Rice is cultivated during ‘Maha’ and ‘Yala’ seasons. Maha Season starts by September and ends by March during North-east monsoon, and Yala season starts by May and ends by August.

• Tea is also cultivated in the central highlands and is a major source of foreign exchange. Vegetables, fruits and oilseed crops are also cultivated in the country.

Hence, 1 is the correct answer.

Q86. Answer: (c) Controller

The correct answer is Controller.

Explanation:

• A nuclear reactor produces and controls the release of energy from splitting the atoms of certain elements. In a nuclear power reactor, the energy released is used as heat to make steam to generate electricity. Hence, the controller is the correct answer.

• FUEL: Uranium is the basic fuel. Usually, pellets of uranium oxide (UO_(2)) are arranged in tubes to form fuel rods. The rods are arranged into fuel assemblies in the reactor core.

• Moderator: Material in the core slows down the neutrons released from fission so that they cause more fission. It is usually water but may be heavy water or graphite.

• Controller: These are made with neutron-absorbing material such as cadmium, hafnium or boron, and are inserted or withdrawn from the core to control the rate of reaction, or to halt it.

• Lubricant: lubricant has shown that it is possible to produce materials capable of lubricating some reactor components. In order to further the development of such lubricants the U.K.A.E.A. and the nuclear manufacturing groups have co-operated in providing lubricant manufacturers.

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Q87. Answer: (b) Potassium Nitrate

The correct answer is Potassium Nitrate.

Explanation:

• The major composition of Gunpowder includes Potassium nitrate, Carbon and Sulfur. Hence, Option 2, Potassium Nitrate is the correct answer.

• The standard composition of Gun powder is 75% potassium nitrate, 15% charcoal or carbon and 10% sulphur. The formula is well accepted and is known for ages as one which will produce a powerful black powder.

• The sulfur and charcoal act as fuels while the potassium nitrate is an oxidizer.

Q88. Answer: (b) Only II

The correct answer is Only II.

Key Points

• There are three organs of government:

Legislature	**Lok Sabha and Rajya Sabha at the centre. Legislative assembly and legislative council at the state.**
Executive	President, prime minister and his council of ministers at the centre level. Governor, chief minister and his council of ministers at the state level.
Judiciary	Supreme court

• Whereas Media is not included as an organ of government. It is not formally recognized as a part of a political system, it wields significant indirect social influence.

Hence, 2 is the correct answer.

Q89. Answer: (c) vas deferens

The correct answer is vas deferens.

Explanation;

• The ‘vas deference is a long, muscular tube that travels from the epididymis into the pelvic cavity, to just behind the bladder. Hence, 3 is the correct answer.

• The vas deferens transports mature sperm to the urethra, the tube that carries urine or sperm outside of the body, in preparation for ejaculation.

• The sperm duct is also known as the vas deferens. They transport sperm into the penis. They also collect fluids secreted by different glands. These secretions are rich in proteins to enrich the sperm.

Q90. Answer: (b) Companion cells

• Xylem is one of the two types of transport tissue in vascular plants, phloem being the other. The basic function of xylem is to transport waterfrom roots to shoots and leaves, but it also transports nutrients.

• Companion cells are not a constituent of Xylem.Companion cell are type of cell found within the Phloem of flowering plants. They are not found in Xylem.

• Its function is uncertain, though it appears to regulate the activity of the adjacent sieve element and to take part in loading and unloading sugar into the sieve element.

Constituents of Xylem	**Function**
Tracheids	These are the tubular structure that helps in vertical transportation of minerals and water in the plants.
Xylem parenchyma	These are permanent tissues that help in the conduction of water sideways.
Vessels	A vessel element or vessel member (trachea) is one of the cell types found in xylem, the water conducting tis7sue of plants.
Xylem fibres	These fibres are highly hygroscopic and they can absorb and store plenty of water.

Hence, 2 is the correct answer.

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Q91. Answer: (b) 120 square metre

The correct answer is 120 square metre.

Key Points

• Ministry of Housing and Urban Poverty Alleviation (MoHUPA) was introduced in June 2015, an interest subsidy scheme called Credit Linked Subsidy Scheme (CLSS) under Pradhan Mantri Awas Yojana (URBAN)-Housing for all.

• This is implemented for the purchase/construction/extension/improvement of houses to cater Economical Weaker Section(EWS)/Lower Income Group(LIG)/Middle Income Group (MIG)

• The Centre approved the enhancement of the carpet area of houses for the middle-income group (MIG) category under the Pradhan Mantri Awas Yojana- Urban (PMAY-U).

• The carpet area of the houses has been enhanced from 90 Sq.mtr to 120 Sq.mtr, while under the MIG-II segment, it has been increased to 150 Sq.mtr from the current 110 Sq.mtr.

• For the MIG-I category, a four per cent interest subsidy is provided to the beneficiaries with an annual income of Rs 6-12 lakh on a loan of up to Rs 9 lakh. Hence, the answer is option 2.

Q92. Answer: (c) China

The correct answer is China

Key Points

• The interest of China to conduct large-scale projects have also affected the field of high technology. To conduct comprehensive medical and scientific research, it has created a DNA database of 80 million people. Hence, 3 is the correct answer.

• The first stage involved the collection and storage of 80 million DNA samples. The next stage will be implemented by DNA sequencing (the formal description of the structure of the molecule) at a rate of up to half a million samples per year.

