SSC CHSL 2020 Official Paper 17 (Held On: 4 Aug 2021 Shift 2) (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 option that expresses the given sentence in the active or passive voice.

Designer clothes were sold to the masses by Pierre Cardin.

(a) The masses were sold by Pierre Cardin to the designer clothes.
(b) Designer clothes have been sold by Pierre Cardin to the masses.
(c) Pierre Cardin had sold designer clothes to the masses.
(d) Pierre Cardin sold designer clothes to the masses.

Q2. Select the option that can be used as a one-word substitute for the given group of words.

Continuing for a long time

(a) Project
(b) Profound
(c) Infinite
(d) Prolonged

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

COMPLY

(a) adore
(b) deny
(c) obey
(d) decline

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’.

We were quite impressed with the enthusiasm that she work for.

(a) No substitution
(b) that she is working on
(c) which she works for
(d) that she worked with

Q5. Select the most appropriate word to fill in the blank.

If the test booklet seal is broken or _____ with, bring it immediately to the notice of the invigilator.

(a) adjusted
(b) closed
(c) tampered
(d) opened

Q6. Select the INCORRECTLY spelt word.

(a) Highlite
(b) Feature
(c) Torches
(d) Sacrifice

Q7. Given below are four sentences in jumbled order. Select the option that gives their correct order.

A. On coming out, his skin would be shining like ebony and he would squeal with pleasure.

B. First, he would lie down on the sand bank while I rubbed him clean with the sand of the river.

C. Every day, I used to take the baby elephant to the river for his bath.

D. After that, he would lie in the water for a long time.

(a) BADC
(b) CBDA
(c) DABC
(d) ADCB

Q8. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute It, select "No substitution required'.

I practised for the debate; that's why I am late.

(a) No substitution required
(b) was practising for
(c) am practising for
(d) have practised for

Q9. Select the misspelt word.

(a) accelerate
(b) accomodate
(c) annihilate
(d) appropriate

Q10. Directions: Each of the following questions has underlined idioms/phrases. Each sentence is followed by four options. Choose the option that best describes the meaning of the underlined idiom/phrase.

His jokes fell flat on the audience.

(a) irritated
(b) failed to have an effect
(c) deeply touched
(d) provoked laughter

Q11. Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the right order to form a meaningful and coherent paragraph.

A. On the other, there is the principle of leadership.

B. Democracy rests on a tension between two different principles.

C. While the first gives priority to rules, the second gives importance to persons.

D. On the one hand, there is the principle of equality before the law, or more generally, equality.

(a) ADBC
(b) CDAB
(c) BDAC
(d) DACB

Q12. Select the most appropriate ANTONYM of the given word.

Weird

(a) Apparent
(b) Abnormal

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(c) Normal
(d) Wide

Q13. The following sentence has been split into four segments. Identify the segment that contains a grammatical error.
All our / furnitures were / spoiled in the recent / rains and floods.
(a) All our
(b) spoiled in the recent
(c) furnitures were
(d) rains and floods

Q14. Select the most appropriate antonym of the given word.
WISDOM
(a) stability
(b) stupidity
(c) maturity
(d) youth

Q15. Find the best one-word substitution for the below description.
A person who formally requests something, especially a job
(a) nominee
(b) contestant
(c) applicant
(d) trainee

Q16. Fill in the blank with the most appropriate word.
This train is _____ for Bihar.
(a) running
(b) bound
(c) going
(d) intending

Q17. Select the most appropriate meaning of the given idiom.
To go red in the face
(a) To feel embarrassed
(b) To shout at someone for doing something wrong
(c) To feel very happy and proud
(d) To feel extremely irritated

Q18. Select the most appropriate synonym of the given word.
Dearth
(a) Shortage
(b) Weakness
(c) Death
(d) Leakage

Q19. In the given sentence, identify the segment which contains a grammatical error.
As soon as the bus driver was seeing the child crossing the road, he applied the brakes.
(a) was seeing the child
(b) he applied the brakes
(c) As soon as the bus driver
(d) crossing the road

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Q20. Select the correct indirect form of the given sentence.

She said to her friend, “Will you take my dog for a walk?”

(a) She asked to her friend if she would take my dog for a walk.
(b) She asked her friend that if she will take her dog for a walk.
(c) She asked her friend will she take her dog for a walk.
(d) She asked her friend if she would take her dog for a walk.

Directions

In the following passage, some words have been deleted. Select the most appropriate option to fill in each blank.

‘SkillSet’ was founded in 2014 to collect and coordinate (1) ____ about educational access and quality for students with special needs and disabilities. The organization (2) __ thousands of enquiries every year and offers (3) ___ to students on how to apply to colleges and universities across the country and how to find out about special (4) ___ and scholarships. We ensure easy access to higher education for all students, (5) _____ those with disabilities. Your donations and suggestions will help us to improve our service to customers and you will also be helping us to continue our valuable work.

Q21. Select the most appropriate option to fill in blank number 1.

(a) officials
(b) admissions
(c) funding
(d) information

Q22. Select the most appropriate option to fill in blank number 2.

(a) passes
(b) sends
(c) transmits
(d) receives

Q23. Select the most appropriate option to fill in blank number 3.

(a) instructions
(b) comments
(c) advice
(d) conditions

Q24. Select the most appropriate option to fill in blank number 4.

(a) effects
(b) facilities
(c) purposes
(d) systems

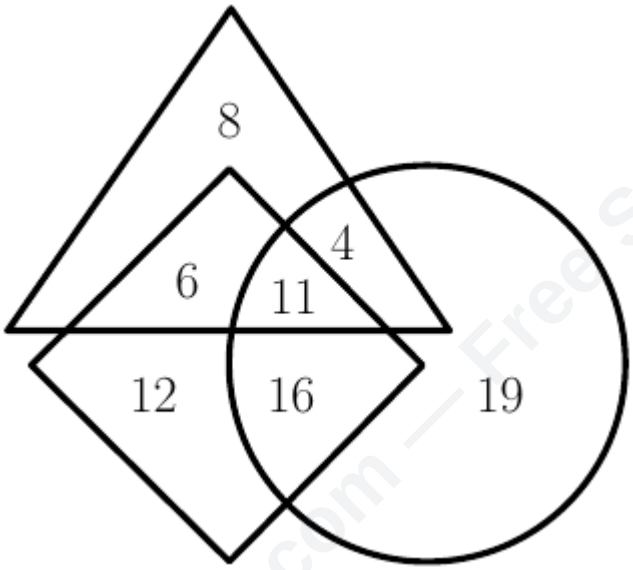
Q25. Select the most appropriate option to fill in blank number 5.

(a) except
(b) additionally
(c) especially
(d) excluding

GENERAL INTELLIGENCE

Q26. In the Venn Diagram given below, if 'Rhombus' represents Psychologists’, 'Triangle' represents 'Corporate Employees' and ‘Circle’ represents ‘Fathers’, then how many Psychologists are Corporate Employees but NOT Fathers?

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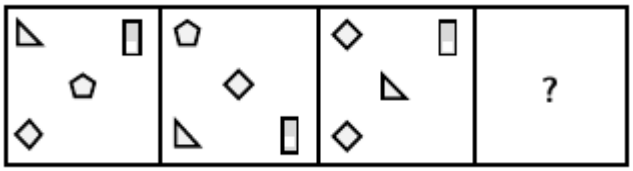


(a) 6
(b) 12
(c) 11
(d) 8

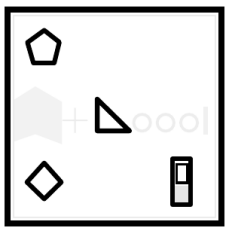
Q27. Four words have been given, out of which three are alike in some manner and one is different. Select the word that is different.

(a) Oslo
(b) Baht
(c) Peso
(d) Rial

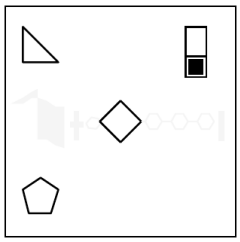
Q28. Select the figure that will replace the question mark (?) in the following figure series.



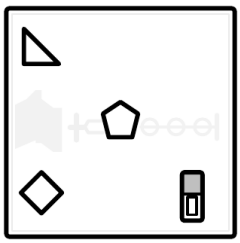
(a)



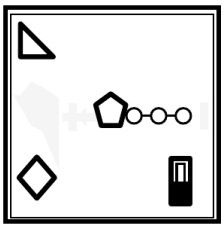
(b)



(c)



(d)



Q29. Select the option in which the numbers share the same relationship as that shared by the numbers In the given set.

(4, 3, 73)

(a) (5, 7, 302)
(b) (7, 5, 345)
(c) (6, 2, 230)
(d) (5, 4, 141)

Q30. In a certain code language, BACK is written as YEXP and MIXTURE is written as NOCGAII. How will FROGS be written in that language?

(a) VIVTH
(b) UILTG
(c) UIUTH
(d) UULTG

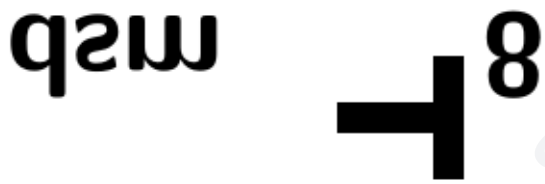
Q31. Select the correct mirror image of the given combination when the mirror is placed at MN as shown.



(a)



(b)



(c)



(d)



Q32. Which two signs should be interchanged to make the given equation correct?

21 + 5 - 45 × 9 ÷ 3 = 11

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

Q33. Select the option that represents the correct order of the given words as they would appear in an English dictionary.

1. Presume
2. Prepare
3. Priority
4. Prince
5. Prick

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

Q34. Four number-pairs have been given, out of which three are alike in some manner and one Is different. Select the one that Is different.

(a) 225 : 15
(b) 289 : 17
(c) 484 : 22
(d) 322 : 18

Q35. Select the combination of letters that when sequentially placed in the blanks of the given letter series will complete the series.

ZH_ORC_ _K_R_ZH_O_C

(a) K, Z, H, K, R, K, R
(b) Z, H, K, O, C, K, R
(c) K, Z, H, O, C, K, R
(d) K, Z, O, R, C, K, R

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Q36. Select the option that is related to the third word in the same way as the second word is related to the first word.

Africa : Algeria : : South America : ?

(a) Germany
(b) Argentina
(c) Canada
(d) Mexico

Q37. Select the option that is related to the third term in the same way as the second term is related to the first term.

POSTED : TPQEFU : : COUNTS : ?

(a) VPDTUO
(b) VPTDOW
(c) VPETVO
(d) UQDTUO

Q38. In a code language, if RAFT is written as 180 and DON is written as 99, then how will SHOWER be written in the same language?

(a) 225
(b) 448
(c) 528
(d) 165

Q39. What was the day of the week on 22 February 2012?

(a) Wednesday
(b) Thursday
(c) Tuesday
(d) Friday

Q40. Select the option in which the numbers are related in the same way as are the numbers of the following set.

(42, 14, 294)

(a) (34, 18, 306)
(b) (30, 16, 242)
(c) (21, 15, 205)
(d) (36, 21, 360)

Q41. 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.

Language : Telugu

(a) Society : Service
(b) Continent : Asia
(c) Vehicle : Mechanic
(d) Hindi : India

Q42. Select the number from among the given options that can replace the question mark (?) In the following series.

14, 16, 34, 104, 418, ?

