SSC CHSL 2020 Official Paper 33 (Held on: 11 Aug 2021 Shift 3) (Previous Year Paper)

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

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ENGLISH LANGUAGE

Q1. Directions: Select the correct passive form of the given sentence.

The counselor gave very good advice to the students.

(a) Very good advice was given to the students by the counselor.
(b) Very good advice is given to the students by the counselor.
(c) Very good advice to the students has been given by the counselor.
(d) Very good advice to the students had been given by the counselor.

Q2. Select the most appropriate ANTONYM of the given word.

PRECIOUS

(a) costly
(b) worthless
(c) ugly
(d) plentiful

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

HAZARDOUS

(a) smooth
(b) predictable
(c) uncaring
(d) dangerous

Q4. Directions: Select the correct indirect form of the given sentence.

Mother said to me, “Enjoy your vacation with your friends.”

(a) Mother asked me to enjoyed my vacation with my friends.
(b) Mother told me that I will enjoy my vacation with my friends.
(c) Mother told me that you should enjoy your vacation with your friends.
(d) Mother told me to enjoy my vacation with my friends.

Q5. Directions: 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’.

These days, wherever district courts are functioning, hearings is limit to urgent matters.

(a) hearings were limited
(b) No substitution
(c) hearings are limited
(d) hearing is limit

Q6. Directions: Select the most appropriate meaning of the given idiom.

A red-letter day

(a) a day of fun and enjoyment
(b) the worst day
(c) a day of horror
(d) a memorable day

Q7. Directions: Given below are four jumbled sentences. Out of the given options, select the one that gives their correct order.

A. It is only after sunset that he satisfies his hunger and quenches his thirst.

B. In this way, by practicing self-restraint for one month in a year, he is able to lead a life of self-discipline in all matters for the rest of the year.

C. During the month of Ramzan, the believer abstains from food and drink in the daytime of his own free will.

D. Fasting is an exercise in self-discipline and is good for everyone.

(a) DBCA
(b) CDAB
(c) DCAB
(d) CBDA

Q8. Directions: Select the most appropriate meaning of the given idiom.

A dime a dozen

(a) not available everywhere
(b) in great demand as not easily available
(c) common and so of little value
(d) available only in bulk

Q9. Directions: Select the most appropriate word to fill in the blank.

The government has opened many new centers of excellence to train teachers in conducting online classes _____.

(a) certainly
(b) hopefully
(c) automatically
(d) effectively

Q10. Directions: Select the INCORRECTLY spelt word.

(a) almighty
(b) alliteration
(c) allegation
(d) allert

Q11. Directions: In the given sentence, identify the segment which contains a grammatical error.

The manager said that Rahul does not wants to go to Mumbai for the new project.

(a) for the new project
(b) to go to
(c) said that
(d) does not wants

Q12. Directions: 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’.

It was the biggest jump in earnings for me and I was delighted.

(a) No substitution
(b) is the big
(c) was the bigger
(d) has been the biggest

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Q13. Directions: Select the word which means the same as the group of words given.

someone who runs away from justice

(a) stowaway
(b) cheat
(c) thief
(d) fugitive

Q14. Directions: Select the word which means the same as the group of words given.

A place where a dead person's body is burnt.

(a) crematorium
(b) basement
(c) dungeon
(d) graveyard

Q15. Select the most appropriate ANTONYM of the given word.

Infallible

(a) Reliable
(b) Dependable
(c) Faulty
(d) Unfailing

Q16. Directions: Select the most appropriate word to fill in the blank.

The jail _____ have started yoga and meditation classes for the inmates.

(a) authorities
(b) residents
(c) workers
(d) people

Q17. Directions: Given below are four jumbled sentences. Out of the given options, select the one that gives its correct order.

A. According to sources, one of the degrees will have to be in the regular mode, and the other either in open and distance learning or online mode.

B. In a move to improve students' career prospects, the University Grants Commission has approved the proposal to allow them to pursue two-degree programs at the same time.

C. A committee formed under the UGC vice-chairperson worked on the proposal based on feedback from the public.

D. Once the guidelines are notified, a student studying in a university will be able to pursue another degree program simultaneously.

(a) DBAC
(b) CBAD
(c) ABDC
(d) BCDA

Q18. Directions: Select the incorrectly spelt word.

(a) irepairable
(b) illegible
(c) irresistible
(d) illegitimate

Q19. Directions: Select the most appropriate synonym of the given word.

POLLUTE

(a) condemn
(b) contaminate
(c) ridicule
(d) destroy

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

My tailor is made some very stylish dresses for me as well as for my daughter.

(a) for me as well as
(b) is made
(c) for my daughter
(d) very stylish dresses

Directions

Directions: In the following passage, some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank.

As the full impact of cyclone Amphan's fury emerged on Thursday morning and the count of uprooted trees _(1)_ the 5000 mark, environmentalists, horticulturists, and nature lovers mourned the huge _(2)_. But they also felt that Kolkata could emerge stronger from the _(3)_ if it used the opportunity to move from arbitrary plantation drives to ones that _(4)_ more scientific and rational. The loss of trees is bound to have a great impact on the climate in _(5)_ parts of West Bengal as oxygen levels will go down.

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

(a) crossed
(b) is crossing
(c) crosses
(d) was crossed

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

(a) passing
(b) death
(c) failure
(d) loss

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

(a) extinction
(b) destruction
(c) creation
(d) construction

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

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

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

(a) much
(b) abundant
(c) several
(d) differing

GENERAL INTELLIGENCE

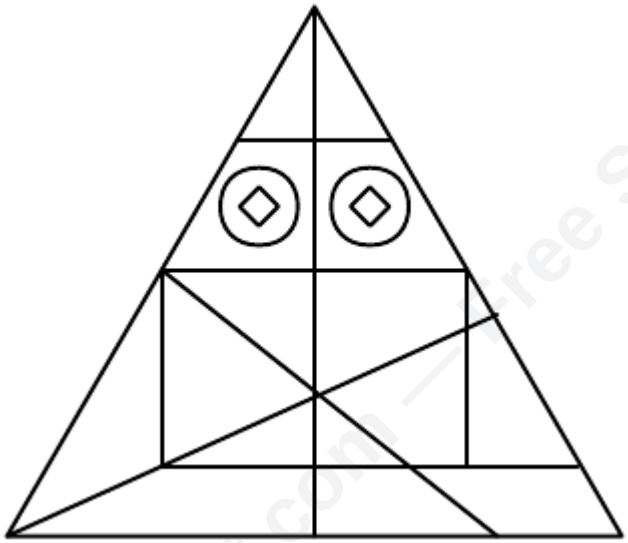
Q26. Select the set in which the numbers are related in the same way as are the numbers of the following set.

(13, 37, 77)

(a) (15, 43, 83)
(b) (12, 38, 80)
(c) (14, 40, 83)
(d) (17, 53, 109)

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Q27. Find the number of triangles in the following figure.



(a) 30
(b) 31
(c) 32
(d) 33

Q28. Which option represents the correct order of the given words as they would appear in English dictionary?

1. Rumoured
2. Rudiment
3. Rumanian
4. Royalties
5. Rigorous

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

Q29. In the following question, the second number is related to the first number in the same way, choose the alternative which is similarly related to the third number?

13 : 196 :: 15 : ?

(a) 298
(b) 256
(c) 221
(d) 247

Q30. Select the word-pair which shows the same relation as the relation expressed in the given word-pair.

Spanner : Grip

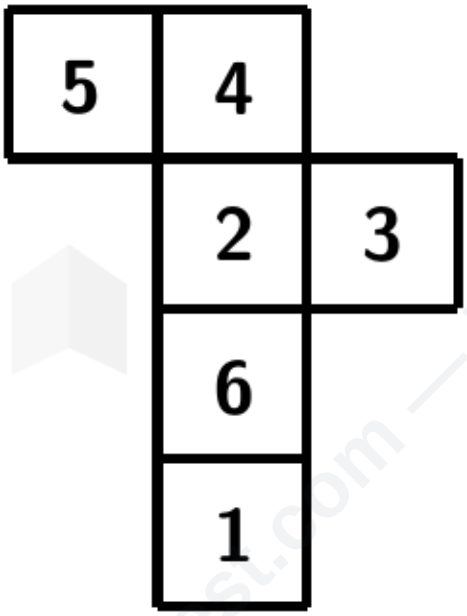
(a) Carve : Chisel
(b) Auger : Bore
(c) Togs : Guard
(d) Axe : Dig

Q31. If STROKE is coded as 2317131089 and GLUTEN is coded as 1423871621, then how will CHARGE be coded as?

(a) 231220272052
(b) 232110272025
(c) 230211722025
(d) 232110270225

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Q32. If the given figure is folded to form a cube, which number will be on the face opposite to the one having '1'?



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

Q33. Select the correct combination of mathematical signs to sequentially replace the * signs to balance the given equation.

1496 * 8 * 13 * 40 * 5 = 0

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

Q34. Select the correct mirror image of the given combination when the mirror is placed to the right side of it.

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(a)

DIDsMeNiVD

(b)

DIAINGNCIC

(c)

DIANGNSIC

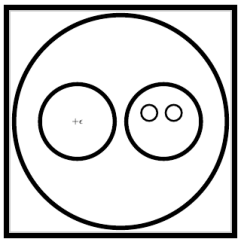
(d)

DIDeN2NiVID

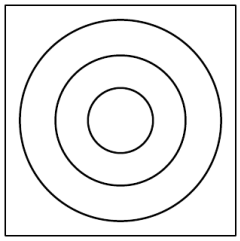
Q35. Select the Venn diagram that best illustrates the relationship between the following classes.

Rats, Cats, Mammals

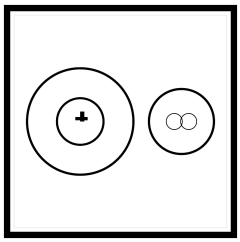
(a)



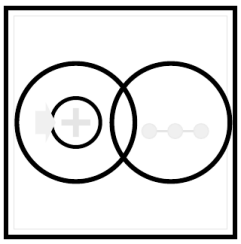
(b)



(c)



(d)



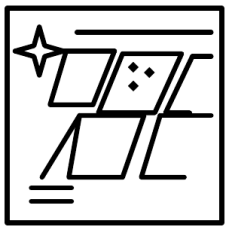
Q36. Pointing towards Kapil, Aditya said, 'His father is the husband of my father's father's daughter. How is Aditya's father related to Kapil's mother?

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

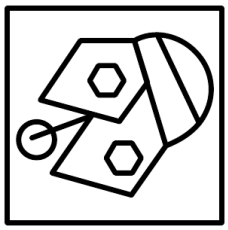
Q37. Select the option in which the given figure is embedded (rotation is NOT allowed).