• Scientific data resulting from the research will be used to study the effect of the environment on the organism, study the problems of mutation, and the genotype's influence on the health of the offspring and fight dangerous diseases.

Q93. Answer: (c) 2028

The correct answer is 2028

Key Points

• India is likely to achieve strong growth over the next decade and will overtake Japan in nominal GDP by 2028 to emerge as the World's third-largest economy says a foreign brokerage report. Hence, 3 is the correct answer.

• Falling dependency ratios, financial maturity, and increasing incomes and affordability are the three key drivers for the country to stand among the large emerging economies.

• India has already overtaken Brazil and Russia to emerge as the second largest BRIC economy after China: Bank of America Merrill Lynch report.

Q94. Answer: (a) Afzal Amanullah Committee

The correct answer is Afzal Amanullah Committee.

Key Points

• The Haj subsidy was a subsidy that was given to Indian Muslim Hajj pilgrims by the Government of India in form of discounted Airfares on Indian Government-owned Air India.

• The Union Ministry of Minority Affairs has decided to end the 'Haj subsidy' this year as a part of its policy to empower minorities with dignity and without appeasement.

• This decision was taken based on the recommendations of the 'Afzal Amanullah Committee' and the May 2012 Supreme Court order.

• Union Government had constituted a committee headed by former secretary Afzal Amanullah to suggest a framework for the new Haj policy for 2018-22.

• The committee had recommended a gradual withdrawal of the Haj subsidy. It also recommended allowing older Muslim women to travel to haj without male guardians.

Q95. Answer: (d) 72

The correct answer is 72.

Key Points

• Frequency = Speed of sound/Wavelength

• Speed of sound = 360 m/s

• Wavelength = 5 m

• Frequency = 360/5 = 72 Hz

Hence, option 4, 72Hz is the correct answer.

Q96. Answer: (a) as well as pressure is high.

The correct answer is as well as pressure is high.

Explanation:

• In physics, the sound is a vibration that typically propagates as an audible wave of pressure, through a transmission medium such as a gas, liquid or solid.

• The sound waves are generated by a sound source, such as the vibrating diaphragm of a stereo speaker. The sound source creates vibrations in the surrounding medium, the vibrations propagate away from the source at the speed of sound, thus forming the sound wave.

• Wave's features: Compression is a high-density part of the wave (the part where the slinky is compressed). It is the peak of the wave. A rarefaction is a low-density part of the wave (the part where the slinky is most spread out). This is the trough of the wave.

• Compression is a region in a longitudinal wave where the particles are closest together creating both density and pressure high. Hence, 1 is the correct answer.

Q97. Answer: (d) Humus

The correct answer is Humus.

Key Points

• Humus is a dark, organic matter that forms in soil when a plant or living matter decays.

• Humus is formed by the decomposing action of soil microorganisms (e.g., bacteria and fungi), which break down animal and vegetable material into elements that can be used by growing plants.

• Humus is an important biological constituent of fertile soil.

• It contains many useful nutrients for healthy soil. One of the most important is nitrogen. Nitrogen is a key nutrient for most plants.

• Agriculture depends on nitrogen and other nutrients found in humus.

• When humus is in soil, the soil will crumble, and water moves easily through the loose soil so that oxygen can reach the roots of plants.

• When people compost, they collect decaying organic material, such as food and garden scraps, that turned into soil, It produces Humus in soil.

Q98. Answer: (c) Both B and C

The correct answer is Both B and C.

Key Points

• The 2017 Mexican Grand Prix (formally known as the Formula 1 Gran Premio de México 2017) was a Formula One motor race held on 29 October 2017 at the Autódromo Hermanos Rodríguez in Mexico City. Red Bull Racing driver Max Verstappen won the race. Hence statement 1 is wrong.

• In 2017, Per Mertesacker was the manager of the Premier League team Arsenal. Hence statement 2 is correct.

• The Women's World Chess Championship 2017 was a 64-player knock-out tournament, to decide the women's world chess champion. The final was won by Tan Zhongyi over Anna Muzychuk in the rapid tie-breaks. Hence statement 3 is correct.

Q99. Answer: (a) text/JavaScript

The correct answer is text/JavaScript.

Key Points

• The programming language JavaScript is one of the foundational elements of the World Wide Web.

• JavaScript is an ECMAScript-compliant high-level, frequently just-in-time compiled language.

• It features first-class functions, prototype-based object orientation, and dynamic typing.

• It supports event-driven, functional, and imperative programming paradigms and is a multi-paradigm.

• It offers application programming interfaces (APIs) for using the Document Object Model, regular expressions, dates, and standard data structures.

Additional Information

• ECMAScript:

• A JavaScript standard called ECMAScript was created to guarantee browser compatibility for web pages.

• VBScript:

• Microsoft created VBScript, an Active Scripting language based on Visual Basic.

Q100. Answer: (b) Bengaluru

The correct answer is Bengaluru.

Key Points

• The 7th edition of the Rashtriya Sanskriti Mahotsav was held in Bengaluru, Karnataka from 14 January to 20 January 2018 under the 'Ek Bharat Shreshtha Bharat' spirit to celebrate unity in diversity.
• The event will cover a profusion of art forms from classical and folk, music and dance, and theatre to literature and visual arts.

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