(a) 1560
(b) 1894
(c) 2092
(d) 2158

Q43. Barun is the son of Chetan. Advita and Chetan are a married couple, Prakul is the brother of Chetan. Diya is the daughter of Advita. Suman is the brother of Barun. How is Diya related to Barun?

(a) Mother
(b) Cousin
(c) Aunt

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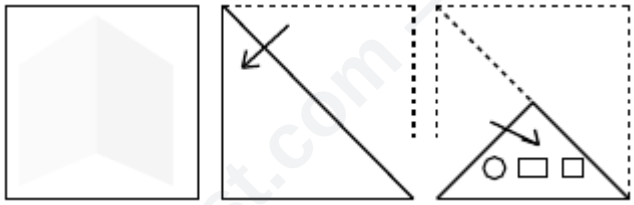
(d) Sister

Q44. Select the option that is related to the third number in the same way as the second number is related to the first number and the sixth number is related to the fifth number.

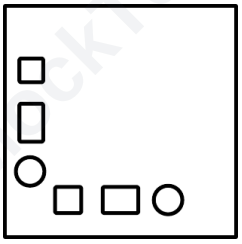
3 : 65 :: 5 : ? :: 4 : 126

(a) 344
(b) 217
(c) 166
(d) 216

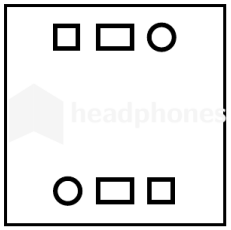
Q45. The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown in the following figures. How would this paper look when unfolded?



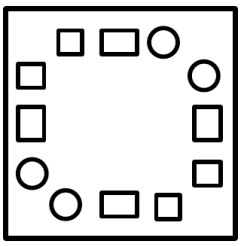
(a)



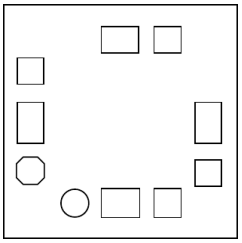
(b)



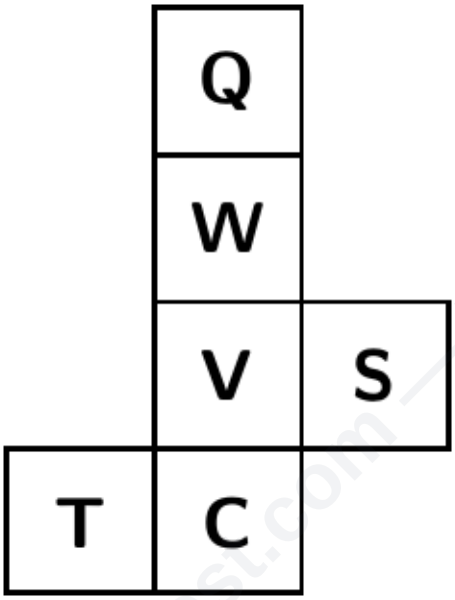
(c)



(d)

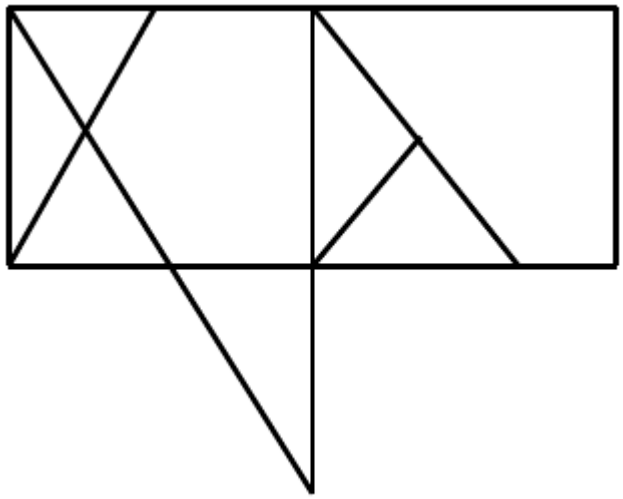


Q46. Which of the following pairs of letters will be on the opposite faces when the given sheet is folded to form a cube?



(a) T and V
(b) Q and S
(c) C and W
(d) S and C

Q47. How many triangles are there in the figure given below?



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

Q48. 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:

All trucks are cars.

No wheel is a car.

No car is a bus.

Conclusions:

I. No bus is a truck.

II. No wheel is a bus.

III. Some cars are trucks.

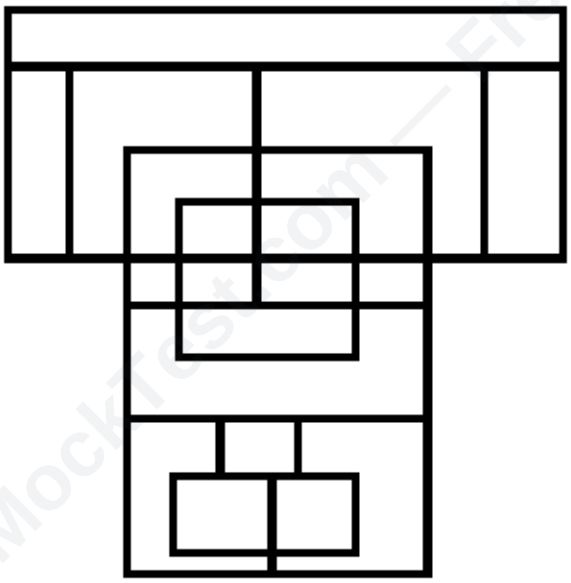
(a) Both conclusions II and III follow.

(b) Both conclusions I and III follow.

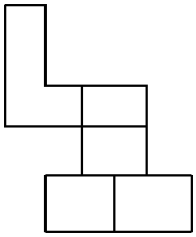
(c) Both conclusions I and II follow.

(d) All the conclusions follow.

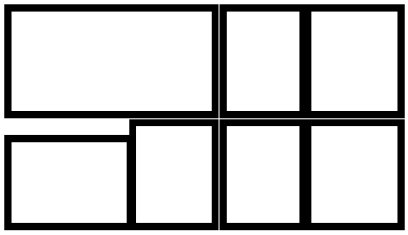
Q49. Select the option that is embedded in the given figure (rotation is NOT allowed).



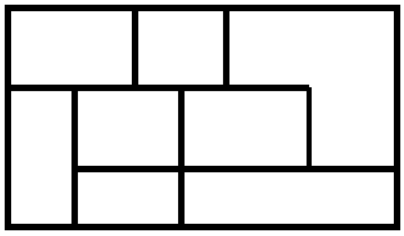
(a)



(b)

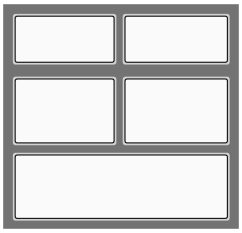


(c)



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(d)



Q50. Three of the following four letter-clusters are alike in a certain way and one is different. Select the odd one

(a) KPUZ
(b) BGLP
(c) LQVA
(d) TYDI

QUANTITATIVE APTITUDE

Q51. If √x + 1/(√x) = √6 then the value of x^6 + 1/(x^6) will be

(a) 2270
(b) 2502
(c) 2712
(d) 2702

Q52. An article was sold for Rs. 512 after giving two equal successive discounts on the marked price of Rs. 800. The percentage discount offered is:

(a) 18%
(b) 16%
(c) 20%
(d) 15%

Q53. In triangle ABC, if BD and CD bisect angle B and angle C, respectively, and angle BDC = 135°, then find the measure of angle BAC.

(a) 90°
(b) 45°
(c) 65°
(d) 75°

Q54. Two chords AB and CD of a circle intersect at O. If CO = 4 cm, OD = 3.75 cm, and AB = 8 cm, then what is the length (in cm) of the smaller among AO and OB?

(a) 3
(b) 5
(c) 2.75
(d) 5.25

Q55. If cosec θ = 41/9 and θ is an acute angle, then the value of 5 tan θ will be:

(a) 7/8
(b) 9/8
(c) 11/8
(d) 13/4

Q56. Varun and Madhur invested Rs. 25,000 each in different schemes. Varun earned simple interest at 11% per annum, whereas Madhur earned compound interest at 10% per annum compounded annually. Who received more interest after 2 years and how much?

(a) Varun, Rs. 500
(b) Madhur, Rs. 250

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(c) Madhur, Rs. 302.50

(d) Varun, Rs. 250

Q57. A train starts running at a uniform speed of 60 km/h from station P towards station Q. At the same time another train starts running from station Q towards station P. If the distance between the stations P and Q is 275 km and the trains meet in two and a half hours, then what is the speed of the train running towards station P in km/h?

(a) 44

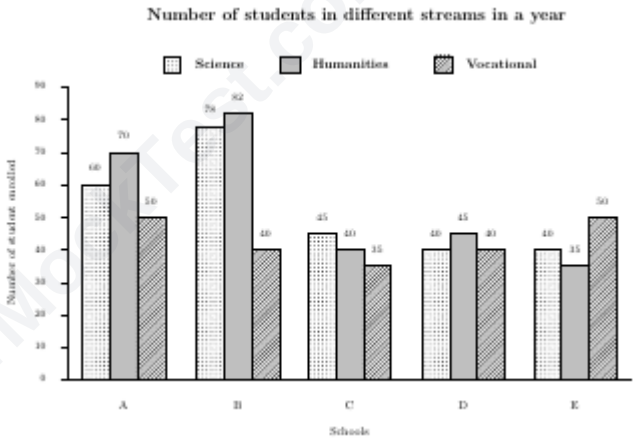
(b) 40

(c) 48

(d) 50

Q58. The number of students enrolled in different streams at Senior Secondary level in five schools has been shown in the bar graph.

What is the ratio of the number of students enrolled in the vocational stream in schools A, C and E taken together to those enrolled in the humanities stream in the schools B, D and E taken together?



(a) 7 : 9

(b) 9 : 11

(c) 2 : 3

(d) 5 : 6

Q59. If a : b = 2 : 3 and c : d = 5a : 3b then 2c : 5d is equal to:

(a) 1 : 1

(b) 4 : 9

(c) 10 : 9

(d) 9 : 10

Q60. A rhombus of side 28 cm has one angle of 60°. What is the length of the larger diagonal?

(a) $28\sqrt{2}$ cm

(b) $28(1 + \sqrt{3})$ cm

(c) $28\sqrt{3}$ cm

(d) 28 cm

Q61. If x^4 + 1/(x^4) = 3842 then the positive value of x + 1/x will be:

(a) 10

(b) 8

(c) 6

(d) 12

Q62. A is thrice as efficient as B. A takes 24 days less than B to complete a work. If they work together, in how many days, will the work be completed?