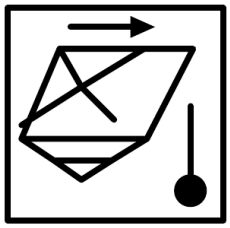
(a)



(b)



(c)



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(d)

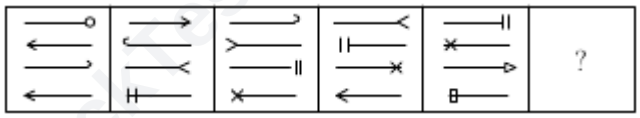


Q38. Select the option that is related to the third letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster.

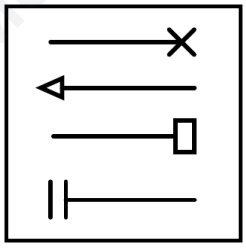
PRINT : TWRIP :: CLOSE : ?

(a) EOKHC
(b) EQKNC
(c) EQLNC
(d) EPLMC

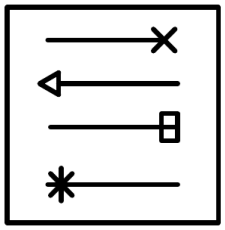
Q39. Select the figure that will come in place of the question mark (?) in the following figure series.



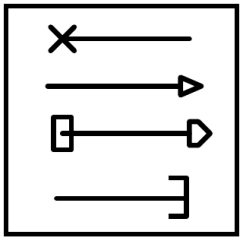
(a)



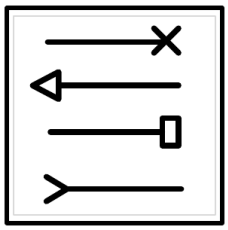
(b)



(c)



(d)



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Q40. Three statements are given followed by four conclusions numbered I, II, III and IV. Assuming that the statements are true even if they seem to be at variance from commonly known facts, decide which of the conclusions logically follows from the statements.

Statements:

1. All carpets are beds.

2. Some tables are carpets.

3. All pillows are tables.

Conclusions:

I. All pillows are beds.

II. Some pillows are beds.

III. Some beds are tables.

IV. All tables are beds.

(a) Only conclusion III follows.
(b) Conclusions I and II both follow.
(c) Conclusions II and III both follow.
(d) Only conclusion I follows.

Q41. Select the combination of letters that when sequentially placed in the blanks of the given letter series will complete the series.

M T _ R M _ Q R _ V Q _ M W _ R M _ Q R

(a) Q U M R Q X
(b) R U M R Q Y
(c) Q U S R Q R
(d) Q U M Q R X

Q42. Select the number that can replace the question mark (?) in the following series.

4, 11, 31, 65, 193, ?

(a) 389
(b) 396
(c) 369
(d) 398

Q43. Out of the following four words, three are alike in some way and one is inconsistent. Select that inconsistent word.

(a) confrontation
(b) fuss
(c) strife
(d) peace

Q44. Two numbers, A and B, are such that the sum of 3% of A and 6% of B is four-fifth of the sum of 4% of A and 6% of B. Find the ratio of A + B and A - B?

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

Q45. Three of the following four number-pairs are alike in a certain way and one is different. Select the one that is different.

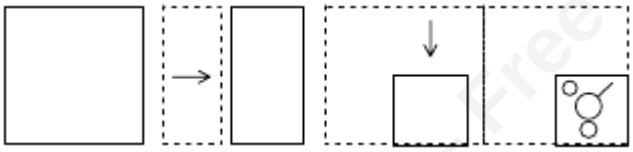
(a) 5 : 105
(b) 6 : 180
(c) 7 : 294
(d) 3 : 18

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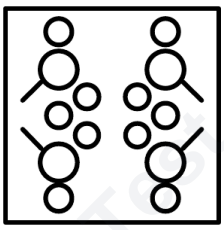
Q46. Three of the following four letter-clusters are alike in a certain way and one is different. Select the odd one.

(a) HDLS
(b) GCKT
(c) DZHW
(d) PLSK

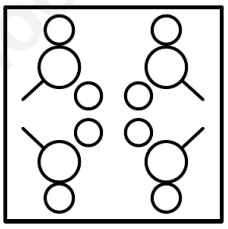
Q47. A paper is folded and cut as shown below. How will it appear when unfolded?



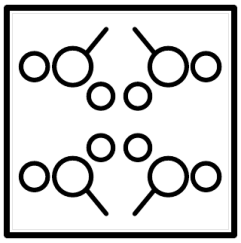
(a)



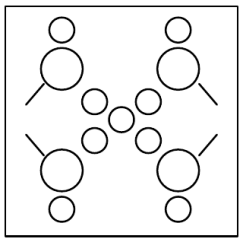
(b)



(c)



(d)



Q48. In a code language, ORANGE is written as LKZGTX and MIRACLE is written as NBITXEV. How will LOCKDOWN be written in that language?

(a) OHXHWDGD
(b) OHXHWDDG
(c) OHDXHWDG
(d) OHXDWHDG

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Q49. As 'Awl' is related to 'Cobbler' and 'Chisel' is related to 'Sculptor', in the same way 'Anvil' is related to '_____'.

(a) surgeon
(b) Blacksmith
(c) Butcher
(d) carpenter

Q50. Select the set in which the numbers are related in the same way as are the numbers of the following set.

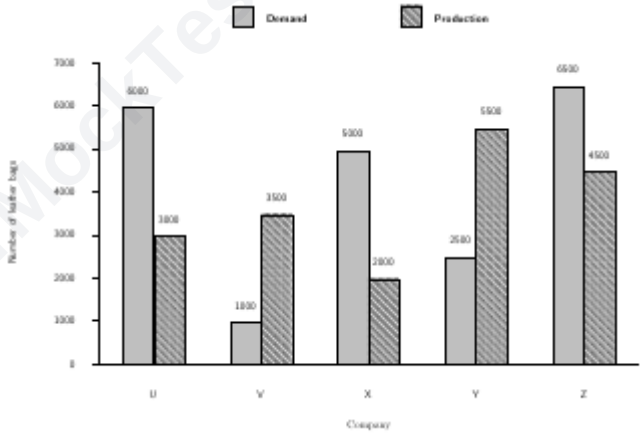
(4, 140, 6)

(a) (5, 234, 7)
(b) (2, 121, 6)
(c) (9, 396, 4)
(d) (3, 269, 8)

QUANTITATIVE APTITUDE

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

The chart represents the demand and production of leather bags by five companies U, V, X, Y, and Z.



The difference between the average demand and average production of the five companies taken together is:

(a) 500
(b) 475
(c) 450
(d) 525

Q52. The perimeter of a rectangle is 86 cm. The numbers representing its area and breadth are in the ratio of 9 : 1, respectively. The breadth of the rectangle is:

(a) 36 cm
(b) 32 cm
(c) 34 cm
(d) 30 cm

Q53. Line AC is a tangent to a circle at point B on it, and PQ is a chord of the circle such that BP = BQ. If angle ABP = 64°, then find the measure of angle PBQ.

(a) 64°
(b) 32°
(c) 58°
(d) 52°

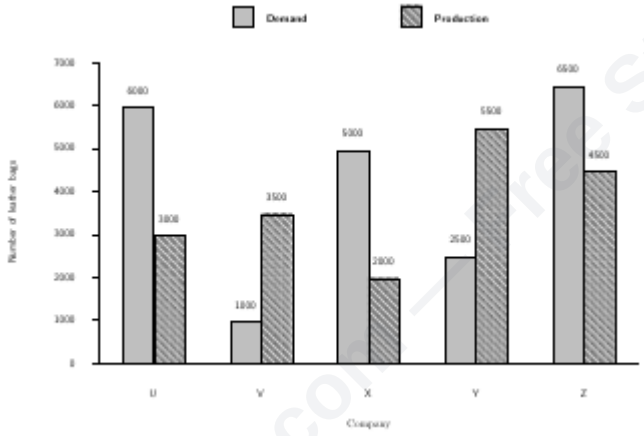
Q54. If $\sin\alpha + \text{cosec}\ \alpha = \tan \pi/3$, then the value of $(\sin^3\alpha + \text{cosec}3\alpha)$ is equal to:

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

(d) 1/2

Q55. Study the given graph and answer the question that follows.

The chart represents the demand and production of leather bags by five companies U, V, X, Y, and Z.

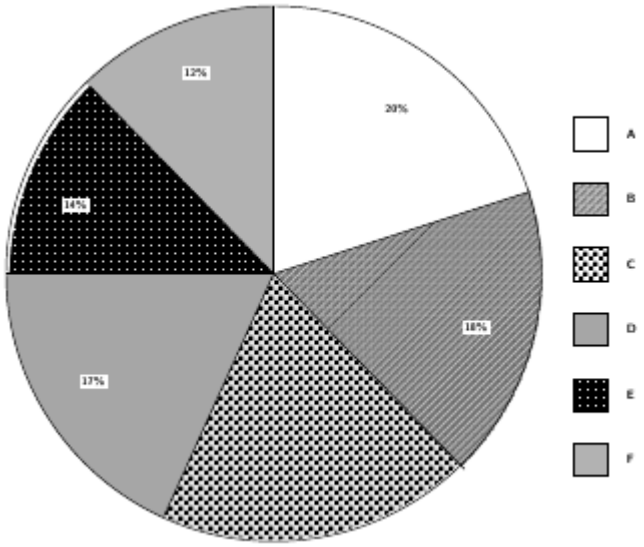


If h% of the demand of leather bags for company X equals the demand of the leather bags for company V, then h equals:

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

Q56. Study the given pie chart and the table and answer the question that follows.

The pie chart represents the percentage-wise distribution of 300 students of class X in a school in six different sections A, B, C, D, E, and F.



The table shows the number of boys of class X in six different sections A, B, C, D, E, and F.

Section	A	B	C	D	E	F
No. of boys	36	26	34	28	_____	20

If the total number of students in section C is 57, then the total number of girls in sections C and D together will be:

(a) 36
(b) 46
(c) 40
(d) 48

Q57. The average age of 35 persons is 40 years. 5 new persons with an average age of 35 years joined them. The average age of all the persons is:

(a) 397/8 years
(b) 393/8 years
(c) 391/8 years
(d) 395/8 years

Q58. In how much time will a sum of Rs.5,000 invested at the rate of 15%, simple interest per annum amount to Rs.6,500?

(a) 2 years
(b) 1.5 years
(c) 2.5 years
(d) 1 year

Q59. A shopkeeper marks his goods 25% above the cost price. Then, he allows a 40% discount on it. What is the percentage loss?

(a) 25%
(b) 30%
(c) 20%
(d) 15%

Q60. The cost price of a chair is Rs.1,800. Later, its cost price becomes Rs.2,100. What is the percentage increase in the cost price of the chair?

(a) 16 5/6 %
(b) 16 1/2 %
(c) 16 2/3 %
(d) 16 1/3 %

Q61. The area of the largest triangle that can be inscribed in a semi-circle of radius 6 cm is:

(a) 36 cm^2
(b) 35 cm^2
(c) 38 cm^2
(d) 34 cm^2

Q62. In ΔABC, P and Q are the mid-points of the sides AB and AC, respectively. R is a point on the segment PQ such that PR : RQ = 1 : 3. If PR = 4 cm, then BC is equal to:

(a) 32 cm
(b) 36 cm
(c) 24 cm
(d) 28 cm

Q63. The largest six-digit number exactly divisible by 243 is:

(a) 999945
(b) 999943
(c) 999947
(d) 999949

Q64. A sum of Rs.9,400 is divided between A, B and C such that the ratio of the shares of A and B is 4 : 3 and the of B and C is 5 : 4. What is the share of C?

(a) Rs. 2,600
(b) Rs. 2,400
(c) Rs. 2,200
(d) Rs. 2,000

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Q65. Ram sold a plot for Rs.6,55,000 at 20% loss. For what price should be sell the plot to gain 15% profit?

(a) Rs. 7,41,562.50
(b) Rs. 9,41,562.50
(c) Rs. 6,41,562.50
(d) Rs. 8,41,562.50

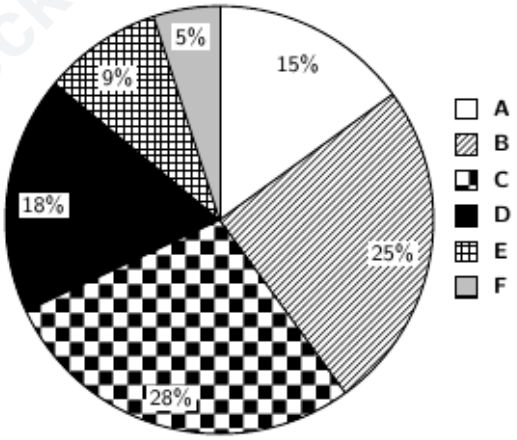
Q66. Two parallel chords are drawn in a circle of diameter 50 cm on the opposite sides of its centre. The length of one chord is 40 cm and the distance between the two chords is 22 cm. The length of the other chord is:

(a) 46 cm
(b) 44 cm
(c) 50 cm
(d) 48 cm

Q67. Study the given pie-chart and answer the question that follows.

The pie-chart represents the percentage distribution of candidates qualified in a bank examination from six different districts of a State in 2016. The total number of qualified candidates from the State is 68000.

The percentage distribution of candidates qualified for a bank examination from six districts A, B, C, D, E and F of a State



What is the difference (to the nearest whole number) between the average number of qualified students from Districts A, C, and F and the average number of qualified students from Districts B, D, and E?

(a) 910
(b) 907
(c) 906
(d) 900

Q68. If x = 555, y = 556 and z = 557, then find the value of $x^3 + y^3 + z^3 – 3xyz$.

(a) 5008
(b) 5006
(c) 5002
(d) 5004

Q69. The value of 364 - [142 - {75 + (38 - 5/4+14/8)}] is:

(a) 331
(b) 332
(c) 330
(d) 334

Q70. Varun and Gaurav can dig a pond in 10 days and 18 days, respectively. After finishing that work together, they receive an amount of Rs.7,280. What is the share of Gaurav in that amount?

(a) RS. 2,700
(b) RS. 2,600
(c) RS. 2,800
(d) RS. 2,500

Q71. If $6\tan^2 \alpha - 2 = 0$, $(0 < \alpha < 90°)$, then the value of α is:

(a) 75°
(b) 15°
(c) 45°
(d) 30°

Q72. If $3a - b = 1$ and $ab = 4$, then the value of $(9a^2 - b^2)$ is:

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

Q73. If $a + 5b = 25$ and $ab = 20$, then one of the values of $(a - 5b)$ is:

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

Q74. The value of $(\cos^2 89° + \cos^2 1°)/(\cos 30° \sin 90° - \sin 30° \cos 90°)$ is:

(a) $2/\sqrt{3}$
(b) $1/\sqrt{3}$
(c) $1/(1-\sqrt{3})$
(d) $2\sqrt{3}$

Q75. Pawan travels from X to Y at the speed of 10 km/h, from Y to Z at 15 km/h and from Z to W at 20 km/h. If XY = YZ = ZW (in km), then the average speed of Pawan for the whole journey is:

(a) 139/13 km/h
(b) 1310/13 km/h
(c) 138/13 km/h
(d) 1311/13 km/h

GENERAL AWARENESS

Q76. Which of the following is the largest dental tissue?

(a) Root
(b) Pulp
(c) Enamel
(d) Dentin

Q77. In which year Bombay Stock Exchange was established?

(a) 1893
(b) 1875
(c) 1864
(d) 1882

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Q78. In January 2020, _____ has secured a top position among the 115 aspirational districts that received grading on a system devised by the NITI Aayog.

(a) Sukma
(b) Gariaband
(c) Jagdalpur
(d) Chandauli

Q79. The rivers Damodar, Brahmani and Kharkai originate from the state of _____ in India.

(a) Haryana
(b) Madhya Pradesh
(c) Chhattisgarh
(d) Jharkhand

Q80. Which of the following is a replica of the famous Taj Mahal built in 1679?

(a) Allahabad Palace
(b) Fairy Palace
(c) Zeenat-Un-Mosque
(d) Bibi's Tomb

Q81. Which river is called by some as 'Ganga of the South'?

(a) Krishna
(b) Godavari
(c) Kaveri
(d) Narmda

Q82. 'Sandalwood' is the state tree of _____.

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

Q83. Which Indian journalist was awarded the Windham-Campbell Prize 2019 for the book 'Farthest Field: An Indian Story of the Second World War'?

(a) Raghu Karnad
(b) Mrinal Pande
(c) Dionne Bunsha
(d) Ashok Malik

Q84. Which one of the following is a rare disease caused by the deficiency of Vitamin D that causes the bones to become soft and to bend?

(a) Rickets
(b) Pernicious anemia
(c) Atrophic gastritis
(d) Lupus

Q85. _____ was the first athlete to win an Olympic medal for Sri lanka.

(a) Duncan White
(b) Susanthika Jayasinghe
(c) Parami Wasanthi Maristela
(d) Greshan Dananjaya

Q86. Which Indian sportsperson won the 'World Games Athlete of the Year' award in January 2020?

(a) Rani Rampal
(b) Mary Kom
(c) PV Sindhu

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(d) Koneru Humpy

Q87. Annu Rani is the first Indian woman to cross a distance of 60 m in _____ throw.

(a) discus
(b) javelin
(c) hammer
(d) Shot put

Q88. In which year was Jharkhand made a separate state of India?

(a) 1999
(b) 1997
(c) 2004
(d) 2000

Q89. In which year did Nepal adopt its first democratic constitution?

(a) 2015
(b) 2010
(c) 2013
(d) 2017

Q90. Who created FORTRAN - the first high-level computer programming language?

(a) Marc Andreessen
(b) Dan Bricklin
(c) John Backus
(d) Larry Ellison

Q91. 'Mamita' is a popular dance of the Kaloi community from the state of _____.

(a) Tripura
(b) Chattisgarh
(c) Odisha
(d) Assam

Q92. 'Bauhche' is a traditional bridegroom's sword worn during a tribal wedding ceremony in:

(a) Arunachal Pradesh
(b) Mizoram
(c) Andhra Pradesh
(d) Madhya Pradesh

Q93. _____ glands release tears from our eyes.

(a) Adrenal
(b) Pituitary
(c) Lacrimal
(d) Thyroid

Q94. Mario de Miranda was a _____ from the state of Goa.

(a) poet
(b) vocalist
(c) cartoonist
(d) designer

Q95. What was the theme for 11 February 2022, celebration of the United Nations International Day of Women and Girls in Science?

(a) Welcome the women and girl achievers in science
(b) Science for women empowerment
(c) Inclusive growth of women and girls in science

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(d) Equity, Diversity, and Inclusion: Water Unites Us

Q96. Which Indian state is surrounded by Bangladesh on its north, west and south?

(a) Tripura
(b) Manipur
(c) Mizoram
(d) Assam

Q97. What is the other name for 'transistor computer'?

(a) First Generation Computer
(b) Fourth Generation Computer
(c) Second Generation Computer
(d) Third Generation Computer

Q98. In which year did the state of Himachal Pradesh come into existence?

(a) 1947
(b) 1971
(c) 1956
(d) 1965

Q99. As on 2019, which is the largest multinational bank company in the world as measured by total assets?

(a) State Bank of India
(b) Agricultural Bank of China
(c) National Savings Bank
(d) Industrial and Commercial Bank of China

Q100. Which Indian sportsperson won a gold medal at the Para-badminton World Championship 2019?

(a) Devendra Jhajharia
(b) Suhas Lalinakere Yathiraj
(c) Manasi Joshi
(d) Deepa Malik

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (a) Very good advice was given to the students by the counselor.

The solution is in Hindi. Read it online.

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Q2. Answer: (b) worthless

The solution is in Hindi. Read it online.

Q3. Answer: (d) dangerous

The solution is in Hindi. Read it online.

Q4. Answer: (d) Mother told me to enjoy my vacation with my friends.

The solution is in Hindi. Read it online.

Q5. Answer: (c) hearings are limited

The solution is in Hindi. Read it online.

Q6. Answer: (d) a memorable day

The solution is in Hindi. Read it online.

Q7. Answer: (c) DCAB

The solution is in Hindi. Read it online.

Q8. Answer: (c) common and so of little value

The solution is in Hindi. Read it online.

Q9. Answer: (d) effectively

The solution is in Hindi. Read it online.

Q10. Answer: (d) allert

The solution is in Hindi. Read it online.

Q11. Answer: (d) does not wants

The correct answer is '4' i.e. does not wants.

Key Points

• The phrase "does not wants" is grammatically incorrect because the auxiliary verb "does" requires the base form of the main verb.

• The correct form should be "does not want", not "does not wants".

• This is a rule in English grammar where auxiliary verbs like "do/does" are followed by the base form of the verb (without adding -s).

Correct sentence: The manager said that Rahul does not want to go to Mumbai for the new project.