(a) 8

(b) 9

(c) 12
(d) 15

Q63. The population of a town increased by 15% in 2018 and 10% in 2019, Due to a pandemic, it decreased by 10% in 2020. What was the percentage increase in the population of the town in 3 years?
(a) 15%
(b) 12.5%
(c) 17.5%
(d) 13.85%

Q64. The volume of a metallic cylindrical pipe is 3564 cm^3. If its external radius is 12 cm and thickness is 3 cm, then the length of the pipe will be: (take $\pi = 22/7$)
(a) 22 cm
(b) 18 cm
(c) 16 cm
(d) 20 cm

Q65. The average daily income of Shyam Lal during the month of February 2020 was Rs. 560. The average income for the first 16 days was Rs. 590 and for the last 16 days it was Rs. 500. What was his average income for 14^(th) 15^(th) and 16^(th) February?
(a) Rs. 590
(b) Rs. 587
(c) Rs. 545
(d) Rs. 400

Q66. The value of 31 2/5 ÷ [168 ÷ 3/7 of 28 + (33 ÷ 5/2) + (7 3/5 - 3 2/5)] is:
(a) 3
(b) 10
(c) 5
(d) 1

Q67. ABC is a right-angled triangle, right-angled at B. D is a point on AC such that AD = 12 cm and CD = 16 cm. If BD bisects angle ABC, then the perimeter of ΔABC will be:
(a) 67.2 cm
(b) 56.2 cm
(c) 66.2 cm
(d) 66 cm

Q68. A shopkeeper bought pens at the rate of Rs. 1,350 for 15 dozen pens and sold them at the rate of Rs. 495 for 5 dozen pens. His percentage profit or percentage loss is:
(a) Loss 15%
(b) Loss 10%
(c) Profit 15%
(d) Profit 10%

Q69. Solve the following equation and find the value of θ.
$3\cot\theta + \tan\theta - 2\sqrt{3} = 0,\ 0 < \theta < 90°$
(a) 45°
(b) 15°
(c) 60°
(d) 30°

Q70. If a number 54k31m82 is divisible by 11, what will be the maximum value of (k + m) ?
(a) 13
(b) 11
(c) 12

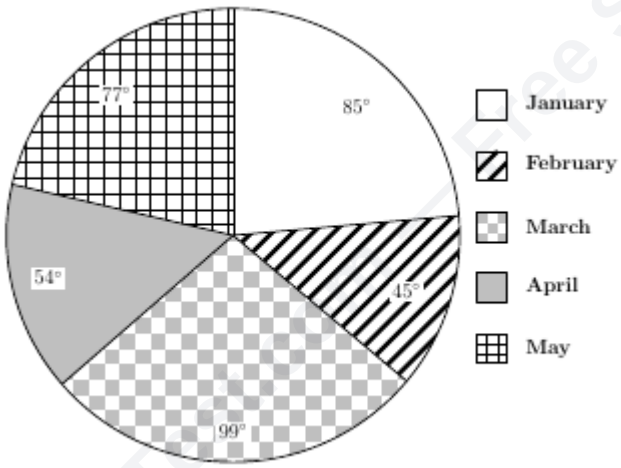
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(d) 23

Q71. Study the given pie chart and answer the question that follows.

The pie chart shows the distribution (degree-wise) of the number of computers sold by a shopkeeper during five months.

Total Number of Computers Sold = 5400

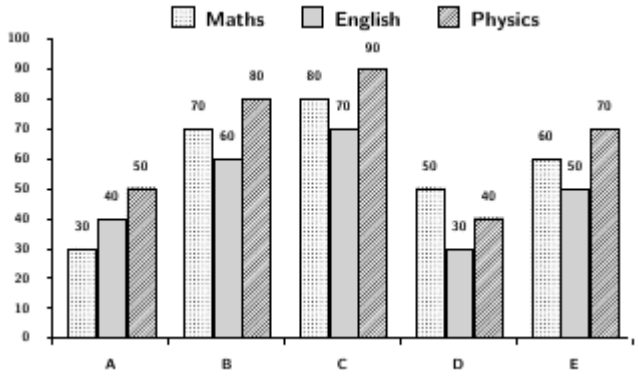


In which month was the number of computers sold above 25% of the total number of computers sold in 5 months?

(a) May
(b) March
(c) January
(d) February

Q72. Study the following graph and answer the question that follows.

Marks scored by five students (A, B, C, D and E) in three subjects (Maths, English and Physics)



What is the ratio of the marks of D's in Maths and Physics together to the marks of B's in English and Physics ?

(a) 9 : 14
(b) 14 : 13
(c) 7 : 14
(d) 2 : 7

Q73. If $x - 2/x = 4$ then what will be the value of $x^2 + 4/(x^2)$?

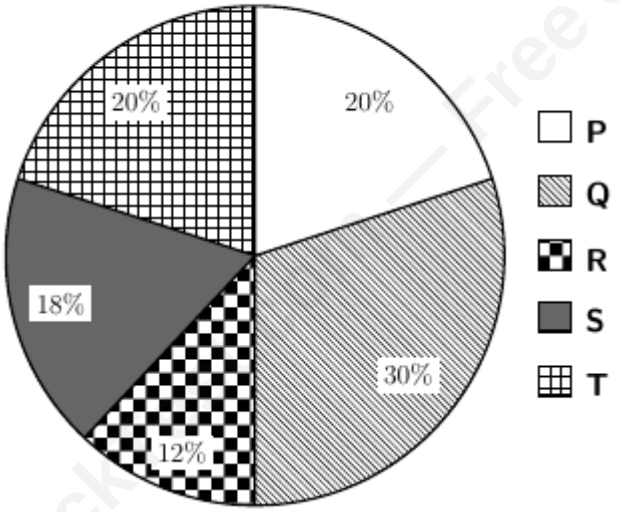
(a) 18
(b) 20
(c) 12
(d) 8

Q74. Study the given pie charts and answer the question that follows.

The pie charts represent the distribution of candidates who were enrolled for Bank Clerical Examination Fig (i) and the candidates (out of those enrolled) who passed the examination Fig (ii) in five different institutes P, Q, R. S and T.

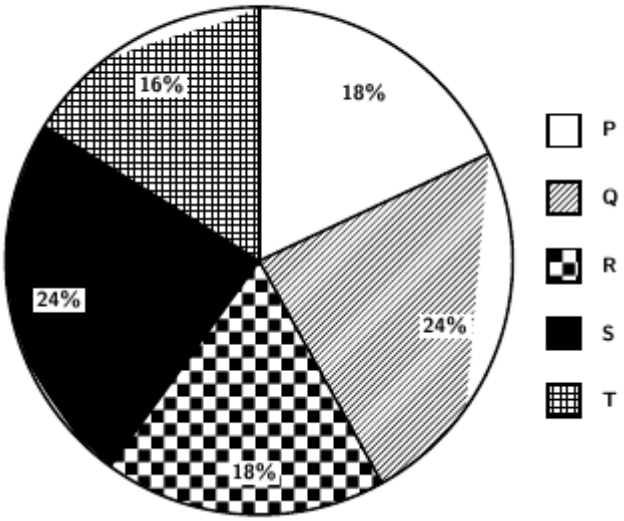
(I) Total number of candidates enrolled in five different institutes = 5500

Figure (I)



(II) Total number of candidates who passed the examination from five institutes = 3300

Figure (II)



The ratio of the candidates who passed to the candidates enrolled from institute S is:

(a) 3 : 4
(b) 5 : 6
(c) 6 : 7
(d) 4 : 5

Q75. In a circle with centre O, PA and PB are the tangents at A and B, respectively, from an external point P. If angle APB = 42° then what will be the measure of angle AOB ?

(a) 121°
(b) 138°
(c) 142°
(d) 159°

GENERAL AWARENESS

Q76. Which of the following is NOT a use of washing soda?

(a) It can be used as a cleaning agent for domestic purposes.
(b) It is used in glass, soap and paper industries
(c) It is used for removing permanent hardness of water.
(d) It is used to make drinking water free from germs.

Q77. Which of the given Articles of the Constitution of India mentions the following?

"There shall be a council of Ministers with the Prime Minister at the head to aid and advise the President who shall in the exercise of his functions, act in accordance with such advice."

(a) Article 74(1)
(b) Article 71(1)
(c) Article 74(2)
(d) Article 71(2)

Q78. Bhaskaravarman of the Varman dynasty ruled in the _____ region.

(a) Ujjain
(b) Kamarupa
(c) Vaishali
(d) Magadha

Q79. Which of the following types of rocks are formed by the lithification process?

(a) Igneous rocks
(b) Metamorphic rocks
(c) Sedimentary rocks
(d) Primary rocks

Q80. Corel Draw is an example of a/an:

(a) database software
(b) desktop publishing software
(c) spreadsheet software
(d) accounting software

Q81. What is the generic name of calcium sulphate hemihydrate?

(a) Baking soda
(b) Vinegar
(c) Plaster of Paris
(d) Detergent powder

Q82. Which of the following keyboard shortcuts will you press in order to minimise all programs on a computer screen and display the desktop?

(a) Windows + M
(b) Windows + D
(c) Windows + C
(d) Windows + F

Q83. What minimum support price per quintal of groundnut has been declared by the Government of India for the marketing season 2020-21?

(a) Rs. 6285
(b) Rs. 6765
(c) Rs. 5275
(d) Rs. 4795

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Q84. Which of the following is the largest brackish water lake in Asia?

(a) Loktak
(b) Pulicat
(c) Wular
(d) Chilika

Q85. In 2020, the Nobel Prize in Physiology or Medicine was awarded jointly to Harvey J Alter, Michael Houghton and Charles M Rice for the discovery of:

(a) tobacco mosaic virus
(b) hepatitis C virus
(c) Epstein-Barr virus
(d) Norwalk virus

Q86. Who among the following took charge as the CEO and Managing Director of HDFC Bank In October 2020 ?

(a) Sashidhar Jagdishan
(b) Amitabh Chaudhry
(c) Sandeep Bakhshi
(d) Rakesh Sharma

Q87. _____ launched 'Harit Path', a mobile app, in 2020,

(a) Pradhan Mantri Gram Sadak Yojana
(b) Public Works Department of Delhi
(c) National Highways Authority of India
(d) Central Public Works Department

Q88. In which country was the World Snooker Championship 2020 held from 31 July to 16 August 2020?

(a) England
(b) France
(c) Switzerland
(d) Germany

Q89. Which Indian actor was conferred with the 'Most Inspiring Indian Bollywood Actor' award in the UK In 2019 ?

(a) John Abraham
(b) Nawazuddin Siddique
(c) Sanjay Kapoor
(d) Boman Irani

Q90. Who was the ruler of Delhi sultanate when Ibn Batuta came in India?

(a) Alauddin Khalji
(b) Muhammad Bin Tughlaq
(c) Ibrahim Lodi
(d) Firuz Shah Tughlaq

Q91. In which of the following caves Is the painting named 'Padmapanl Bodhisattva' found?

(a) Ajanta Cave No. 3
(b) Ajanta Cave No. 2
(c) Ajanta Cave No. 4
(d) Ajanta Cave No. 1

Q92. Which of the following rivers originates from the state of Rajasthan?

(a) Chambal
(b) Narmada
(c) Mahi
(d) Banas

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Q93. Mirzai and bandi (types of jackets in white or black) are popular in the _____ region.

(a) Western Ghat
(b) Bundelkhand and Malwa
(c) North Eastern
(d) Ladakh and Kashmir

Q94. Convention on the prohibition of the use of nuclear weapons and reducing nuclear danger under the nuclear weapons cluster were two resolutions sponsored by India that _____ adopted in 2020.

(a) World Bank
(b) International Labour Organization
(c) World Health Organization
(d) UN General Assembly

Q95. In which year did India host the Commonwealth Games?

(a) 2006
(b) 2018
(c) 2010
(d) 2014

Q96. What do you call the point in the orbit of the moon or a satellite at which it is nearest to Earth?

(a) Perigee
(b) Eclipse
(c) Apsis
(d) Apogee

Q97. Who among the following became the youngest speaker of Lok Sabha till March 2021?

(a) Ganti Mohana Chandra Balayogi
(b) Meira Kumar
(c) Sumitra Mahajan
(d) PA Sangma

Q98. Which of the following organisations released the 'Global Economic Freedom Index 2020 Annual Report'?