Additional Information

• Rule for Auxiliary Verbs:

• When using auxiliary verbs like "do/does" in negative sentences, always use the base form of the main verb.

• Example: She does not like chocolate. (Correct) vs. She does not likes chocolate. (Incorrect).

• Common Auxiliary Verbs:

• Do/Does: Used for present tense.

• Did: Used for past tense.

• Always followed by the base verb.

Q12. Answer: (a) No substitution

The solution is in Hindi. Read it online.

Q13. Answer: (d) fugitive

The solution is in Hindi. Read it online.

Q14. Answer: (a) crematorium

The solution is in Hindi. Read it online.

Q15. Answer: (c) Faulty

The solution is in Hindi. Read it online.

Q16. Answer: (a) authorities

The solution is in Hindi. Read it online.

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Q17. Answer: (d) BCDA

The solution is in Hindi. Read it online.

Q18. Answer: (a) irepairable

The solution is in Hindi. Read it online.

Q19. Answer: (b) contaminate

The solution is in Hindi. Read it online.

Q20. Answer: (b) is made

The solution is in Hindi. Read it online.

Q21. Answer: (a) crossed

The solution is in Hindi. Read it online.

Q22. Answer: (d) loss

The solution is in Hindi. Read it online.

Q23. Answer: (b) destruction

The solution is in Hindi. Read it online.

Q24. Answer: (b) are

The solution is in Hindi. Read it online.

Q25. Answer: (c) several

The solution is in Hindi. Read it online.

Q26. Answer: (c) (14, 40, 83)

The logic followed here is:-

2nd number = (1st number × 3) - 2

3rd number = (1st number × 6) - 1

(13, 37, 77) →

37 = (13 × 3) - 2

77 = (13 × 6) - 1

Similarly,

(14, 40, 83) →

40 = (14 × 3) - 2

83 = (14 × 4) - 1

Thus, the correct answer is "(14, 40, 83)"

Q27. Answer: (b) 31

The number of triangles in the given figure is:

So, there are a total of 31 triangles in the figure.

Hence, '31' is the correct answer.

Q28. Answer: (b) 5, 4, 2, 3, 1

The logic followed here is :-

5. Rigorous

4. Royalties

2. Rudiment

3. Rumanian

1. Rumoured

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

Q29. Answer: (b) 256

The logic followed here is:-

(1st number + 1)2 = 2nd number

13 : 196 → (13 + 1)2 = 142 = 196

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Similarly,
15 : ? → (15 +1)2 = 162 = 256
Thus, the correct answer is "256".
Alternate Method
The logic followed here is:-
13 : 196 → $(13)^2$ + (13 × 2 + 1) → 169 + (26 + 1) → 169 + 27 = 196
Similarly,
15 : ? → $(15)^2$ + (15 × 2 + 1) → 225 + (30 + 1) → 225 + 31 = 256
Thus, the correct answer is "256".

Q30. Answer: (b) Auger : Bore

The logic followed here is :-
Spanner : Grip → Spanner is a tool used to provide Grip for mechanical advantages.
Similarly,
Auger : Bore → Auger is a tool used for boring holes.
Thus, the correct answer is "Auger : Bore".

Q31. Answer: (b) 232110272025

The logic followed here is :-
STROKE is coded as 2317131089
and,
GLUTEN is coded as 1423871621,
Similarly,
Thus, the correct answer is "232110272025".

Q32. Answer: (c) 2

Opposite surface of the open dice can be found by the below method:-
• Alternate surfaces are opposite to each other.
• No two opposite surface are touched by side or by corners
So, by using the above rule we can find the opposite surface of open dice.
In the given figure, Opposite faces are :

Numbers	Opposite
1	2
3	5
4	6

Thus, opposite face of 1 is "2".
Hence, the correct answer is "2".

Q33. Answer: (b) ÷, +, −, ×

By using BODMAS RULE :
Option 1) : −, +, ÷, ×
Given statement : 1496 * 8 * 13 * 40 * 5 = 0
Equation after inserting arithmetic symbols :
=> 1496 - 8 + 13 ÷ 40 × 5 = 0
=> 1496 - 8 + 0.325 × 5 = 0
=> 1496 - 8 + 1.625 = 0
=> 1497.625 - 8 = 0
=> 1489.625 ≠ 0
LHS ≠ RHS
Option 2) : ÷, +, −, ×
Given statement : 1496 * 8 * 13 * 40 * 5 = 0

Equation after inserting arithmetic symbols :
=> 1496 ÷ 8 + 13 - 40 × 5 = 0
=> 187 + 13 - 40 × 5 = 0
=> 187 + 13 - 200 = 0
=> 200 - 200 = 0
=> 0 = 0
LHS = RHS
Option 3) : +, ÷, −, ×
Given statement : 1496 * 8 * 13 * 40 * 5 = 0
Equation after inserting arithmetic symbols :
=> 1496 + 8 ÷ 13 - 40 × 5 = 0
=> 1496 + 0.615 - 40 × 5 = 0
=> 1496 + 0.615 - 200 = 0
=> 1496.615 - 200 = 0
=> 1476.615 ≠ 0
LHS ≠ RHS
Option 4) : +, ÷, ×, −
Given statement : 1496 * 8 * 13 * 40 * 5 = 0
Equation after inserting arithmetic symbols :
=> 1496 + 8 ÷ 13 × 40 - 5 = 0
=> 1496 + 0.615 × 40 - 5 = 0
=> 1496 + 24.6 - 5 = 0
=> 1520.6 - 5 = 0
=> 1515.6 ≠ 0
LHS ≠ RHS
Thus, the correct answer is "÷, +, −, ×".

Q34. Answer: (a) [figure]

The mirror image for given is as follows :
Thus, the correct answer is "Option 1".

Q35. Answer: (a) [figure]

The least possible Venn diagram for given relation is as shown below :
• Cats are larger and different than rats.
• All Cats are mammals.
• All Rats are mammals.
Thus, the correct answer is "Option 1".

Q36. Answer: (a) Brother

Family chart :
Pointing towards Kapil, Aditya said, 'His father is the husband of my father's father's daughter.
Family diagram :
Therefore Hence, Aditya's father is brother to Kapil's mother.
Thus, the correct answer is "Brother".

Q37. Answer: (d) [figure]

On close observation we can find problem figure is embedded in option (4) as shown below.
Thus, the correct answer is "Option 4".

Q38. Answer: (c) EQLNC

The logic followed here is :-
PRINT : TWRIP and CLOSE : ?
Similarly,
Thus, the correct answer is "EQLNC".

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Q39. Answer: (b) [figure]

The logic follows here is :-

Figure 1 to figure 2 → The fourth line is rotated 180^0 and moves one step upward the same repeats for third and second line, and first line is removed and new fourth line added.

Figure 2 to figure 3 → The fourth line is rotated 1800 and moves one step upward the same repeats for third and second line, and first line is removed and new fourth line added.

This process repeats until figure 6 as shown below.

Thus, the correct answer is "Option 2".

Q40. Answer: (a) Only conclusion III follows.

The least possible Venn diagram for the given statements is as follows :

Conclusions:

I. All pillows are beds → False (No direct relation given hence, false)

II. Some pillows are beds → False (No direct relation given hence, false)

III. Some beds are tables → True (All carpets are beds and Some tables are carpets so, Some beds are tables is true)

IV. All tables are beds → False (No direct relation given hence, false)

Thus, the correct answer is "Only conclusion III follows".

Q41. Answer: (a) Q U M R Q X

Given :- M T _ R M _ Q R _ V Q _ M W _ R M _ Q R

By checking options and substituting accordingly.

1) Q U M R Q X → M T Q R / M U Q R / M V Q R / M W Q R / M X Q R

2) R U M R Q Y → M T R R / M U Q R / M V Q R / M W Q Y / M Y Q R

3) Q U S R Q R → M T Q R / M U Q R / S V Q R / M W Q Y / M R Q R

4) Q U M Q R X → M T Q R / M U Q R / M V Q Q / M W R Y / M X Q R

Option (1) givens a pattern of MTQR - MUQR - MVQR - MWQR - MXQR

Therefore The pattern follows is MTQRMUQRMVQRMWQRMXQR

Thus, the correct answer is "Q U M R Q X".

Q42. Answer: (a) 389

The pattern followed here is:

4 × 2 = 8 + 3 = 11

11 × 3 = 33 - 2 = 31

31 × 2 = 62 + 3 = 65

65 × 3 = 195 - 2 = 193

193 × 2 = 386 + 3 = 389

Thus, the correct answer is "389".

Q43. Answer: (d) peace

The logic follows here is :-

The words confrontation, fuss, strife defines about confits and for argumentative situations and WAR.

Whereas,

Peace is opposite word of those three alternative words.

Thus, the correct answer is "Peace".

Q44. Answer: (a) 7 : 5

The logic follows here is :-

Given, sum of 3% of A and 6% of B is four-fifth of the sum of 4% of A and 6% of B.

=> 3/100 × A + 6/100 × B = 4/5 (4/100 × A + 6/100 × B)

=> 3A + 6B = 4/5 (4A + 6B)

=> 5 (3A + 6B) = 4 (4A + 6B)

=> 15A + 30B = 16A + 24B

=> 6B = A

=> B/A = 1/6

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Therefore A = 6 and B = 1
=> A + B = 6 + 1 = 7
=> A - B = 6 - 1 = 5
Ratio of A + B and A - B is :
A + B / A - B = 7 / 5
A + B : A - B = 7 : 5
Thus, the correct answer is "7 : 5".

Q45. Answer: (a) 5 : 105

The logic followed here is :-
5 : 105 → $5^3 - 5^2$ → 125 - 25 = 100
6 : 180 → $6^3 - 6^2$ → 216 - 36 = 180
7 : 294 → $7^3 - 7^2$ → 343 - 49 = 294
3 : 18 → $3^3 - 3^2$ → 27 - 9 = 18
Hence, 5 : 105 is different from other three alternatives.
Thus, the correct answer is "5 : 105".

Q46. Answer: (d) PLSK

The logic followed here is:-
HDLS
GCKT
DZHW
PLSK
Hence, PLSK is different from other three alternatives.
Hence, the correct answer is "PLSK".
Alternate Method
The logic followed here is:
Sum of positional value of the all letters = prime number.
1) HDLS → 8 + 4 + 12 + 19 = 43
2) GCKT → 7 + 3 + 11 + 20 = 41
3) DZHW → 4 + 26 + 8 + 23 = 61
4) PLSK → 16 + 12 + 19 + 11 = 58
Hence, the correct answer is "PLSK".

Q47. Answer: (b) [figure]

The folded image after unfolding then the image is as follows:-
Thus, the correct answer is "Option 2".

Q48. Answer: (d) OHXDWHDG

The logic followed here is :-
ORANGE is written as LKZGTX :
And
MIRACLE is written as NBITXEV :
Similarly,
LOCKDOWN will be written as :
Hence, the correct answer is "OHXDWHDG".

Q49. Answer: (b) Blacksmith

The logic followed here is :-
Awl is a tool used by Cobbler.
and
Chisel is a tool used by Sculptor.
Similarly,
Anvil is the tool used by "Blacksmith".

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Thus, the correct answer is "Blacksmith".

Q50. Answer: (a) (5, 234, 7)

The logic followed here is :-

Middle number = ((First number)^3 + (Third number)^3) ÷ 2

Given set is :

(4, 140, 6) → $4^3 + 6^3$ → 64 + 216 = 280 ÷ 2 = 140

Similarly,

(5, 234, 7) → $5^3 + 7^3$ → 125 + 343 = 468 ÷ 2 = 234

Thus, the correct answer is "234".

Q51. Answer: (a) 500

Calculation:

Total Demand of 5 companies together = (6000 + 1000 + 5000 + 2500 + 6500)

=> 21,000

Total Production of 5 companies together = (3000 + 3500 + 2000 + 5500 + 4500)

=> 18,500

Required Difference = (21,000 - 18,500)

=> 2500

Required average = 2500/5

=> 500

Therefore Required average is 500

Q52. Answer: (c) 34 cm

Given:

Perimeter = 86 cm

Ratio of Area and its breadth = 9 : 1

Formula used:

Area of rectangle = Length × Breadth

Perimeter of rectangle = 2 (Length + Breadth)

Calculation:

Area ÷ Breadth = 9 : 1

=> (L × B) ÷ B = 9 ÷ 1

=> L = 9 cm

Now, Perimeter of rectangle = 2 (Length + Breadth)

=> 86 = 2(9 + Breadth)

=> 9 + Breadth = 43

=> Breadth = 34 cm

Therefore Breadth of rectangle is 34 cm

Q53. Answer: (d) 52°

Given:

BP = BQ

angle ABP = 64°

Concept used:

Tangent chord theorem - The angle between a chord and a tangent through one of the end points of the chord is equal to the angle in the alternate segment.

Tangents drawn from external point are equal

Calculation:

angle ABP = angle PQB = 64° [The angle between a chord and a tangent through one of the end points of the chord is equal to the angle in the alternate segment]

Then,

angle PQB = angle BPQ = 64° [Angle opposite to equal sides]

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Now,
In ΔPBQ
=> angle PQB + angle BPQ + angle PBQ = 180° [Angle sum property of a triangle]
=> 64° + 64° + angle PBQ = 180°
=> 128° + angle PBQ = 180°
=> angle PBQ = 180° – 128°
=> angle PBQ = 52°
Therefore The required value of angle PBQ is 52°

Q54. Answer: (a) 0

Given:
sinα + cosec α = tan π/3
Formula used:
sin θ = 1/cosec θ
(a + b)3 = a3 + b3 + 3ab(a + b)
Note: cosec θ represent cosec θ
Calculation:
sinα + cosec α = tan π/3
=> sinα + cosec α = √3 ------(1)
Now, taking cube both sides,
(sinα + cosec α)3 = (√3)³
By using identity (a + b)3 = a3 + b3 + 3ab(a + b)
=> (sin3α + cosec3α) + 3 (sinα cosec α) (sinα + cosec α) = (√3)3
Since, sin α cosec α = 1
=> (sin3α + cosec3α) + 3 × √3 = 3√3 [using equation (1)]
=> (sin3α + cosec3α) = 3√3 – 3√3
=> (sin3α + cosec3α) = 0
Therefore The required value is 0
Key Pointscosec θ represents cosec θ and this is also the standard representation.

Q55. Answer: (a) 20

Calculation:
h% of 5000 = 1000
=> (h/100) × 5000 = 1000
=> 50h = 1000
=> h = 20
Therefore Value of h is 20

Q56. Answer: (b) 46

Calculation:
Percentage of section C = 100% - (20% + 18% + 17% + 14% + 12%)
=> 100% – 81%
=> 19%
Now, Population of section C = 19% of 300
=> 57
Now, number of girls in section C = (57 – 34)
=> 23
Population of section D = 17% of 300
=> 51
So, number of girls in section D = 51 – 28
=> 23
Total number of girls in section C and section D together = (23 + 23)
=> 46

Therefore Required number is 46

Q57. Answer: (b) 393/8 years

Given:
Average age of 35 persons = 40 years
Average age of 5 new persons = 35 years
Concept used:
Sum of observations = Average × Number of Observations
Calculation:
Total age of 35 persons = 35 × 40
=> 1400
Total age of 5 new persons = 5 × 35
=> 175
Total age of 40 persons = (1400 + 175)
=> 1575
Average age of all persons = 1575 ÷ 40
=> 315/8 years = 393/8 years
Therefore Required average is 393/8 years

Q58. Answer: (a) 2 years

Given:
Principal = Rs. 5000
Rate of interest = 15%
Amount = Rs. 6500
Formula used:
Interest = Amount – Principal
Interest = PRT/100
Calculation:
Interest = Rs. (6500 - 5000)
=> Rs. 1500
Now, (5000 × 15 × T)/100 = 1500
=> 750T = 1500
=> T = 2 years
Therefore Required time is 2 years

Q59. Answer: (a) 25%

Shortcut Trick
Net percentage change = a + b + (a × b) ÷ 100
Here, markup percentage a = +25% and discount percentage b = −40%.
Net Profit/Loss % = 25 − 40 + (25 × −40) ÷ 100
Net Profit/Loss % = −15 − 1000 ÷ 100 = −15 − 10 = −25%.
The negative sign indicates a loss.
Therefore The correct answer is 25%.
Alternate Method
Given → Markup % = 25%, Discount % = 40%.
Formulas: MP = CP × (100 + Markup%) ÷ 100 | SP = MP × (100 − Discount%) ÷ 100 | Loss% = (CP − SP) ÷ CP × 100.
=> Let Cost Price (CP) = 100.
=> Marked Price (MP) = 100 + 25% of 100 = 125.
=> Selling Price (SP) = 125 − 40% of 125 = 125 − 50 = 75.
=> Loss = CP − SP = 100 − 75 = 25.
=> Loss % = (25 ÷ 100) × 100 = 25%.
Therefore The correct answer is 25%.
Additional Information

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Marked Price & Discount

The Marked Price is the price listed on the label. Discount is always calculated on the Marked Price.

Effective Percentage

When a value is increased by x% and then decreased by y%, the net effect is given by x − y − (xy ÷ 100).

Q60. Answer: (c) 16 2/3 %

Given:

Initial Cost price = Rs. 1,800

Final Cost price = Rs. 2,100

Calculation:

Increment = Rs. (2100 – 1800)

=> Rs. 300

Percentage increase = (300/1800) × 100

=> 50/3% = 16 2/3 %

Therefore Percentage increase is 16 2/3 %

Q61. Answer: (a) 36 cm²

Given:

The radius of semi-circle = 6 cm

Concept used:

The largest triangle that can be inscribed in a semi-circle will have base equal to the diameter and the height equal to the radius of the semi-circle.

Formula used:

Area of triangle = 1/2 × base × height

Calculation:

Base = 2 × r = (2 × 6) cm

=> 12 cm

Height = 6 cm

Now,

Area of the triangle = (1/2 × 12 × 6) cm²

=> 36 cm²

Therefore The area of the largest triangle that can be inscribed in a semi-circle is 36 cm²

Q62. Answer: (a) 32 cm

Shortcut Trick

Given PR : RQ = 1 : 3, the total length of PQ is 1 + 3 = 4 parts.

Since PR = 1 part = 4 cm, the total length PQ = 4 × 4 = 16 cm.

By the Mid-Point Theorem, the base BC is twice the segment connecting the mid-points.

BC = 2 × PQ = 2 × 16 = 32 cm.

Therefore The correct answer is 32 cm.

Alternate Method

A

B

C

P

Q

R

4 cm

12 cm

BC = 32 cm

Given:

=> In ΔABC, P and Q are mid-points of sides AB and AC respectively.

=> R is a point on PQ such that PR : RQ = 1 : 3.

=> PR = 4 cm.

Formula Used:

=> Mid-Point Theorem: The line segment connecting the mid-points of two sides of a triangle is parallel to the third side and is half of its length.

=> PQ = BC ÷ 2

Calculations:

=> Let the lengths of PR and RQ be 1x and 3x respectively.

=> We are given that PR = 4 cm.

=> 1x = 4 cm => x = 4 cm.

=> Length of RQ = 3x = 3 × 4 = 12 cm.

=> Total length of PQ = PR + RQ

=> PQ = 4 cm + 12 cm = 16 cm.

=> According to the mid-point theorem, PQ = BC ÷ 2.

=> BC = 2 × PQ

=> BC = 2 × 16 = 32 cm.

Therefore The correct answer is 32 cm.

Additional Information

Mid-Point Theorem

The line segment joining the mid-points of any two sides of a triangle is parallel to the third side and is equal to half of its length.

Basic Proportionality Theorem (Thales Theorem)

If a line is drawn parallel to one side of a triangle to intersect the other two sides in distinct points, the other two sides are divided in the same ratio. (AD / DB = AE / EC).

Centroid of a Triangle

The point where all three medians of a triangle intersect. The centroid divides each median into a 2 : 1 ratio, starting from the vertex to the midpoint of the opposite side.

Q63. Answer: (a) 999945

Given:

The largest six-digit number exactly divisible by 243

Formula used:

Required largest n-digit no. = [(Largest n-digit no.) – (Remainder left when the largest n-digit no. is divided by the provided divisor)].

Calculation:

The largest six digit number = 999999

Now,

The largest six digit number divisible by 243

=> (999999/243)

Then, we get remainder = 54

Now,

Required largest n-digit no. = [(Largest n-digit no.) – (Remainder left when the largest n-digit no. is divided by the provided divisor)].

=> (999999 – 54)

=> 999945

Therefore The largest six-digit number exactly divisible by 243 is 999945

Shortcut TrickCalculation:

Factors of 243 = 81 × 3

If any number divided by 9 and 3, that is divisible by 243.

So if we take first option

Sum of digit of 999945 = 9 + 9 + 9 + 9 + 4 + 5 = 45

45 is divisible by 9 and 3. So 999945 is divided by 243.

So if we take the second option,

Sum of digit of 999943 = 9 + 9 + 9 + 9 + 4 + 3 = 43

43 is not divisible by 9 and 3. So 999943 is not divided by 243.