(a) The Heritage Foundation
(b) World Economic Forum
(c) Germanwatch
(d) StartupBlink

Q99. Which has been India's most successful sport in the history of Olympic games having won medals maximum number of times till December 2020?

(a) Wrestling
(b) Football
(c) Badminton
(d) Field Hockey

Q100. Down Syndrome, which causes learning difficulties and physical health development delays and disabilities, is a:

(a) bacterial disease
(b) genetic disease
(c) fungal disease
(d) viral disease

ANSWER KEY

1	d	2	d	3	c	4	d	5	c	6	a	7	b	8	b	9	b	10	b
11	c	12	c	13	c	14	b	15	c	16	b	17	a	18	a	19	a	20	d

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

SOLUTIONS

Q1. Answer: (d) Pierre Cardin sold designer clothes to the masses.

The solution is in Hindi. Read it online.

Q2. Answer: (d) Prolonged

The solution is in Hindi. Read it online.

Q3. Answer: (c) obey

The solution is in Hindi. Read it online.

Q4. Answer: (d) that she worked with

The solution is in Hindi. Read it online.

Q5. Answer: (c) tampered

The solution is in Hindi. Read it online.

Q6. Answer: (a) Highlite

The solution is in Hindi. Read it online.

Q7. Answer: (b) CBDA

The correct answer is 'CBDA'.

Key Points

• The given question is an example of a Para Jumble.

• We know that the first statement of a para jumbled question is usually an independent general statement, a noun, a universal fact, starting off a story, starting of an incident or an event, or it starts with 'most' or 'once'.

• Sentence C in the given question is the starting of a story. The author is saying that he used to take the baby elephant to the river for a bath.

• Sentence B will be the next sentence because it is connected with Sentence C as it tells what the elephant used to do before bathing.

• Sentence D will be the next sentence because it further explains Sentence B.

• Lastly, Sentence A will be used.

• Thus, the sequence becomes:

• C: Every day, I used to take the baby elephant to the river for his bath.

• B: First, he would lie down on the sand bank while I rubbed him clean with the sand of the river.

• D: After that, he would lie in the water for a long time.

• A: On coming out, his skin would be shining like ebony and he would squeal with pleasure.

• Therefore, as per the points mentioned above, we find that the correct answer is Option 2.

Correct Sequence: Every day, I used to take the baby elephant to the river for his bath. First, he would lie down on the sand bank while I rubbed him clean with the sand of the river. After that, he would lie in the water for a long time. On coming out, his skin would be shining like ebony and he would squeal with pleasure.

Q8. Answer: (b) was practising for

The solution is in Hindi. Read it online.

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Q9. Answer: (b) accomodate

The solution is in Hindi. Read it online.

Q10. Answer: (b) failed to have an effect

The solution is in Hindi. Read it online.

Q11. Answer: (c) BDAC

The correct answer is 'BDAC'.

Key Points

• The given question is an example of a Para Jumble.

• We know that the first statement of a para jumbled question is usually an independent general statement, a noun, a universal fact, starting off a story, starting of an incident or an event, or it starts with 'most' or 'once'.

• Sentence B will be the first statement because it is a general independent statement. The author is talking about Democracy.

• Sentence D will be the next sentence because it is talking about the first principle which is being discussed in Sentence B.

• Sentence A will be the next sentence because it is talking about the second principle.

• Lastly, Sentence C will be used because it is talking about both the principles that have been discussed earlier.

• Thus, the sequence becomes:

• B: Democracy rests on a tension between two different principles.

• D: On the one hand, there is the principle of equality before the law, or more generally, equality.

• A: On the other, there is the principle of leadership.

• C: While the first gives priority to rules, the second gives importance to persons.

• Therefore, as per the points mentioned above, we find that the correct answer is Option 3.

Correct Sequence: Democracy rests on a tension between two different principles. On the one hand, there is the principle of equality before the law, or more generally, equality. On the other, there is the principle of leadership. While the first gives priority to rules, the second gives importance to persons.

Q12. Answer: (c) Normal

The solution is in Hindi. Read it online.

Q13. Answer: (c) furnitures were

The solution is in Hindi. Read it online.

Q14. Answer: (b) stupidity

The solution is in Hindi. Read it online.

Q15. Answer: (c) applicant

The solution is in Hindi. Read it online.

Q16. Answer: (b) bound

The solution is in Hindi. Read it online.

Q17. Answer: (a) To feel embarrassed

The solution is in Hindi. Read it online.

Q18. Answer: (a) Shortage

The solution is in Hindi. Read it online.

Q19. Answer: (a) was seeing the child

The solution is in Hindi. Read it online.

Q20. Answer: (d) She asked her friend if she would take her dog for a walk.

The solution is in Hindi. Read it online.

Q21. Answer: (d) information

The solution is in Hindi. Read it online.

Q22. Answer: (d) receives

The solution is in Hindi. Read it online.

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Q23. Answer: (c) advice

The solution is in Hindi. Read it online.

Q24. Answer: (b) facilities

The solution is in Hindi. Read it online.

Q25. Answer: (c) especially

The solution is in Hindi. Read it online.

Q26. Answer: (a) 6

The logic followed here is:

Psychologists who are Corporate Employees but NOT Fathers, means common part of rhombus and triangle but not of circle.

Hence, 6 is the correct answer.

Q27. Answer: (a) Oslo

The logic followed here is:

All Baht, Peso, and Rial are Currencies.

Whereas,

Oslo is a Capital.

Hence, Oslo is the odd one.

Important Points

S. No.	Currency	Country	Capital
1.	Kroner	Norway	Oslo
2.	Baht	Thailand	Bangkok
3.	Peso	Mexico	Mexico City
4.	Rial	Iran	Tehran

Q28. Answer: (d) [figure]

Given:

The logic followed here is:

(1) Exchange of positions of the image in center, the image at the lower left corner, and the image at the upper left corner in anti clockwise direction in each step.

(2)

is changing its position to lower right corner (with shading too

), then again in the upper right corner in each step.

Thus, the complete series as follows,

Hence, option (4) is the correct answer.

Q29. Answer: (d) (5, 4, 141)

Given: (4, 3, 73)

The logic followed here is:

(4, 3, 73) → $4^3 + 3^2 = 64 + 9 = 73$

By checking options:

(1) (5, 7, 302) → $5^3 + 7^2 = 125 + 49 = 174 \neq 302$

(2) (7, 5, 345) → $7^3 + 5^2 = 343 + 25 = 368 \neq 345$

(3) (6, 2, 230) → $6^3 + 2^2 = 216 + 4 = 220 \neq 230$

(4) (5, 4, 141) → $5^3 + 4^2 = 125 + 16 = 141$

Hence, (5, 4, 141) is the correct answer.

Q30. Answer: (c) UIUTH

Given: BACK is written as YEXP and MIXTURE is written as NOCGAII.

The logic followed here is:

Consonants changed to their opposite letters and vowels to the next vowels in the alphabetical series as shown below,

• Consonant <=> their opposite letters.
• Vowels → next vowels.
• A → E → I → O → U.
And,
Similarly,
Hence, UIUTH is the correct answer.

Q31. Answer: (d) [figure]

Given:
The logic followed here is: line MN is the mirror.,
Detailed Explanation:
• The line MN is the mirror
• The given word "8Fmwap" ends with p. So the mirror image will start with
=> Option 3 is eliminated.
• The given word "8Fmwap" has fourth letter "w", So the mirror image should be "w" => Option 1 is eliminated.
• The mirror image of the letter "F" should be
=> Option 2 is eliminated.
Hence, option (4) is the correct answer.

Q32. Answer: (b) ÷ and ×

Given: 21 + 5 - 45 × 9 ÷ 3 = 11
By checking options and changing signs and then using BODMAS Rule:
(1) + and ×
=> 21 × 5 - 45 + 9 ÷ 3 = 11
LHS = 21 × 5 - 45 + 9 ÷ 3
= 21 × 5 - 45 + 3
= 105 - 45 + 3
= 108 - 45
= 63
≠ 11
LHS ≠ RHS
(2) ÷ and ×
=> 21 + 5 - 45 ÷ 9 × 3 = 11
LHS = 21 + 5 - 45 ÷ 9 × 3
= 21 + 5 - 5 × 3
= 21 + 5 - 15
= 26 - 15
= 11
LHS = RHS
(3) ÷ and -
=> 21 + 5 ÷ 45 × 9 - 3 = 11
LHS = 21 + 5 ÷ 45 × 9 - 3
= 21 + 9/9 - 3
= 21 + 1 - 3
= 22 - 3
= 19
≠ 11
LHS ≠ RHS
(4) × and -
=> 21 + 5 × 45 - 9 ÷ 3 = 11
LHS = 21 + 5 × 45 - 9 ÷ 3
= 21 + 5 × 45 - 3

= 21 + 225 - 3
= 246 - 3
= 243
≠ 11
LHS ≠ RHS
Hence, ÷ and × is the correct answer.

Q33. Answer: (d) 2, 1, 5, 4, 3

Arranging all the words as per their order in the dictionary:
2. Prepare
1. Presume
5. Prick
4. Prince
3. Priority
Hence, 2, 1, 5, 4, 3 is the correct order.

Q34. Answer: (d) 322 : 18

The logic followed here is:
1st number is the square of 2nd number.
By checking options:
(1) 225 : 15 → 15^2= 225
(2) 289 : 17 → 17^2 = 289
(3) 484 : 22 → 22^2 = 484
(4) 322 : 18 → 18^2 = 324 ≠ 322
Hence, 322 : 18 is the odd one.

Q35. Answer: (c) K, Z, H, O, C, K, R

Given: ZH_ORC_ _K_R_ZH_O_C
By checking options:
(1) K, Z, H, K, R, K, R → ZHKORC / ZHKKRR / ZHKORC
(2) Z, H, K, O, C, K, R → ZHZORC / HKKORC / ZHKORC
(3) K, Z, H, O, C, K, R → ZHKORC / ZHKORC / ZHKORC
(here, ZHKORC is repeating)
(4) K, Z, O, R, C, K, R → ZHKORC / ZOKRRC / ZHKORC
Option (3) gives a pattern of ZHKORC / ZHKORC / ZHKORC.
Hence, K, Z, H, O, C, K, R is the correct answer.

Q36. Answer: (b) Argentina

Given: Africa : Algeria : : South America : ?
The logic followed here is:
Algeria is in the Africa Continent.
Similarly,
Argentina is in the South America.
Hence, Argentina is the correct answer.
Important Points

S. No.	Country	Continent
1	Germany	Europe
2	Argentina	South America
3	Canada	North America
4	Mexico	North America

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Q37. Answer: (a) VPDTUO

Given: POSTED : TPQEFU : : COUNTS : ?

The logic followed here is:

Similarly,

Hence, VPDTUO is the correct answer.

Q38. Answer: (c) 528

Given: RAFT is written as 180 and DON is written as 99.

The logic followed here is:

Sum of the positional values × number of letters in the word = Code in number, as shown below:

Hence, 528 is the correct answer.

Q39. Answer: (a) Wednesday

No. of Odd days	Ordinary Year	Leap Year
365 ÷ 7 = 52 weeks + 1 odd day	366 ÷ 7 = 52 weeks + 2 odd day	

Years	No. of odd days
100 years	5
200 years	3
300 years	1
400 years	0

Note: Multiple of 400 years i.e. 800, 1200, 1600, 2000 have 0 odd days.