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So if we take the third option
Sum of digit of 999947 = 9 + 9 + 9 + 9 + 4 + 7 = 47
47 is divisible by 9 and 3. So 999947 is divided by 243.
So if we take the fourth option,
Sum of digit of 999949 = 9 + 9 + 9 + 9 + 4 + 9 = 49
49 is not divisible by 9 and 3. So 999949 is not divided by 243.
Therefore The correct option is 1.

Q64. Answer: (b) Rs. 2,400

Shortcut Trick
Combine the ratios: A : B = 4 : 3 and B : C = 5 : 4.
Balanced ratio A : B : C = (4×5) : (3×5) : (3×4) = 20 : 15 : 12.
Total units = 20 + 15 + 12 = 47 units.
47 units = Rs. 9,400 → 1 unit = Rs. 200.
Share of C = 12 units = 12 × 200 = Rs. 2,400.
Therefore The correct answer is Rs. 2,400.
Alternate Method
Given: Total sum = Rs. 9,400, A : B = 4 : 3, B : C = 5 : 4.
Formula Used: Ratio equalization and division of sum.
=> A : B = 4 : 3 (multiply by 5) = 20 : 15
=> B : C = 5 : 4 (multiply by 3) = 15 : 12
=> Combined Ratio A : B : C = 20 : 15 : 12
=> Sum of parts = 20 + 15 + 12 = 47
=> Share of C = (12 ÷ 47) × 9400
=> Share of C = 12 × 200 = 2400
Therefore The correct answer is Rs. 2,400.
Additional Information
Compound Ratio
When two or more ratios like a:b and c:d are given, the compound ratio is calculated as (a×c) : (b×d).
Ratio Equalization
To combine A:B and B:C, make the common term (B) equal by multiplying the ratios with suitable constants.
Proportional Division
Share of a component = (Specific Ratio Part ÷ Total Ratio Parts) × Total Value.

Q65. Answer: (b) Rs. 9,41,562.50

Given:
SP = Rs. 6,55,000
Loss% = 20%
New Profit = 15%
Calculation:
Let CP be 100x
Now, SP after 20% loss = Rs. 100x × (100 – 20)%
=> Rs. 80x
And, SP after 15% profit = Rs. 100x × (100 + 15)%
=> Rs. 115x
According to the question,
=> 80x = Rs. 6,55,000
=> 115x = Rs. (6,55,000/80) × 115
=> Rs. 941,562.50
Therefore Required SP is Rs. 941,562.50

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Q66. Answer: (d) 48 cm

Given:

The diameter of the circle = 50 cm

The length of one chord = 40 cm

The distance between the two chords = 22 cm

Formula used:

$H^2 = B^2 + P^2$

Calculation:

AB and PQ are two chords, and O is the centre of the circle.

M is the midpoint of AB and N is the midpoint of PQ

OB = OQ = 25 cm [radius of the circle]

AB = 40 cm and MN = 22 cm

Let OM = x

Then,

ON = (22 – x) cm

MB = 40/2 = 20 cm

In ΔMOB

$(OB)^2 = (OM)^2 + (MB)^2$

$\Rightarrow (25)^2 = (OM)^2 + (20)^2$

$\Rightarrow 625 = (OM)^2 + 400$

$\Rightarrow (OM)^2 = (625 – 400)$

$\Rightarrow (OM)^2 = 225$

$\Rightarrow OM = 15$ cm

Now,

ON = (22 – x) = (22 – 15)

$\Rightarrow ON = 7$ cm

In ΔONQ

$(OQ)^2 = (ON)^2 + (NQ)^2$

$\Rightarrow (25)^2 = (7)^2 + (NQ)^2$

$\Rightarrow 625 = 49 + (NQ)^2$

$\Rightarrow (NQ)^2 = (625 – 49)$

$\Rightarrow (NQ)^2 = 576$

$\Rightarrow NQ = 24$ cm

PQ = 2NQ

$\Rightarrow PQ = 2 \times 24$ cm

$\Rightarrow PQ = 48$ cm

Therefore The length of the other chord is 48 cm

Q67. Answer: (b) 907

Calculation:

Total percentage of qualified students from the Districts A, C and F = (15% + 28% + 5%)

$\Rightarrow$ 48%

The average number of qualified students from the Districts A, C and F = (48% of 68000)/3

$\Rightarrow$ (48/100 × 68000)/3

$\Rightarrow$ 32640/3

$\Rightarrow$ 10880

Total percentage of qualified students from the Districts B, D and E = (25% + 18% + 9%)

$\Rightarrow$ 52%

The average number of qualified students from the Districts B, D and E = (52% of 68000)/3

$\Rightarrow$ (52/100 × 68000)/3

$\Rightarrow$ 35360/3

$\Rightarrow$ 11786.66 ~ 11787

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Required difference = (11787 – 10880)

=> 907

Therefore The required difference is 907

Q68. Answer: (d) 5004

Given:

x = 555, y = 556 and z = 557

Formula used:

$x3 + y3 + z3 – 3xyz = 1/2(x + y + z) [(x – y)^2 + (y – z)^2 + (z – a)^2]$

Calculation:

$x3 + y3 + z3 – 3xyz = 1/2(x + y + z) [(x – y)2 + (y – z)2 + (z – a)^2$

$=> x3 + y3 + z3 – 3xyz = 1/2(555 + 556 + 557)[(555 – 556)^2 + (556 – 557)^2 + (557 – 555)^2]$

$=> x3 + y3 + z3 – 3xyz = 1/2 \times 1668 [(-1)^2 + (-1)^2 + (2)^2]$

$=> x3 + y3 + z3 – 3xyz = 834 \times (1 + 1 + 4)$

$=> x3 + y3 + z3 – 3xyz = 834 \times 6$

$=> x3 + y3 + z3 – 3xyz = 5004$

Therefore The required value is 5004

Q69. Answer: (b) 332

Concept Used:

Follow the BODMAS rule according to the table given below:

Calculation:

364 - [142 - {75 + (38 - 5/4+14/8)}]

=> 364 – [142 – {75 + (38 – (10 + 14)/8)}]

=> 364 – [142 – {75 + (38 – 24/8)}]

=> 364 – [142 – {75 + (38 – 3)}]

=> 364 – [142 – {75 + 35}]

=> 364 – [142 – 110]

=> 364 – 32

=> 332

Therefore The required value is 332

Q70. Answer: (b) RS. 2,600

Given:

Time taken by Varun to dig a pond = 10 days

Time taken by Gaurav to dig a pond = 18 days

Total amount received = Rs. 7280

Concept used:

Amount shared will be as per the efficiency of Varun and Gaurav

Calculation:

LCM of 10 and 18 = 90 = Total work

Efficiency of Varun = 90/10 = 9 units/day

Efficiency of Gaurav = 90/18 = 5 units/day

Share of Gaurav = Rs. 7280 × (5/14)

=> Rs. 2600

Therefore Share of Gaurav is Rs. 2600

Q71. Answer: (d) 30°

Given:

$6\tan2 \alpha – 2 = 0$

Calculation:

$6\tan2 \alpha – 2 = 0$

$=> \tan^2\alpha = 2/6$

=> $\tan^2\alpha = 1/3$

=> $\tan\alpha = 1/\sqrt{3} = \tan 30°$

=> $\alpha = 30°$

Therefore The required value of α is 30°

Q72. Answer: (a) 7

Given:

3a – b = 1 and ab = 4

Formula used:

$(a – b)^2 = a^2 + b^2 – 2ab$

Calculation:

3a – b = 1

squaring both sides

$(3a)^2 + (b)^2 – 2 \times 3a \times b = (1)^2$

=> $9a^2 + b^2 – 6ab = 1$

Adding 12ab both sides, we get

=> 9a2 + b2 – 6ab + 12ab = 1 + 12ab

=> $9a^2 + b^2 + 6ab = 1 + 12ab$

=> $(3a + b)^2 = 1 + 12ab$

=> $(3a + b)^2 = 1 + 12 \times 4$

=> $(3a + b)^2 = 1 + 48$

=> $(3a + b)^2 = 49$

=> $(3a + b)^2 = 7^2$

=> (3a + b) = 7

Now,

(9a2 - b2) = (3a - b)(3a + b) = 1 × 7 = 7

Therefore The required value is 7

Q73. Answer: (b) 15

Given:

a + 5b = 25 and ab = 20

Formula used:

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

Calculation:

a + 5b = 25

Squaring both sides

$(a^2 + 5b^2 + 2 \times a \times 5b) = 25^2$

=> $a^2 + 25b^2 + 10ab = 625$

Now,

Adding -20ab both sides, we get

=> a2 + 25b2 + 10ab – 20ab = 625 – 20ab

=> $a^2 + 25b^2 – 10ab = 625 – 20ab$

=> $(a – 5b)^2 = 625 – 20 \times 20$

=> $(a – 5b)^2 = 625 – 400$

=> $(a – 5b)^2 = 225$

=> $(a – 5b)^2 = 15^2$

=> (a – 5b) = 15

Therefore The required value is 15

Q74. Answer: (a) 2/√3

Given:

$(\cos^2 89° + \cos^2 1°)/(\cos 30° \sin 90° - \sin 30° \cos 90°)$

Formula used:

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

$\sin 30° = 1/2$

$\sin 90° = 1$

$\cos 30° = \sqrt{3}/2$

$\cos 90° = 0$

Calculation:

$(\cos^2 89° + \cos^2 1°)/(\cos 30° \sin 90° - \sin 30° \cos 90°)$

$\Rightarrow \sin^2 1° + \cos^2 1°/(\sqrt{3}/2 \times 1) – (1/2 \times 0)$

$\Rightarrow 1/(\sqrt{3}/2 – 0)$

$\Rightarrow 2/\sqrt{3}$

Therefore The required value is $2/\sqrt{3}$

Q75. Answer: (d) 1311/13 km/h

Given:

Speed at X to Y = 10 km/hr

Speed at Y to Z = 15 km/hr

Speed at Z to W = 20 km/hr

Distance of XY =Distance of YZ = Distance of ZW

Formula used:

Average speed = Total Distance/Total time taken

Calculation:

Let the distance between XY, YZ and ZW each be x, respectively

So, Total time taken = (x/10) + (x/15) + (x/20) hours

$\Rightarrow (6x + 4x + 3x)/60 = 13x/60$

Now, Total distance = (x + x + x) km

$\Rightarrow 3x$ km

Now, Average speed = $3x \div (13x/60)$

$\Rightarrow 3x \times (60/13x)$

$\Rightarrow 180/13$ km/hr = 1311/13 km/hr

Therefore Average speed for the entire journey is 1311/13 km/hr.

Alternate MethodCalculation:

Time	Speed	Distance
6	10	60
4	15	
3	20	

Now,

Average speed = $(60 \times 3)/(6 + 4 + 3)$

Average speed = 180/13 = 13 11/13 km/hr

Therefore The correct answer is 13 11/13 km/hr.

Q76. Answer: (d) Dentin

The correct answer is Dentin.

Key Points

• The largest dental tissue is Dentin.

• Dentin is a composite substance of organic and inorganic material found in the tooth's interior.

• Dentin is pale yellow and becomes darker with age.

• It constitutes the bulk of the tooth, providing its structure and protecting the more sensitive pulp inside of it.

• It is one of the major components of human teeth. When dentin is damaged or exposed, a variety of problems can occur, such as tooth sensitivity.

Additional Information

• Dentin is one of four major components of a tooth. The other layers of a tooth include:

• Enamel:

• Calcified tissue acts as a protective barrier for the crown of the tooth. It is the hardest substance in the human body, composed of hydroxyapatite crystals (calcium and phosphate ions).

• Dental pulp:

• This soft tissue forms the tooth's inner core, containing the blood vessels and nerves.

• Cementum:

• Forms a tough, protective covering of the root of the tooth, anchoring it in the jaw bone.

• The pictorial diagram of the structure of teeth is as follows:

Q77. Answer: (b) 1875

The correct answer is 1875.

Key Points

• The Bombay Stock Exchange (BSE) was established in the year 1875.

• It is the largest stock exchange in India and Asia as well.

• It was recognized as an official organization by the name 'The Native Share & Stock Brokers Association'.

• As per the Securities Contracts Regulation Act, BSE became the first stock exchange to be recognized by the Government of India in 1956.

• The headquarters of the Bombay Stock Exchange is in Mumbai.

Q78. Answer: (a) Sukma

The correct answer is Sukma.

Key Points

• In January 2020 Sukma secured a top position among the 115 aspirational districts that received grading on a system devised by the NITI Aayog.

• 10 districts of Chhattisgarh State are selected as 'Aspirational Districts' in the country.

• Name of 10 Districts of Chhattisgarh as Aspirational Districts':

• Bastar.

• Dantewada.

• Kanker.

• Korba.

• Mahasamund.

• Rajnandagaon.

• Bijapur.

• Narayanpur.

• Sukma.

• Kondagaon.

Additional Information

• Living standards in India are affected by significant inter-state and inter-district variations. In order to remove this heterogeneity, the government has launched in January 2018, the 'Transformation of Aspirational Districts' programme (ADP).

• Aspirational Districts' Programme :

• Aspirational Districts are those districts in India, that are affected by poor socio-economic indicators.

• These are aspirational in the context, that improvement in these districts can lead to the overall improvement in human development in India.

• The 115 districts were identified from 28 states, at least one from each state.

• At the Government of India level, the programme is anchored by NITI Aayog.

• In addition, individual Ministries have assumed the responsibility to drive the progress of districts.

• The objective of the program is to monitor the real-time progress of aspirational districts.

• ADP is based on 49 indicators from the 5 identified thematic areas, which focus closely on improving people's Health & Nutrition, Education, Agriculture & Water Resources, Financial Inclusion & Skill Development, and Basic Infrastructure.

• With States as the main drivers, ADP seeks to focus on the strength of each district, identify low-hanging fruits for immediate improvement, measure progress, and rank districts.

• The broad contours of the programme are:

• Convergence of Central & State Schemes) brings together the horizontal and vertical tiers of the government Collaboration of Central, State level 'Prabhari' Officers & District Collectors) enables impactful partnerships between government, market, and civil

society.

• Competition among districts driven by a spirit of the mass movement fosters accountability on district governments.

• The Aspirational Districts Programme (ADP) is one of the largest experiments on outcomes-focused governance in the world.

Q79. Answer: (d) Jharkhand

The correct answer is Jharkhand.

Key Points

• The rivers Damodar, Brahmani, and Kharkai originate from the state of Jharkhand in India.

• Jharkhand fares poorly in terms of canal irrigation because the area is hilly.

• Most of the rivers of Jharkhand are seasonal in nature.

• They remain dry throughout the year but during the monsoon, season water gets overflowed in these rivers.

• As the monsoon approaches the whole country the water level in other higher rivers also increases which flows down to the rivers of Jharkhand thus causing floods in different districts of the state.

Additional Information

• North-East Jharkhand areas like Sahibganj, Godda are very much prone to floods because the Ganga River passes through the surrounding areas.

• Much of Jharkhand lies on the Chota Nagpur Plateau where many rivers pass through such as Damodar, Brahmani, Koel, Subarnarekha, and Kharkai rivers.

• The main concentration of canal irrigation is in the northern plain of India. The digging of canals in rocky and uneven areas is difficult and uneconomic.

• The undulating relief and hard rocks make it difficult to dig canals and wells.

• It is also difficult to artificially flow water from ground level to the level of hills. It is not economical to use this much electrical energy to lift water.

Q80. Answer: (d) Bibi's Tomb

The correct answer is Bibi's Tomb.

Key Points

• The Bibi Ka Maqbara or Bibi's Tomb is a tomb built during the Mughal period in India

• It is located in Aurangabad, Maharashtra.

• Bibi Ka Maqbara was commissioned by the sixth Mughal emperor Aurangzeb in 1660.

• Aurangzeb commissioned the Bibi Ka Maqbara in memory of his wife Dilras Banu Begum.

• Due to its resemblance to the Taj Mahal, Bibi Ka Maqbara is also known as the ‘Taj of the Deccan’.

Additional Information

• The Allahabad Fort was built by the Mughal emperor Akbar at Allahabad in 1583.

• Zeenat-Un-Mosque was built by Zeenat-un-Nisa, the daughter of Aurangzeb in 1700 AD

Q81. Answer: (c) Kaveri

The correct answer is Kaveri.

Key Points

• Kaveri River is known as the Ganges of South India.

• It flows through the states of Karnataka and Tamil Nadu.

• It rises at Talakaveri in the Brahmagiri Hill of the Western Ghats in the state of Karnataka.

• It is the third-largest river in south India after Godavari and Krishna and drains into the Bay of Bengal.

Confusion Points

• Kaveri River is known as the Ganges of South India.

• The Godavari is known as Dakshin Ganga.

Additional Information

• River Godavari:

• The Godavari is known as Dakshin Ganga.

• The Godavari River rises from Trimbakeshwar in the Nashik district of Maharashtra.

• Penganga, Wainganga, Wardha and Manjira are the few important tributaries.

• River Krishna:

• The river extends over the states of Andhra Pradesh, Maharashtra, and Karnataka.

• Krishna river originates in the Western Ghats near Mahabaleshwar.

• Ghatprabha, Malprabha, Tungabhadra, Bhima, and Musi are the few important tributaries.

Q82. Answer: (d) Karnataka

The correct answer is Karnataka.

Key Points

• 'Sandalwood' is the state tree of Karnataka.

• State Animal: Indian elephant

• State Bird: Indian Roller

• Number of Districts - 30.

• Lok Sabha seats - 28.

• Rajya Sabha seats - 12.

Additional Information

• Basic Information about Karnataka:

• State Foundation Day: 1 November 1956 (Celebrated as Karnataka Rajyotsava or Kannada Rajyotsava or Kannada Day, also known as Karnataka Formation Day or Karnataka Day). In 1956, all the Kannada language-speaking regions of South India were merged to form the state of Karnataka.

• National Parks: Bannerghatta National Park, Bandipur National Park, Nagarhole National Park, Kudremukh National Park, Anshi National Park.

Q83. Answer: (a) Raghu Karnad

The correct answer is Raghu Karnad.

Key Points

• Journalist and writer Raghu Karnad won the $165,000 Windham-Campbell Prize in the non-fiction category for his debut book, The Farthest Field: An Indian Story Of The Second World War.

• Karnad is the second Indian to receive the prestigious prize, since Jerry Pinto won it for his novel, Em And The Big Hoom, in 2016.

• The Windham-Campbell Prize was established in 2013.

• Windham-Campbell Prize is an American Literary Prize.

• It is awarded in 4 categories -

• Fiction, non-fiction, poetry and drama with two winners in each category.

• Raghu Karnad (India) and Rebecca Solnit (United States) won the prize in Non- fiction category.

Additional Information

• Mrinal Pande:

• She is an Indian television personality, journalist and author, and until 2009 chief editor of Hindi daily Hindustan.

• She left Hindustan on 31 August 2009.

• She was appointed chairperson of Prasar Bharati, the official apex body of Indian broadcast media.

• This appointment commenced on 23 January 2010.

Q84. Answer: (a) Rickets

The correct answer is Rickets.

Key Points

• Rickets is a childhood disorder of the bones where the bones become soft and prone to fractures. Bones tend to become weak due to an inadequate supply of nutrients, Vitamin D3 in particular.

• It is also caused due to a lack of calcium and phosphate in the body. Weak bones can lead to bone deformities. Vitamin D largely comes from exposing the skin to sunlight.

• Other good sources of Vitamin D are fatty fish (such as tuna and salmon) and egg yolks.

• Rickets is a disease associated with the deficiency of Vitamin D.

• Rickets is of the following types:

• Nutritional Rickets -

• This is caused due to intake of food which lacks calcium, phosphorous, and vitamin D.

• Hypophosphatemic Rickets-

• It is caused due to low levels of phosphate. It is an X-linked genetic disorder where the kidneys are not able to control the amount of phosphate excreted in the urine.

• Renal Rickets-

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• People suffering from kidney disorders have renal rickets. They are unable to regulate the amount of calcium and phosphate excreted in the urine.

Additional Information

• Pernicious Anemia:

• It is a decrease in red blood cells that occurs when the intestines cannot properly absorb vitamin B1.

• Vitamin B12 is also referred to as cobalamin because it contains a metal ion. Cyanocobalamin is used in vitamin supplements and pharmaceuticals.

• Symptoms of Vitamin B12 deficiency are the smoothness of the tongue, gastrointestinal disturbances, nervous symptoms.

• Lupus:

• It is caused by the lack of immunity in the body.

Q85. Answer: (a) Duncan White

The correct answer is Duncan White.

Key Points

• Major Deshamanya Duncan White MBE, ED was a Sri Lankan sportsman.

• He was the first Ceylonese athlete to win an Olympic medal, winning silver in the 400-metre hurdles at the 1948 Summer Olympics in London, England.

Additional Information

• Deshabandu Susanthika Jayasinghe is a Sri Lankan retired sprinter, who specialized in the 100 and 200 metres.