Calculating leap year: For Finding the number of leap year (1 - 99) years, divide the number of years by 4 and the quotient will be the number of leap years.

Code for weekdays:

No. of odd days	Day
0	Sunday
1	Monday
2	Tuesday
3	Wednesday
4	Thursday
5	Friday
6	Saturday

2012 = we find out the odd days (the nearest leap century year + the nearest century year + completing year) = 2000 + 11 year + year 2012

• In 2000 year the odd days = 0

• In 11 years, odd days = 2 leap year & 9 normal year

• 2 leap year = 4 odd day

• 9 normal year = 9 odd day ÷ 7 = 2 odd days

• Odd days in 1 January to 22 February:

• In 2012, the number of days up to 22 February = 31 (Jan) + 22 (Feb) = 53 / 7 = 4 odd days.

• Total = 0 + 4 + 2 + 4 = 10 days = 3 odd day

• 3 is the code for Wednesday.

Hence, Wednesday is the correct answer.

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Q40. Answer: (a) (34, 18, 306)

Given: (42, 14, 294)

The logic followed here is:

(42, 14, 294) → 42 × 14 ÷ 2 = 42 × 7 = 294

By checking options:

(1) (34, 18, 306) → 34 × 18 ÷ 2 = 34 × 9 = 306

(2) (30, 16, 242) → 30 × 16 ÷ 2 = 30 × 8 = 240 ≠ 242

(3) (21, 15, 205) → 21 × 15 ÷ 2 = 21 × 7.5 = 157.5 ≠ 205

(4) (36, 21, 360) → 36 × 21 ÷ 2 = 36 × 10.5 = 378 ≠ 360

Hence, (34, 18, 306) is the correct answer.

Q41. Answer: (b) Continent : Asia

Given: Language : Telugu

The logic followed here is:

Telugu is a Language.

Similarly,

Asia is a Continent.

Hence, Asia : Continent is the correct answer.

Mistake Points(1) Service is not a Society.

(2) Mechanic is not a Vehicle.

(3) India is not a Hindi, India is a Country.

Q42. Answer: (c) 2092

Given: 14, 16, 34, 104, 418, ?

The logic followed here is:

Hence, 2092 is the correct answer.

Q43. Answer: (d) Sister

From the given information,

(1) Barun is the son of Chetan.

(2) Advita and Chetan are a married couple, Prakul is the brother of Chetan.

(3) Diya is the daughter of Advita.

(4) Suman is the brother of Barun. Thus, the final family tree is as follows,

Hence, Diya is the sister of Barun.

Q44. Answer: (b) 217

Given: 3 : 65 :: 5 : ? :: 4 : 126

The logic followed here is:

3 : 65 → $(3 + 1)^3 + 1 = 4^3 + 1 = 64 + 1 = 65$.

4 : 126 → $(4 + 1)^3 + 1 = 5^3 + 1 = 125 + 1 = 126$.

Similarly,

5 : ? → $(5 + 1)^3 + 1 = 6^3 + 1 = 216 + 1 = 217$.

Hence, 217 is the correct answer.

Q45. Answer: (c) [figure]

The logic followed here is:

The paper when unfolded, will look like:

Hence, option (3) is the correct answer.

Q46. Answer: (c) C and W

In this question, We will use the opposite face relation of cube which is shown below-

The opposite faces are:

Hence, C and W will be on the opposite faces.

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Q47. Answer: (d) 10

By counting the triangles:

The triangles are → ABE, AEG, GEH, AGB, AGH, ACL, HIL, CFI, IFJ, CIJ → 10 triangles.

Hence, 10 is the correct answer.

Q48. Answer: (b) Both conclusions I and III follow.

The least possible Venn diagram is:

Conclusion:

I. No bus is a truck → True (as all trucks are cars and no car is a bus, implies no bus is a truck)

II. No wheel is a bus → False (it is possible but not definite because some bus can be wheel as there is no direct relation between them)

III. Some cars are trucks → True (as all trucks are cars, implies some cars are trucks)

Hence, both conclusions I and III follow.

Additional Information

Q49. Answer: (a) [figure]

Given:

The logic followed here is: only option (1) is embedded in the given figure, as shown below,

Hence, option (1) is the correct answer.

Q50. Answer: (b) BGLP

The logic followed here is:

Option 1 → KPUZ

Option 2 → BGLP

Option 3 → LQVA

Option 4 → TYDI

Hence, the correct answer is "BGLP".

Q51. Answer: (d) 2702

Alternate Method$x + 1/x = n \Rightarrow x^2 + 1/x^2 = n^2 - 2$ and $x^3 + 1/x^3 = n^3 - 3n$

Now,

$\sqrt{x} + 1/\sqrt{x} = \sqrt{6}$

$\Rightarrow x + 1/x = (\sqrt{6})^2 - 2 = 4$

$\Rightarrow x^2 + 1/x^2 = 4^2 - 2 = 14$

Now,

$x^6 + 1/x^6 = 14^3 - 3 \times 14$

$\Rightarrow 2744 - 42 = 2702$

Traditional method:

Given:

$\sqrt{x} + 1/(\sqrt{x}) = \sqrt{6}$

Formula:

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

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

Calculation:

$\sqrt{x} + 1/(\sqrt{x}) = \sqrt{6}$

$\Rightarrow (\sqrt{x} + 1/\sqrt{x})^2 = 6$

$\Rightarrow x + 1/x + 2 = 6$

$\Rightarrow (x + 1/x) = 4$

$\Rightarrow x^2 + 1/x^2 = 4^2 - 2 = 14$

$\Rightarrow (x^2 + 1/x^2)^3 = x^6 + 1/x^6 + 3(x^2 + 1/x^2)$

Therefore $(x^6 + 1/x^6) = 2702$

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Q52. Answer: (c) 20%

Given:

SP = Rs.512

MP = Rs.800

Calculation:

=> 512 = 800 × (100 - ? /100)

=> ? = 36%

Single discount = 36%

Let two equal discounts be a%.

=> 36 = (a + a - a^2/100)

=> a^2 - 200a + 3600 = 0

=> a^2 - 180a - 20a + 3600 = 0

=> a(a - 180) - 20(a - 180) = 0

a = 180% or a = 20%

Therefore % discount offered is 20%.

Shortcut Trick

According to the question, M.P = 800 and S.P = 512

Now, M.P : S.P = 800 : 512 = 400 : 256

Here, two equal successive discounts have given,

So, after one discount the ratio becomes,

=> M.P : S.P = √400 : √256

=> M.P : S.P = 20 : 16

Now, discount% is (20 - 16)/20 × 100 = 20%

Q53. Answer: (a) 90°

Alternate MethodD is the incenter.

angle D = angle BAC/2 + 90

=> 135° = angle BAC/2 + 90

=> angle BAC/2 = 45°

=> angle BAC = 90°

Therefore The required angle is 90°.

Given:

angle BAC = 135°

Calculation:

angle DBC = angle ABC/2 and angle DCB = angle ACB/2

In ΔBDC,

=> angle BDC + angle DBC + angle DCB = 180°

=> angle DBC + angle DCB = 180° - 135° = 45°

=> angle ABC/2 + angle ACB/2 = 45°

=> angle ABC + angle ACB = 90°

In ΔABC,

=> angle ABC + angle ACB + angle BAC = 180°

=> angle BAC = 180° - 90° = 90°

Therefore angle BAC = 90°

Shortcut Trick

In triangle ABC, if BD and CD bisect angle B and angle C, respectively then,

90° + angle A/2 = angle BDC

90° + angle A/2 = angle BDC

=> 90° + angle BAC/2 = 135°

Therefore angle BAC = 90°

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Q54. Answer: (a) 3

Given:

CO = 4cm, OD = 3.75cm and AB = 8cm

Calculation:

AO × OB = CO × DO

Let AO be a cm.

=> OB = 8 - a

Then,

=> a × (8 - a) = 4 × 3.75

=> a × (8 - a) = 15

=> a × (8 - a) = 3 × 5

=> 3 × (8 - 3) = a × (8 - a)

On comparing a = 3 cm

=> Therefore Smallest distance is 3cm.

Q55. Answer: (b) 9/8

Alternate MethodExam approach -

41, 9 and 40 make a triplet.

Given that $\text{cosec}\theta = 41/9$. It means Hypotenuse = 41 and Perpendicular = 9. Therefore, base = 40

$\tan\theta$ = Perpendicular/Base

=> $\tan\theta = 9/40$

=> $5\tan\theta = 5 \times (9/40) = 9/8$

Therefore The required value is 9/8.

Traditional method:

Given:

$\text{cosec}\,\theta = 41/9$

Formula:

$\sin^2\theta + \cos^2\theta = 1$

Calculation:

$\sin\theta = 9/41$

$\cos\theta = \sqrt{(1 - (9/41)^2)} = 40/41$

$\tan\theta = (\sin\theta)/(\cos\theta) = (9/41) \times (41/40) = 9/40$

Therefore $5\tan\theta = 5 \times 9/40 = 9/8$

Q56. Answer: (d) Varun, Rs. 250

Given:

Rate of interest = 11%

Formula:

Let P = Principal, R = rate of interest and N = time

Simple interest = PNR/100

Compound interest = $P(1 + R/100)^n - P$

Calculation:

SI earned by Varun = (25000 × 2 × 11)/100 = Rs.5500

Equivalent rate of interest for Madhur = 10 + 10 + (10 × 10)/100 = 21%

Compound interest for Madhur = 21% of 25000 = (25000 × 21)/100

=> Rs. 5250

Difference between interests = 5500 - 5250 = Rs.250

Therefore Varun earned Rs.250 more interest than Madhur.

Q57. Answer: (d) 50

Alternate Method

Let the speed of both train be P and Q.

Meeting time = Distance/(P + Q)

=> 2.5 = 275/(60 + Q)
=> 150 + 2.5Q = 275
=> 2.5Q = 125
=> Q = 50 km/h
Therefore The speed of Q is 50 km/h.
Traditional method:
Given:
Distance between P and Q = 275km
Calculation:
Let speed of train running towards station P be a kmph.
Relative speed = a + 60
Then,
=> a + 60 = 275/2.5
=> a + 60 = 110
=> a = 50
Therefore speed of train running towards station P is 50 kmph.

Q58. Answer: (d) 5 : 6

Calculation:
Number of students enrolled in the vocational stream in schools A, C and E taken together = 50 + 35 + 50 = 135
Number of Students in humanities stream in the schools B, D and E taken together = 82 + 45 + 35 = 162
Therefore Required ratio = 135 : 162 = 5 : 6

Q59. Answer: (b) 4 : 9

Alternate MethodPut a = 2 and b = 3
c : d = (5 × 2) : (3 × 3)
=> c : d = 10 : 9
=> 2c : 5d = (10 × 2) : (9 × 5)
=> 4 : 9
Therefore The required ratio is 4 : 9.
Traditional method:
Given:
a : b = 2 : 3 and c : d = 5a : 3b
Calculation:
=> a/b = 2/3
=> c/d = 5/3 × a/b = 5/3 × 2/3 = 10/9
Then,
=> 2c/5d = 2/5 × 10/9 = 4/9
Therefore 2c : 5d = 4 : 9

Q60. Answer: (c) 28√3 cm

Given:
Side of rhombus = 28cm
Calculation:
We know that diagonals of a rhombus meet at a right angle and the intersection point of diagonals bisects the two diagonals.
Diagonals of a rhombus are angle bisectors.
angle ADC/2 = angle ADM = angle MDC = 60/2 = 30^o
In right angled triangle CMD,
=> angle MCD = 60^o
=> cos 30 = DM/DC
=> √3/2 = DM/28
=> DM = 14√3 cm
=> BD = 2DM = 28√3 cm

Therefore Length of larger diagonal is 28√3 cm

Q61. Answer: (b) 8

Alternate Methodx + 1/x = √[x² + 1/x² + 2]

=> x2 + 1/x² = √(3842 + 2) = 62

=> x + 1/x = √(62 + 2) = 8

Therefore The required value is 8.