• Parami Wasanthi Maristela is a Sri Lankan track and field athlete who competes in the 2000 metre steeple chase event.

• She is the first Sri Lankan to have won a Youth Olympic medal.

• Greshan Dananjaya is a Sri Lankan field athlete specializing in the Triple jump.

• He holds the current Sri Lankan record for the event with a jump of 16.71 m at the 2019 Sri Lankan National Trials.

Q86. Answer: (a) Rani Rampal

The correct answer is Rani Rampal.

Key Points

• Indian women's team captain Rani Rampal became the first-ever hockey player to win the prestigious World Games Athlete of the Year award.

• In 2019, India won the FIH Series Finals, and Rani was named Player of the Tournament.

• Rani was also recently named among the Padma Shri awardees.

• The World Games announced the winner on 30 Jan 2020.

• She has won with 1,99,477 votes.

Additional Information

• Veteran Indian Hockey goalkeeper P R Sreejesh has won the prestigious World Games Athlete of the Year for his 2021 performances.

• Sreejesh beat competition from sports climber Alberto Gins Lopez of Spain and Italy's wushu player Michele Giordano for the award.

Q87. Answer: (b) javelin

The correct answer is javelin.

Key Points

• Annu Rani (born 28 August 1992) is an Indian javelin thrower from Bahadurpur, Uttar Pradesh.

• She is the first Indian woman Javelin thrower to go beyond 60 meters and also reach the finals of the World Athletics Championships.

• She holds the Indian national record in the javelin throw.

• She set the new national record in 2021 with a throw of 64.23 metres.

Q88. Answer: (d) 2000

The correct answer is 2000.

Key Points

• The State Reorganization Commission was established in 1953 and in front of it also demanded the formation of Jharkhand as an independent state.

• In 2000, the Indian Parliament passed the Bihar Reorganisation Act for Jharkhand as a separate state.

• The Chhota Nagpur United Union was headed by Ramnarayan Singh of the non-tribes and under his leadership, this demand

was submitted to the ‘State Reorganization Commission.

Additional Information

• The state reorganization in 1956 created 14 States and 6 Union Territories.

• The States Reorganisation Commission (SRC) constituted by the Central Government of India on 22 December 1953.

• It recommended the reorganization of state boundaries.

Q89. Answer: (a) 2015

The correct answer is 2015.

Key Points

• The Constitution of Nepal was endorsed on September 16, 2015, by the Constituent Assembly meeting by more than two-thirds majority.

• It states Nepal as a federal democratic republican nation.

• The executive rights of the country are stated to have belonged to the Council of Ministers while the President would be ceremonial head-of-the-state.

Additional Information

• Nepal is a country accustomed to autocracy and lacking in democratic heritage and experience.

• Due to Civil disobedience campaigns in February 1959 due to this political development king was ready to hold the election in Nepal and draft a constitution for the country.

• After the death of King Tribhuvan death in 19, his son Mahendra Bir Bikram shah succeeded the throne.

• King Mahendra drafted a constitution a week before the election and delivered presented to the nation.

• Royal Democratic Constitution was granted by king Mahendra rather than the constituent assembly

• Therefore, In the year 1959, the Royal Democratic Constitution of Nepal was drafted by Raja Mahendra.

Q90. Answer: (c) John Backus

The correct answer is John Backus.

Key Points

• FORTRAN is the first high-level programming language developed by John Backus in 1957.

• It was basically designed to write programs for high-performance computing.

• FORTRAN is a programming language that is used for numeric computation and scientific computing.

• It stands for FORmula TRANslation.

Additional Information

• Netscape Navigator was the first commercial Web browser launched in 1994.

• It was based of the Mosaic browser and was created by a team led by Marc Andreessen, a programmer who co-wrote the code for Mosaic.

• Oracle was started by Larry Ellison, Bob Miner and Ted Oates on 16 June 1977.

Q91. Answer: (a) Tripura

The correct answer is Tripura.

Key Points

• Mamita dance is a dance of Tripura, India and is popular among of the Kaloi community.

• It is performed at the Mamita Festival, the harvest festival of the Tripuri people.

Additional Information

• Festivals of Tripura- Garia Puja, Asokastami Festival, Pilak Festival.

• Dances of Tripura- Mamita dance, Goria dance, Hojagiri dance, Lebang dance.

• National Parks in Tripura- Clouded Leopard National Park, Rajbari National Park.

Q92. Answer: (a) Arunachal Pradesh

The correct answer is Arunachal Pradesh.

Key Points

• 'Bauhche' is a traditional bridegroom’s sword worn during a tribal wedding ceremony in Arunachal Pradesh.

• In Arunachal Pradesh, Men wear sleeveless silk shirts and Women wear sleeveless chemise with an embroidered.

Additional Information

• Andhra Pradesh - Men wear Dhoti and Kurta and Women wear Sari and Blouse.

• Madhya Pradesh • Men wear Dhoti and Women wear Lehenga and Choli.

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• Mizoram • "Puan" is a black and white cloth worn like a skirt, which is the state dress.

Q93. Answer: (c) Lacrimal

The correct answer is Lacrimal.

Key Points

• Lacrimal Glands are paired exocrine glands which secrete the aqueous layer of the tear film, resulting in tears in each eye.

• The lacrimal glands are situated in the upper lateral region of each orbit.

• In a human eye, lacrimal glands lubricate the eye by producing mucus, resulting in tears.

Additional Information

• Adrenaline hormone is secreted by the adrenal gland.

• Adrenaline hormones are rapidly secreted in response to the stress of any kind and during emergency situations and are called emergency hormones or hormones of Fight or Flight.

• The pituitary Gland is present below the hypothalamus.

• It secretes various hormones, like growth hormone, prolactin, thyroid-stimulating hormone, oxytocin, vasopressin, gonadotropin, etc.

• The thyroid gland is a butterfly-shaped gland located at the base of the neck just below Adam's apple.

• This gland produces thyroid hormones, which help regulate the body's metabolism, the chemical processes that occur in the body.

Q94. Answer: (c) cartoonist

The correct answer is cartoonist.

Key Points

• Mario de Miranda was a cartoonist from the state of Goa.

• He was awarded India's second highest civilian award, the Padma Vibhushan (posthumously) in 2012.

Additional Information

• Some Indian cartoonist:

• Shekhar Gurera, is an Indian editorial cartoonist, illustrator, and graphic designer.

• Sudhir Tailang was an Indian cartoonist.

• Telugu cartoonist Pamarthy Shankar won Grand Prix World Press Cartoon Award for 2014 for sketching Nelson Mandela.

Q95. Answer: (d) Equity, Diversity, and Inclusion: Water Unites Us

The correct answer is Equity, Diversity, and Inclusion: Water Unites Us.

Key Points

• The 7th International Day of Women and Girls in Science Assembly took place on 11 February 2022.

• It was organized in virtual format from UN Headquarters in New York.

• The theme in 2022 is Equity, Diversity, and Inclusion: Water Unites Us.

• The International Day of Women and Girls in Science is observed on 11 February every year.

• It aims to recognize the role of women and girls in science, not only as beneficiaries but also as agents of change, including in view of accelerating progress towards the achievement of SDG 6 (Clean Water and Sanitation).

Q96. Answer: (a) Tripura

The correct answer is Tripura.

Key Points

• Tripura is surrounded by Bangladesh on its north, west and south.

• Agartala is the capital of Tripura.

• It is bordered by Bangladesh, Mizoram, and Assam.

Additional Information

• Manipur:

• It shares borders with Myanmar, the State of Nagaland, Assam, Mizoram and Myanmar.

• Mizoram:

• Assam, Tripura, Manipur are the Indian states that share a border with Mizoram.

• Myanmar and Bangladesh are the International boundaries that share with Mizoram.

• Assam:

• The State has international borders with Bangladesh and Bhutan.

• Assam shares its boundaries with Nagaland, Arunachal Pradesh, Manipur, Mizoram, Tripura, Meghalaya, West Bengal.

Q97. Answer: (c) Second Generation Computer

The correct answer is Second Generation Computer.

Key Points

• Second-generation computers were based on Transistors instead of vacuum tubes.

• 1959-1965 is the period of second-generation computers.

Additional Information

• List of generations of computers:

Generation	Duration	Electronic Component Used
First Generation Computers	1946-1954	Vacuum Tubes
Second Generation Computer	1955-1964	Transistors
Third Generation Computer	1964-1977	Integrated Circuits
Fourth Generation Computer	1978 - Present	VLSI or Microprocessors
Fifth Generation Computer	Present and Future	ULSI or Bio-Chips

Q98. Answer: (b) 1971

The correct answer is 1971.

Key Points

• On 18th December 1970, the State of Himachal Pradesh Act was passed by Parliament and the new state came into being on 25th January 1971.

• Thus H.P. emerged as the eighteenth state of the Indian Union.

Additional Information

• Himachal Pradesh became a part C state on 26th January 1950 the implementation of the Constitution of India.

• Bilaspur was merged with Himachal Pradesh on 1st July 1954.

• Himachal Pradesh became Union Territory on 1st November 1956.

• Kangra and most of the other hill areas of Punjab were merged with H.P. on 1st November 1966 though its status remained that of a Union Territory.

Q99. Answer: (d) Industrial and Commercial Bank of China

The correct answer is Industrial and Commercial Bank of China.

Key Points

• The largest bank in the world in terms of total assets under management (AUM) is the Industrial and Commercial Bank Of China Ltd.

• This institution provides credit cards and loans, financing for businesses, and money management services for companies and high net worth individuals.

Additional Information

• SBI is the 43rd largest bank in the world and ranked 236th in the Fortune Global 500 list of the world's biggest corporations of 2019.

• The bank descends from the Bank of Calcutta, founded in 1806 via the Imperial Bank of India, making it the oldest commercial bank in the Indian subcontinent.

• It is the largest commercial bank in India.

Q100. Answer: (c) Manasi Joshi

The correct answer is Manasi Joshi.

Key Points

• Indian para-badminton player Manasi Joshi won her first gold medal at the BWF Para World Championships 2019.

• She defeated three-time SL3 world champion, Parul Parmar.

• In August 2019 the Para-Badminton World Championship was held at St. Jakobshalle Basel, Switzerland.

Additional Information

• Devendra Jhajharia is the first Indian Paralympic player to win two gold medals in Paralympics in Javelin throw.

• Suhas Lalinakere Yathiraj is India's first IAS officer to ever win a medal in Paralympic Games in Badminton.

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• Deepa Malik is the first Indian woman to win a medal in Paralympic Games and won a Silver medal at the 2016 Summer Paralympics in the shot put.

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