Traditional method:

Given:

x^4 + 1/(x^4) = 3842

Formula:

(a + b)² = a² + b² + 2ab

Calculation:

=> (x^4 + 1/x^4) = (x² + 1/x²)² - 2

=> (x² + 1/x²)² = 3842 + 2 = 3844

=> (x² + 1/x²) = 62

Then,

(x + 1/x)² = x² + 1/x² + 2

= 62 + 2

= 64

Therefore (x + 1/x) = √64 = 8

Q62. Answer: (b) 9

Alternate MethodRatio of time taken by A and B = 1 : 3

Ratio of time efficiency A and B = 3 : 1

(3 - 1) units = 24

=> 2 units = 24

=> 1 units = 12

Total work = 12 × 3 × 1 = 36

Time taken by both A and B = 36/(3 + 1) = 9 days

Traditional method:

Given:

A is thrice efficient than B.

Calculation:

Ratio of time taken by A and B = 1 : 3.

Let number of days taken by A and B to complete work be a days and 3a days respectively.

=> 3a - a = 24

=> a = 12

A and B can complete work in 12 days and 36 days respectively.

Then,

=> 1/12 + 1/36 = 1/9

Therefore In 9 days work will be completed when both work together.

Q63. Answer: (d) 13.85%

Alternate MethodEquivalent increase after 2019 = 15 + 10 + (15 × 10)/100

=> 26.5%

Equivalent increase after 2020 = 26.5 - 10 - (26.5 × 10)/100

= 16.5 - 2.65

=> 13.85%

Therefore The required increase is 13.85%

Traditional method:

Given:

% population increased in 2018 = 15%

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Calculation:

Let initial population be a.

Total population after 3 years = a × 115/100 × 110/100 × 90/100 = 1.1385a

Therefore Required percentage increase = (1.1385a - a)/a × 100 = 13.85%

Q64. Answer: (b) 18 cm

Given:

Volume of cylindrical pipe = 3564 cubic.cm

Formula:

Volume of cylinder = $\pi r^2 h$

Calculation:

Internal radius = 12 - 3 = 9 cm

Then,

=> 3564 = 22/7 × (12^2 - 9^2) × h

=> h = 18

Therefore Length of pipe is 18cm

Q65. Answer: (d) Rs. 400

Given:

Average daily income for February month = Rs.560

Calculation:

2020 is a leap year, so number of days in February is 29.

Total daily income of Shyam lal = 29 × 560 = Rs.16240

Total daily income for first 16 days = 16 × 590 = Rs.9440

Total daily income for last 16 days = 16 × 500 = Rs.8000

Total income for 14th, 15th and 16th days = 17440 - 16240 = Rs.1200

Therefore His average income for 14^(th) 15^(th) and 16^(th) February = 1200/3 = Rs.400

Q66. Answer: (d) 1

Given:

31 2/5 ÷ [168 ÷ 3/7 of 28 + (33 ÷ 5/2) + (7 3/5 - 3 2/5)]

Concept:

Calculation:

=> ? = 31 2/5 ÷ [168 ÷ 3/7 of 28 + (33 ÷ 5/2) + (7 3/5 - 3 2/5)]

=> ? = 157/5 ÷ [168 ÷ 12 + 66/5 + (38/5 - 17/5)]

=> ? = 157/5 ÷ [14 + 87/5]

=> ? = 157/5 × 5/157

=> ? = 1

Therefore 31 2/5 ÷ [168 ÷ 3/7 of 28 + (33 ÷ 5/2) + (7 3/5 - 3 2/5)] = 1

Q67. Answer: (a) 67.2 cm

Given:

AD = 12 cm and CD = 16 cm

Calculation:

BD is angle bisector of angle ABC.

=> AD/CD = AB/BC

=> AB/BC = 12/16 = 3/4

Let AB and BC be 3a and 4a respectively.

Using pythagoras theorem,

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

=> AC = 5a

=> AD + DC = AC

=> AC = 12 + 16 = 28

=> 28 = 5a

=> a = 5.6

Therefore Perimeter of ΔABC = 3a + 4a + 5a = 12a = 67.2 cm

Q68. Answer: (d) Profit 10%

Given:

Cost price of 15 dozen pens = Rs.1350

Formula:

Profit % = (SP - CP)/CP × 100

Calculation:

Cost price of a pen = 1350/(15 × 12) = Rs.7.5

Selling price of a pen = 495/(5 × 12) = Rs.8.25

Therefore Profit % = (8.25 - 7.5)/7.5 × 100 = 10%

Q69. Answer: (c) 60°

Given:

3cot θ + tan θ - 2√3 = 0

Calculation:

=> 3/tanθ + tanθ - 2√3 = 0

=> $\tan^2\theta$ - 2√3tanθ + 3 = 0

Solving,

=> tanθ = √3

Therefore θ = 60°

Q70. Answer: (a) 13

Given:

Number = 54k31m82

Concept:

Divisibility test of 11 = If the difference of the sum of alternative digits of a number is divisible by 11, then that number is divisible by 11 completely.

Calculation:

=> (5 + k + 1 + 8) - (4 + 3 + m + 2) = (14 + k - 9 - m) = k - m + 5

=> k - m = -5

take maximum value of m = 9

=> k = -5 + 9 = 4

Therefore m + k = 4 + 9 = 13

Q71. Answer: (b) March

Given:

% number of computers sold in January = 85/360 × 100 = 23.61%

% number of computers sold in February = 45/360 × 100 = 12.5 %

% number of computers sold in March = 99/360 × 100 = 27.5%

% number of computers sold in April = 54/360 × 100 = 15%

% number of computers sold in May = 77/360 × 100 = 21.38%

Therefore From above, For March the number of computers sold above 25% of the total number of computers sold in 5 months.

Q72. Answer: (a) 9 : 14

Calculation:

Total marks of D's in Maths and Physics together = 50 + 40 = 90

Total marks of B's in English and Physics = 60 + 80 = 140

Therefore ratio of the marks of D's in Maths and Physics together to the marks of B's in English and Physics = 90 : 140 = 9 : 14

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Q73. Answer: (b) 20

Given:

x - 2/x = 4

Formula:

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

Calculation:

x - 2/x = 4

Squaring both sides, we get:

$(x - 2/x)^2 = 16$

Therefore $(x^2 + 4/x^2) - 2 (x)(2/x) = 16$

x2 + 4/x2 - 4 = 16

x2 + 4/x2 = 20

Q74. Answer: (d) 4 : 5

Calculation:

Total candidates enrolled in institute S = 5500 × 18/100 = 990

Total candidates passed in institute S = 3300 × 24/100 = 792

Therefore The ratio of the candidates who passed to the candidates enrolled from institute S = 792 : 990 = 4 : 5

Q75. Answer: (b) 138°

Given:

angle APB = 42°

Calculation:

According to the question,

angle A + angle B + angle O + angle P = 360

angle A + angle B = 180 (Due to the tangent made and touch radius)

angle AOB + angle APB = 180°

Therefore angle AOB = 180° - 42° = 138°

Q76. Answer: (d) It is used to make drinking water free from germs.

The correct answer is It is used to make drinking water free from germs.

• Washing soda is a chemical compound with the formula Na2CO3, known as sodium carbonate. It is a salt of carbonic acid.

Important Points

• Properties of a Washing soda-

• It is a transparent crystalline solid.

• It is one of the few metal carbonates which are soluble in water.

• It is alkaline with a pH level of 11, it turns red litmus to blue.

• It has detergent properties or cleansing properties because it can remove dirt and grease from dirty clothes, etc.

• It attacks dirt and grease to form water-soluble products, which are then washed away on rinsing with water.

• It is used in glass, soap and paper industries.

• It is also used in the manufacture of sodium compounds such as borax.

• It is used for removing the permanent hardness of the water.

• Bleaching powder is used to make drinking water free from germs.

Q77. Answer: (a) Article 74(1)

The correct answer is Article 74(1).

Key Points

• Article 74(1)

• There shall be a Council of Ministers with the Prime Minister at the head to aid and advise the President who shall, in the exercise of his functions, act in accordance with such advice: Provided that the President may require the Council of Ministers to reconsider such advice, either generally or otherwise, and the President shall act in accordance with the advice tendered after such reconsideration.

Additional Information

• Article 74(2)

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• The question of whether any and if so what, advice was tendered by Ministers to the President shall not be inquired into in any court.

• Article 71(1)

• All doubts and disputes arising out of or in connection with the election of a president or vice President shall be inquired into and decided by the Supreme court whose decision shall be final.

• Article 71(2)

• If the election of a person as President or Vice President is declared void by the Supreme court, acts done by him in the exercise and performance of the powers and duties of the office of President or Vice President, as the case may be, on or before the date of the decision of the Supreme Court shall not be invalidated by reason of that declaration.

Q78. Answer: (b) Kamarupa

The correct answer is Kamarupa.

• Bhaskaravarman of the Varman dynasty ruled in the Kamarupa region.

Important Points

• The Varman dynasty was part of the Kamarupa kingdom of Assam.

• Its reign was from 350 CE to 655 CE and Pushyavarman was its founder.

• After being captured by the Gaur king during his father's reign, Bhaskaravarman was able to re-establish Varman's rule.

• He made political alliances with Harshavardhana of Thaneswar, against the alliance of the Gauda and East Malwa.

• He was visited by Xuanzang and Li Yi-Piao, the envoy of the Tang dynasty who has left accounts of the king and the kingdom.

• He was the first Kamarupa king to claim descent from the mythical Narakasura, Bhagadatta, and Vajradatta.

• After his death, Salasthambha, who established the Mlechchha dynasty, acquired power in the Kamarupa Kingdom.

• He issued the Dubi and Nidhanpur copper plate grants, re-issued after his ancestor Bhutivarman, and a clay seal found in Nalanda.

Q79. Answer: (c) Sedimentary rocks

The correct answer is Sedimentary rocks.

• Sedimentary rocks are formed by the lithification process.

Additional Information

• Lithification:

• It refers to the process that loose and under-consolidated sediment particles transform into hard and solid rocks.

• This process includes a number of geological processes, such as consolidation, deep bury, cementation, recrystallization and dehydration.

• Igneous Rocks

• As igneous rocks form out of magma and lava from the interior of the earth, they are known as primary rocks.

• The igneous rocks (Ignis – in Latin means ‘Fire’) are formed when magma cools and solidifies.

• When magma in its upward movement cools and turns into a solid form it is called igneous rock.

• The process of cooling and solidification can happen in the earth’s crust or on the surface of the earth.

• Igneous rocks are classified based on texture which depends upon the size and arrangement of grains or other physical conditions of the materials.

• Granite, gabbro, pegmatite, basalt, volcanic breccia, and tuff are some of the examples of igneous rocks.

• Sedimentary Rocks

• The word ‘sedimentary’ is derived from the Latin word sedimentum, which means settling.

• Rocks (igneous, sedimentary and metamorphic) of the earth’s surface are exposed to denudational agents and are broken up into various sizes of fragments.

• Such fragments are transported by different exogenous agencies and deposited.

• These deposits through compaction turn into rocks.

• In many sedimentary rocks, the layers of deposits retain their characteristics even after lithification.

• Hence, we see a number of layers of varying thickness in sedimentary rocks like sandstone, shale, geyserite, chalk, limestone, coal etc.

• Metamorphic Rocks

• Metamorphic means ‘change of form’.

• These rocks form under the action of pressure, volume, and temperature (PVT) change.

• Metamorphism occurs when rocks are forced down to lower levels by tectonic processes or when molten magma rising through the crust comes in contact with the crustal rocks or the underlying rocks are subjected to great amounts of pressure by overlying

rocks.

• Metamorphic rocks are formed due to the proximity of sedimentary rocks with molten magma.

• Mechanical disruption and reorganization of the original minerals within rocks due to breaking and crushing without any appreciable chemical changes are called dynamic metamorphism.

• Examples- Marble, Quartzite, Schist, etc.

Q80. Answer: (b) desktop publishing software

The correct answer is desktop publishing software.

Key Points

• CorelDraw is an example of a desktop publishing software.

• Desktop publishing software creates layouts of text and media files for publishing in print or digital formats, such as newspapers, magazines, etc.

• This software allows a variety of elements to be combined on a page (including text, graphics, and placeholders for elements that will be added later) and arranged and edited to produce the best visual result.

• Programs such as Adobe InDesign, Microsoft Publisher, QuarkXPress, and Scribus are examples of desktop publishing software.

Important Points

• Coreldraw is vector-based design software used to create logos, flexes, brochures, invitation cards, and any kind of vector design based on the lining.

• It was developed by Ottawa-based software company- Corel Corporation.

• It was developed for Microsoft Windows XP, Vista, Windows 7, Windows 8, and Windows 10.

• The latest version is marketed as CorelDraw Graphics Suite 2021 (equivalent to version 23) and was released in March 2021.

Q81. Answer: (c) Plaster of Paris

The correct answer is Plaster of Paris.

Key Points

• Plaster of Paris is the generic name of calcium sulphate hemihydrate-CaSO4. 1/2H2O.

• Plaster of Paris is manufactured by heating gypsum at 423K or 150^o C/300^o F.

• On heating gypsum at 423 K, it loses water molecules and becomes calcium sulfate hemihydrate. This product is known as the plaster of Paris.

Important Points

• Application of Plaster of Paris-

• It is used as a building material as a protective coating on walls and ceilings.

• It is used as a moulding and vesting agent for decorative elements.

• It is also used for aesthetic touch to the construction elements.

• It is also field as plaster in orthopedics and as a filling material by dentists, etc.

Additional Information

• Baking soda is also known as sodium bicarbonate or bicarbonate of soda.

• Vinegar is also known as acetic acid. It typically contains 5–8% acetic acid by volume.

• Washing soda is a chemical compound with the formula Na2CO3, also known as sodium carbonate.

Q82. Answer: (b) Windows + D

The correct answer is Windows + D.

Key Points

• Windows + D- Minimise all programs on a computer screen and display the desktop

• Windows + M- Minimize all windows

• Windows + C- Nothing in particular

• Windows + F- Start a Feedback dialog

Confusion Points

• Windows key + M minimizes all open windows – “M” for “Minimize.”

• Win + M minimizes all opened windows excluding those which do not support WM_MINIMIZE;

• Windows key + D also minimizes all open windows – “D” for “Desktop.”

• Win + D shows the desktop in any case.

As Question is about minimising all programs on a computer screen and displaying the desktop. Hence Windows key + D is the

correct answer.

Additional Information

• Windows logo key + Pause- Display the System Properties dialog box

• Windows logo key + Shift + M- Restore minimized windows to the desktop

• Windows logo key + E- Open Computer

• Windows logo key + F- Start a Feedback dialog

• Ctrl+ Windows logo key + F- Search for computers (if you're on a network)

• Windows logo key + L- Lock your computer or switch users

• Windows logo key + R- Open the Run dialog box

• Windows logo key + T- Cycle through programs on the Taskbar

Q83. Answer: (c) Rs. 5275

The correct answer is Rs. 5275.

Key Points

• Rs. 5275 minimum support price per quintal of groundnut was declared by the Government of India for the marketing season 2020-21.

• The total increase in overall minimum support price was Rs. 274 per quintal.

• During 2017-18, the minimum support price was Rs. 4450 per quintal.

Important Points

• The government has increased the MSP of Kharif crops for the marketing season 2020-21, to ensure a remunerative price to the growers for their produce.

• The highest increase in MSP was proposed for Nigerseed (Rs 755 per quintal) followed by Sesame (Rs 370 per quintal).

• Minimum Support Price (MSP) is a form of market intervention by the Government of India to insure agricultural producers against any sharp fall in agricultural prices.

• The Minimum Support Price is announced by the Government of India at the beginning of the sowing season for certain crops based on the recommendations of the Commission for Agricultural Costs and Prices (CACP).

Q84. Answer: (d) Chilika

The correct answer is Chilika.

Key Points

• Chilika is the largest brackish water lake in Asia.

• It is Asia’s largest and the world’s second-largest lagoon.

• It spreads over the Puri, Khurda, and Ganjam districts of Odisha on the east coast of India, at the mouth of the Daya River.

• It flows into the Bay of Bengal.

• In 1981, it was designated the first Indian wetland of international importance under the Ramsar Convention.

Additional Information

• Loktak Lake is the largest natural freshwater lake in India. It is famous for the phumdis (heterogeneous mass of vegetation, soil and organic matter at various stages of decomposition) floating over it.

• Pulicat Lagoon is the second largest brackish water lagoon in India. It is along the Coromandel Coast.

• Wular Lake is sited in Bandipora district in Jammu and Kashmir. The lake basin was formed as a result of tectonic activity and is fed by the Jhelum River.

Q85. Answer: (b) hepatitis C virus

The correct answer is hepatitis C virus.

Key Points

• In 2020, the Nobel Prize in Physiology or Medicine was awarded jointly to Harvey J Alter, Michael Houghton, and Charles M Rice for the discovery of the hepatitis C virus.

• The methodical studies of transfusion-associated hepatitis by 2020 Medicine Laureate Harvey J. Alter demonstrated that an unknown virus was a common cause of chronic hepatitis.

• Michael Houghton – awarded the 2020 Nobel Prize in Physiology or Medicine – used an untested strategy to isolate the genome of the new virus that was named Hepatitis C virus.

• Medicine Laureate Charles M. Rice provided the final evidence showing that the Hepatitis C virus alone could cause hepatitis

Additional Information

• Hepatitis, from the Greek name for liver and inflammation, is a disease characterized by poor appetite, vomiting, fatigue and

jaundice – yellow discoloration of the skin and eyes.

• Chronic hepatitis leads to liver damage, which may progress to cirrhosis and liver cancer.

• Viral infection is the leading cause of hepatitis, with some forms persisting without symptoms for many years before life-threatening complications develop.

Q86. Answer: (a) Sashidhar Jagdishan

The correct answer is Sashidhar Jagdishan.

Key Points

• Sashidhar Jagdishan took charge as the CEO and Managing Director of HDFC Bank In October 2020.

• He replaced Aditya Puri.

• The appointment is for a period of three years starting 27 October 2020.

• He joined the bank as a manager in the finance division in 1996 and went on to become the finance head in 1999.

• Subsequently, he was appointed as the chief financial officer of HDFC Bank in 2008.

Additional Information

• Amitabh Chaudhry is the Chief Executive Officer of Axis Bank.

• Sandeep Bakhshi is the Chief Executive Officer of ICICI Bank.

• Rakesh Sharma is the Chief Executive Officer of IDBI Bank.

Q87. Answer: (c) National Highways Authority of India

The correct answer is National Highways Authority of India.

Key Points

• National Highways Authority of India launched ‘Harit Path', a mobile app, in 2020.

• The application is to monitor the location, growth, species details, maintenance activities, targets and achievements of each of its field units for each and every plant under all plantation projects.

Additional Information

• National Highways Authority of India

• The National Highways Authority of India (NHAI) is an autonomous agency of the Government of India, established in 1995 (Act 1988).

• It is a nodal agency of the Ministry of Road Transport and Highways.

• NHAI has signed a Memorandum of Understanding (MoU) with the Indian Space Research Organization for satellite mapping of highways.

Q88. Answer: (a) England

The correct answer is England.

Key Points

• The World Snooker Championship 2020 was held from 31 July to 16 August 2020 in England.

• It was the 44th consecutive year that the World Snooker Championship was held at the Crucible Theatre, England.

• It was organized by the World Snooker Tour, a subsidiary of the World Professional Billiards and Snooker Association.

Important Points

• The 2021 World Snooker Championship (also referred to as the 2021 Betfred World Snooker Championship for the purposes of sponsorship) was a professional snooker tournament, that took place from 17 April to 3 May 2021 at the Crucible Theatre in Sheffield, England.

Q89. Answer: (c) Sanjay Kapoor

The correct answer is Sanjay Kapoor.

Key Points

• Sanjay Kapoor was conferred with the ‘Most Inspiring Indian Bollywood Actor’ award in the UK In 2019.

• He was awarded at the House of Common Parliament of the United Kingdom.

• He was last seen in Sonam Kapoor and Dulquer Salmaan starrer The Zoya Factor.

Important Points

• 67th National Film Awards:

• Dadasaheb Phalke Award 2019 (67th): Rajnikanth

• Best Actress: Kangana Ranaut (Manikarnika, Panga)

• Best Actor: Manoj Bajpayee for Bhonsle and Dhanush for Asuran

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• Best Children Film: Kastoori (Hindi)

Q90. Answer: (b) Muhammad Bin Tughlaq

The correct answer is Muhammad Bin Tughlaq.

• Muhammad Bin Tughlaq was the ruler of the Delhi sultanate when Ibn Batuta came to India.

Key Points

• Ibn Battuta was a traveller from Morocco.

• He came to India during the reign of Muhammad bin-Tughlaq (1333-1347).

• Muhammad bin-Tughlaq was impressed by his scholarship and appointed Ibn Battuta the qazi or judge of Delhi.

• He was ordered in 1342 to proceed to China as the Sultan's envoy to the Mongol ruler.

• His account is often compared with that of Marco Polo, who visited China (and also India) from his home base in Venice in the late thirteenth century.

• Ibn Battuta's book of travels called Rihla, written in Arabic provides extremely rich and interesting details about the social and cultural life in the subcontinent in the fourteenth century.

Additional Information

• Alauddin Khilji

• He was the second sultan of the Khilji dynasty and was the most powerful king of this dynasty. He ruled for about twenty years from 1296 to 1316.

• He became the sultan of Delhi after killing his uncle and father-in-law Jalaluddin Khilji, the founder of the Khilji dynasty.

• Alauddin was a very ambitious person and a warmonger.

• He liked to call himself 'The Second Alexander'.

• During his regime, he expanded his kingdom to a large area.

• He conquered Gujarat, Ranathambor, Mewar, Malwa, Jalore, Warangal, and Madurai.

• Ibrahim Lodhi

• He was the last king of the Lodhi dynasty and the last sultan of Delhi.

• He was the son of Sikandar Lodhi. Daulat Khan Lodhi, the Governor of Punjab, invited Bahur to overthrow Ibrahim.

• He captured Gwalior and was defeated by Rana Sanga of Mewar.

• He was defeated and killed at the hands of Babur in the First Battle of Panipat in 1526 AD.

• Feroz Shah Tughlaq

• He was born in 1309 and became sultan of Delhi after the demise of his cousin Muhammad-bin-Tughlaq.

• He was the third ruler of the Tughlaq dynasty that ruled over Delhi from 1320 to 1412 AD.

• He was in power from 1351 to 1388 AD.

• He used to pay his army in-kind i.e Land and not in real money.

• The British called him the 'father of the irrigation department' because of the many gardens and canals that he built like - The canal connecting the Yamuna to the city of Hissar.

Q91. Answer: (d) Ajanta Cave No. 1

The correct answer is Ajanta Cave No. 1.

Key Points

• The painting named 'Padmapanl Bodhisattva' is found in Ajanta Cave No. 1.

• Out of the 30 excavated caves, five (cave no. 9, 10, 19, 26, and 29) are chaitya grihas (prayer halls) and the rest are viharas (monasteries).

Additional Information

• In date and style, these caves can be divided into two broad phases-

• Phase I (2nd Century to 1st Century BCE)

• The earliest excavations were done by the Satavahanas and belong to the Hinayana (Theravada) phase of Buddhism.

• The object of worship is a stupa here.

• Caves 9, 10, 12, 13, and 15A belong to this era.

• Phase II (5th Century AD to 6th Century AD)

• These excavations are a major contribution of the Vakatakas and Chalukyas.

• It belongs to the Mahayana phase of Buddhism which is mostly a Post Gupta age.

• In Buddhism, a bodhisattva is any person who is on the path towards Buddhahood. Padmapani in Sanskrit literally translates into one who holds the lotus.

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• In the painting, the bodhisattva is holding a blue lotus in his right hand. The eyes are half-closed and look downward

Q92. Answer: (d) Banas

The correct answer is Banas.

Key Points

• Banas river originates from the state of Rajasthan.

• The river originates from the Khamnor hills of the Aravali range near Kumbhalgarh.

• It is also known as 'Van ki Asha' (Hope of forest).

• It flows northeast through the Mewar region of Rajasthan and meets the Chambal near the village of Rameshwar in Sawai Madhopur district.

• Berach and Menali are the right bank tributaries of the Banas river.

• Kothari, Khari, Dai, Dheel River, Sohadara River, Morel, and Kalisil are the left bank tributaries of Banas river.

Additional Information

• Chambal River

• It is the tributary of the Yamuna River.

• It rises in the Vindhyachal range South of Mhow, the western state of Madhya Pradesh.

• It flows from the north into the southeastern state of Rajasthan.

• It ends on the confluence of five rivers which includes the Chambal, Kwari, Yamuna, Sind, Pahuj, at Pachnada near Bhareh in Uttar Pradesh, at the border of Bhind and Etawah districts.

• Major Tributary - Kshipra, Kalisindh, Parvati, Bansa, Newaj, Kwari, Sindh, etc.

• Narmada River

• It originates from the Narmada Kund located in Amarkantak, Anuppur district in Madhya Pradesh.

• The major tributaries of the Narmada are Barna, Tawa, Kanar, Kolar, Man, Hatni, Uri, Shakkar, etc.

• It flows westwards before falling into the Gulf of Khambhat.

• The Narmada river is the longest river in Madhya Pradesh and it's called "The Lifeline of Madhya Pradesh".

• The waterfalls created by the Narmada River include Kapil Dhara and Dudh Dhara Falls (Anuppur), Dhuandhar Falls (Bhedaghat, Jabalpur), Sahasradhara Falls (Maheshwar, Khargone), Dardhi Falls, Manadhata Falls, etc.

• Mahi River

• It rises in Madhya Pradesh and, after flowing through the Vagad region of Rajasthan, enters Gujarat and flows into the Arabian Sea.

• It is one of Five west-flowing rivers in India, along with Tapti River, Sabarmati River, Luni River (Endorheic river) and the Narmada River.

• Tributaries- Som, Anas, and Panam.

Q93. Answer: (b) Bundelkhand and Malwa

The correct answer is Bundelkhand and Malwa.

Key Points

• Mirzai and bandi (types of jackets in white or black) are popular in the Bundelkhand and Malwa region.

• The color of the costumes shows the dignity and radiant appearance.

• Dhotis and Safas are other traditional clothes worn by the people of Madhya Pradesh.

Important Points

• Women in Madhya Pradesh wear the common dress called Lehenga and Choli.

• They also wear the Lugra or Orni which is covered over the shoulder and head.

• The costumes are generally in Black and Red colors and some women also wear the dress in Black and Red colors.

Q94. Answer: (d) UN General Assembly

The correct answer is UN General Assembly.

Key Points

• Convention on the prohibition of the use of nuclear weapons and reducing nuclear danger under the nuclear weapons cluster were two resolutions sponsored by India that UN General Assembly adopted in 2020.

• The first committee of the UNGA looks after disarmament and works in collaboration with the Conference on Disarmament and UN Disarmament Commission.

• The two resolutions which have been adopted are titled ‘Convention on the Prohibition of the Use of Nuclear Weapons’ and The resolution on "Reducing Nuclear Danger", tabled since 1998, draws global attention to the risks of unintentional or accidental use

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of nuclear weapons and underscores the need for a review of nuclear doctrines.

Important Points

• The United Nations General Assembly is one of the six principal organs of the United Nations, serving as the main deliberative, policymaking, and representative organ of the UN.

• Its powers, composition, functions, and procedures are set out in Chapter IV of the United Nations Charter.

• President: Abdulla Shahid

• Headquarters: New York

Q95. Answer: (c) 2010

The correct answer is 2010.

Key Points

• India hosted the Commonwealth Games in 2010.

• This was the first time India has hosted the Games and only the second time the event has been held in Asia (Kuala Lumpur in 1998 was the first).

• The Games saw the participation of 71 Commonwealth Games Associations.

• India won 101 medals in total, including 38 Gold medals, enabling it to finish the Games at second position behind Australia.

Important Points

• The 2022 Commonwealth Games will be held in Birmingham, England.

• It is officially known as the XXII Commonwealth Games and is commonly known as Birmingham 2022.

• The Commonwealth Games is an international multi-sport event involving athletes from the Commonwealth of Nations.

• The event was first held in Hamilton, in the province of Ontario in Canada from 16–23 August 1930.

• The exception of 1942 and 1946, has taken place every four years since then.

Q96. Answer: (a) Perigee

The correct answer is Perigee.

Key Points

• For the Moon or an artificial satellite body moving around the Earth in an elliptical orbit, the distance between the object and the Earth changes throughout the orbit.

• The Moon's orbit around Earth is elliptical.

• The point of the orbit closest to Earth is called perigee, while the point farthest from Earth is known as apogee.

Important Points

• At the point of perigree in the orbit, the object is moving at its maximum speed (Kepler’s Second Law).

• An apsis is the farthest or nearest point in the orbit of a planetary body about its primary body.

• The Earth's two apsides are the farthest point- aphelion, and the nearest point- perihelion, of its orbit around the host Sun.

• The point of maximum separation from the Earth is known as the apogee. The apogee refers specifically to orbits around the Earth, and is equivalent to the apoapsis of a general orbit.

Additional Information

• The terms perihelion and aphelion describe different points in our planet’s orbit of the Sun. This can also apply to other planets, comets, or bodies.

• Aphelion is the point of the Earth’s orbit that is farthest away from the Sun. It always happens in early July, about two weeks after the June solstice,

• Perihelion is the point of the Earth’s orbit that is nearest to the Sun. This always happens in early January, about two weeks after the December Solstice.

• The words come from Ancient Greek, in which helios means “Sun,” apo means “far,” and peri means “close.”

Q97. Answer: (a) Ganti Mohana Chandra Balayogi

The correct answer is Ganti Mohana Chandra Balayogi.

Key Points

• Ganti Mohana Chandra Balayogi became the youngest speaker of Lok Sabha till March 2021.

• He had the distinction of having been elected Speaker of the Twelfth Lok Sabha and re-elected unanimously as the Speaker of the Thirteenth Lok Sabha.

• He was handpicked by Telugu Desam Party (TDP) supremo N. Chandrababu Naidu in 1998 to become the youngest and first Dalit Speaker of the Lok Sabha.

• As Speaker, Balayogi was the Chairman of the Business Advisory Committee, Rules Committee and General Purposes

Committee.

• Balayogi was also the Chairman of the Standing Committee of the Conference of Presiding Officers of Legislative Bodies in India.

• The Speaker is elected by the Lok Sabha from amongst its members.

• He is the protector of the members' rights and privileges, the House as a whole, and their committees.

• He appoints the chairman of all the parliamentary committees of the Lok Sabha and supervises their functioning.

Important Points

• Meira Kumar was the 15th Speaker of Lok Sabha from 2009 to 2014.

• Sumitra Mahajan was the 16th Speaker of Lok Sabha from 2014 to 2019.

• PA Sangma was the 11th Speaker of Lok Sabha from from 1996 to 1998.

Q98. Answer: (a) The Heritage Foundation

The correct answer is The Heritage Foundation.

• The Heritage Foundation released the 'Global Economic Freedom Index 2020 Annual Report'.

• It was the 26th edition published by Heritage Foundation.

Important Points

• India ranked 105th in Economic Freedom Index 2020.

• India's total score in this index was 56.5 and its overall score is increased by 1.3 points.

• Singapore topped the Economic Freedom Index 2020.

• Hong Kong for the first time secured 2nd rank since the 1st publication in 1995.

• North Korea ranked last, securing 180th rank.

• This index is based on 12 factors which have 4 pillars.

• The World Index of Economic Freedom covers 12 freedoms including Rule of Law- property rights, government integrity, judicial effectiveness; Government Size- government spending, tax burden, fiscal health; Regulatory Efficiency- business freedom, labour freedom, monetary freedom; Open Markets- trade freedom, investment freedom, financial freedom.

Q99. Answer: (d) Field Hockey

The correct answer is Field Hockey.

• Field Hockey has been India's most successful sport in the history of Olympic games having won medals maximum number of times till December 2020.

Important Points

• India's team has won eight gold medals in 1928, 1932, 1936, 1948, 1952, 1956, 1964, and 1980.

• India also has the best overall performance in Olympic history with 83 victories out of the 134 matches played.

• They are also the only team to ever win the Olympics without conceding a single goal in 1928 and 1956.

• In 1928, the team won its first Olympic gold medal and until 1960, the Indian men's team remained unbeaten in the Olympics, winning six gold medals in a row.

• India also won the World Cup in 1975.

Q100. Answer: (b) genetic disease

The correct answer is genetic disease.

• Down Syndrome is a genetic disease.

Additional Information

• Down syndrome is a genetic condition that arises due to the presence of an extra chromosome 21.

• Here, chromosome 21 is repeated thrice (trisomy 21), instead of showing up twice in a normal individual.

• The karyotype of Down syndrome is represented as 47, XX, +21 (females) and 47, XY, +21 (males)

• Some of the most common are characteristics of down syndrome:

• Flat face, round head, and typical epicanthic fold of the eyes

• Short, broad hands

• Mental retardation Hypotonia – poor muscle tone

• Short stature

• Protruding furrowed tongue

• Chromosomal Aberrations

• Mild to moderate developmental disabilities

• Typical dermatoglyphic patterns (palm and fingerprint patterns)

• Recognizing the need to support people suffering from Down Syndrome, the WHO on 20th December 2007, recognised March 21st as ‘World Down Syndrome Day’.

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